STERIS

FISCAL 2019 ANNUAL REPORT

Fellow Shareholders,

Fiscal 2019 was another record performance for STERIS. We ended the year stronger than we had anticipated, and have solid momentum heading into fiscal 2020. Revenue grew 6% as reported for fiscal 2019 and earnings per diluted share as reported reached $3.56. Constant currency organic revenue grew 8% for fiscal 2019 and adjusted earnings per diluted share reached a new high, growing 18% to $4.89.

From a segment perspective, our Healthcare Products revenue grew 7% on a constant currency organic basis for the year, driven by growth across consumables, service and capital equipment. New products remain a primary source of our growth, and we benefited this year from a wide range of recent launches, including our newest biological indicators, washers and sterilizers. Additional products scheduled to launch in fiscal 2020 put the business in a strong position going forward.

Our Applied Sterilization Technologies (AST) segment revenue increased 9% on a constant currency organic basis, primarily driven by increased volume from our medical device Customers. As you may recall, we have made significant investments in AST over the past three years to expand our global network, which has allowed us to continue to grow with our Customers this year. We are making an even larger commitment in fiscal 2020, investing over $110 million to build or expand several plants globally, as continued Customer demand has accelerated our capacity growth plans. We remain committed to supporting our medical device Customers worldwide with technology-neutral, sustainable offerings and believe these investments will reap rewards for years to come.

The Healthcare Specialty Services segment also experienced 9% constant currency organic revenue growth, which was stronger than we expected. Our repair and outsourced instrument reprocessing businesses both exceeded our expectations, particularly in North America, as Customers increasingly see the benefit of STERIS's outsourced service solutions.

Life Sciences revenue grew 5% on a constant currency organic basis, versus last year's challenging comparisons. Consumables led our performance with 7% growth, while service and capital equipment each grew low-single digits.

Our balance sheet remains on solid ground, as our debt leverage continues to fall. Between the cash we generate and our debt capacity, we are in a great position to take advantage of growth opportunities. Our priorities for capital remain consistent: grow our dividend roughly in-line with earnings; reinvest in our business where we see opportunities for profitable growth; pursue acquisitions (generally tuck-ins); and, lastly, repurchase shares.

As you will notice in our proxy, we have several outstanding members of our Board who are retiring. Loyal Wilson had the foresight to be the initial primary investor in STERIS over 30 years ago and has served on our Board ever since. Dr. Michael Wood has been a Board member for 15 years and has brought a unique perspective as a surgeon and as the former CEO of the Mayo Clinic. Sir Duncan Nichol, former head of the National Health Service of the UK, joined our Board several years ago as a result of STERIS's combination with Synergy Health, of which he was Chairman. All three of these individuals have made significant

contributions to your Company over the years. We thank them for their service and wish them the very best in their respective retirement plans.

Fiscal 2019 was a great year for STERIS, with all our business segments meeting or exceeding our expectations. That makes for challenging comparisons in fiscal 2020, but we believe in our ability to continue to grow in line with our long-term revenue and earnings targets. We anticipate another record year in fiscal 2020.

In closing, we appreciate the continued support of our long-term shareholders, the counsel of our Board of Directors, and the dedication of 12,000 STERIS people working each and every day to make STERIS a great Company and help our Customers create a safer and healthier world.

Until next year,

Walt Rosebrough
President and Chief Executive Officer
June 2019

Adjusted financials have been included in this document. Please refer to the reconciliation of adjusted results to GAAP results contained at the end of this annual report under “Non-GAAP Financial Measures.”

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 March 31, 2019

OR

☐ Transition Report Pursuant to Section 13 OR 15(d) of The Securities Exchange Act of 1934

For the transition period from to

Commission file number 001-38848

STERIS plc

(Exact name of registrant as specified in its charter)

Ireland		98-1455064
(State or other jurisdiction of incorporation or organization)		(IRS Employer Identification No.)
70 Sir John Rogerson's Quay, Dublin 2, Ireland	D02 R296 (Zip Code)	353 1 232 2000 (Registrant's telephone number

SECURITIES REGISTERED PURSUANT TO SECTION 12(B) OF THE ACT:

Title of each class	Trading symbol(s)	Name of Exchange on Which Registered
Ordinary Shares, $0.001 par value	STE	New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ 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 (§ 229.405 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 an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☒	Accelerated Filer ☐
Non-Accelerated Filer ☐ (Do not check if a smaller reporting company)	Smaller Reporting Company ☐
	Emerging Growth Company ☐

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

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

As of September 30, 2018, the aggregate market value of shares held by non-affiliates of STERIS plc, a public limited company organized under the laws of England and Wales (the predecessor issuer pursuant to Rule 12g-3(a) under the Securities Exchange Act of 1934), based upon the closing sale price of its shares on September 30, 2018, was approximately $9,552.1 million.

The number of Ordinary Shares outstanding as of May 24, 2019: 84,541,998

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the 2019 Annual Meeting – Part III

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Table of Contents

PART I

Throughout this Annual Report, references to STERIS plc, "STERIS," "us," or "our," mean STERIS Ireland and its subsidiaries for periods from and after the Redomiciliation and STERIS UK and its subsidiaries for periods prior to the Redomiciliation (as such terms are hereinafter defined), unless otherwise noted. References in this Annual Report to a particular "year," "fiscal," "fiscal year," or "year-end" mean our fiscal year, which ends on March 31. For example, fiscal year 2019 ended on March 31, 2019.

ITEM 1. BUSINESS

INTRODUCTION

STERIS plc is a leading provider of infection prevention and other procedural products and services. Our MISSION IS TO HELP OUR CUSTOMERS CREATE A HEALTHIER AND SAFER WORLD by providing innovative healthcare and life science product and service solutions around the globe. We offer our Customers a unique mix of innovative capital equipment products, such as sterilizers and washers, surgical tables, lights and equipment management systems and connectivity solutions such as operating room integration; consumable products including detergents and gastrointestinal endoscopy accessories and other products; services, including equipment installation and maintenance, microbial reduction of medical devices, instrument and scope repair solutions, laboratory services and outsourced instrument reprocessing.

On March 28, 2019, STERIS plc, a public limited company organized under the laws of England and Wales ("STERIS UK"), completed a redomiciliation from the United Kingdom to Ireland (the "Redomiciliation"). The Redomiciliation was achieved through the insertion of a new Irish public limited holding company ("STERIS Ireland") on top of STERIS UK pursuant to a court-approved scheme of arrangement under English law (the "Scheme"). Following the Scheme effectiveness, STERIS UK was re-registered as a private limited company with the name STERIS Limited, and STERIS Emerald IE Limited, a company established in Ireland and a wholly-owned direct subsidiary of STERIS Ireland, was interposed as the direct parent company of STERIS UK.

STERIS plc's registered office is located in Dublin, Ireland. STERIS plc has approximately 12,000 employees worldwide. Through our field sales and service and a network of dealers and distributors, we serve Customers in more than 100 countries around the world.

We operate and report in four reportable business segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. We disclose a measure of segment income that is consistent with the way management operates and views the business. The accounting policies for reportable segments are the same as those for the consolidated Company. In fiscal 2019, we ceased the allocation of certain corporate costs to our segments to align with internal management measures. The prior period operating income measures have been recast for comparability.

The bulk of our revenues are derived from healthcare provider, pharmaceutical and medical device Customers. Much of the growth in these industries is driven by the aging of the population throughout the world, as an increasing number of individuals are entering their prime healthcare consumption years, and are dependent upon advancement in healthcare delivery, acceptance of new technologies, government policies, and general economic conditions. The pharmaceutical industry has been impacted by increased regulatory scrutiny of cleaning and validation processes, mandating that manufacturers improve their processes. Within healthcare, there is concern regarding the level of hospital acquired infections around the world; increased demand for medical procedures, including preventive screenings such as endoscopies and colonoscopies; and a desire by our Customers to operate more efficiently, all of which are driving increased demand for many of our products and services.

INFORMATION RELATED TO BUSINESS SEGMENTS

Our chief operating decision maker is our President and Chief Executive Officer ("CEO"). The CEO is responsible for performance assessment and resource allocation. The CEO regularly receives discrete financial information about each reportable segment and uses this information to assess performance and allocate resources. The accounting policies of the reportable segments are the same as those described in Note 1 to the Consolidated Financial Statements titled, "Nature of Operations and Summary of Significant Accounting Policies," of this Annual Report. Segment performance information for fiscal years 2019, 2018, and 2017 is presented in Note 11 to our Consolidated Financial Statements titled, "Business Segment Information" and in Item 7 titled, "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A"), of this Annual Report.

HEALTHCARE PRODUCTS SEGMENT

Description of Business. Our Healthcare Products segment provides a broad portfolio of infection prevention, procedural and GI solutions including; consumable products, equipment maintenance and installation services, and capital equipment to acute care hospitals, ambulatory surgery centers and GI clinics. These solutions aid our Customers in improving the safety, quality, productivity, and utility consumption of their surgical, sterile processing, gastrointestinal, and emergency environments.

Products Offered. Our solutions include cleaning chemistries and sterility assurance products, accessories for GI procedures, washers, sterilizers and other pieces of capital equipment essential to the operations of a sterile processing department ("SPD") and equipment used directly in the operating room, including surgical tables, lights, equipment management services, and connectivity solutions.

Services Offered. Our Healthcare Products segment service associates install, maintain, upgrade, repair, and troubleshoot capital equipment throughout the world. We offer various preventive maintenance programs and repair services to support the effective operation of capital equipment over its lifetime.

Customer Concentration. Our Healthcare Products segment sells consumables, services and capital equipment, to Customers in many countries throughout the world. For the year ended March 31, 2019, no Customer represented more than 10% of the Healthcare Product segment's total revenues.

Competition. We compete with a number of large companies that have significant product portfolios and global reach, as well as a number of small companies with very limited product offerings and operations in one or a limited number of countries. On a product basis, competitors include 3M, Belimed, Cantel Medical, Ecolab, Getinge, Hill-Rom, Fortive, Stryker and Skytron.

HEALTHCARE SPECIALTY SERVICES SEGMENT

Description of Business. Our Healthcare Specialty Services segment provides a range of solutions and managed services including; hospital sterilization services and instrument and scope repairs to acute care hospitals and other healthcare settings that aid our Customers in improving the safety, quality and productivity of their operations.

Services Offered. Our Healthcare Specialty Services segment provides comprehensive instrument and endoscope repair and maintenance solutions (on-site or at one of our dedicated facilities), custom process improvement consulting and outsourced instrument sterile processing (on-site at the hospital and in off-site reprocessing centers). Linen Management Services were divested during fiscal 2017.

Customer Concentration. Our Healthcare Specialty Services segment offers an array of services to Customers in many countries throughout the world. For the year ended March 31, 2019, no Customer represented more than 10% of the Healthcare Specialty Services segment's total revenues.

Competition. We compete with a number of large companies that have significant product portfolios and global reach, as well as a number of small companies with very limited service offerings and operations in one or a limited number of countries. On a service line basis, competitors include BBraun, Berendsen plc, CleanLease (Clean Lease Fortex), Karl Storz, Mobile, Northfield, Olympus, Owens & Minor, Pentax, Rentex Awé and Rentex Floren and Sterilog Limited.

LIFE SCIENCES SEGMENT

Description of Business. Our Life Sciences segment designs, manufactures and sells consumable products, equipment maintenance, specialty services and capital equipment primarily to pharmaceutical manufacturers around the world.

Products Offered. These solutions include formulated cleaning chemistries, barrier products, sterility assurance products, steam and vaporized hydrogen peroxide sterilizers and washer disinfectors.

Services Offered. Our Life Sciences segment service associates install, maintain, upgrade, repair, and troubleshoot equipment throughout the world. We offer various preventive maintenance programs and repair services to support the effective operation of capital equipment over its lifetime.

Customer Concentration. Our Life Sciences segment sells consumables, services and capital equipment, to Customers in many countries throughout the world. For the year ended March 31, 2019, no Customer represented more than 10% of the Life Sciences segment’s total revenues.

Competition. Our Life Sciences segment operates in highly regulated environments where the most intense competition results from technological innovations, product performance, convenience and ease of use, and overall cost-effectiveness. We compete for pharmaceutical Customers with a number of large companies that have significant product portfolios and global reach, as well as a number of small companies with very limited product offerings and operations in one or a limited number of countries. Competitors include Belimed, Ecolab, Fedegari, Getinge, MECO, Stilmas, and Techniplast.

APPLIED STERILIZATION TECHNOLOGIES SEGMENT

Description of Business. Our Applied Sterilization Technologies ("AST") segment provides contract sterilization services through a network of over 50 contract sterilization and laboratory facilities worldwide. As a technology neutral service provider, we offer unbiased technology assessments dependent on the individual requirements of each product. Our Customers are primarily medical device and pharmaceutical manufacturers.

Services Offered. We offer a wide range of sterilization modalities as well as an array of laboratory testing services that complements the manufacturing of sterile products. Our locations are in major population centers and core distribution corridors throughout the Americas, Europe and Asia. Our technical services group supports Customers in all phases of product development, materials testing, and process validation.

Customer Concentration. Our Applied Sterilization Technologies segment's services are offered to Customers throughout the world. For the year ended March 31, 2019, no Customer represented more than 10% of the segment's revenues.

Competition. Applied Sterilization Technologies operates in a highly regulated industry and competes with Sterigenics International, Inc., other smaller contract sterilization companies and manufacturers that sterilize products in-house.

INFORMATION WITH RESPECT TO OUR BUSINESS IN GENERAL

Sources and Availability of Raw Materials. We purchase raw materials, sub-assemblies, components, and other supplies needed in our operations from numerous suppliers in the United States and internationally. The principal raw materials and supplies used in our operations include stainless and carbon steel, organic and inorganic chemicals, fuel, and plastic components. These raw materials and supplies are generally available from several suppliers and in sufficient quantities that we do not currently expect any significant sourcing problems in fiscal 2020. We have long-term supply contracts for certain materials for which there are few suppliers, or those that are single-sourced in certain regions of the world, such as EO and cobalt-60, which are necessary to our AST operations. In addition, we have developed a plan to expand our irradiation processing capacity with accelerator-based technologies, which may reduce the potential supply risk.

Intellectual Property. We protect our technology and products by, among other means, obtaining United States and foreign patents. There can be no assurance, however, that any patent will provide adequate protection for the technology, system, product, service, or process it covers. In addition, the process of obtaining and protecting patents can be long and expensive. We also rely upon trade secrets, technical know-how, and continuing technological innovation to develop and maintain our competitive position.

As of March 31, 2019, we held approximately 400 United States patents and approximately 1,500 in other jurisdictions and had approximately 135 United States patent applications and 375 patent applications pending in other jurisdictions. Patents for individual products extend for varying periods according to the date of filing or grant and legal term of patents in various countries where a patent is obtained. The actual protection a patent provides varies from country to country and depends in part upon the type of patent, the scope of its coverage, and the availability of legal remedies in each country.

Our products are sold around the world under various brand names and trademarks. We consider our brand names and trademarks to be valuable in the marketing of our products. As of March 31, 2019, we had a total of approximately 1,550 trademark registrations worldwide.

Quality Assurance. We manufacture, assemble, and package products in several countries. Each of our production facilities are dedicated to particular processes and products. Our success depends upon Customer confidence in the quality of our production process and the integrity of the data that supports our product safety and effectiveness. We have implemented quality assurance procedures to support the quality and integrity of scientific information and production processes.

Government Regulation. Our business is subject to various degrees of governmental regulation in the countries in which we operate. In the United States, the United States Food and Drug Administration ("FDA"), the United States Environmental Protection Agency ("EPA"), the United States Nuclear Regulatory Commission ("NRC"), and other governmental authorities regulate the development, manufacture, sale, and distribution of our products and services. Our international operations also are subject to a significant amount of government regulation, including country-specific rules and regulations and U.S. regulations applicable to our international operations. Government regulations include detailed inspection of, and controls over, research and development, clinical investigations, product approvals and manufacturing, marketing and promotion, sampling, distribution, record-keeping, storage, and disposal practices.

Compliance with applicable regulations is a significant expense for us. Past, current or future regulations, their interpretation, or their application could have a material adverse impact on our operations. Also, additional governmental regulation may be passed that could prevent, delay, revoke, or result in the rejection of regulatory clearance of our products. We cannot predict the effect on our operations resulting from current or future governmental regulation or the interpretation or application of these regulations.

If we fail to comply with any applicable regulatory requirements, sanctions could be imposed on us. For more information about the risks we face regarding regulatory requirements, see Part I, Item 1A of this Annual Report titled, "Risk Factors". We are subject to extensive regulatory requirements and must receive and maintain regulatory clearance or approval for many products and operations. Failure to receive or maintain, or delays in receiving, clearance or approvals may hurt our revenues, profitability, financial condition, or value.

In the past, we have received warning letters, paid civil penalties, conducted product recalls and field corrections, and been subject to other regulatory sanctions. We believe that we are currently compliant in all material respects with applicable regulatory requirements. However, there can be no assurance that future or current regulatory, governmental, or private action will not have a material adverse affect on us or on our performance, results, or financial condition.

Environmental Matters. We are subject to various laws and governmental regulations concerning environmental matters and employee safety and health in Ireland, the United States and in other countries. We have made, and continue to make, significant investments to comply with these laws and regulations. We cannot predict the future capital expenditures or operating costs required to comply with environmental laws and regulations. We believe that we are currently compliant with applicable environmental, health, and safety requirements in all material respects. However, there can be no assurance that future or current regulatory, governmental, or private action will not have a material adverse affect on our performance, results, or financial condition. Please refer to Note 10 of our consolidated financial statements titled, "Commitments and Contingencies" for further information.

In the future, if a loss contingency related to environmental matters, employee safety, health or conditional asset retirement obligations is significantly greater than the current estimated amount, we would record a liability for the obligation and it may result in a material impact on net income for the annual or interim period during which the liability is recorded. The investigation and remediation of environmental obligations generally occur over an extended period of time, and therefore we do not know if these events would have a material adverse affect on our financial condition, liquidity, or cash flow, nor can there be any assurance that such liabilities would not have a material adverse affect on our performance, results, or financial condition.

Competition. The markets in which we operate are highly competitive and generally highly regulated. Competition is intense in all of our business segments and includes many large and small competitors. Brand, design, quality, safety, ease of use, serviceability, price, product features, warranty, delivery, service, and technical support are important competitive factors to us. We expect to face continued competition in the future as new infection prevention, sterile processing, contamination control, gastrointestinal and surgical support products and services enter the market. We believe many organizations are working with a variety of technologies and sterilizing agents. Also, a number of companies have developed disposable medical instruments and other devices designed to address the risk of contamination.

We believe that our long-term competitive position depends on our success in discovering, developing, and marketing innovative, cost-effective products and services. We devote significant resources to research and development efforts and we believe STERIS is positioned as a global competitor in the search for technological innovations. In addition to research and development, we invest in quality control, Customer programs, distribution systems, technical services, and other information services.

There can be no assurance that we will develop significant new products or services, or that the new products or services we provide or develop in the future will be more commercially successful than those provided or developed by our competitors. In addition, some of our existing or potential competitors may have greater resources than us. Therefore, a competitor may succeed in developing and commercializing products more rapidly than we do. Competition, as it relates to our business segments and product categories, is discussed in more detail in the section above titled, “Information Related to Business Segments.”

Employees. As of March 31, 2019, we had approximately 12,000 employees throughout the world including certain locations subject to collective bargaining agreements and works council representation. We believe we generally have good relations with our employees.

Methods of Distribution. Sales and service activities are supported by a staff of regionally based clinical specialists, system planners, corporate account managers, and in-house Customer service and field support departments. We also contract with distributors and dealers in select markets.

Customer training is important to our business. We provide a variety of courses at Customer locations, at our training and education centers, and over the internet. Our training programs help Customers understand the science, technology, and operation of our products and services. Many of our operator training programs are approved by professional certifying organizations and offer continuing education credits to eligible course participants.

Seasonality. Our financial results have been, from time to time, subject to seasonal patterns. We cannot assure you that these patterns will continue.

Backlog. We define backlog as the amount of unfilled capital equipment purchase orders at a point in time. At March 31, 2019, we had a backlog of $215.2 million. Of this amount, $154.5 million and $60.7 million related to our Healthcare Products and Life Sciences segments, respectively. At March 31, 2018, we had backlog orders of $193.9 million. Of this amount, $133.0 million and $60.8 million related to our Healthcare Products and Life Sciences segments, respectively. A significant portion of the backlog orders at March 31, 2019 is expected to ship in fiscal 2020.

Availability of Securities and Exchange Commission Filings. We make available free of charge on or through our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, and amendments to these reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission ("SEC"). You may access these documents, as well as other SEC filings related to the Company, on the Investor Relations page of our website at http://www.steris-ir.com. You may also obtain copies of these documents by accessing the SEC's website at http://www.sec.gov. The content on or accessible through any website referred to in this Annual Report on Form 10-K is not incorporated by reference into this Form 10-K unless expressly noted.

We also make available free of charge on our website our Corporate Governance Guidelines, our Director Code of Ethics, and our Code of Business Conduct, as well as the Charters of the Audit Committee, the Compensation and Organization Development Committee, the Nominating and Governance Committee, and the Compliance Committee of the Company's Board of Directors.

Executive Officers of the Registrant. The following table presents certain information regarding our executive officers at March 31, 2019. All executive officers serve at the pleasure of the Board of Directors.

Name	Age	Position
Kathleen L. Bardwell	63	Senior Vice President and Chief Compliance Officer
Karen L. Burton	51	Vice President, Controller and Chief Accounting Officer
Daniel A. Carestio	46	Senior Vice President and Chief Operating Officer
Dr. Adrian Coward	49	Senior Vice President, Healthcare Specialty Services
Michiel de Zwaan	47	Vice President and Chief Human Resources Officer
Gulam A. Khan	52	Senior Vice President, Procedural Solutions
Cary L. Majors	44	Vice President, North America Commercial Operations
Walter M Rosebrough, Jr.	65	President and Chief Executive Officer
Renato G. Tamaro	50	Vice President and Corporate Treasurer
Michael J. Tokich	50	Senior Vice President and Chief Financial Officer
J. Adam Zangerle	52	Senior Vice President, General Counsel, and Secretary

The following discussion provides a summary of each executive officer's recent business experience through March 31, 2019:

Kathleen L. Bardwell serves as Senior Vice President and Chief Compliance Officer. She assumed this role in February 2014. From March 2008 to February 2014, she served as Vice President, Chief Compliance Officer. Mrs. Bardwell is a Director of First Financial Bancorp.

Karen L. Burton serves as Vice President, Controller and Chief Accounting Officer. She assumed this role in January 2017. She served as Vice President, Corporate Controller from May 2008 to January 2017.

Daniel A. Carestio serves as Senior Vice President and Chief Operating Officer. He assumed this role in August 2018. From February 2018 to August 2018 he served as Senior Vice President, Sterilization and Disinfection. From August 2015 to February 2018, he served as Senior Vice President, STERIS Applied Sterilization Technologies and Life Sciences. From 2011 to August 2015, he served as Vice President, Sales and Marketing for Isomedix Services and General Manager of Life Sciences.

Dr. Adrian Coward serves as Senior Vice President, Healthcare Specialty Services. He assumed this role in November 2015. From April 2014 to November 2015, he served as Chief Operating Officer of Synergy Health plc. From April 2010 to March 2014, Dr. Coward served as CEO of UK & Ireland of Synergy Health plc.

Michiel de Zwaan serves as Vice President and Chief Human Resources Officer. He assumed this role in September 2017. He served as Senior Vice President and Chief Human Resources Officer at Hill-Rom Inc. from August 2014 through December 2015, and as Vice President of Human Resources, International, at Hill-Rom Europe B.V. from September 2011 through July 2014.

Gulam A. Khan serves as Senior Vice President, Procedural Solutions. He assumed this role in August 2015. He served as Chief Executive Officer of United States Endoscopy Group, Inc. from January 2003, prior to its acquisition by STERIS in

August 2012, remaining with STERIS until June 2013. From April 2014 until August 2015, he provided independent consulting services to corporations, including business integration consulting services to STERIS.

Cary L. Majors serves as Vice President, North American Commercial Operations. He assumed this role in April 2014. From June 2012 through April 2014 he served as Vice President, Sales & Marketing Strategy.

Walter M Rosebrough, Jr. serves as President and Chief Executive Officer. He assumed this role when he joined STERIS in October 2007. Mr. Rosebrough is a Director of Varex Imaging Corporation.

Renato G. Tamaro serves as Vice President and Corporate Treasurer. He assumed this role in August 2017. From March 2006 to July 2017, he served as Assistant Treasurer.

Michael J. Tokich serves as Senior Vice President and Chief Financial Officer. He assumed this role in August 2017. From February 2014 to July 2017, he served as the Senior Vice President, Chief Financial Officer and Treasurer. From March 2008 to February 2014, he served as Senior Vice President and Chief Financial Officer.

J. Adam Zangerle serves as Senior Vice President, General Counsel, and Secretary. He assumed this role in July 2018. From July 2013 to July 2018 he served as Vice President, General Counsel, and Secretary. From May 2007 to July 2013 he served as Associate General Counsel and Group General Counsel, Healthcare.

ITEM 1A. RISK FACTORS

This section describes certain risk factors that could affect our business, financial condition and results of operations. You should consider these risk factors when evaluating the forward-looking statements contained in this Annual Report on Form 10-K, because our actual results and financial condition might differ materially from those projected in the forward-looking statements should these risks occur. We face other risks besides those highlighted below. These other risks include additional uncertainties not presently known to us or that we currently believe are immaterial, but may ultimately have a significant impact. Should any of these risks, described below or otherwise, actually occur, our business, financial condition, performance, prospects, value, or results of operations could be negatively affected.

MARKET RISKS

Risk or uncertainty	Discussion
Doing business internationally	
We conduct manufacturing, sales and distribution operations on a worldwide basis and are subject to a variety of risks associated with doing business internationally. Implementation and achievement of international growth objectives also may be impeded by political, social, and economic uncertainties or unrest in countries in which we conduct operations or market or distribute our products.	We maintain significant international operations, including operations in the U.S., Canada, Mexico, Europe, Asia Pacific and Latin America. As a result, we are subject to a number of risks and complications associated with international manufacturing, sales, services, and other operations. These include: risks associated with currency exchange rate fluctuations; difficulties in enforcing agreements and collecting receivables through some foreign legal systems; enhanced credit risks in certain European countries as well as emerging market regions; Customers with longer payment cycles than Customers in the United States; significant variations in tax rates among the countries in which we do business, and tax withholding obligations in respect of our earnings; tax laws that restrict our ability to use tax credits, offset gains, or repatriate funds; tariffs, exchange controls or other trade restrictions including transfer pricing restrictions when products produced in one country are sold to an affiliated entity in another country; general economic and political conditions in countries where we operate or where end users of our products are situated, including the potential implications of the U.K. “Brexit”, for the U.K. and/or regional or global economies, or the withdrawal from the EU of other member countries; difficulties associated with managing a large organization spread throughout various countries; difficulties in enforcing intellectual property rights or weaker intellectual property right protections in some countries and difficulties associated with compliance with a variety of laws and regulations governing international trade, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act and laws and regulations dealing with trade with persons in sanctioned countries.
Compliance with multiple, and potentially conflicting, international laws and regulations, import and export limitations, anti-corruption laws, and exchange controls may be difficult, burdensome or expensive.	We are subject to compliance with various laws and regulations, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and similar anti-bribery laws, which generally prohibit companies and their intermediaries from making improper payments to officials for the purpose of obtaining or retaining business. We are also subject to limitations on trade with persons in sanctioned countries. While our employees and agents are required to comply with these laws, we cannot assure you that our internal policies and procedures will always protect us from violations of these laws, despite our commitment to legal compliance and corporate ethics.

Risk or uncertainty	Discussion
Economic conditions and financial market access	
Changes in economic climate may adversely affect us.	Adverse economic cycles or conditions, and Customer, regulatory or government response to those cycles or conditions, could affect our results of operations. The onset of these cycles or conditions may not be foreseeable and there can be no assurance when they will begin to improve after they occur. There also can be no assurance as to the strength or length of any recovery from a business downturn or recession. Credit and liquidity problems may make it difficult for some businesses to access credit markets and obtain financing and may cause some businesses to curtail spending to conserve cash in anticipation of persistent business slowdowns and liquidity needs. If our Customers have difficulty financing their purchases due to tight credit markets or related factors or because of other operational or utilization problems they may be experiencing or otherwise decide to curtail their purchases, our business could be adversely affected. Our exposure to bad debt losses could also increase if Customers are unable to pay for products previously ordered and delivered. Many of our Customers are governmental entities or other entities that rely on government healthcare systems or government funding. If government funding for healthcare becomes limited or restricted in countries in which we operate, our Customers may be unable to pay their obligations on a timely basis or to make payment in full and it may become necessary to increase reserves. In addition, there can be no assurance that there will not be an increase in collection difficulties. Prospectively, additional adverse effects resulting from these conditions may include decreased healthcare utilization, further pricing pressure on our products and services, and/or weaker overall demand for our products and services, particularly capital products.
Our acquisition activity and ability to grow organically may be adversely affected if we are unable to continue to access the financial markets.	Our recent acquisitions have been financed largely through cash on hand and borrowings under our bank credit facilities. Future acquisitions or other capital requirements will necessitate additional cash. To the extent our existing sources of cash are insufficient to fund these or other future activities, we may need to raise additional funds through new or expanded borrowing arrangements or equity. There can be no assurance that we will be able to obtain additional funds beyond those available under existing bank credit facilities on terms favorable to us, or at all, or that such facilities can be replaced when they terminate.

LEGAL, REGULATORY AND TAX RISKS

Risk or uncertainty	Discussion
Healthcare laws and reimbursement	
Changes in healthcare laws or government and other third-party payor reimbursement levels to healthcare providers, or failure to meet healthcare reimbursement or other requirements, might negatively impact our business.	We sell many of our products and services to hospitals and other healthcare providers and pharmaceutical manufacturers. Many of these Customers are subject to or supported by government programs or receive reimbursement for services from third-party payors, such as government programs, including Medicare and Medicaid in the U.S., private insurance plans, and managed care programs. Reimbursement systems vary significantly by country. Government-managed healthcare systems control reimbursement for healthcare services in many countries. Public budgetary constraints may significantly impact the ability of hospitals, pharmaceutical manufacturers, and other Customers supported by such systems to purchase our products. Government or other third-party payors may deny or change coverage, reduce their current levels of reimbursement for healthcare services, or otherwise implement measures to regulate pricing or contain costs. In addition, our costs may increase more rapidly than reimbursement levels or permissible pricing increases or we may not satisfy the standards or requirements for reimbursement. Among other provisions, the U.S. Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, imposed an excise tax on medical devices manufactured or offered for sale in the United States. Early in 2018, U.S. Congress enacted legislation that extended the suspension of the excise tax, which suspension had been in place in since the beginning of calendar year 2016, for 2018 and 2019. Should the U.S. Congress take no further action with regard to this tax we will begin to incur excise tax in the fourth quarter of fiscal 2020. We incurred $5.8 million in medical device excise taxes for fiscal 2016. In addition, we have been required to commit significant resources to “Sunshine Act” compliance. Various additional health care reform proposals have emerged at the federal and state level, and we are unable to predict which, if any, of those proposals will be enacted.

Risk or uncertainty	Discussion
Product and service related regulations and claims	
We are subject to extensive regulatory requirements and must receive and maintain regulatory clearance or approval for many products and operations. Failure to receive or maintain, or delays in receiving, clearance or approvals may hurt our revenues, profitability, financial condition, or value.	Our operations are subject to extensive regulation in the countries where we do business. In the United States, our products and services are regulated by the FDA and other regulatory authorities. In many foreign countries, sales of our products and services are subject to extensive regulations that may or may not be comparable to those of the FDA. In Europe, our products are regulated primarily by country and community regulations of those countries within the European Economic Area and must conform to the requirements of those authorities. Government regulation applies to nearly all aspects of testing, manufacturing, safety, labeling, storing, recordkeeping, reporting, promoting, distributing, and importing or exporting of medical devices, products, and services. In general, unless an exemption applies, a sterilization, decontamination or medical device or product or service must receive regulatory approval or clearance before it can be marketed or sold. Modifications to existing products or the marketing of new uses for existing products also may require regulatory approvals, approval supplements or clearances. If we are unable to obtain any required approvals, approval supplements or clearances for any modification to a previously cleared or approved device, we may be required to cease manufacturing and sale, or recall or restrict the use of such modified device, pay fines, or take other action until such time as appropriate clearance or approval is obtained. Regulatory agencies may refuse to grant approval or clearance, or review and disagree with our interpretation of approvals or clearances, or with our decision that regulatory approval is not required or has been maintained. Regulatory submissions may require the provision of additional data and may be time consuming and costly, and their outcome is uncertain. Regulatory agencies may also change policies, adopt additional regulations, or revise existing regulations, each of which could prevent or delay approval or clearance of devices, or could impact our ability to market a previously cleared, approved, or unregulated device. Our failure to comply with the regulatory requirements of the FDA or other applicable regulatory requirements in the United States or elsewhere might subject us to administratively or judicially imposed sanctions. These sanctions include, among others, warning letters, fines, civil penalties, criminal penalties, injunctions, debarment, product seizure or detention, product recalls and total or partial suspension of production, sale and/or promotion.
Our products are subject to recalls and restrictions, even after receiving United States or foreign regulatory clearance or approval.	Ongoing medical device reporting regulations require that we report to appropriate governmental authorities in the United States and/or other countries when our products cause or contribute to a death or serious injury or malfunction in a way that would be reasonably likely to contribute to a death or serious injury if the malfunction were to recur. Governmental authorities can require product recalls or impose restrictions for product design, manufacturing, labeling, clearance, or other issues. For the same reasons, we may voluntarily elect to recall or restrict the use of a product. Any recall or restriction could divert managerial and financial resources and might harm our reputation among our Customers and other healthcare professionals who use or recommend our products and services.

We may be adversely affected by product liability claims or other legal actions or regulatory or compliance matters.	We face an inherent business risk of exposure to product liability claims and other legal and regulatory actions. A significant increase in the number, severity, amount, or scope of these claims and actions may, as described above with respect to recalls and restrictions, result in substantial costs and harm our reputation or otherwise adversely affect product sales and our business. Product liability claims and other legal and regulatory actions may also distract management from other business responsibilities. We are also subject to a variety of other types of claims, proceedings, investigations, and litigation initiated by government agencies or third parties and other potential risks and liabilities. These include compliance matters, product regulation or safety, taxes, employee benefit plans, employment discrimination, health and safety, environmental, antitrust, customs, import/export, government contract compliance, financial controls or reporting, intellectual property, allegations of misrepresentation, false claims or false statements, commercial claims, claims regarding promotion of our products and services, or other similar or different matters. Any such claims, proceedings, investigations or litigation, regardless of the merits, might result in substantial costs, restrictions on product use or sales, or otherwise injure our business. Administratively or judicially imposed or agreed sanctions might include warning letters, fines, civil penalties, criminal penalties, loss of tax benefits, injunctions, product seizure, recalls, suspensions or restrictions, re-labeling, detention, and/or debarment. We also might be required to take actions such as payment of substantial amounts, or revision of financial statements, or to take, or be subject to, the following types of actions with respect to our products, services, or business: redesign, re-label, restrict, or recall products; cease manufacturing and selling products; seizure of product inventory; comply with a court injunction restricting or prohibiting further marketing and sale of products or services; comply with a consent decree, which could result in further regulatory constraints; dedication of significant internal and external resources and costs to respond to and comply with legal and regulatory issues and constraints; respond to claims, litigation, and other proceedings brought by Customers, users, governmental agencies, and others; disruption of product improvements and product launches; discontinuation of certain product lines or services; or other restrictions or limitations on product sales, use or operation, or other activities or business practices. Some product replacements or substitutions may not be possible or may be prohibitively costly or time consuming. The impact of any legal, regulatory, or compliance claims, proceeding, investigation, or litigation, is difficult to predict. We maintain product liability and other insurance with coverages believed to be adequate. However, product liability or other claims may exceed insurance coverage limits, fines, penalties and regulatory sanctions may not be covered by insurance, or insurance may not continue to be available or available on commercially reasonable terms. Additionally, our insurers might deny claim coverage for valid or other reasons or may become insolvent.

Our business and financial condition could be adversely affected by difficulties in acquiring or maintaining a proprietary intellectual ownership position.	To maintain our competitive position for our products, we need to obtain patent or other proprietary rights for new and improved products and to maintain and enforce our existing patents and other proprietary rights. We typically apply for patents in the United States and in strategic other countries. We may also acquire patents through acquisitions. We may encounter difficulties in obtaining or protecting patents. We rely on a combination of patents, trademarks, trade secrets, know-how, and confidentiality agreements to protect the proprietary aspects of our technology. These measures afford only limited protection, and competitors may gain access to our intellectual property and proprietary information. Litigation may be necessary to enforce or defend our intellectual property rights, to protect our trade secrets, and to determine the validity and scope of our proprietary rights. Litigation may also be brought against us claiming that we have violated the intellectual property rights of others. Litigation may be costly and may divert management's attention from other matters. Additionally, in some foreign countries with weaker intellectual property rights, it may be difficult to maintain and enforce patents and other proprietary rights or defend against claims of infringement.
Tax and trade risks	
Current economic and political conditions make tax rules in any jurisdiction subject to significant change.	The U.S. Tax Cuts and Jobs Act ("TCJA") was signed into law on December 22, 2017. Guidance continues to be issued clarifying the application of this new legislation. We cannot predict the overall impact that the additional guidance may have on our business. It is reasonable to expect that global taxing authorities will be reviewing current legislation for potential modifications in reaction to the implementation of the TCJA. In addition, further changes in the tax laws of other jurisdictions could arise, including as a result of the base erosion and profit shifting (BEPS) project undertaken by the Organization for Economic Cooperation and Development (OECD). The OECD, which represents a coalition of member countries, has issued recommendations that, in some cases, would make substantial changes to numerous long-standing tax positions and principles. These contemplated changes, to the extent adopted by OECD members and/or other countries, could increase tax uncertainty and may adversely impact our provision for income taxes.
Our tax rate is uncertain and may vary from expectations, which could have a material impact on our results of operations and earnings per share.	There can be no assurance that we will be able to maintain any particular worldwide effective corporate tax rate. We cannot give any assurance as to what our effective tax rate will be in the future because of, among other things, uncertainty regarding the tax policies of the jurisdictions in which we and our affiliates operate. Our actual effective tax rate may vary from our expectations, and such variance may be material. Additionally, tax laws or their implementation and applicable tax authority practices in any particular jurisdiction could change in the future, possibly on a retroactive basis, and any such change could have a material adverse impact on us and our affiliates.
Changes in tax treaties and trade agreements could negatively impact our costs, results of operations and earnings per share.	Legislative and regulatory action may be taken in the U.S. which, if ultimately adopted, could override or otherwise adversely impact tax treaties upon which we rely or broaden the circumstances under which STERIS plc would be considered a U.S. resident, each of which could materially and adversely affect our tax obligations. We cannot predict the outcome of any specific legislative or regulatory proposals. However, if proposals were adopted that had the effect of disregarding our organization in Ireland or limiting our ability as an Irish company to take advantage of tax treaties with the U.S., we could be subject to increased taxation and/or potentially significant expense. Existing free trade laws and regulations provide certain beneficial duties and tariffs for qualifying imports and exports, subject to compliance with the applicable classification and other requirements. Changes in laws and regulations or policies governing the terms of foreign trade, and in particular, increased trade restrictions, tariffs or taxes on imports from countries where we manufacture products could have a material adverse impact on our business and financial results.

Proposed legislation relating to the denial of U.S. federal or state governmental contracts to U.S. companies that redomicile abroad could adversely affect our business.	Various U.S. federal and state legislative proposals that would deny governmental contracts to redomiciled companies may adversely affect us if adopted into law. We are unable to predict the likelihood that any such proposed legislation might become law, the nature of regulations that may be promulgated under any future legislative enactments, or the effect such enactments or increased regulatory scrutiny could have on our business.
The U.S. Internal Revenue Service (the "IRS") may not agree that we are a foreign corporation for U.S. federal tax purposes.	Although we are organized under the laws of Ireland and are a tax resident in Ireland for Irish tax purposes, the IRS may assert that we should be treated as a U.S. corporation (and, therefore, a U.S. tax resident) for U.S. federal tax purposes pursuant to Section 7874 of the Internal Revenue Code of 1986, as amended (the "Code" and such Section, "Section 7874"). For U.S. federal tax purposes, a company generally is considered to be a tax resident in the jurisdiction of its organization. Because we are organized under the laws of Ireland, we would generally be classified as a non-U.S. corporation (and, therefore, a non-U.S. tax resident) under these rules. Section 7874, however, provides an exception to this general rule under which a non-U.S. organized entity may be treated as a U.S. corporation for U.S. federal tax purposes. If we were to be treated as a U.S. corporation for U.S. federal tax purposes, we could be subject to substantial additional U.S. tax liability. Additionally, if we were treated as a U.S. corporation for U.S. federal tax purposes, non-U.S. holders of our ordinary shares would be subject to U.S. withholding tax on the gross amount of any dividends we paid to such shareholders. For Irish tax purposes, we are expected, regardless of any application of Section 7874, to be treated as an Ireland tax resident. Consequently, if we are treated as a U.S. corporation for U.S. federal tax purposes under Section 7874, we could be liable for both U.S. and Ireland taxes, which could have a material adverse effect on our financial condition and results of operations.

BUSINESS AND OPERATIONAL RISKS

Risk or uncertainty	**Discussion**
Competition	
Our businesses are highly competitive, and if we fail to compete successfully, our revenues and results of operations may be hurt.	We operate in a highly competitive global environment. Our businesses compete with other broad-line manufacturers, as well as many smaller businesses specializing in particular products or services, primarily on the basis of brand, design, quality, safety, ease of use, serviceability, price, product features, warranty, delivery, service, and technical support. We face increased competition from new infection prevention, sterile processing, contamination control, surgical support, cleaning consumables, gastrointestinal endoscopy accessories, contract sterilization, and other products and services entering the market. Competitors and potential competitors also are attempting to develop alternate technologies and sterilizing agents, as well as disposable medical instruments and other devices designed to address the risk of contamination.
Consolidations among our healthcare and pharmaceutical Customers may result in a loss of Customers or more significant pricing pressures.	A number of our Customers have consolidated. These consolidations are due in part to healthcare cost reduction measures initiated by competitive pressures as well as legislators, regulators and third-party payors. This may result in greater pricing pressures on us and in some cases loss of Customers. Additional consolidations could result in a loss of Customers or more significant pricing pressures.

Decreased availability or increased costs of raw materials or energy supplies or other supplies might increase our production costs or limit our production capabilities or curtail our operations.	We purchase raw materials, fabricated and other components, and energy supplies from a variety of suppliers. Key materials include stainless steel, organic and inorganic chemicals, fuel, cobalt-60, EO, and plastic components. The availability and prices of raw materials and energy supplies are subject to volatility and are influenced by worldwide economic conditions, speculative action, world supply and demand balances, inventory levels, availability of substitute materials, currency exchange rates, anticipated or perceived shortages, and other factors. Also, certain of our key materials and components have a limited number of suppliers. Some are single-sourced in certain regions of the world, such as cobalt-60 and EO, which are necessary to our AST operations. Changes in regulatory requirements regarding the use of, the unavailability or short supply of these products might disrupt or cause shutdowns of portions of our AST operations or have other adverse consequences. We have developed a plan to expand our irradiation processing capacity with accelerator-based technologies which may reduce the potential supply risk. Shortages in supply, increased regulatory or security requirements, or increases in the price of raw materials, components and energy supplies may adversely affect us.
Our operations, and those of our suppliers, are subject to a variety of business continuity hazards and risks, any of which could interrupt production or operations or otherwise adversely affect our performance, results, or value.	Business continuity hazards and other risks include: explosions, fires, earthquakes, inclement weather, and other disasters; utility or other mechanical failures; unscheduled downtime; labor difficulties; inability to obtain or maintain any required licenses or permits; disruption of communications; data security, preservation and redundancy disruptions; inability to hire or retain key management or employees; disruption of supply or distribution; and regulation of the safety, security or other aspects of our operations. The occurrence of any of these or other events might disrupt or shut down operations, or otherwise adversely impact the production or profitability of a particular facility, or our operations as a whole. Certain casualties also might cause personal injury and loss of life, or severe damage to or destruction of property and equipment, and for casualties occurring at our facilities, result in liability claims against us. Although we maintain property and casualty insurance and liability and similar insurance of the types and in the amounts that we believe are customary for our industries, our insurance coverages have limits and we are not fully insured against all potential hazards and risks incident to our business.

We engage in acquisitions and affiliations, divestitures, and other business arrangements. Our growth may be adversely affected if we are unable to successfully identify, price, and integrate strategic business candidates or otherwise optimize our business portfolio.	Our success depends, in part, on strategic acquisitions and joint ventures, which are intended to complement or expand our businesses, divestiture of non-strategic businesses, and other actions intended to optimize our portfolio of businesses. This strategy depends upon our ability to identify, appropriately price, and complete these types of business development transactions or arrangements and to obtain any necessary financing. In the last several fiscal years we have made a number of acquisitions. We also completed several divestitures of non-strategic businesses or product lines during the last several years. Our success with respect to these recent and future acquisitions will depend on our ability to integrate the businesses acquired, retain key personnel, realize identified cost synergies and otherwise execute our strategies. Our success will also depend on our ability to develop satisfactory working arrangements with our strategic partners in joint ventures or other affiliations, or to divest or realign businesses. Competition for strategic business candidates may result in increases in costs and price for acquisition candidates and market valuation issues may reduce the value available for divestiture of non-strategic businesses. These types of transactions are also subject to a number of other risks and uncertainties, including: delays in realizing or failure to realize anticipated benefits of the transactions; diversion of management's time and attention from other business concerns; difficulties in retaining key employees, Customers, or suppliers of the acquired or divested businesses; difficulties in maintaining uniform standards, controls, procedures and policies, or other integration or divestiture difficulties; adverse effects on existing business relationships with suppliers or Customers; other events contributing to difficulties in generating future cash flows; risks associated with the assumption of contingent or other liabilities of acquisition targets or retention of liabilities for divested businesses and difficulties in obtaining financing.
If our continuing efforts to create a lean business and in-source production to reduce costs are not successful, our profitability may be hurt or our business otherwise might be adversely affected.	We have undertaken various activities to create a lean business, including in-sourcing. We continue to look for opportunities to in-source production that is currently provided by third parties.These activities may not produce the full efficiencies and cost reduction benefits that we expect or efficiencies and benefits might be delayed. Implementation costs also might exceed expectations.
Our business and results of operations may be adversely affected if we are unable to recruit and retain qualified management and other personnel or other compliance matters adversely impact our personnel.	Our continued success depends, in large part, on our ability to hire and retain highly qualified people and if we are unable to do so, our business and operations may be impaired or disrupted. Competition for highly qualified people is intense and there is no assurance that we will be successful in attracting or retaining replacements to fill vacant positions, successors to fill retirements or employees moving to new positions, or other highly qualified personnel. In addition, legal, regulatory or compliance matters create significant distraction or diversion of significant or unanticipated resources or attention that could have a material adverse effect on the responsibilities and retention of qualified employees.

We could experience a failure of a key information technology system, process or site or a breach of information security, including a cybersecurity breach or failure of one or more key information technology systems, networks, processes, associated sites or service providers.	We rely extensively on information technology (IT) systems to conduct business. In addition, we rely on networks and services, including internet sites, data hosting and processing facilities and tools and other hardware, software and technical applications and platforms, some of which are managed, hosted, provided and/or used by third-parties or their vendors, to assist in conducting our business. Numerous and evolving cybersecurity threats pose potential risks to the security of our IT systems, networks and services, as well as the confidentiality, availability and integrity of our data. While we have made investments seeking to address these threats, including monitoring of networks and systems, hiring of experts, employee training and security policies for employees and third-party providers, the techniques used in these attacks change frequently and may be difficult to detect for periods of time and we may face difficulties in anticipating and implementing adequate preventative measures. If our IT systems are damaged or cease to function properly, the networks or service providers we rely upon fail to function properly, or we or one of our third-party providers suffer a loss or disclosure of our business or stakeholder information due to any number of causes ranging from catastrophic events or power outages to improper data handling or security breaches and our business continuity plans do not effectively address these failures on a timely basis, we may be exposed to reputational, competitive and business harm as well as litigation and regulatory action. Enforcement of the General Data Protection Regulation ("GDPR") was effective as of May 2018. The GDPR is focused on the protection of personal data not merely the privacy of personal data. The GDPR creates a range of new compliance obligations and will significantly increase financial penalties for noncompliance (including possible fines of up to 4% of global annual revenues for the preceding financial year or €20 million (whichever is higher) for the most serious infringements).

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The following table sets forth the principal plants and other materially important properties of the Company and its subsidiaries as of March 31, 2019. The Company believes that its facilities are adequate for operations and are maintained in good condition. The Company is confident that, if needed, it will be able to acquire additional facilities at commercially reasonable rates.

In the table below, "Contract Sterilization" refers to locations of the Applied Sterilization Technologies segment. "Manufacturing," "Warehousing," "Operations," or "Sales Offices" refer to locations serving one or more of the Healthcare Products, Healthcare Specialty Services and Life Sciences segments.

Ireland (IE), United States (U.S.) Locations (including Puerto Rico) and International Locations (INTL)

Location	*IE /U.S./ INTL**	*Use*	*Owned/Leased*
Montgomery, AL	U.S.	Manufacturing	Owned
Ontario, CA	U.S.	Contract Sterilization	Owned
San Diego, CA	U.S.	Contract Sterilization	Owned
Temecula, CA	U.S.	Contract Sterilization	Owned
Libertyville, IL (2)	U.S.	Contract Sterilization	Owned
Northborough, MA	U.S.	Contract Sterilization	Owned
Brooklyn Park, MN	U.S.	Contract Sterilization	Owned
St. Louis, MO (4)	U.S.	Manufacturing	Owned
South Plainfield, NJ	U.S.	Contract Sterilization	Owned
Whippany, NJ	U.S.	Contract Sterilization	Owned
Chester, NY (2)	U.S.	Contract Sterilization	Owned

Ireland (IE), United States (U.S.) Locations (including Puerto Rico) and International Locations (INTL)

Location	*IE /U.S./ INTL**	*Use*	*Owned/Leased*
Groveport, OH	U.S.	Contract Sterilization	Owned
Mentor, OH (13)	U.S.	Operations	Owned
	U.S.	Sales Offices	Owned
	U.S.	Manufacturing/Warehousing	Owned
	U.S.	Manufacturing/Operations	Owned
Philadelphia, PA	U.S.	Manufacturing/Warehousing	Owned
Spartanburg, SC	U.S.	Contract Sterilization	Owned
El Paso, TX (2)	U.S.	Contract Sterilization	Owned
Grand Prairie, TX	U.S.	Contract Sterilization	Owned
Sandy, UT	U.S.	Contract Sterilization	Owned
Minneapolis, MN (2)	U.S.	Contract Sterilization	Owned
Birmingham, AL (5)	U.S.	Operations/Warehousing	Owned
Vega Alta, PR	U.S.	Contract Sterilization	Owned
Sharon Hill, PA	U.S.	Manufacturing/Warehousing	Owned
Feasterville, PA	U.S.	Warehousing	Owned
Tullamore, Ireland	IE	Contract Sterilization	Owned
Westport, Ireland	IE	Contract Sterilization	Owned
Berkshire, England	INTL	Contract Sterilization	Owned
Derby, England (2)	INTL	Operations	Owned
Lancing, England	INTL	Manufacturing/Operations	Owned
Swindon, England (2)	INTL	Contract Sterilization	Owned
Yorkshire, England (3)	INTL	Contract Sterilization	Owned
Northamptonshire, England	INTL	Contract Sterilization	Owned
Mogi das Cruzes, Brazil	INTL	Manufacturing/Sales Office	Owned
Quebec City, Canada	INTL	Manufacturing	Owned
Whitby, Canada	INTL	Contract Sterilization	Owned
Suzhou, China	INTL	Contract Sterilization/ Operations	Owned
Alajuela, Costa Rica (2)	INTL	Contract Sterilization	Owned
Velka Bites, Czech Republic	INTL	Contract Sterilization	Owned
Tuusula, Finland	INTL	Manufacturing/Sales Office	Owned
Bordeaux, France	INTL	Manufacturing/Sales Office	Owned
Calcinate, Italy	INTL	Contract Sterilization	Owned
Bastia di Rovolon, Italy	INTL	Contract Sterilization	Owned
Rawang, Malaysia (2)	INTL	Contract Sterilization	Owned
Etten-Leur, Netherlands (3)	INTL	Contract Sterilization	Owned
Venlo, Netherlands	INTL	Contract Sterilization	Owned
Michalovce, Slovakia	INTL	Contract Sterilization	Owned
Johannesburg, South Africa	INTL	Contract Sterilization	Owned
Daniken, Switzerland (2)	INTL	Contract Sterilization	Owned
Chonburi, Thailand	INTL	Contract Sterilization	Owned
Radeberg, Germany	INTL	Contract Sterilization	Owned
Komenda, Slovenia	INTL	Contract Sterilization	Owned
Bitterfeld-Wolfen, Germany	INTL	Contract Sterilization	Owned

Ireland (IE), United States (U.S.) Locations (including Puerto Rico) and International Locations (INTL)

Location	*IE /U.S./ INTL**	*Use*	*Owned/Leased*
Ede, Netherlands	INTL	Contract Sterilization	Owned
Chusclan, France	INTL	Contract Sterilization	Owned
Marseille, France	INTL	Manufacturing/Warehousing	Owned
Kuala Ketil, Malaysia	INTL	Contract Sterilization	Owned
Kulim, Malaysia	INTL	Contract Sterilization	Owned
Leicester, England (2)	INTL	Warehousing/Operations	Owned
St. Louis, MO (2)	U.S.	Warehousing/Operations	Leased
Reno, NV	U.S.	Warehousing	Leased
Cleveland, Ohio	U.S.	Operations	Leased
Stow, OH	U.S.	Sales Office/Operations	Leased
Hillsborough, NJ	U.S.	Sales Office/Operations	Leased
Keller, TX (2)	U.S.	Sales Office/Operations	Leased
Tustin, CA	U.S.	Sales Office/Operations	Leased
Melville, NY	U.S.	Sales Office/Operations	Leased
Santa Clara, CA	U.S.	Sales Office	Leased
Chesterfield, MO	U.S.	Sales Office/Operations	Leased
Cooper City, FL	U.S.	Operations	Leased
Rockville, MD	U.S.	Operations	Leased
Springdale, OH	U.S.	Operations/Warehousing	Leased
Franklin Park, IL	U.S.	Manufacturing/ Operations	Leased
Bensenville, IL	U.S.	Operations/Warehousing	Leased
Montgomery, AL	U.S.	Operations/Warehousing	Leased
Ooltewah, TN	U.S.	Operations/Warehousing	Leased
Bethlehem, PA	U.S.	Sales Office/Operations	Leased
Point Richmond, CA (3)	U.S.	Manufacturing/ Operations /Sales Offices/ Warehousing	Leased
San Diego, CA	U.S.	Contract Sterilization	Leased
Denver, CO	U.S.	Contract Sterilization	Leased
Lima, OH	U.S.	Contract Sterilization	Leased
Saxonburg, PA (2)	U.S.	Contract Sterilization	Leased
Petaluma, CA	U.S.	Contract Sterilization	Leased
Tampa, FL (2)	U.S.	Operations	Leased
Temple Terrace, FL	U.S.	Operations	Leased
Hamilton, OH	U.S.	Operations/Warehouse	Leased
Henrico, VA	U.S.	Operations	Leased
Rochester, NY	U.S.	Operations	Leased
Birmingham, AL	U.S.	Warehouse	Leased
Long Island City, NY	U.S.	Operations	Leased
Chattanooga, TN (2)	U.S.	Operations	Leased
Durham, NC	U.S.	Operations	Leased
Cheektowaga, KY	U.S.	Sales Office	Leased
Louisville, KY	U.S.	Warehousing	Leased
Philadelphia, PA	U.S.	Sales Office	Leased

Ireland (IE), United States (U.S.) Locations (including Puerto Rico) and International Locations (INTL)

Location	*IE /U.S./ INTL**	*Use*	*Owned/Leased*
Mentor, OH	U.S.	Warehousing	Leased
Sturbridge, MA	U.S.	Operations	Leased
Galway, Ireland	IE	Lab	Leased
Tullamore, Ireland (3)	IE	Sales Office	Leased
Calcinate, Italy	INTL	Contract Sterilization	Leased
Riyadh, Saudi Arabia	INTL	Operations	Leased
Toronto, Canada	INTL	Operations	Leased
Antwerpen, Belgium	INTL	Sales Office/Operations	Leased
Sao Paulo, Brazil (2)	INTL	Sales Office	Leased
Mississauga, Canada	INTL	Sales Office/Warehousing	Leased
Beijing, China	INTL	Sales Office	Leased
Nanjing, China	INTL	Operations	Leased
Shanghai, China (4)	INTL	Sales Office/ Manufacturing	Leased
Suzhou, China	INTL	Operations	Leased
La Chapelle St. Mesmin, France	INTL	Sales Office	Leased
Marseille, France	INTL	Contract Sterilization	Leased
Paris, France	INTL	Sales Office	Leased
Toussieu, France	INTL	Warehousing	Leased
Allershausen, Germany (2)	INTL	Contract Sterilization	Leased
Cologne, Germany (2)	INTL	Sales Office	Leased
Gokul Nagar, India	INTL	Sales Office	Leased
Poggio Rusco, Italy	INTL	Contract Sterilization	Leased
Segrate, Italy	INTL	Sales Office	Leased
Seriate, Italy	INTL	Contract Sterilization/Operations	Leased
Trescore Balneario, Italy	INTL	Operations	Leased
Tokyo, Japan	INTL	Sales Office	Leased
MINT Bangi, Malaysia	INTL	Contract Sterilization	Leased
Petaling Jaya, Malaysia	INTL	Sales Office	Leased
Guadalupe, Mexico	INTL	Manufacturing	Leased
Utrecht, Netherlands	INTL	Operations	Leased
Moscow, Russia	INTL	Sales Office	Leased
Singapore	INTL	Sales Office/Warehousing	Leased
Madrid, Spain	INTL	Sales Office	Leased
Dubai, United Arab Emirates	INTL	Sales Office	Leased
Tuusula, Finland	INTL	Sales Office	Leased
Bihwandi, India	INTL	Warehousing	Leased
Bitterfeld-Wolfen, Germany (2)	INTL	Warehousing	Leased
New Cross, England	INTL	Operations	Leased
Basingstoke, England	INTL	Sales Office	Leased
Hoddesdon, England (2)	INTL	Operations	Leased
Leicester, England	INTL	Warehousing/Operations	Leased
Lincoln, England	INTL	Operations	Leased
Grimsby England	INTL	Operations	Leased

Ireland (IE), United States (U.S.) Locations (including Puerto Rico) and International Locations (INTL)

Location	*IE /U.S./ INTL**	*Use*	*Owned/Leased*
Knowsley, England	INTL	Operations	Leased
Oxfordshire, England	INTL	Contract Sterilization	Leased
Sheffield, England	INTL	Operations	Leased
Strathclyde, Scotland	INTL	Operations	Leased
Swindon, England	INTL	Operations	Leased
Wythenshawe, England	INTL	Operations	Leased
Bishop Stortford, England (4)	INTL	Manufacturing/Warehousing/Operations	Leased
Pitsford, England	INTL	Operations	Leased
Harrow, England	INTL	Operations	Leased
Didcot, England (2)	INTL	Operations	Leased
Sao Jose Dos Campos, Brazil	INTL	Warehousing	Leased

* International includes all countries other than Ireland and the U.S.

ITEM 3. LEGAL PROCEEDINGS

Information regarding our legal proceedings is included in Item 7 of Part II, Management's Discussion and Analysis ("MD&A"), and Note 10 of our consolidated financial statements titled, "Commitments and Contingencies," and is incorporated herein by reference thereto.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

ITEM 5. MARKET FOR REGISTRANT'S ORDINARY EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information. Our ordinary shares are traded on the New York Stock Exchange under the symbol "STE."

Holders. As of March 31, 2019, there were approximately 936 holders of record of our ordinary shares.

Dividend Policy. The Company's Board of Directors decides the timing and amount of any dividends we may pay. The Board expects to be able to continue to pay cash dividends for the foreseeable future.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers. On August 9, 2016, STERIS UK announced that its Board of Directors had authorized the purchase of up to $300.0 million (net of taxes, fees and commissions) of our ordinary shares. As a result of the Redomiciliation, this authorization terminated.

On May 7, 2019, our Board of Directors authorized the continuation of the foregoing share repurchase program by STERIS Ireland. There is approximately $80.0 million (net of taxes, fees and commissions) of remaining availability under the authorization. Under the authorization, the Company may repurchase its shares from time to time through open market purchases, including 10b5-1 plans. The repurchase program may be suspended or discontinued at any time.

We purchased 651,093 of our ordinary shares during fiscal 2019 for the aggregate amount of $72.1 million.

The following table presents information with respect to purchases STERIS made of its ordinary shares during the fourth quarter of fiscal year 2019:

	(a) Total Number of Shares Purchased	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans	(d) Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans at Period End (dollars in thousands)
January 1-31	—	$ —	—	$ 103,979
February 1-28	96,500	121.88	96,500	92,217
March 1-31	108,893	121.57	108,893	78,979
Total	205,393 [1]	$ 121.72 [1]	205,393	$ 78,979

[1] Does not include 11 shares purchased during the quarter at an average price of $116.62 per share by the STERIS Corporation 401(k) Plan on behalf of an executive officer of the Company who may be deemed to be an affiliated purchaser.

ITEM 6. SELECTED FINANCIAL DATA

(in thousands, except per share data)	Years Ended March 31, 2019 [1] [2]	2018 [1] [2]	2017 [1] [2]	2016 [1] [2]	2015 [1] [2]
Statements of Income Data:					
Revenues	**$ 2,782,170**	$ 2,619,996	$ 2,612,756	$ 2,238,764	$ 1,850,263
Gross profit	**1,175,427**	1,092,746	1,026,213	895,348	774,301
Restructuring expenses	**30,987**	103	215	(820)	(391)
Income from continuing operations	**411,465**	399,883	226,206	237,576	225,214
Income taxes	**64,394**	63,360	74,015	60,299	73,756
Net income attributable to shareholders	**304,051**	290,915	109,965	110,763	135,064
Basic income per ordinary share:					
Net income	**$ 3.59**	$ 3.42	$ 1.29	$ 1.57	$ 2.27
Shares used in computing net income per ordinary share – basic	**84,577**	85,028	85,473	70,698	59,413
Diluted income per ordinary share:					
Net income	**$ 3.56**	$ 3.39	$ 1.28	$ 1.56	$ 2.25
Shares used in computing net income per ordinary share – diluted	**85,468**	85,713	86,094	71,184	60,045
Dividends per ordinary share	**$ 1.33**	$ 1.21	$ 1.09	$ 0.98	$ 0.90
Balance Sheets Data:					
Working capital	**$ 588,539**	$ 591,195	$ 636,219	$ 571,919	$ 437,101
Total assets	**5,073,071**	5,200,334	4,924,555	5,346,416	2,097,291
Long-term indebtedness	**1,183,227**	1,316,001	1,478,361	1,567,796	621,075
Total liabilities	**1,887,273**	1,983,034	2,114,422	2,307,524	1,023,645
Total shareholders' equity	**$ 3,177,810**	$ 3,205,960	$ 2,798,602	$ 3,023,034	$ 1,071,632

[1] See "Management's Discussion and Analysis of Financial Condition and Results of Operations."
[2] As a result of our adoption of ASU 2017-07, prior year amounts on our Consolidated Statements of Income have been reclassified to retroactively apply the components of the net periodic benefit cost of our defined benefit pension plans and our other post-retirements benefit plan.

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

INTRODUCTION

In Management's Discussion and Analysis ("MD&A"), we explain the general financial condition and the results of operations for STERIS and its subsidiaries including:

- what factors affect our business;
- what our earnings and costs were;
- why those earnings and costs were different from the year before;
- where our earnings came from;
- how this affects our overall financial condition;
- what our expenditures for capital projects were; and
- where cash will come from to fund future debt principal repayments, growth outside of core operations, repurchase ordinary shares, pay cash dividends and fund future working capital needs.

The MD&A also analyzes and explains the annual changes in the specific line items in the Consolidated Statements of Income. As you read the MD&A, it may be helpful to refer to information in Item 1, "Business," Item 6, "Selected Financial Data," and our consolidated financial statements, which present the results of our operations for fiscal 2019, 2018 and 2017, as well as Part I, Item 1A, "Risk Factors" and Note 10 of our consolidated financial statements titled, "Commitments and Contingencies" for a discussion of some of the matters that can adversely affect our business and results of operations. This information, discussion, and disclosure may be important to you in making decisions about your investments in STERIS.

FINANCIAL MEASURES

In the following sections of the MD&A, we may, at times, refer to financial measures that are not required to be presented in the consolidated financial statements under U.S. GAAP. We sometimes use the following financial measures in the context of this report: backlog; debt-to-total capital; and days sales outstanding. We define these financial measures as follows:

- Backlog – We define backlog as the amount of unfilled capital equipment purchase orders at a point in time. We use this figure as a measure to assist in the projection of short-term financial results and inventory requirements.
- Debt-to-total capital – We define debt-to-total capital as total debt divided by the sum of total debt and shareholders' equity. We use this figure as a financial liquidity measure to gauge our ability to borrow and fund growth.
- Days sales outstanding ("DSO") – We define DSO as the average collection period for accounts receivable. It is calculated as net accounts receivable divided by the trailing four quarters' revenues, multiplied by 365 days. We use this figure to help gauge the quality of accounts receivable and expected time to collect.

We, at times, may also refer to financial measures which are considered to be "non-GAAP financial measures" under SEC rules. We have presented these financial measures because we believe that meaningful analysis of our financial performance is enhanced by an understanding of certain additional factors underlying that performance. These financial measures should not be considered an alternative to measures required by accounting principles generally accepted in the United States. Our calculations of these measures may differ from calculations of similar measures used by other companies and you should be careful when comparing these financial measures to those of other companies. Additional information regarding these financial measures, including reconciliations of each non- GAAP financial measure, is available in the subsection of MD&A titled, "Non-GAAP Financial Measures."

REVENUES– DEFINED

As required by Regulation S-X, we separately present revenues generated as either product revenues or service revenues on our Consolidated Statements of Income for each period presented. When we discuss revenues, we may, at times, refer to revenues summarized differently than the Regulation S-X requirements. The terminology, definitions, and applications of terms that we use to describe revenues may be different from terms used by other companies. We use the following terms to describe revenues:

- Revenues – Our revenues are presented net of sales returns and allowances.
- Product Revenues – We define product revenues as revenues generated from sales of consumable and capital equipment products.
- Service Revenues – We define service revenues as revenues generated from parts and labor associated with the maintenance, repair, and installation of our capital equipment. Service revenues also include hospital sterilization services, instrument and scope repairs, and linen management as well as revenues generated from contract sterilization and laboratory services offered through our Applied Sterilization Technologies segment. Linen management services were divested in fiscal 2017.
- Capital Equipment Revenues – We define capital equipment revenues as revenues generated from sales of capital equipment, which includes steam sterilizers, low temperature liquid chemical sterilant processing systems, including SYSTEM 1 and 1E, washing systems, VHP® technology, water stills, and pure steam generators; surgical lights and tables; and integrated OR.
- Consumable Revenues – We define consumable revenues as revenues generated from sales of the consumable family of products, which includes SYSTEM 1 and 1E consumables, V-PRO consumables, gastrointestinal endoscopy accessories, sterility assurance products, skin care products, cleaning consumables, barrier product solutions and surgical instruments.
- Recurring Revenues – We define recurring revenues as revenues generated from sales of consumable products and service revenues.

GENERAL OVERVIEW AND EXECUTIVE SUMMARY

STERIS plc is a leading provider of infection prevention and other procedural products and services. Our MISSION IS TO HELP OUR CUSTOMERS CREATE A HEALTHIER AND SAFER WORLD by providing innovative healthcare and life science product and service solutions around the globe. We offer our Customers a unique mix of innovative consumable products, such as detergents, gastrointestinal ("GI") endoscopy accessories, barrier product solutions, and other products and services, including: equipment installation and maintenance, microbial reduction of medical devices, instrument and scope repair solutions, laboratory testing services, on-site and off-site reprocessing, and capital equipment products, such as sterilizers and surgical tables, and connectivity solutions such as operating room (“OR”) integration.

On March 28, 2019, STERIS plc, a public limited company organized under the laws of England and Wales (“STERIS UK”), completed a redomiciliation from the United Kingdom to Ireland (the “Redomiciliation”). The Redomiciliation was achieved through the insertion of a new Irish public limited holding company (“STERIS Ireland”) on top of STERIS UK pursuant to a court-approved scheme of arrangement under English law (the “Scheme”). Following the Scheme effectiveness, STERIS UK was re-registered as a private limited company with the name STERIS Limited, and STERIS Emerald IE Limited, a company established in Ireland and a wholly-owned direct subsidiary of STERIS Ireland, was interposed as the direct parent company of STERIS UK.

We operate and report in four reportable business segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. We describe our business segments in Note 11 to our consolidated financial statements, titled "Business Segment Information."

The bulk of our revenues are derived from the healthcare and pharmaceutical industries. Much of the growth in these industries is driven by the aging of the population throughout the world, as an increasing number of individuals are entering their prime healthcare consumption years, and is dependent upon advancement in healthcare delivery, acceptance of new technologies, government policies, and general economic conditions. The pharmaceutical industry has been impacted by increased regulatory scrutiny of cleaning and validation processes, mandating that manufacturers improve their processes. Within healthcare, there is increased concern regarding the level of hospital acquired infections around the world; increased demand for medical procedures, including preventive screenings such as endoscopies and colonoscopies; and a desire by our Customers to operate more efficiently, all which are driving increased demand for many of our products and services.

We completed several acquisitions and asset purchases in fiscal 2019, 2018 and 2017 that expanded our product and service offerings to our Customers.

During fiscal 2018, we divested our Synergy Health Healthcare Consumable Solutions ("HCS") business with annual revenues of approximately $40 million. During fiscal 2017, we divested our Applied Infection Control ("AIC") product line and four businesses acquired in the acquisition of Synergy Health including: all of the linen management services businesses and Synergy Health Laboratory Services.

We continue to invest in manufacturing in-sourcing projects and lean process improvements for the purpose of improving quality, cost and delivery of our products to our Customers.

U.S. Tax Reform. On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "TCJA"). The TCJA made broad and complex changes to the U.S. tax code including, but not limited to, (1) reduction of the U.S. federal corporate income tax rate; (2) elimination of the corporate alternative minimum tax ("AMT"); (3) the creation of the base erosion anti-abuse tax ("BEAT"), a new minimum tax; (4) a general elimination of U.S. federal income taxes on dividends from non-U.S. subsidiaries; (5) a new provision designed to tax global intangible low-taxed income ("GILTI"), which allows for the possibility of using foreign tax credits ("FTCs") and a deduction of up to 50 percent to offset the income tax liability (subject to some limitations); (6) a new limitation on deductible interest expense; (7) the repeal of the domestic production activity deduction; (8) limitations on the deductibility of certain executive compensation; (9) limitations on the use of FTCs to reduce the U.S. income tax liability; and (10) limitations on net operating losses ("NOLs") generated after December 31, 2017, to 80.0 percent of taxable income.

Fiscal 2019 Restructuring Plan. During the third quarter of fiscal year 2019, we adopted and announced a targeted restructuring plan (the "Fiscal 2019 Restructuring Plan"), which included the closure of two manufacturing facilities, one in Brazil and one in England, as well as other actions including, the rationalization of certain products. Fewer than 200 positions are being eliminated. The Company will relocate the production of certain impacted products to other existing manufacturing operations during fiscal 2020. These restructuring actions are designed to enhance profitability and improve efficiency. For additional information on restructuring see the subsection titled "Restructuring Expenses", located in the Results of Operations section of this MD&A, or Note 2 of our Consolidated Financial Statements, titled "Restructuring".

Highlights. Revenues increased $162.2 million, or 6.2%, to $2,782.2 million for the year ended March 31, 2019, as compared to $2,620.0 million for the year ended March 31, 2018. This increase reflects organic growth in all business segments, which was partially offset by the impact of our fiscal 2018 divestiture of HCS and unfavorable fluctuations in currencies.

Fiscal 2019 operating income increased 2.9% to $411.5 million over fiscal 2018 operating income of $399.9 million. The increase is attributable to increased volume and fluctuations in currencies and the positive impact from our fiscal 2018 divestiture of HCS, which were partially offset by costs associated with our Fiscal 2019 Restructuring Plan.

Net cash flows from operations were $539.5 million and free cash flow was $355.4 million in fiscal 2019 compared to net cash flows from operations of $457.6 million and free cash flow of $294.3 million in fiscal 2018 (see subsection of MD&A titled, "Non-GAAP Financial Measures" for additional information and related reconciliation of non-GAAP financial measures to the most comparable GAAP measures). The improvement in free cash flow was primarily due to the improved cash from operations, which was partially offset by higher capital expenditures.

Our debt-to-total capital ratio was 27.1% at March 31, 2019. During the year, we increased our quarterly dividend for the thirteenth consecutive year to $0.34 per share per quarter.

Outlook. Fluctuations in currency rates can impact revenues and costs outside of the United States, creating variability in our results for fiscal 2020 and beyond.

In fiscal 2020 and beyond, we expect to continue to manage our costs, grow our business with internal product and service development, invest in greater capacity, and augment these value creating methods with potential acquisitions of additional products and services.

NON-GAAP FINANCIAL MEASURES

We, at times, refer to financial measures which are considered to be "non-GAAP financial measures" under SEC rules. We, at times, also refer to our results of operations excluding certain transactions or amounts that are non-recurring or are not indicative of future results, in order to provide meaningful comparisons between the periods presented.

These non-GAAP financial measures are not intended to be, and should not be, considered separately from or as an alternative to the most directly comparable GAAP financial measures.

These non-GAAP financial measures are presented with the intent of providing greater transparency to supplemental financial information used by management and the Board of Directors in their financial analysis and operational decision-making. These amounts are disclosed so that the reader has the same financial data that management uses with the belief that it will assist investors and other readers in making comparisons to our historical operating results and analyzing the underlying performance of our operations for the periods presented.

We believe that the presentation of these non-GAAP financial measures, when considered along with our GAAP financial measures and the reconciliation to the corresponding GAAP financial measures, provide the reader with a more complete understanding of the factors and trends affecting our business than could be obtained absent this disclosure. It is important for the reader to note that the non-GAAP financial measure used may be calculated differently from, and therefore may not be comparable to, a similarly titled measure used by other companies.

We define free cash flow as net cash provided by operating activities as presented in the Consolidated Statements of Cash Flows less purchases of property, plant, equipment, and intangibles plus proceeds from the sale of property, plant, equipment, and intangibles, which are also presented within investing activities in the Consolidated Statements of Cash Flows. We use this as a measure to gauge our ability to pay cash dividends, fund growth outside of core operations, fund future debt principal repayments, and repurchase shares. The following table summarizes the calculation of our free cash flow for the years ended March 31, 2019, 2018 and 2017:

	Years Ended March 31,		
(dollars in thousands)	2019	2018	2017
Net cash flows provided by operating activities	**$ 539,505**	$ 457,632	$ 424,086
Purchases of property, plant, equipment and intangibles, net	**(189,715)**	(165,457)	(172,901)
Proceeds from the sale of property, plant, equipment and intangibles	**5,567**	2,094	4,846
Free cash flow	**$ 355,357**	$ 294,269	$ 256,031

RESULTS OF OPERATIONS

In the following subsections, we discuss our earnings and the factors affecting them. We begin with a general overview of our operating results and then separately discuss earnings for our operating segments.

FISCAL 2019 AS COMPARED TO FISCAL 2018

Revenues. The following table compares our revenues, in total and by type and geography, for the year ended March 31, 2019 to the year ended March 31, 2018:

(dollars in thousands)	Years Ended March 31, 2019	2018	Change	Percent Change
Total revenues	**$ 2,782,170**	$ 2,619,996	$ 162,174	6.2%
Revenues by type:				
Service revenues	**1,486,145**	1,399,363	86,782	6.2%
Consumable revenues	**605,631**	581,563	24,068	4.1%
Capital equipment revenues	**690,394**	639,070	51,324	8.0%
Revenues by geography:				
Ireland revenues	**56,784**	48,246	8,538	17.7%
United States revenues	**1,976,814**	1,836,414	140,400	7.6%
Other foreign revenues	**748,572**	735,336	13,236	1.8%

Revenues increased $162.2 million, or 6.2%, to $2,782.2 million for the year ended March 31, 2019, as compared to $2,620.0 million for the year ended March 31, 2018. This increase reflects organic growth in all business segments, which was partially offset by the impact of our fiscal 2018 divestiture of HCS and unfavorable fluctuations in currencies.

Service revenues for fiscal 2019 increased $86.8 million, or 6.2% over fiscal 2018, reflecting growth in all business segments. Consumable revenues for fiscal 2019 increased $24.1 million, or 4.1%, over fiscal 2018, reflecting growth in all business segments which was partially offset by the impact of our fiscal 2018 divestiture of HCS. Capital equipment revenues for fiscal 2019 increased by $51.3 million, or 8.0%, as compared to fiscal 2018, reflecting strong shipment volumes in the Healthcare Products and Life Science business units.

Ireland revenues for fiscal 2019 were $56.8 million, an increase of $8.5 million, or 17.7%, over fiscal 2018 revenues of $48.2 million, reflecting growth in service, consumable and capital equipment revenues.

United States revenues for fiscal 2019 were $1,976.8 million, an increase of $140.4 million, or 7.6%, over fiscal 2018 revenues of $1,836.4 million, reflecting growth in service, consumable and capital equipment revenues.

Revenues from other foreign locations for fiscal 2019 were $748.6 million, an increase of 1.8% over the fiscal 2018 revenues of $735.3 million, reflecting growth in Canada and in the Asia Pacific and Latin America regions, which was partially offset by a decline in the Europe, Middle East and Africa ("EMEA") region.

Gross Profit. The following table compares our gross profit for the year ended March 31, 2019 to the year ended March 31, 2018:

(dollars in thousands)	Years Ended March 31, 2019	2018	Change	Percent Change
Gross profit:				
Product	**$ 593,730**	$ 574,456	$ 19,274	3.4%
Service	**581,697**	518,290	63,407	12.2%
Total gross profit	**$ 1,175,427**	$ 1,092,746	$ 82,681	7.6%
Gross profit percentage:				
Product	**45.8%**	47.1%		
Service	**39.1%**	37.0%		
Total gross profit percentage	**42.2%**	41.7%		

Our gross profit is affected by the volume, pricing and mix of sales of our products and services, as well as the costs associated with the products and services that are sold. Our gross profit increased $82.7 million and gross profit percentage increased 50 basis points to 42.2% for fiscal 2019 as compared to 41.7% for fiscal 2018. This increase was attributable to the positive impacts of pricing (40 basis points), our recent divestitures (20 basis points), fluctuations in currencies (10 basis points) and other factors, which were offset by costs associated with our Fiscal 2019 Restructuring Plan (40 basis points).

Operating Expenses. The following table compares our operating expenses for the year ended March 31, 2019 to the year ended March 31, 2018:

(dollars in thousands)	Years Ended March 31, 2019	2018	Change	Percent Change
Operating expenses:				
Selling, general, and administrative	**$ 669,937**	$ 631,978	$ 37,959	6.0%
Research and development	**63,038**	60,782	2,256	3.7%
Restructuring expenses	**30,987**	103	30,884	NM
Total operating expenses	**$ 763,962**	$ 692,863	$ 71,099	10.3%

NM - Not meaningful

Selling, General, and Administrative Expenses. Significant components of total selling, general, and administrative expenses ("SG&A") are compensation and benefit costs, fees for professional services, travel and entertainment, facilities costs, gains or losses from divestitures, and other general and administrative expenses. SG&A increased 6.0% in fiscal 2019 over fiscal 2018, largely due to additional expenses associated with our Fiscal 2019 Restructuring Plan. Additionally, during the third quarter of fiscal 2019, we adopted a branding strategy that included phasing out the usage of a tradename associated with certain products in the Healthcare Products business segment, which resulted in an impairment charge of $16.2 million.

Research and Development. Research and development expenses increased $2.3 million during fiscal 2019, as compared to fiscal 2018, due primarily to increased spending within the Healthcare Products segment. Research and development expenses are influenced by the number and timing of in-process projects and labor hours and other costs associated with these projects. Our research and development initiatives continue to emphasize new product development, product improvements, and the development of new technological platform innovations. During fiscal 2019, our investments in research and development continued to be focused on, but were not limited to, enhancing capabilities of sterile processing combination technologies, procedural products and accessories, and devices and support accessories used in gastrointestinal endoscopy procedures.

Restructuring Expenses. During the third quarter of fiscal 2019, we adopted and announced a targeted restructuring plan (the "Fiscal 2019 Restructuring Plan"), which included the closure of two manufacturing facilities, one in Brazil and one in England, as well as other actions including, the rationalization of certain products. Fewer than 200 positions are being eliminated. The Company will relocate the production of certain impacted products to other existing manufacturing operations during fiscal 2020. These restructuring actions are designed to enhance profitability and improve efficiency.

We have incurred pre-tax expenses totaling $40.7 million related to these restructuring actions, of which $31.0 million was recorded as restructuring expenses and $9.7 million was recorded in cost of revenues, with a total of $28.4 million, $2.5 million, $0.7 million, and $7.8 million related to the Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies segments, respectively. Corporate related restructuring charges were $1.3 million. We expect to incur additional restructuring expenses related to this plan of approximately $3.0 million in fiscal 2020 and beyond.

The following table summarizes our total pre-tax restructuring expenses for fiscal 2019:

(dollars in thousands)	Fiscal 2019 Restructuring Plan
Severance and other compensation related costs	**$ 5,651**
Accelerated depreciation and amortization	**16,194**
Asset impairment	**4,312**
Lease termination costs and other	**4,830**
Product rationalization [(1)]	**9,721**
Total restructuring expenses	**$ 40,708**

(1) Recorded in cost of revenues on the Consolidated Statements of Income.

Non-Operating Expenses, Net. Non-operating expense (income), net consists of interest expense on debt, offset by interest earned on cash, cash equivalents, short-term investment balances, and other miscellaneous expense. The following table

compares our non-operating expense (income), net for the year ended March 31, 2019 to the year ended March 31, 2018:

(dollars in thousands)	Years Ended March 31, 2019	2018	Change
Non-operating expenses, net:			
Interest expense	**$ 45,015**	$ 50,629	$ (5,614)
Interest income and miscellaneous expense	**(3,020)**	(5,728)	2,708
Non-operating expenses, net	**$ 41,995**	$ 44,901	$ (2,906)

Interest expense decreased $5.6 million during fiscal 2019, as compared to 2018. This decrease was primarily due to: (i) reduced interest rates on our 2008 and 2012 Private Placement Notes, (ii) replacement of higher cost fixed rate debt with lower cost floating rate debt as a result of $85.0 million of 2008 Private Placement Notes maturing during the second quarter of fiscal 2019 and (iii) overall lower debt levels (refer to our Note 6 to our consolidated financial statements, titled "Debt", for more information).

Interest income and miscellaneous expense decreased by $2.7 million during fiscal 2019 as compared to fiscal 2018, primarily due to unrealized losses on our equity investments (refer to our Note 17 to our consolidated financial statements, titled "Fair Value Measurements" for more information).

Additional information regarding our outstanding debt is included in Note 6 to our consolidated financial statements titled, “Debt,” and in the subsection of this MD&A titled, “Liquidity and Capital Resources.”

Income Tax Expense. The following table compares our income tax expense and effective income tax rates for the years ended March 31, 2019 and March 31, 2018:

(dollars in thousands)	Years Ended March 31, 2019	2018	Change	Percent Change
Income tax expense	**$ 64,394**	$ 63,360	$ 1,034	1.6%
Effective income tax rate	**17.4%**	17.8%		

The effective income tax rate for fiscal 2019 was 17.4% as compared to 17.8% for fiscal 2018. The fiscal 2019 effective tax rate decreased when compared to fiscal 2018 primarily due the reduction in the US statutory tax rate from a blended rate of 31.5% to 21%. This was offset unfavorably by non-recurring TCJA impacts benefiting fiscal 2018. Additional information regarding our income tax expense is included in Note 8 to our consolidated financial statements titled, “Income Taxes.”

Business Segment Results of Operations. We operate and report in four reportable business segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. Non-allocated operating costs that support the entire Company and items not indicative of operating trends are excluded from segment operating income.

Our Healthcare Products segment offers infection prevention and procedural solutions for healthcare providers worldwide, including consumable products, equipment maintenance and installation services, and capital equipment.

Our Healthcare Specialty Services segment provides a range of specialty services for healthcare providers including hospital sterilization services and instrument and scope repairs.

Our Life Sciences segment offers consumable products, equipment maintenance, specialty services and capital equipment primarily for pharmaceutical manufacturers.

Our Applied Sterilization Technologies segment offers contract sterilization and laboratory services primarily for medical device and pharmaceutical Customers.

We disclose a measure of segment income that is consistent with the way management operates and views the business. The accounting policies for reportable segments are the same as those for the consolidated Company. In fiscal 2019, we ceased the allocation of certain corporate costs to our segments to align with internal management measures. The prior period operating income measures have been recast for comparability.

For more information regarding our segments please refer to Note 11 to our consolidated financial statements titled “Business Segment Information,” and Item 1, “Business”.

The following table compares business segment and Corporate and other revenues and operating income for the year ended March 31, 2019 to the year ended March 31, 2018:

(dollars in thousands)	Years ended March 31, 2019	2018	Change	Percent Change
Revenues:				
Healthcare Products	**$ 1,338,428**	$ 1,276,054	$ 62,374	4.9%
Healthcare Specialty Services	**510,057**	469,065	40,992	8.7%
Life Sciences	**378,558**	361,590	16,968	4.7%
Applied Sterilization Technologies	**555,127**	513,287	41,840	8.2%
Total revenues	**$ 2,782,170**	$ 2,619,996	$ 162,174	6.2%
Operating income (loss):				
Healthcare Products	**323,684**	294,162	29,522	10.0%
Healthcare Specialty Services	**64,222**	58,458	5,764	9.9%
Life Sciences	**132,129**	123,889	8,240	6.7%
Applied Sterilization Technologies	**221,828**	196,297	25,531	13.0%
Corporate	**(184,900)**	(162,999)	(21,901)	13.4%
Total operating income before adjustments	**$ 556,963**	$ 509,807	$ 47,156	9.2%
Less: Adjustments				
Amortization of inventory and property "step up" to fair value [1]	**2,440**	1,599		
Amortization of acquired intangible assets [1]	**86,878**	67,793		
Acquisition and integration related transaction charges [2]	**8,901**	16,211		
(Gain) on fair value adjustment of acquisition related contingent consideration	**(842)**	(593)		
Net (gain) loss on divestiture of businesses [1]	**(1,370)**	14,547		
Impact of the U.S. Tax Cuts and Jobs Act [3]	**—**	10,264		
Redomiciliation costs [4]	**8,783**	—		
Restructuring charges [5]	**40,708**	103		
Total operating income	**$ 411,465**	$ 399,883		

[1] For more information regarding our recent acquisitions and divestitures see Note 18 titled, "Business Acquisitions and Divestitures". Amortization of purchased intangible assets fiscal 2019 total includes an impairment charge of $16.2 million, see Note 3 titled, "Goodwill and Intangible Assets", for more information.
[2] Acquisition and integration related charges include transaction costs and integration expenses associated with acquisitions.
[3] Represents a one-time special employee bonus paid to most U.S. employees and associated professional fees.
[4] Costs incurred in connection with the decision to redomicile.
[5] See Note 2 titled, "Restructuring", for more information.

Healthcare Products revenues increased 4.9% in fiscal 2019, as compared to fiscal 2018, reflecting growth in consumable, service revenues and capital equipment revenues of 0.6%, 5.5% and 7.9%, respectively. The increase was attributable to organic growth which was partially offset by the negative impact of fluctuations in currencies and the fiscal 2018 divestiture of HCS, which directly impacted the consumables revenue growth. At March 31, 2019, the Healthcare Products segment's backlog amounted to $154.5 million, increasing $21.5 million, or 16.1%, compared to the backlog of $133.0 million at March 31, 2018.

Healthcare Specialty Services revenues increased 8.7% in fiscal 2019, as compared to fiscal 2018. The increase was attributable to organic growth which was partially offset by the negative impact of fluctuations in currencies.

Life Sciences revenues increased 4.7% in fiscal 2019, as compared to fiscal 2018, reflecting growth in consumable, service revenues and capital equipment revenues of 7.4%, 3.3% and 2.1%, respectively. The increase was attributable to organic growth which was partially offset by the negative impact of fluctuations in currencies. Life Sciences backlog at March 31, 2019 amounted to $60.7 million, essentially flat as compared to backlog of $60.8 million at March 31, 2018.

Applied Sterilization Technologies revenues increased 8.2% in fiscal 2019, as compared to fiscal 2018. Revenues in fiscal 2019 were favorably impacted by increased volume from our core medical device Customers which was partially offset by the negative impact of fluctuations in currencies.

The Healthcare Products segment's operating income increased $29.5 million to $323.7 million for fiscal year 2019 as compared to $294.2 million in fiscal year 2018. The segment's operating margin was 24.2% for fiscal year 2019 compared to 23.1% for fiscal year 2018. The increase in operating income in fiscal 2019 was primarily due to increased volumes and operating efficiencies, which were partially offset by continued investment in research and development spending.

The Healthcare Specialty Services segment's operating income increased $5.8 million to $64.2 million for fiscal year 2019 as compared to $58.5 million in fiscal year 2018. The segment's operating margin was 12.6% for fiscal year 2019 compared to 12.5% for fiscal year 2018. The increase in operating income in fiscal 2019 resulted from leveraging the investments made over the past several quarters in the United States and higher volumes.

The Life Sciences business segment's operating income increased $8.2 million to $132.1 million for fiscal year 2019 as compared to $123.9 million in fiscal year 2018. The segment's operating margin was 34.9% for fiscal year 2019 compared to 34.3% for fiscal year 2018. The segment's operating income increase in fiscal 2019 was primarily driven by increased volumes.

The Applied Sterilization Technologies segment's operating income increased $25.5 million to $221.8 million for fiscal year 2019 as compared to $196.3 million for fiscal year 2018. The Applied Sterilization Technologies segment's operating margin was 40.0% for fiscal year 2019 compared to 38.2% for fiscal year 2018. The segment's operating income increase in fiscal 2019 was primarily driven by revenue growth.

FISCAL 2018 AS COMPARED TO FISCAL 2017

Revenues. The following table compares our revenues, in total and by type and geography, for the year ended March 31, 2018 to the year ended March 31, 2017:

	Years Ended March 31,			Percent
(dollars in thousands)	2018	2017	Change	Change
Total revenues	**$ 2,619,996**	$ 2,612,756	$ 7,240	0.3 %
Revenues by type:				
Service revenues	**1,399,363**	1,414,437	(15,074)	(1.1)%
Consumable revenues	**581,563**	558,834	22,729	4.1 %
Capital equipment revenues	**639,070**	639,485	(415)	(0.1)%
Revenues by geography:				
Ireland revenues	**48,246**	42,733	5,513	12.9 %
United States revenues	**1,836,414**	1,803,457	32,957	1.8 %
Other foreign revenues	**735,336**	766,566	(31,230)	(4.1)%

Revenues increased $7.2 million, or 0.3%, to $2,620.0 million for the year ended March 31, 2018, as compared to $2,612.8 million for the year ended March 31, 2017. This increase is primarily attributable to organic growth within all business segments, favorable pricing, the benefit of acquisitions and the positive impact of fluctuations in currencies. These increases were largely offset by the impact of our recent divestitures.

Service revenues for fiscal 2018 decreased $15.1 million, or 1.1%, over fiscal 2017, as the impact of recent divestitures more than offset increases in other service offerings. Consumable revenues increased $22.7 million, or 4.1%, during fiscal 2018 over fiscal 2017, reflecting growth within the Healthcare Products and Life Sciences business segments, which more than offset the impact of the divestitures of the AIC product line and HCS business within the Healthcare Products segment. Capital equipment revenues decreased by $0.4 million, or 0.1%, during fiscal 2018 as compared to fiscal 2017, reflecting a decline in revenues from the Healthcare Products segment, which was offset by growth in revenues from the Life Sciences segment.

Ireland revenues for fiscal 2018 were $48.2 million, an increase of $5.5 million, or 12.9%, over fiscal 2017 revenues of $42.7 million, reflecting increases in consumable and service revenues, which were partially offset by decline in capital equipment revenues.

United States revenues for fiscal 2018 were $1,836.4 million, an increase of $33.0 million, or 1.8%, over fiscal 2017 revenues of $1,803.5 million. Strength in Life Sciences capital equipment and strength in service offerings within the Healthcare Products, Life Sciences and Applied Sterilization Technologies segments more than offset the negative impact of the decline in capital equipment revenues within the Healthcare Products segment and the recent divestitures.

Revenues from other foreign locations for fiscal 2018 were $735.3 million, a decrease of 4.1% over the fiscal 2017 revenues of $766.6 million, primarily due to the fiscal 2017 divestiture of the Netherlands Linen Management Services, which more than offset growth in Canada and in the Asia Pacific and Latin America regions.

Gross Profit. The following table compares our gross profit for the year ended March 31, 2018 to the year ended March 31, 2017:

(dollars in thousands)	Years Ended March 31, 2018	2017	Change	Percent Change
Gross profit:				
Product	**$ 574,456**	$ 574,299	$ 157	—%
Service	**518,290**	451,914	66,376	14.7%
Total gross profit	**$ 1,092,746**	$ 1,026,213	$ 66,533	6.5%
Gross profit percentage:				
Product	**47.1%**	47.9%		
Service	**37.0%**	32.0%		
Total gross profit percentage	**41.7%**	39.3%		

Our gross profit is affected by the volume, pricing and mix of sales of our products and services, as well as the costs associated with the products and services that are sold. Our gross profit increased $66.5 million and gross profit percentage increased 240 basis points to 41.7% for fiscal 2018 as compared to 39.3% for fiscal 2017. The increase in our gross profit percentage was due to the favorable impact of the divestiture of lower margin operations (190 basis points), favorable mix (50 basis points), and favorable pricing (30 basis points) which were partially offset by the negative impact of currencies (30 basis points).

Operating Expenses. The following table compares our operating expenses for the year ended March 31, 2018 to the year ended March 31, 2017:

(dollars in thousands)	Years Ended March 31, 2018	2017	Change	Percent Change
Operating expenses:				
Selling, general, and administrative	**$ 631,978**	$ 682,039	$ (50,061)	(7.3)%
Goodwill impairment loss	**—**	58,356	(58,356)	NM
Research and development	**60,782**	59,397	1,385	2.3 %
Restructuring expenses	**103**	215	(112)	NM
Total operating expenses	**$ 692,863**	$ 800,007	$ (107,144)	(13.4)%

NM - Not meaningful

Selling, General, and Administrative Expenses. Significant components of total selling, general, and administrative expenses ("SG&A") are compensation and benefit costs, fees for professional services, travel and entertainment, facilities costs, gains or losses from divestitures, and other general and administrative expenses. SG&A decreased 7.3% in fiscal 2018 over fiscal 2017. The decline was primarily attributable to a lower net loss on divestitures and lower acquisition and integration costs incurred in fiscal 2018, as compared to fiscal 2017.

Goodwill impairment loss. Goodwill impairment loss of $58.4 million was recorded during fiscal 2017 as a result of our annual goodwill impairment review in the third quarter relative to the Synergy Health Netherlands linen management reporting unit.

Research and Development. Research and development expenses increased $1.4 million during fiscal 2018, as compared to fiscal 2017. Research and development expenses are influenced by the number and timing of in-process projects and labor hours and other costs associated with these projects. Our research and development initiatives continue to emphasize new product development, product improvements, and the development of new technological platform innovations. During fiscal 2018, our investments in research and development continued to be focused on, but were not limited to, enhancing capabilities of sterile processing combination technologies, procedural products and accessories, and devices and support accessories used in gastrointestinal endoscopy procedures.

Non-Operating Expenses, Net. Non-operating expense (income), net consists of interest expense on debt, offset by interest earned on cash, cash equivalents, short-term investment balances, and other miscellaneous expense. The following table

compares our non-operating expense (income), net for the year ended March 31, 2018 to the year ended March 31, 2017:

(dollars in thousands)	Years Ended March 31, 2018	2017	Change
Non-operating expenses, net:			
Interest expense	**$ 50,629**	$ 44,520	$ 6,109
Interest income and miscellaneous expense	**(5,728)**	(2,960)	(2,768)
Non-operating expenses, net	**$ 44,901**	$ 41,560	$ 3,341

Interest expense increased $6.1 million during fiscal 2018 as compared to 2017. This increase was primarily due to an increase in the proportion of higher-cost, fixed rate debt following the issuance and sale of senior notes in a private placement to certain investors on February 27, 2017.

The increase in Interest income and miscellaneous expense was primarily due to our retrospective adoption of ASU 2017-07, "Compensation - Retirement Benefits - Improving the Presentation of Net Periodic Pension and Net Periodic Postretirement Benefit Cost". Additional information regarding the standard can be found in Note 1 to our consolidated financial statements titled, "Nature of Operations and Summary of Significant Accounting Policies."

Additional information regarding our outstanding debt is included in Note 6 to our consolidated financial statements titled, “Debt,” and in the subsection of this MD&A titled, "Liquidity and Capital Resources."

Income Tax Expense. The following table compares our income tax expense and effective income tax rates for the years ended March 31, 2018 and March 31, 2017:

(dollars in thousands)	Years Ended March 31, 2018	2017	Change	Percent Change
Income tax expense	**$ 63,360**	$ 74,015	$ (10,655)	(14.4)%
Effective income tax rate	**17.8%**	40.1%		

The effective income tax rate for fiscal 2018 was 17.8% as compared to 40.1% for fiscal 2017. The fiscal 2018 effective tax rate decreased when compared to fiscal 2017 primarily due to the TCJA impact and non-recurring nondeductible costs related to divestitures. Additional information regarding our income tax expense is included in Note 8 to our consolidated financial statements titled, “Income Taxes.”

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “TCJA”). The SEC staff issued Staff Accounting Bulletin No.118 (“SAB 118”), which provides guidance on accounting for the tax effects of the TCJA. SAB 118, provides a measurement period that should not extend beyond one year from the TCJA enactment date for companies to complete the accounting under Accounting Standards Codification (“ASC”) Topic 740, Income Taxes. Our accounting for the various elements of the TCJA was incomplete at March 31, 2018. However, in accordance with SAB 118 guidance, we were able to make what we believed to be reasonable estimates of certain effects and therefore recorded a provisional net tax benefit of approximately $18.9 million related to the reduction of the U.S. federal corporate income tax rate and the deemed repatriation transition tax. During fiscal 2019, the Company completed its accounting for the tax effects of the TCJA. During fiscal 2019, the Company recorded an immaterial favorable adjustment to the provisional amounts recorded as of March 31, 2018 for remeasurement of the Company’s deferred tax balances and the one-time transition tax.

Business Segment Results of Operations. We operate and report in four reportable business segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. Non-allocated operating costs that support the entire Company and items not indicative of operating trends are excluded from segment operating income.

Our Healthcare Products segment offers infection prevention and procedural solutions for healthcare providers worldwide, including consumable products, equipment maintenance and installation services, and capital equipment.

Our Healthcare Specialty Services segment provides a range of specialty services for healthcare providers including hospital sterilization services and instrument and scope repairs.

Our Life Sciences segment offers consumable products, equipment maintenance, specialty services and capital equipment primarily for pharmaceutical manufacturers.

Our Applied Sterilization Technologies segment offers contract sterilization and laboratory services primarily for medical device and pharmaceutical Customers.

We disclose a measure of segment income that is consistent with the way management operates and views the business. The accounting policies for reportable segments are the same as those for the consolidated Company. In fiscal 2019, we ceased the allocation of certain corporate costs to our segments to align with internal management measures. The prior period operating income measures have been recast for comparability.

For more information regarding our segments please refer to Note 11 to our consolidated financial statements titled "Business Segment Information," and Item 1, "Business."

The following table compares business segment and Corporate and other revenues and operating income for the year ended March 31, 2018 to the year ended March 31, 2017:

(dollars in thousands)	Years ended March 31, 2018	2017	Change	Percent Change
Revenues:				
Healthcare Products	$ 1,276,054	$ 1,266,517	$ 9,537	0.8 %
Healthcare Specialty Services	469,065	539,536	(70,471)	(13.1)%
Life Sciences	361,590	328,866	32,724	10.0 %
Applied Sterilization Technologies	513,287	477,837	35,450	7.4 %
Total revenues	$ 2,619,996	$ 2,612,756	$ 7,240	0.3 %
Operating income (loss):				
Healthcare Products	294,162	285,177	8,985	3.2 %
Healthcare Specialty Services	58,458	41,019	17,439	42.5 %
Life Sciences	123,889	109,953	13,936	12.7 %
Applied Sterilization Technologies	196,297	176,397	19,900	11.3 %
Corporate	(162,999)	(137,403)	(25,596)	18.6 %
Total operating income before adjustments	$ 509,807	$ 475,143	$ 36,846	7.7 %
Less: Adjustments				
Goodwill impairment loss [1]	—	58,356		
Amortization of inventory and property "step up" to fair value [2]	1,599	4,743		
Amortization of acquired intangible assets [2]	67,793	66,398		
Acquisition related transaction and integration charges [3]	16,211	30,082		
(Gain) loss on fair value adjustment of acquisition related contingent consideration	(593)	2,569		
Net loss on divestiture of businesses [2]	14,547	86,574		
Impact of the U.S. Tax Cuts and Jobs Act [4]	10,264	—		
Restructuring charges	103	215		
Total operating income	$ 399,883	$ 226,206		

[1] For more information regarding our goodwill impairment loss see Note 3 to our consolidated financial statements titled, "Goodwill and Intangible Assets".
[2] For more information regarding our recent acquisitions and divestitures see Note 18 to our consolidated financial statements titled, "Business Acquisitions and Divestitures".
[3] Acquisition and integration related charges include transaction costs and integration expenses associated with acquisitions.
[4] Represents a one-time special employee bonus paid to most U.S. employees and associated professional fees.

Healthcare Products revenues increased 0.8% in fiscal 2018, as compared to fiscal 2017, reflecting growth in consumable and service revenues of 2.2% and 7.2%, respectively, which were partially offset by a 4.0% decline in capital equipment revenues. The increase was attributable to organic growth, acquisitions and the positive impact of fluctuations in currencies, and was partially offset by divestitures. At March 31, 2018, the Healthcare Products segment's backlog amounted to $133.0 million, increasing $23.3 million, or 21.3%, compared to the backlog of $109.7 million at March 31, 2017.

Healthcare Specialty Services revenues decreased 13.1% in fiscal 2018, as compared to fiscal 2017. The negative impact of the divestitures was partially offset by organic growth and the positive impact of fluctuations in currencies.

Life Sciences revenues increased 10.0% in fiscal 2018, as compared to fiscal 2017, reflecting growth of 19.6%, 5.2% and 8.6% in capital equipment, consumable and service revenues, respectively. The increase was primarily attributable to organic growth and the positive impact of fluctuations in currencies. Life Sciences backlog at March 31, 2018 amounted to $60.8 million, increasing $7.7 million compared to the backlog of $53.2 million at March 31, 2017.

Applied Sterilization Technologies revenues increased 7.4% in fiscal 2018, as compared to fiscal 2017. Revenues in fiscal 2018 were favorably impacted by increased volume from our core medical device Customers and the positive impact of fluctuations in currencies, which was partially offset by the impact of the divestitures.

The Healthcare Products segment's operating income increased $9.0 million to $294.2 million in fiscal year 2018, as compared to $285.2 million in fiscal year 2017. The segment's operating margin was 23.1% for fiscal year 2018 compared to 22.5% for fiscal year 2017. The increase in operating income in fiscal 2018 was primarily due to organic growth which was partially offset by increased spending on research and development and negative fluctuations in currencies.

The Healthcare Specialty Services segment's operating income increased $17.4 million to $58.5 million for fiscal year 2018 as compared to $41.0 million in fiscal year 2017. The segment's operating margin was 12.5% for fiscal year 2018 compared to 7.6% for fiscal year 2017. The increase in operating income in fiscal 2018 was primarily due to the divestiture of the low margin Linen Management Services operations and growth in retained businesses.

The Life Sciences business segment's operating income increased $13.9 million to $123.9 million for fiscal year 2018 as compared to $110.0 million in fiscal year 2017. The segment's operating margin was 34.3% for fiscal year 2018 compared to 33.4% for fiscal year 2017. The increase in operating income in fiscal 2018 was primarily attributable to higher volume which was partially offset by unfavorable product mix.

The Applied Sterilization Technologies segment's operating income increased $19.9 million to $196.3 million for fiscal year 2018 as compared to $176.4 million for fiscal year 2017. The Applied Sterilization Technologies segment's operating margin was 38.2% for fiscal year 2018 compared to 36.9% for fiscal year 2017. The segment's operating income increase in fiscal 2018 over fiscal 2017 was primarily due to increased volume from the segment's core medical device Customers.

LIQUIDITY AND CAPITAL RESOURCES

The following table summarizes significant components of our cash flows for the years ended March 31, 2019, 2018 and 2017:

	Years Ended March 31,		
(dollars in thousands)	2019	2018	2017
Net cash provided by operating activities	**$ 539,505**	$ 457,632	$ 424,086
Net cash used in investing activities	**(213,224)**	(203,829)	(104,255)
Net cash used in financing activities	**(294,792)**	(356,184)	(267,099)
Debt-to-total capital ratio	**27.1%**	29.1%	34.6%
Free cash flow	**$ 355,357**	$ 294,269	$ 256,031

Net Cash Provided By Operating Activities – The net cash provided by our operating activities was $539.5 million for the year ended March 31, 2019 compared to $457.6 million for the year ended March 31, 2018 and $424.1 million for the year ended March 31, 2017. The following discussion summarizes the significant changes in our operating cash flows for the years ended March 31, 2019, 2018 and 2017:

- Net cash provided by operating activities increased in fiscal 2019 by 17.9%, as compared to fiscal 2018. Net cash provided by operating activities increased 7.9% in fiscal 2018 compared to fiscal 2017. The improvement in both years was primarily due to higher earnings and lower requirements to fund operating assets and liabilities.

Net Cash Used In Investing Activities – The net cash used in our investing activities was $213.2 million for the year ended March 31, 2019, compared to $203.8 million for the year ended March 31, 2018 and $104.3 million for the year ended March 31, 2017. The following discussion summarizes the significant changes in our investing cash flows for the years ended March 31, 2019, 2018 and 2017:

- Purchases of property, plant, equipment, and intangibles, net – Capital expenditures totaled $189.7 million during fiscal 2019, $165.5 million during fiscal 2018 and $172.9 million during fiscal 2017.
- Proceeds from the sale of property, plant, equipment and intangibles – During fiscal 2019, 2018 and 2017 we received $5.6 million, $2.1 million and $4.8 million, respectively, for proceeds from the sale of property, plant, equipment and intangibles.
- Proceeds from the sale of business – During fiscal 2019, 2018 and 2017 we received $2.5 million, $8.9 million and $135.7 million, respectively, for proceeds from the sale of certain non-core businesses. For more information, refer to our Note 18 to our consolidated financial statements, titled "Business Acquisitions and Divestitures".

- Purchases of investments – During fiscal 2019, we completed an equity investment for approximately $5.0 million. During fiscal 2017, we invested an additional $6.4 million in the common stock of Servizi Italia, S.p.A., a leading provider of integrated linen washing and outsourced sterile processing services to hospital Customers.
- Investments in business, net of cash acquired – During fiscal 2019, 2018 and 2017, we used $13.3 million, $46.3 million and $65.6 million respectively, for acquisitions. For more information on these acquisitions refer to Note 18 to our consolidated financial statements titled, "Business Acquisitions and Divestitures".
- Other – During fiscal 2019 and 2018 we provided approximately $13.4 and $3.1 million, respectively under borrowing agreements. For more information on these agreements. For more information, refer to our Note 18 to our consolidated financial statements, titled "Business Acquisitions and Divestitures".

Net Cash Used In Financing Activities – Net cash used in financing activities was $294.8 million for the year ended March 31, 2019, compared to net cash used in financing activities of $356.2 million, and $267.1 million for the years ended March 31, 2018 and March 31, 2017, respectively. The following discussion summarizes the significant changes in our financing cash flows for the years ended March 31, 2019, 2018 and 2017:

- Proceeds from the issuance of long-term obligations – On February 27, 2017, we issued and sold to various institutional investors fixed-rate Series A Senior Notes, in the aggregate principal amount of $95.0 million, €99.0 million, and £75.0 million or a total of approximately $293.7 million. We provide additional information about our debt structure in Note 6 to our consolidated financial statements titled, “Debt,” and in this section of the MD&A titled, “Liquidity and Capital Resources” in the subsection titled, “Sources of Credit.”
- Payments on long-term obligations – During fiscal 2019 we repaid $85.0 million in private placement notes that matured on August 15, 2018. During fiscal 2018 and fiscal 2017 we repaid $222.5 million and $172.5 million, respectively on our bank term loan.
- Proceeds under credit facilities, net – At the end of fiscal 2019, $301.8 million of debt was outstanding under our bank credit facility, compared to $331.2 million and $521.6 million of debt outstanding under this facility at the end of fiscal 2018 and 2017, respectively. We provide additional information about our bank credit facility including the fiscal 2018 refinancing in Note 6 to our consolidated financial statements titled, “Debt”.
- Repurchases of shares – During fiscal 2019, we purchased 659,393 of our ordinary shares in the aggregate amount of $73.2 million, which included $0.4 million of taxes and commissions. We also obtained 112,356 of our ordinary shares in connection with our stock-based compensation award programs in the amount of $8.3 million during fiscal 2019. During fiscal 2018, we purchased 656,663 of our ordinary shares in the aggregate amount of $58.5 million, which included $0.3 million of taxes and commissions. We also obtained 127,903 of our ordinary shares in connection with our stock-based compensation award programs in the amount $7.0 million. During fiscal 2017, we purchased 1,286,183 of our ordinary shares in the aggregate amount of $90.5 million, which included $0.5 million of taxes and commissions. We also obtained 168,906 of our ordinary shares in connection with our stock-based compensation award programs in the amount $7.0 million. We provide additional information about our share repurchases in Note 13 to our consolidated financial statements titled, “Repurchases of Ordinary Shares.”
- Deferred financing fees and debt issuance costs – We paid $0.5 million, $2.0 million and $1.1 million in fiscal 2019, 2018 and 2017, respectively, for financing fees and debt issuance costs related to our Credit Agreement and Private Placement debt. For more information on our debt refer to Note 6 to our consolidated financial statements titled, "Debt".
- Cash dividends paid to ordinary shareholders – During fiscal 2019, we paid cash dividends totaling $112.5 million or $1.33 per outstanding share. During fiscal 2018, we paid cash dividends totaling $102.9 million or $1.21 per outstanding share. During fiscal 2017, we paid cash dividends totaling $93.2 million, or $1.09 per outstanding share.
- Stock option and other equity transactions, net – We generally receive cash for issuing shares upon the exercise of options under our employee stock option program. During fiscal 2019, fiscal 2018 and fiscal 2017, we received cash proceeds totaling $13.3 million, $11.1 million, and $5.0 million, respectively, under these programs. During fiscal 2018 we also paid dividends in the amount of $1.4 million to minority interest shareholders.

Cash Flow Measures. Free cash flow was $355.4 million in fiscal 2019 compared to $294.3 million in fiscal 2018. The improvement in cash flow was primarily due to improved cash from operations, which was partially offset by higher capital expenditures.

Our debt-to-total capital ratio was 27.1% at March 31, 2019 and 29.1% at March 31, 2018.

Cash Requirements. We intend to use our existing cash and cash equivalent balances and cash generated from operations to fund capital expenditures and meet our other liquidity needs. Our capital requirements depend on many uncertain factors, including our rate of sales growth, our Customers' acceptance of our products and services, the costs of obtaining adequate manufacturing capacities, the timing and extent of our research and development projects, changes in our operating expenses and other factors. To the extent that existing and anticipated sources of cash are not sufficient to fund our future activities, we may need to raise additional funds through additional borrowings or the sale of equity securities. There can be no assurance that our financing arrangements will provide us with sufficient funds or that we will be able to obtain any additional funds on terms favorable to us or at all.

Sources of Credit. Our sources of credit as of March 31, 2019 are summarized in the following table:

(dollars in thousands)	Maximum Amounts Available	Reductions in Available Credit Facility for Other Financial Instruments	March 31, 2019 Amounts Outstanding	March 31, 2019 Amounts Available
Sources of Credit				
Private placement	**$ 884,967**	**$ —**	**$ 884,967**	**$ —**
Credit Agreement [(1)]	**1,000,000**	**4,763**	**301,846**	**693,391**
Total Sources of Credit	**$ 1,884,967**	**$ 4,763**	**$ 1,186,813**	**$ 693,391**

[(1)] At March 31, 2019, there was $4.8 million of letters of credit outstanding under the Credit Agreement.

Our sources of funding from credit as of March 31, 2019 are summarized below:

- On March 23, 2018, STERIS UK and certain of its subsidiaries entered into a Credit Agreement (the "Credit Agreement") with various financial institutions as lenders, and JPMorgan Chase Bank, N.A., as Administrative Agent. STERIS Ireland subsequently became a borrower and guarantor under the Credit Agreement. The Credit Agreement replaced a bank credit facility dated March 31, 2015. The Credit Agreement provides up to $1.0 billion of credit, in the form of a revolver facility, which may be utilized for revolving credit borrowings, swing line borrowings and letters of credit, with sublimits for swing line borrowings and letters of credit. The revolver facility may be increased in specified circumstances by up to $500.0 million. The Credit Agreement will mature on March 23, 2023, and all unpaid borrowings, together with accrued and unpaid interest thereon, are repayable on that date. The Credit Agreement contains leverage and interest coverage covenants. Borrowings may be taken in U.S. dollars, euros, and pounds sterling and certain other specified currencies and bear interest at our option based upon either the Base Rate or the Eurocurrency Rate, plus the Applicable Margin in effect from time to time under the Credit Agreement. The Applicable Margin is determined based on the ratio of Consolidated Total Debt to Consolidated EBITDA (as such terms are defined in the Credit Agreement). Interest on Base Rate Advances is payable quarterly in arrears and interest on Eurocurrency Rate Advances is payable at the end of the relevant interest period therefor, but in no event less frequently than every three months. Borrowings at closing were used to repay outstanding balances of debt outstanding under the former bank credit facility dated March 31, 2015 that was scheduled to mature on March 31, 2020 and for other general corporate purposes.
- The Credit Agreement was amended in March 2019, in connection with the Redomiciliation to permit the Redomiciliation. The amendments did not effect any material changes in the terms of the Credit Agreement regarding borrowings or the issuance of letters of credit.

Our outstanding Senior Notes at March 31, 2019 were as follows:

(dollars in thousands)	Applicable Note Purchase Agreement	Maturity Date	U.S. Dollar Value at March 31, 2019
$35,000 Senior notes at 6.43%	2008 Private Placement	August 2020	**35,000**
$91,000 Senior notes at 3.20%	2012 Private Placement	December 2022	**91,000**
$80,000 Senior notes at 3.35%	2012 Private Placement	December 2024	**80,000**
$25,000 Senior notes at 3.55%	2012 Private Placement	December 2027	**25,000**
$125,000 Senior notes at 3.45%	2015 Private Placement	May 2025	**125,000**
$125,000 Senior notes at 3.55%	2015 Private Placement	May 2027	**125,000**
$100,000 Senior notes at 3.70%	2015 Private Placement	May 2030	**100,000**
$50,000 Senior notes at 3.93%	2017 Private Placement	February 2027	**50,000**
€60,000 Senior notes at 1.86%	2017 Private Placement	February 2027	**67,352**
$45,000 Senior notes at 4.03%	2017 Private Placement	February 2029	**45,000**
€20,000 Senior notes at 2.04%	2017 Private Placement	February 2029	**22,450**
£45,000 Senior notes at 3.04%	2017 Private Placement	February 2029	**58,702**
€19,000 Senior notes at 2.30%	2017 Private Placement	February 2032	**21,328**
£30,000 Senior notes at 3.17%	2017 Private Placement	February 2032	**39,135**
Total Senior Notes			**$ 884,967**

- On February 27, 2017, STERIS UK issued and sold an aggregate principal amount of $95.0 million, €99.0 million, and £75.0 million, of senior notes in a private placement to certain institutional investors in an offering that was exempt from the registration requirements of the Securities Act of 1933. These notes have maturities of between 10 and 15 years from the issue date. The agreement governing these notes contains leverage and interest coverage covenants.
- On May 15, 2015, STERIS Corporation issued and sold $350.0 million of senior notes, in a private placement to certain institutional investors in an offering that was exempt from the registration requirements of the Securities Act of 1933. These notes have maturities of 10 to 15 years from the issue date. The agreement governing these notes contains leverage and interest coverage covenants.
- The agreements governing certain senior notes issued and sold in February 2013, December 2012, and August 2008, were amended and restated in their entirety on March 31, 2015. All of these notes were issued and sold in private placements to certain institutional investors in offerings that were exempt from the registration requirements of the Securities Act of 1933. The amended and restated agreements, which have been consolidated into a single agreement for the 2013 and 2012 notes, and a separate single agreement for the 2008 notes, contain leverage and interest coverage covenants.
- All of the note agreements were amended in March 2019, in connection with the Redomiciliation. The amendments waived certain repurchase rights of the note holders and increased the size of certain baskets to more closely align with Credit Agreement baskets.

As of March 31, 2019, a total of $301.8 million was outstanding under the Credit Agreement, based on currency exchange rates as of March 31, 2019. At March 31, 2019, we had $693.4 million of unused funding available under the Credit Agreement. The Credit Agreement includes a sub-limit that reduces the maximum amount available to us by letters of credit outstanding. At March 31, 2019, there was $4.8 million in letters of credit outstanding under the Credit Agreement.

At March 31, 2019, we were in compliance with all financial covenants associated with our indebtedness. We provide additional information regarding our debt structure and payment obligations in the section of the MD&A titled, “Liquidity and Capital Resources” in the subsection titled, “Contractual and Commercial Commitments” and in Note 6 to our consolidated financial statements titled, “Debt.”

CAPITAL EXPENDITURES

Our capital expenditure program is a component of our long-term strategy. This program includes, among other things, investments in new and existing facilities, business expansion projects, radioisotope (cobalt-60), and information technology enhancements and research and development advances. During fiscal 2019, our capital expenditures amounted to $189.7 million. We use cash provided by operating activities and our cash and cash equivalent balances to fund capital expenditures. We expect fiscal 2020 capital expenditures to increase to approximately $280.0 million, reflecting continued facility expansions, particularly within the Applied Sterilization Technologies segment and general maintenance for existing facilities.

CONTRACTUAL AND COMMERCIAL COMMITMENTS

At March 31, 2019, we had commitments under non-cancelable operating leases totaling $162.4 million.

Our contractual obligations and commercial commitments as of March 31, 2019 are presented in the following tables. Commercial commitments include standby letters of credit, letters of credit required as security under our self-insured risk retention policies, and other potential cash outflows resulting from events that require us to fulfill commitments.

	Payments due by March 31,					
(dollars in thousands)	2020	2021	2022	2023	2024 and thereafter	Total
Contractual Obligations:						
Debt	$ —	$ 35,033	$ —	$ 392,846	$ 758,967	$ 1,186,846
Operating leases	24,008	18,567	13,917	11,929	93,939	162,360
Purchase obligations	106,045	34,504	26,571	11,007	—	178,127
Benefit payments under defined benefit plans	5,613	5,767	5,928	6,441	40,356	64,105
Trust assets available for benefit payments under defined benefit plans	(5,613)	(5,767)	(5,928)	(6,441)	(40,356)	(64,105)
Benefit payments under other post-retirement benefits plans	1,633	1,499	1,394	1,261	5,383	11,170
Expected contributions to defined benefit plans	3,781	3,971	4,169	2,110	—	14,031
Total Contractual Obligations	$ 135,467	$ 93,574	$ 46,051	$ 419,153	$ 858,289	$ 1,552,534

The table above includes only the principal amounts of our contractual obligations. We provide information about the interest component of our long-term debt in the subsection of MD&A titled, “Liquidity and Capital Resources,” and in Note 6 to our consolidated financial statements titled, “Debt.”

Purchase obligations shown in the table above relate to minimum purchase commitments with suppliers for materials purchases and long term construction contracts.

The table above excludes contributions we make to our defined contribution plans. Our future contributions to the defined contribution plans depend on uncertain factors, such as the amount and timing of employee contributions and discretionary employer contributions. We provide additional information about our defined benefit pension plans, defined contribution plan, and other post-retirement benefits plan in Note 9 to our consolidated financial statements titled, “Benefit Plans."

	Amount of Commitment Expiring March 31,					
(dollars in thousands)	2020	2021	2022	2023	2024 and thereafter	Totals
Commercial Commitments:						
Letters of credit and surety bonds	$ 50,382	$ 6,465	$ 6,829	$ 1,088	$ 1,207	$ 65,971
Letters of credit as security for self-insured risk retention policies	7,794	—	—	—	—	7,794
Total Commercial Commitments	$ 58,176	$ 6,465	$ 6,829	$ 1,088	$ 1,207	$ 73,765

CRITICAL ACCOUNTING POLICIES, ESTIMATES, AND ASSUMPTIONS

The following subsections describe our most critical accounting policies, estimates, and assumptions. Our accounting policies are more fully described in Note 1 to our consolidated financial statements titled, "Nature of Operations and Summary of Significant Accounting Policies."

Estimates and Assumptions. Our discussion and analysis of financial condition and results of operations is based on our consolidated financial statements that were prepared in accordance with United States generally accepted accounting principles. We make certain estimates and assumptions that we believe to be reasonable when preparing these financial statements. These estimates and assumptions involve judgments with respect to numerous factors that are difficult to predict and are beyond management's control. As a result, actual amounts could be materially different from these estimates. We periodically review these critical accounting policies, estimates, assumptions, and the related disclosures with the Audit Committee of the Company's Board of Directors.

Revenue Recognition. Revenue is recognized when obligations under the terms of the contract are satisfied and control of the promised products or services has transferred to the Customer. Revenues are measured at the amount of consideration that we expect to be paid in exchange for the products or services. Product revenue is recognized when control passes to the Customer, which is generally based on contract or shipping terms. Service revenue is recognized when the Customer benefits from the service, which occurs either upon completion of the service or as it is provided to the Customer. Our Customers include end users as well as dealers and distributors who market and sell our products. Our revenue is not contingent upon resale by the dealer or distributor, and we have no further obligations related to bringing about resale. Our standard return and restocking fee policies are applied to sales of products. Shipping and handling costs charged to Customers are included in Product revenues. The associated expenses are treated as fulfillment costs and are included in Cost of revenues. Revenues are reported net of sales and value-added taxes collected from Customers.

We have individual Customer contracts that offer discounted pricing. Dealers and distributors may be offered sales incentives in the form of rebates. We reduce revenue for discounts and estimated returns, rebates, and other similar allowances in the same period the related revenues are recorded. The reduction in revenue for these items is estimated based on historical experience and trend analysis to the extent that it is probable that a significant reversal of revenue will not occur. Estimated returns are recorded gross on the Consolidated Balance Sheets.

In transactions that contain multiple performance obligations, such as when products, maintenance services, and other services are combined, we recognize revenue as each product is delivered or service is provided to the Customer. We allocate the total arrangement consideration to each performance obligation based on its relative standalone selling price, which is the price for the product or service when it is sold separately.

Payment terms vary by the type and location of the Customer and the products or services offered. Generally, the time between when revenue is recognized and when payment is due is not significant. We do not evaluate whether the selling price contains a financing component for contracts that have a duration of less than one year.

We do not capitalize sales commissions as substantially all of our sales commission programs have an amortization period of one year or less.

Certain costs to fulfill a contract are capitalized and amortized over the term of the contract if they are recoverable, directly related to a contract and generate resources that we will use to fulfill the contract in the future. At March 31, 2019 assets related to costs to fulfill a contract were not material to our Consolidated Financial Statements.

Allowance for Doubtful Accounts Receivable. We maintain an allowance for uncollectible accounts receivable for estimated losses in the collection of amounts owed by Customers. We estimate the allowance based on analyzing a number of factors, including amounts written off historically, Customer payment practices, and general economic conditions. We also analyze significant Customer accounts on a regular basis and record a specific allowance when we become aware of a specific Customer's inability to pay. As a result, the related accounts receivable are reduced to an amount that we reasonably believe is collectible. These analyses require a considerable amount of judgment. If the financial condition of our Customers worsens, or economic conditions change, we may be required to make changes to our allowance for doubtful accounts receivable.

Allowance for Sales Returns. We maintain an allowance for sales returns based upon known returns and estimated returns for both capital equipment and consumables. We estimate returns of capital equipment and consumables based upon historical experience.

Inventories and Reserves. Inventories are stated at the lower of their cost or market value. We determine cost based upon a combination of the last-in, first-out ("LIFO") and first-in, first-out ("FIFO") cost methods. We determine the LIFO inventory value at the end of the year based on inventory levels and costs at that time. For inventories valued using the LIFO method, we believe that the use of the LIFO method results in a matching of current costs and revenues. Inventories valued using the LIFO method represented approximately 25.2% and 26.0% of total inventories at March 31, 2019 and 2018, respectively. Inventory

costs include material, labor, and overhead. If we had used only the FIFO method of inventory costing, inventories would have been $16.8 million and $17.3 million higher than those reported at March 31, 2019 and 2018, respectively.

We review inventory on an ongoing basis, considering factors such as deterioration and obsolescence. We record an allowance for estimated losses when the facts and circumstances indicate that particular inventories will not be usable. If future market conditions vary from those projected, and our estimates prove to be inaccurate, we may be required to write-down inventory values and record an adjustment to cost of revenues.

Asset Impairment Losses. Property, plant, equipment, and identifiable intangible assets are reviewed for impairment when events and circumstances indicate that the carrying value of such assets may not be recoverable. Impaired assets are recorded at the lower of carrying value or estimated fair value. We conduct this review on an ongoing basis and, if impairment exists, we record the loss in the Consolidated Statements of Income during that period.

When we evaluate assets for impairment, we make certain judgments and estimates, including interpreting current economic indicators and market valuations, evaluating our strategic plans with regards to operations, historical and anticipated performance of operations, and other factors. If we incorrectly anticipate these factors, or unexpected events occur, our operating results could be materially affected.

Asset Retirement Obligations. We incur retirement obligations for certain assets. We record an initial liability for the asset retirement obligations (ARO) at fair value. Accounting for the ARO at inception and in subsequent periods includes the determination of the present value of a liability and offsetting asset, the subsequent accretion of that liability and depletion of the asset, and a periodic review of the ARO liability estimates and discount rates used in the analysis. We provide additional information about our asset retirement obligations in Note 5 to our consolidated financial statements titled, "Property, Plant and Equipment."

Restructuring. We record specific accruals in connection with plans for restructuring elements of our business. These accruals include estimates principally related to employee separation costs, the closure and/or consolidation of facilities, and contractual obligations. Actual amounts could differ from the original estimates. We review our restructuring-related accruals on a quarterly basis and changes to plans are appropriately recognized in the Consolidated Statements of Income in the period the change is identified.

Purchase Accounting and Goodwill. Assets and liabilities of the business acquired are accounted for at their estimated fair values as of the acquisition date. Any excess of the cost of the acquisition over the fair value of the net tangible and intangible assets acquired is recorded as goodwill. We supplement management expertise with valuation specialists in performing appraisals to assist us in determining the fair values of assets acquired and liabilities assumed. These valuations require us to make estimates and assumptions, especially with respect to intangible assets. We generally amortize our intangible assets over their useful lives with the exception of indefinite lived intangible assets. We do not amortize goodwill, but we evaluate it annually for impairment. Therefore, the allocation of the purchase price to intangible assets and goodwill has a significant impact on future operating results.

We evaluate the recoverability of recorded goodwill amounts annually, or when evidence of potential impairment exists. We may consider qualitative indicators of the fair value of a reporting unit when it is unlikely that a reporting unit has impaired goodwill. We may also utilize a discounted cash flow analysis that requires certain assumptions and estimates be made regarding market conditions and our future profitability. In those circumstances, we test goodwill for impairment by reviewing the book value compared to the fair value at the reporting unit level. We calculate the fair value of our reporting units based on the present value of estimated future cash flows. Considerable management judgment is necessary to evaluate the impact of operating and macroeconomic changes and to estimate future cash flows to measure fair value. Assumptions used in our impairment evaluations, such as forecasted growth rates and cost of capital, are consistent with internal projections and operating plans. We believe such assumptions and estimates are also comparable to those that would be used by other marketplace participants.

As a result of our annual impairment review for goodwill and other indefinite lived intangible assets for fiscal year 2019 and fiscal year 2018, no indicators of impairment were identified. As a result of our annual goodwill impairment review for fiscal year 2017, we concluded that the carrying value of one of our reporting units exceeded its fair value. Prior to its divestiture in fiscal 2017, the Synergy Health Netherlands linen management unit was reported within our Healthcare Specialty Services segment. Financial forecasts prepared for the annual assessment reflected pricing pressures, volume declines driven by overcapacity in the market, and a decline in the overall market size. These factors resulted in further degradation of the already low operating margin and cash flows of this unit. We incurred a goodwill impairment charge of $58.4 million as a result, which was recorded within Goodwill impairment loss in the Consolidated Statements of Income. The fair market value of the reporting unit was determined under an income approach using discounted cash flows and estimated fair market values. Fair value calculated using a discounted cash flow analysis is classified within level 3 of the fair value hierarchy and requires several assumptions including risk adjusted discount rates and financial forecasts.

We evaluate indefinite lived intangible assets annually, or when evidence of potential impairment exists. We evaluate several qualitative indicators and assumptions, and trends that influence the valuation of the assets to determine if any evidence of potential impairment exists. During the third quarter of fiscal 2019, management adopted a branding strategy that included phasing out the usage of a tradename associated with certain products in the Healthcare Products business segment. As a result, management recorded an impairment charge of $16.2 million, which is included within the Selling, general, and administrative line of the Consolidated Statements of Income. The remaining fair value of the asset was calculated using an income approach (the relief from royalty method). The remaining fair value was not material and will be amortized over the asset's remaining useful life. Fair value calculated using this approach is classified within Level 3 of the fair value hierarchy and requires several assumption. During the third quarter of fiscal 2017, we adopted a new branding strategy change as part of the integration of certain Synergy Health operations into the Healthcare Specialty Services Segment. Under this new branding strategy, hospital sterilization services and instrument repair services will utilize the STERIS Instrument Management Services brand name. The Synergy Health trade name was phased out during the fourth quarter of fiscal 2017. As a result, we shortened the estimated useful life of the Synergy Health trade name and accelerated the corresponding amortization expense over the remainder of fiscal 2017, which totaled $14.4 million and was recorded within the Selling, general and administrative expense line on the Consolidated Statements of Income.

Income Taxes. Our provision for income taxes is based on our current period income, changes in deferred income tax assets and liabilities, income tax rates, changes in uncertain tax benefits, and tax planning opportunities available to us in the various jurisdictions in which we operate. Tax laws are complex and subject to different interpretations by the taxpayer and the respective governmental taxing authorities. We use significant judgment in determining our annual effective income tax rate and evaluating our tax positions. We prepare and file tax returns based on our interpretation of tax laws and regulations, and we record estimates based on these judgments and interpretations. We cannot be sure that the tax authorities will agree with all of the tax positions taken by us. The actual income tax liability for each jurisdiction in any year can, in some instances, ultimately be determined be several years after the tax return is filed and the financial statements are published.

We evaluate our tax positions using the recognition threshold and measurement attribute in accordance with current accounting guidance. We determine whether it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, we presume that the position will be examined by the appropriate taxing authority and that the taxing authority will have full knowledge of all relevant information. A tax position that meets the more-likely-than-not recognition threshold is measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. The appropriate unit of account for determining what constitutes an individual tax position, and whether the more-likely-than-not recognition threshold is met for a tax position, is a matter of judgment based on the individual facts and circumstances of that position evaluated in light of all available evidence. We review and adjust our tax estimates periodically because of ongoing examinations by and settlements with the various taxing authorities, as well as changes in tax laws, regulations and precedent.

We recognize deferred tax assets and liabilities based on the differences between the financial statement carrying amounts and the tax basis of assets and liabilities. We regularly review our deferred tax assets for recoverability and establish a valuation allowance based on historical taxable income, projected future taxable income, the expected timing of the reversals of existing temporary differences, and the implementation of tax planning strategies. If we are unable to generate sufficient future taxable income in certain tax jurisdictions, or if there is a material change in the effective income tax rates or time period within which the underlying temporary differences become taxable or deductible, we could be required to increase our valuation allowance, which would increase our effective income tax rate and could result in an adverse impact on our consolidated financial position, results of operations, or cash flows.

We believe that adequate accruals have been made for income taxes. Differences between the estimated and actual amounts determined upon ultimate resolution, individually or in the aggregate, are not expected to have a material adverse effect on our consolidated financial position, but could possibly be material to our consolidated results of operations or cash flows for any one period.

Additional information regarding income taxes is included in Note 8 to our consolidated financial statements titled, “Income Taxes.”

Self-Insurance Liabilities. We record a liability for self-insured risks that we retain for general and product liabilities, workers' compensation, and automobile liabilities based on actuarial calculations. We use our historical loss experience and actuarial methods to calculate the estimated liability. This liability includes estimated amounts for both losses and incurred but not reported claims. We review the assumptions used to calculate the estimated liability at least annually to evaluate the adequacy of the amount recorded. We maintain insurance policies to cover losses greater than our estimated liability, which are subject to the terms and conditions of those policies. The obligation covered by insurance contracts will remain on the balance sheet as we remain liable to the extent insurance carriers do not meet their obligation. Estimated amounts receivable under the contracts are included in the "Prepaid expenses and other current assets" line, and the "Other assets" line of our consolidated balance sheets. Our accrual for self-insured risk retention as of March 31, 2019 and 2018 was $19.7 million and $20.9 million, respectively.

We are also self-insured for employee medical claims. We estimate a liability for incurred but not reported claims based upon recent claims experience. Our self-insured liabilities contain uncertainties because management must make assumptions and apply judgments to estimate the ultimate cost to settle reported claims and claims incurred but not reported as of the balance sheet date. If actual results are not consistent with these assumptions and judgments, we could be exposed to additional costs in subsequent periods.

Contingencies. We are, and will likely continue to be, involved in a number of legal proceedings, government investigations, and claims, which we believe generally arise in the course of our business, given our size, history, complexity, and the nature of our business, products, Customers, regulatory environment, and industries in which we participate. These legal proceedings, investigations and claims generally involve a variety of legal theories and allegations, including, without limitation, personal injury (e.g., slip and falls, burns, vehicle accidents), product liability or regulation (e.g., based on product operation or claimed malfunction, failure to warn, failure to meet specification, or failure to comply with regulatory requirements), product exposure (e.g., claimed exposure to chemicals, asbestos, contaminants, radiation), property damage (e.g., claimed damage due to leaking equipment, fire, vehicles, chemicals), commercial claims (e.g., breach of contract, economic loss, warranty, misrepresentation), financial (e.g., taxes, reporting), employment (e.g., wrongful termination, discrimination, benefits matters), and other claims for damage and relief.

We record a liability for such contingencies to the extent we conclude that their occurrence is both probable and estimable. We consider many factors in making these assessments, including the professional judgment of experienced members of management and our legal counsel. We have made estimates as to the likelihood of unfavorable outcomes and the amounts of such potential losses. In our opinion, the ultimate outcome of these proceedings and claims is not anticipated to have a material adverse affect on our consolidated financial position, results of operations, or cash flows. However, the ultimate outcome of proceedings, government investigations, and claims is unpredictable and actual results could be materially different from our estimates. We record expected recoveries under applicable insurance contracts when we are assured of recovery. Refer to Note 10 of our consolidated financial statements titled, "Commitments and Contingencies" for additional information.

We are subject to taxation from federal, state and local, and foreign jurisdictions. Tax positions are settled primarily through the completion of audits within each individual tax jurisdiction or the closing of a statute of limitation. Changes in applicable tax law or other events may also require us to revise past estimates. The IRS of the United States routinely conducts audits of our federal income tax returns.

Additional information regarding our commitments and contingencies is included in Note 10 to our consolidated financial statements titled, "Commitments and Contingencies."

Benefit Plans. We provide defined benefit pension plans for certain employees and retirees. In addition, we sponsor an unfunded post-retirement benefits plan for two groups of United States retirees. Benefits under this plan include retiree life insurance and retiree medical insurance, including prescription drug coverage.

Employee pension and post-retirement benefits plans are a cost of conducting business and represent obligations that will be settled in the future and therefore, require us to use estimates and make certain assumptions to calculate the expense and liabilities related to the plans. Changes to these estimates and assumptions can result in different expense and liability amounts. Future actual experience may be significantly different from our current expectations. We believe that the most critical assumptions used to determine net periodic benefit costs and projected benefit obligations are the expected long-term rate of return on plan assets and the discount rate. A summary of significant assumptions used to determine the March 31, 2019 projected benefit obligations and the fiscal 2019 net periodic benefit costs is as follows:

	Synergy Health plc	Isotron BV	Synergy Health Daniken AG	Synergy Health Radeberg	Synergy Health Allershausen	Harwell Dosimeters Ltd	U.S. Post-Retirement Benefits Plan
Funding Status	**Funded**	**Funded**	**Funded**	**Unfunded**	**Unfunded**	**Funded**	**Unfunded**
Assumptions used to determine March 31, 2019							
Benefit obligations:							
Discount rate	**2.50%**	**1.20%**	**0.85%**	**1.60%**	**1.60%**	**2.35%**	**3.50%**
Assumptions used to determine fiscal 2019							
Net periodic benefit costs:							
Discount rate	**2.50%**	**1.60%**	**0.95%**	**1.60%**	**1.60%**	**2.55%**	**3.50%**
Expected return on plan assets	**5.02%**	**1.60%**	**1.20%**	**n/a**	**n/a**	**n/a**	**n/a**

NA – Not applicable.

We develop our expected long-term rate of return on plan assets assumptions by evaluating input from third-party professional advisors, taking into consideration the asset allocation of the portfolios, and the long-term asset class return expectations. Generally, net periodic benefit costs increase as the expected long-term rate of return on plan assets assumption decreases. Holding all other assumptions constant, lowering the expected long-term rate of return on plan assets assumption for our funded defined benefit pension plans by 50 basis points would have increased the fiscal 2019 benefit costs by less than $0.1 million.

We develop our discount rate assumptions by evaluating input from third-party professional advisers, taking into consideration the current yield on country specific investment grade long-term bonds which provide for similar cash flow streams as our projected benefit obligations. Generally, the projected benefit obligations and the net periodic benefit costs both increase as the discount rate assumption decreases. Holding all other assumptions constant, lowering the discount rate assumption for our defined benefit pension plans and for the other post-retirement benefits plan by 50 basis points would have decreased the fiscal 2019 net periodic benefit costs by less than $0.1 million and would have increased the projected benefit obligations by approximately $11.8 million at March 31, 2019.

We have made assumptions regarding healthcare costs in computing our other post-retirement benefit obligation. The assumed rates of increase generally decline ratably over a five year-period from the assumed current year healthcare cost trend rate of 6.8% to the assumed long-term healthcare cost trend rate. A 100 basis point change in the assumed healthcare cost trend rate (including medical, prescription drug, and long-term rates) would have had the following effect at March 31, 2019:

	100 Basis Point	
(dollars in thousands)	Increase	Decrease
Effect on total service and interest cost components	**$ —**	**$ —**
Effect on postretirement benefit obligation	**11**	**(11)**

We recognize an asset for the overfunded status or a liability for the underfunded status of defined benefit pension and post-retirement benefit plans in our balance sheets. This amount is measured as the difference between the fair value of plan assets and the benefit obligation (the projected benefit obligation for pension plans and the accumulated post-retirement benefit obligation for other post-retirement benefit plans). Changes in the funded status of the plans are recorded in other comprehensive income in the year they occur. We measure plan assets and obligations as of the balance sheet date. Note 9 to our consolidated financial statements titled, “Benefit Plans,” contains additional information about our pension and other post-retirement welfare benefits plans.

Share-Based Compensation. We measure the estimated fair value for share-based compensation awards, including grants of employee stock options, at the grant date and recognize the related compensation expense over the period in which the share-based compensation vests. We selected the Black-Scholes-Merton option pricing model as the most appropriate method for determining the estimated fair value of our share-based stock option compensation awards. This model involves assumptions that are judgmental and affect share-based compensation expense.

Share-based compensation expense was $24.0 million in fiscal 2019, $22.2 million in fiscal 2018 and $18.8 million in fiscal 2017. Note 14 to our consolidated financial statements titled, "Share-Based Compensation," contains additional information about our share-based compensation plans.

RECENTLY ISSUED ACCOUNTING STANDARDS IMPACTING THE COMPANY

Recently issued accounting standards that are relevant to us are presented in Note 1 to our consolidated financial statements titled, "Nature of Operations and Summary of Significant Accounting Policies."

INFLATION

Our business has not been significantly impacted by the overall effects of inflation. We monitor the prices we charge for our products and services on an ongoing basis and plan to adjust those prices to take into account future changes in the rate of inflation. However, we may not be able to completely offset the impact of inflation.

FORWARD-LOOKING STATEMENTS

This Form 10-K may contain statements concerning certain trends, expectations, forecasts, estimates, or other forward-looking information affecting or relating to STERIS or its industry, products or activities that are intended to qualify for the protections afforded "forward-looking statements" under the Private Securities Litigation Reform Act of 1995 and other laws and regulations. Forward-looking statements speak only as to the date the statement is made and may be identified by the use of forward-looking terms such as "may," "will," "expects," "believes," "anticipates," "plans," "estimates," "projects," "targets," "forecasts," "outlook," "impact," "potential," "confidence," "improve," "optimistic," "deliver," "orders," "backlog," "comfortable," "trend", and "seeks," or the negative of such terms or other variations on such terms or comparable terminology. Many important factors could cause actual results to differ materially from those in the forward-looking statements including, without limitation, disruption of production or supplies, changes in market conditions, political events, pending or future claims or litigation, competitive factors, technology advances, actions of regulatory agencies, and changes in laws, government regulations, labeling or product approvals or the application or interpretation thereof. Other risk factors are described herein and in STERIS's other securities filings, including Item 1A of this Annual Report on Form 10-K. Many of these important factors are outside of STERIS's control. No assurances can be provided as to any result or the timing of any outcome regarding matters described in STERIS's securities filings or otherwise with respect to any regulatory action, administrative proceedings, government investigations, litigation, warning letters, cost reductions, business strategies, earnings or revenue trends or future financial results. References to products are summaries only and should not be considered the specific terms of the product clearance or literature. Unless legally required, STERIS does not undertake to update or revise any forward-looking statements even if events make clear that any projected results, express or implied, will not be realized. Other potential risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements include, without limitation, (a) STERIS's ability to achieve the expected benefits regarding the accounting and tax treatments of the Redomiciliation transaction, (b) operating costs, Customer loss and business disruption (including, without limitation, difficulties in maintaining relationships with employees, Customers, clients or suppliers) being greater than expected following the Redomiciliation, (c) STERIS's ability to meet expectations regarding the accounting and tax treatment of the Tax Cuts and Jobs Act ("TCJA") or the possibility that anticipated benefits resulting from the TCJA will be less than estimated, (d) changes in tax laws or interpretations that could increase our consolidated tax liabilities, including changes in tax laws that would result in STERIS being treated as a domestic corporation for United States federal tax purposes, (e) the potential for increased pressure on pricing or costs that leads to erosion of profit margins, (f) the possibility that market demand will not develop for new technologies, products or applications or services, or business initiatives will take longer, cost more or produce lower benefits than anticipated, (g) the possibility that application of or compliance with laws, court rulings, certifications, regulations, regulatory actions, including without limitation those relating to FDA warning notices or letters, government investigations, the outcome of any pending FDA requests, inspections or submissions, or other requirements or standards may delay, limit or prevent new product introductions, affect the production and marketing of existing products or services or otherwise affect STERIS's performance, results, prospects or value, (h) the potential of international unrest, economic downturn or effects of currencies, tax assessments, tariffs and/or other trade barriers, adjustments or anticipated rates, raw material costs or availability, benefit or retirement plan costs, or other regulatory compliance costs, (i) the possibility of reduced demand, or reductions in the rate of growth in demand, for STERIS's products and services, (j) the possibility of delays in receipt of orders, order cancellations, or delays in the manufacture or shipment of ordered products or in the provision of services, (k) the possibility that anticipated growth, cost savings, new product acceptance, performance or approvals, or other

results may not be achieved, or that transition, labor, competition, timing, execution, regulatory, governmental, or other issues or risks associated with STERIS's businesses, industry or initiatives including, without limitation, those matters described in this Form 10-K and other securities filings, may adversely impact STERIS's performance, results, prospects or value, (l) the impact on STERIS and its operations, or tax liabilities, of Brexit or the exit of other member countries from the EU, and the Company's ability to respond to such impacts, (m) the impact on STERIS and its operations of any legislation, regulations or orders, including but not limited to any new trade or tax legislation, regulations or orders, that may be implemented by the U.S. administration or Congress, or of any responses thereto, (n) the possibility that anticipated financial results or benefits of recent acquisitions, or of STERIS's restructuring efforts, or of recent divestitures, or of the targeted restructuring plan will not be realized or will be other than anticipated, and (o) the effects of contractions in credit availability, as well as the ability of STERIS's Customers and suppliers to adequately access the credit markets when needed.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In the ordinary course of business, we are exposed to various risks, including, but not limited to, interest rate, foreign currency, and commodity risks. These risks are described in the sections that follow.

INTEREST RATE RISK

As of March 31, 2019, we had $885.0 million in fixed rate senior notes outstanding. As of March 31, 2019, we had $301.8 million in outstanding borrowings under our Credit Agreement which are exposed to changes in interest rates. We monitor our interest rate risk, but do not engage in any hedging activities using derivative financial instruments. For additional information regarding our debt structure, refer to Note 6 to our Consolidated Financial Statements titled, "Debt."

FOREIGN CURRENCY RISK

We are exposed to the impact of foreign currency exchange fluctuations. This foreign currency exchange risk arises when we conduct business in a currency other than the U.S. dollar. For most operations, local currencies have been determined to be the functional currencies. The financial statements of subsidiaries are translated to their U.S. dollar equivalents at end-of-period exchange rates for assets and liabilities and at average currency exchange rates for revenues and expenses. Translation adjustments for subsidiaries whose local currency is their functional currency are recorded as a component of accumulated other comprehensive income (loss) within equity. Note 19 to our consolidated financial statements titled, " Reclassifications out of Accumulated Other Comprehensive Income (Loss)," contains additional information about the impact of translation on accumulated other comprehensive income (loss) and equity. Transaction gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency are recognized in the Consolidated Statements of Income. Since we operate internationally and approximately 30% of our revenues and 40% of our cost of revenues are generated outside the United States, foreign currency exchange rate fluctuations can significantly impact our financial position, results of operations, and competitive position.

We enter into foreign currency forward contracts to hedge monetary assets and liabilities denominated in foreign currencies, including inter-company transactions. We do not use derivative financial instruments for speculative purposes. At March 31, 2019, we held foreign currency forward contracts to buy 9.0 million Canadian dollars and 150.0 million Mexican pesos.

COMMODITY RISK

We are dependent on basic raw materials, sub-assemblies, components, and other supplies used in our operations. Our financial results could be affected by the availability and changes in prices of these materials. Some of these materials are sourced from a limited number of suppliers or only a single supplier. These materials are also key source materials for our competitors. Therefore, if demand for these materials rises, we may experience increased costs and/or limited or unavailable supplies. As a result, we may not be able to acquire key production materials on a timely basis, which could impact our ability to produce products and satisfy incoming sales orders on a timely basis. In addition, the costs of these materials can rise suddenly and result in significantly higher costs of production. We believe that we have adequate sources of supply for many of our key materials and energy sources. Where appropriate, we enter into long-term supply contracts as a basis to guarantee a reliable supply. We may also enter into commodity swap contracts to hedge price changes in a certain commodity that impacts raw materials included in our cost of revenues. At March 31, 2019, we held commodity swap contracts to buy 652,900 pounds of nickel.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of
STERIS plc

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of STERIS plc and subsidiaries (the Company) as of March 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended March 31, 2019, and the related notes and the financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at March 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended March 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of March 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated May 30, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

We have served as the Company's auditor since 1989.

/s/ Ernst & Young LLP

Cleveland, Ohio
May 30, 2019

STERIS PLC AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(in thousands)

March 31,	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	**$ 220,633**	$ 201,534
Accounts receivable (net of allowances of $9,645 and $12,472, respectively)	**564,830**	528,066
Inventories, net	**208,243**	205,731
Prepaid expenses and other current assets	**60,029**	54,326
Total current assets	**1,053,735**	989,657
Property, plant, and equipment, net	**1,031,582**	1,010,524
Goodwill	**2,322,928**	2,433,784
Intangibles, net	**604,614**	726,980
Other assets	**60,212**	39,389
Total assets	**$ 5,073,071**	$ 5,200,334
Liabilities and equity		
Current liabilities:		
Accounts payable	**$ 152,913**	$ 135,866
Accrued income taxes	**15,460**	379
Accrued payroll and other related liabilities	**109,058**	94,000
Accrued expenses and other	**187,765**	168,217
Total current liabilities	**465,196**	398,462
Long-term indebtedness	**1,183,227**	1,316,001
Deferred income taxes, net	**151,038**	159,971
Other liabilities	**87,812**	108,600
Total liabilities	**$ 1,887,273**	$ 1,983,034
Commitments and contingencies (see Note 10)		
Preferred shares, with $0.001 and £0.10 par value, respectively; 50,000 and 100 shares authorized, respectively; 0 and 100 issued and outstanding, respectively	**—**	15
Ordinary shares, with $75.00 and £0.10 par value, respectively; 500,000 shares and £17,006 shares aggregate par value authorized, respectively; 84,517 and 84,747 ordinary shares issued and outstanding, respectively	**1,998,564**	2,048,037
Retained earnings	**1,339,024**	1,146,223
Accumulated other comprehensive income (loss)	**(159,778)**	11,685
Total shareholders' equity	**3,177,810**	3,205,960
Noncontrolling interests	**7,988**	11,340
Total equity	**3,185,798**	3,217,300
Total liabilities and equity	**$ 5,073,071**	$ 5,200,334

See notes to consolidated financial statements.

STERIS PLC AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share amounts)

Years Ended March 31,	2019	2018	2017
Revenues:			
Product	**$ 1,296,025**	$ 1,220,633	$ 1,198,319
Service	**1,486,145**	1,399,363	1,414,437
Total revenues	**2,782,170**	2,619,996	2,612,756
Cost of revenues:			
Product	**702,295**	646,177	624,020
Service	**904,448**	881,073	962,523
Total cost of revenues	**1,606,743**	1,527,250	1,586,543
Gross profit	**1,175,427**	1,092,746	1,026,213
Operating expenses:			
Selling, general, and administrative	**669,937**	631,978	682,039
Goodwill impairment loss	**—**	—	58,356
Research and development	**63,038**	60,782	59,397
Restructuring expenses	**30,987**	103	215
Total operating expenses	**763,962**	692,863	800,007
Income from operations	**411,465**	399,883	226,206
Non-operating expenses, net:			
Interest expense	**45,015**	50,629	44,520
Interest income and miscellaneous expense	**(3,020)**	(5,728)	(2,960)
Total non-operating expenses, net	**41,995**	44,901	41,560
Income before income tax expense	**369,470**	354,982	184,646
Income tax expense	**64,394**	63,360	74,015
Net income	**305,076**	291,622	110,631
Less: Net income attributable to noncontrolling interests	**1,025**	707	666
Net income attributable to shareholders	**$ 304,051**	$ 290,915	$ 109,965
Net income per share attributable to shareholders:			
Basic	**$ 3.59**	$ 3.42	$ 1.29
Diluted	**$ 3.56**	$ 3.39	$ 1.28
Cash dividends declared per ordinary share outstanding	**$ 1.33**	$ 1.21	$ 1.09

See notes to consolidated financial statements.

STERIS PLC AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

Years Ended March 31,	2019	2018	2017
Net income	**$ 305,076**	$ 291,622	$ 110,631
Less: Net income attributable to noncontrolling interests	**1,025**	707	666
Net income attributable to shareholders	**$ 304,051**	$ 290,915	$ 109,965
Other comprehensive (loss) income			
Unrealized gain on available for sale securities, (net of taxes of $0, $516 and $402, respectively)	—	1,792	851
Pension and postretirement benefit plan changes (net of taxes of ($423), $1,860, and $963, respectively)	**2,538**	(4,387)	(7,463)
Change in cumulative foreign currency translation adjustment	**(172,031)**	254,982	(165,931)
Total other comprehensive (loss) income attributable to shareholders	**(169,493)**	252,387	(172,543)
Comprehensive income (loss) attributable to shareholders	**$ 134,558**	$ 543,302	$ (62,578)

See notes to consolidated financial statements.

STERIS PLC AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

Years Ended March 31,	2019	2018	2017
Operating activities:			
Net income	**$ 305,076**	$ 291,622	$ 110,631
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, depletion, and amortization	**225,921**	178,332	188,142
Deferred income taxes	**(6,511)**	(24,722)	31,274
Share-based compensation expense	**23,965**	22,187	18,794
Loss on the disposal of property, plant, equipment, and intangibles, net	**924**	2,582	760
(Gain) loss on sale of businesses	**(1,370)**	14,547	86,574
Goodwill impairment loss	**—**	—	58,356
Other items	**(18,397)**	32,229	(13,242)
Changes in operating assets and liabilities, net of effects of acquisitions:			
Accounts receivable, net	**(48,486)**	(37,731)	(48,140)
Inventories, net	**(14,617)**	(5,178)	(12,829)
Other current assets	**(7,371)**	(1,244)	2,324
Accounts payable	**21,244**	563	6,884
Accruals and other, net	**59,127**	(15,555)	(5,442)
Net cash provided by operating activities	**539,505**	457,632	424,086
Investing activities:			
Purchases of property, plant, equipment, and intangibles, net	**(189,715)**	(165,457)	(172,901)
Proceeds from the sale of property, plant, equipment, and intangibles	**5,567**	2,094	4,846
Proceeds from the sale of businesses	**2,478**	8,888	135,713
Purchases of investments	**(4,955)**	—	(6,356)
Acquisition of business, net of cash acquired	**(13,313)**	(46,271)	(65,557)
Other	**(13,286)**	(3,083)	—
Net cash used in investing activities	**(213,224)**	(203,829)	(104,255)
Financing activities:			
Proceeds from the issuance of long-term obligations	**—**	—	293,730
Payments on long-term obligations	**(85,000)**	(222,500)	(172,500)
(Payments) proceeds under credit facilities, net	**(27,087)**	29,065	(196,613)
Deferred financing fees and debt issuance costs	**(488)**	(2,029)	(1,073)
Acquisition related deferred or contingent consideration	**(1,327)**	(2,064)	(9,918)
Repurchases of shares	**(81,494)**	(65,485)	(97,509)
Cash dividends paid to common shareholders	**(112,503)**	(102,929)	(93,193)
Proceeds from issuance of equity to minority shareholders	**—**	—	5,022
Stock option and other equity transactions, net	**13,107**	9,758	4,955
Net cash used in financing activities	**(294,792)**	(356,184)	(267,099)
Effect of exchange rate changes on cash and cash equivalents	**(12,390)**	20,997	(18,655)
Increase (decrease) in cash and cash equivalents	**19,099**	(81,384)	34,077
Cash and cash equivalents at beginning of period	**201,534**	282,918	248,841
Cash and cash equivalents at end of period	**$ 220,633**	$ 201,534	$ 282,918

See notes to consolidated financial statements.

STERIS PLC AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(in thousands, except per share amounts)

	Ordinary Shares		Preferred Shares		Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Non-controlling Interest	Total Equity
	Number	Amount	Number	Amount				
Balance at March 31, 2016	85,920	$ 2,151,719	100	$ 15	$ 939,459	$ (68,159)	$ 15,858	$ 3,038,892
Comprehensive income:								
Net income	—	—	—	—	109,965	—	666	110,631
Other comprehensive loss	—	—	—	—	—	(172,543)	—	(172,543)
Repurchases of ordinary shares	(1,455)	(95,433)	—	—	(2,076)	—	—	(97,509)
Equity compensation programs	416	23,826	—	—	—	—	—	23,826
Purchase of subsidiary shares from noncontrolling interest	67	5,022	—	—	—	—	(5,374)	(352)
Issuance of subsidiary shares to noncontrolling interest	—	—	—	—	—	—	530	530
Cash dividends – $1.09 per ordinary share	—	—	—	—	(93,193)	—	—	(93,193)
Change in noncontrolling interest	—	—	—	—	—	—	(249)	(249)
Balance at March 31, 2017	84,948	$ 2,085,134	100	$ 15	$ 954,155	$ (240,702)	$ 11,431	$ 2,810,033
Comprehensive income:								
Net income	—	—	—		290,915	—	707	291,622
Other comprehensive loss	—	—	—	—	—	252,387	—	252,387
Repurchases of ordinary shares	(793)	(69,567)	—	—	4,082	—	—	(65,485)
Equity compensation programs and other	592	32,470	—	—	—	—	—	32,470
Cash dividends – $1.21 per ordinary share	—	—	—	—	(102,929)	—	—	(102,929)
Other changes in noncontrolling interest	—	—	—	—	—	—	(798)	(798)
Balance at March 31, 2018	84,747	$ 2,048,037	100	$ 15	$ 1,146,223	$ 11,685	$ 11,340	$ 3,217,300
Comprehensive income:								
Net income	**—**	**—**	**—**	**—**	**304,051**	**—**	**1,025**	**305,076**
Other comprehensive income	**—**	**—**	**—**	**—**	**—**	**(169,493)**	**—**	**(169,493)**
Repurchases of ordinary shares	**(763)**	**(86,414)**	**—**	**—**	**4,920**	**—**	**—**	**(81,494)**
Equity compensation programs and other	**533**	**36,941**	**—**	**—**	**—**	**—**	**—**	**36,941**
Retirement of shares resulting from Redomiciliation	**(84,514)**	**(10,592,117)**	**(100)**	**(15)**	**—**	**—**	**—**	**(10,592,132)**
Issuance of shares resulting from Redomiciliation	**84,514**	**10,592,117**	**—**	**—**	**—**	**—**	**—**	**10,592,117**
Adoption of Accounting Standards (note 1)	**—**	**—**	**—**	**—**	**(3,667)**	**(1,970)**	**—**	**(5,637)**
Cash dividends – $1.33 per ordinary share	**—**	**—**	**—**	**—**	**(112,503)**	**—**	**—**	**(112,503)**
Other changes in noncontrolling interest	**—**	**—**	**—**	**—**	**—**	**—**	**(4,377)**	**(4,377)**
Balance at March 31, 2019	**84,517**	**$ 1,998,564**	**—**	**$ —**	**$ 1,339,024**	**$ (159,778)**	**$ 7,988**	**$ 3,185,798**

See notes to consolidated financial statements.

1. NATURE OF OPERATIONS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations. On March 28, 2019, STERIS plc, a public limited company organized under the laws of England and Wales ("STERIS UK"), completed a redomiciliation from the United Kingdom to Ireland (the "Redomiciliation"). The Redomiciliation was achieved through the insertion of a new Irish public limited holding company ("STERIS Ireland") on top of STERIS UK pursuant to a court-approved scheme of arrangement under English law (the "Scheme"). Following the Scheme effectiveness, STERIS UK was re-registered as a private limited company with the name STERIS Limited, and STERIS Emerald IE Limited, a company established in Ireland and a wholly-owned direct subsidiary of STERIS Ireland, was interposed as the direct parent company of STERIS UK.

STERIS plc is a leading provider of infection prevention and other procedural products and services. We offer our Customers a unique mix of innovative consumable products, such as detergents, gastrointestinal ("GI") endoscopy accessories, barrier product solutions, and other products and services, including: equipment installation and maintenance, microbial reduction of medical devices, instrument and scope repair solutions, laboratory testing services, on-site and off-site reprocessing, and capital equipment products, such as sterilizers and surgical tables, and connectivity solutions such as operating room ("OR") integration.

We operate and report in four reportable business segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. We describe our business segments in Note 11 to our consolidated financial statements titled, "Business Segment Information."

Our fiscal year ends on March 31. References in this Annual Report to a particular "year," "fiscal," "fiscal year," or "year-end" mean our fiscal year. The significant accounting policies applied in preparing the accompanying consolidated financial statements of the Company are summarized below.

Principles of Consolidation. We use the consolidation method to report our investment in our subsidiaries. Therefore, the accompanying consolidated financial statements include the accounts of the Company and its wholly-owned and majority-owned subsidiaries. We eliminate inter-company accounts and transactions when we consolidate these accounts. Investments in equity of unconsolidated affiliates, over which the Company has significant influence, but not control, over the financial and operating polices, are accounted for primarily using the equity method. These investments are immaterial to the Company's Consolidated Financial Statements. In prior periods, we presented income attributable to noncontrolling interests in the "Interest income and miscellaneous expense" line of our Consolidated Statements of Income and the amounts were not material.

Use of Estimates. We make certain estimates and assumptions when preparing financial statements according to U.S. GAAP that affect the reported amounts of assets and liabilities at the financial statement dates and the reported amounts of revenues and expenses during the periods presented. These estimates and assumptions involve judgments with respect to many factors that are difficult to predict and are beyond our control. Actual results could be materially different from these estimates. We revise the estimates and assumptions as new information becomes available.

Cash Equivalents and Supplemental Cash Flow Information. Cash equivalents are all highly liquid investments with a maturity of three months or less when purchased. We invest our excess cash in short-term instruments including money market funds and time deposits with major banks and financial institutions. We select investments in accordance with the criteria established in our investment policy. Our investment policy specifies, among other things, maturity, credit quality and concentration restrictions with the objective of preserving capital and maintaining adequate liquidity.

(dollars in thousands, except per share amounts and as noted)

Information supplementing our Consolidated Statements of Cash Flows is as follows:

Years Ended March 31,	2019	2018	2017
Cash paid during the year for:			
Interest	**$ 44,118**	$ 48,663	$ 42,797
Income taxes	**64,668**	85,629	78,009
Cash received during the year for income tax refunds	**2,189**	7,747	2,002

Revenue Recognition and Associated Liabilities. We adopted Accounting Standards Update ("ASU") 2014-09 “Revenue from Contracts with Customers” and the subsequently issued amendments on April 1, 2018 using the modified retrospective approach to contracts that were not completed as of April 1, 2018. Under this standard, certain capital equipment contracts are comprised of a single performance obligation, resulting in the deferral of the corresponding capital equipment revenue and cost of revenues until installation is complete. Previously, these capital equipment revenues and cost of revenues were recognized based upon shipping terms. We recorded a cumulative effect adjustment in the beginning of fiscal 2019 to Retained earnings of $5,638, based on the current terms and conditions for certain open capital equipment contracts as of March 31, 2018. The impact of the adoption of this standard on our Consolidated Balance Sheets at March 31, 2019 is reflected in the table below. The adoption of this standard did not have a material impact on our Consolidated Statements of Income for the year-to-date period ending March 31, 2019. Comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

Balance Sheet	**As Reported March 31, 2019**	**Total Adjustments**	**ASC 605 March 31, 2019**
Total assets	$ 5,073,071	$ (8,429)	$ 5,064,642
Total liabilities	1,887,273	(14,448)	1,872,825
Total equity	3,185,798	6,019	3,191,817

Revenue is recognized when obligations under the terms of the contract are satisfied and control of the promised products or services have transferred to the Customer. Revenues are measured at the amount of consideration that we expect to be paid in exchange for the products or services. Product revenue is recognized when control passes to the Customer, which is generally based on contract or shipping terms. Service revenue is recognized when the Customer benefits from the service, which occurs either upon completion of the service or as it is provided to the Customer. Our Customers include end users as well as dealers and distributors who market and sell our products. Our revenue is not contingent upon resale by the dealer or distributor, and we have no further obligations related to bringing about resale. Our standard return and restocking fee policies are applied to sales of products. Shipping and handling costs charged to Customers are included in Product revenues. The associated expenses are treated as fulfillment costs and are included in Cost of revenues. Revenues are reported net of sales and value-added taxes collected from Customers.

We have individual Customer contracts that offer discounted pricing. Dealers and distributors may be offered sales incentives in the form of rebates. We reduce revenue for discounts and estimated returns, rebates, and other similar allowances in the same period the related revenues are recorded. The reduction in revenue for these items is estimated based on historical experience and trend analysis to the extent that it is probable that a significant reversal of revenue will not occur. Estimated returns are recorded gross on the Consolidated Balance Sheets.

In transactions that contain multiple performance obligations, such as when products, maintenance services, and other services are combined, we recognize revenue as each product is delivered or service is provided to the Customer. We allocate the total arrangement consideration to each performance obligation based on its relative standalone selling price, which is the price for the product or service when it is sold separately.

Payment terms vary by the type and location of the Customer and the products or services offered. Generally, the time between when revenue is recognized and when payment is due is not significant. We do not evaluate whether the selling price contains a financing component for contracts that have a duration of less than one year.

We do not capitalize sales commissions as substantially all of our sales commission programs have an amortization period of one year or less.

Certain costs to fulfill a contract are capitalized and amortized over the term of the contract if they are recoverable, directly related to a contract and generate resources that we will use to fulfill the contract in the future. At March 31, 2019 assets related to costs to fulfill a contract were not material to our Consolidated Financial Statements.

Refer to Note 11, titled "Business Segment Information" for disaggregation of revenue.

Product Revenue

Product revenues consist of revenues generated from sales of consumables and capital equipment. These contracts are primarily based on a Customer's purchase order and may include a Distributor, Dealer or Group Purchasing Organization ("GPO") agreement. We recognize revenue for sales of product when control passes to the Customer, which generally occurs either when the products are shipped or when they are received by the Customer. Revenue related to certain capital equipment products is deferred until installation is complete as the capital equipment and installation are highly integrated and form a single performance obligation.

Service Revenue

Within our Healthcare Products and Life Sciences segments, service revenues consist of revenue generated from parts and labor associated with the maintenance, repair and installation of capital equipment. These contracts are primarily based on a Customer's purchase order and may include a Distributor, Dealer, or GPO agreement. For maintenance, repair and installation of capital equipment, revenue is recognized upon completion of the service.

We also offer preventive maintenance and separately priced extended warranty agreements to our Customers, which require us to maintain and repair our products over the duration of the contract. Generally, these contract terms are cancelable without penalty and range from one to five years. Amounts received under these Customer contracts are initially recorded as a service liability and are recognized as service revenue ratably over the contract term using a time-based input measure.

Within our Healthcare Specialty Services segment, revenues relate primarily to outsourced instrument reprocessing services and instrument repairs. Contracts for outsourced instrument reprocessing services are primarily based on an agreement with a Customer, ranging in length from several months to 15 years. Outsourced instrument reprocessing services revenue is recognized ratably over the contract term using a time-based input measure, adjusted for volume and other performance metrics, to the extent that it is probable that a significant reversal of revenue will not occur. Contracts for instrument repairs are primarily based on a Customer's purchase order, and the associated revenue is recognized upon completion of the repair.

Within our Applied Sterilization Technologies segment, service revenues include contract sterilization and laboratory services. Sales contracts for contract sterilization and laboratory services are primarily based on a Customer's purchase order and associated Customer agreement and revenues are generally recognized upon completion of the service.

Contract Liabilities

Payments received from Customers are based on invoices or billing schedules as established in contracts with Customers. Deferred revenue is recorded when payment is received in advance of performance under the contract. Deferred revenue is recognized as revenue upon completion of the performance obligation, which generally occurs within one year. During fiscal 2019, we recognized revenue of $30,169 that was included in our contract liability balance at the beginning of the period.

Refer to Note 7, titled "Additional Consolidated Balance Sheet Information" for Deferred revenue balances.

Service Liabilities

Payments received in advance of performance for cancelable preventative maintenance and separately priced extended warranty contracts are recorded as service liabilities. Service liabilities are recognized as revenue as performance is rendered under the contract. Prior to the adoption of Accounting Standards Codification ("ASC") 606, these amounts were included in Deferred revenues.

Refer to Note 7, titled "Additional Consolidated Balance Sheet Information" for Service liability balances.

Remaining Performance Obligations

Remaining performance obligations reflect only the performance obligations related to agreements for which we have a firm commitment from a Customer to purchase and exclude variable consideration related to unsatisfied performance obligations. With regard to products, these remaining performance obligations include capital equipment and consumable orders which have not shipped. With regard to service, these remaining performance obligations primarily include installation, certification, and outsourced instrument reprocessing services. As of March 31, 2019, the transaction price allocated to

(dollars in thousands, except per share amounts and as noted)

remaining performance obligations was approximately $900,000. We expect to recognize approximately 47% of the transaction price within one year and approximately 49% beyond one year. The remainder has yet to be scheduled for delivery.

Accounts Receivable. Accounts receivable are presented at their face amount, less allowances for sales returns and uncollectible accounts. Accounts receivable consist of amounts billed and currently due from Customers and amounts earned but unbilled. We generally obtain and perfect security interest in products sold in the United States when we have a concern with the Customer's risk profile.

We maintain an allowance for uncollectible accounts receivable for estimated losses in the collection of amounts owed by Customers. We estimate the allowance based on analyzing a number of factors, including amounts written off historically, Customer payment practices, and general economic conditions. We also analyze significant Customer accounts on a regular basis and record a specific allowance when we become aware of a specific Customer's inability to pay. As a result, the related accounts receivable are reduced to an amount that we reasonably believe is collectible.

We maintain an allowance for sales returns based upon known returns and estimated returns for both capital equipment and consumables. We estimate returns of capital equipment and consumables based upon recent historical experience.

Inventories, net. Inventories are stated at the lower of their cost or market value. We determine cost based upon a combination of the last-in, first-out ("LIFO") and first-in, first-out ("FIFO") cost methods. For inventories valued using the LIFO method, we believe that the use of the LIFO method results in a matching of current costs and revenues. Inventories valued using the LIFO method represented approximately 25.2% and 26.0% of total inventories at March 31, 2019 and 2018, respectively. Inventory costs include material, labor, and overhead. If we had used only the FIFO method of inventory costing, inventories would have been $16,757 and $17,280 higher than those reported at March 31, 2019 and 2018, respectively.

We review inventory on an ongoing basis, considering factors such as deterioration, obsolescence, and other items. We record an allowance for estimated losses when the facts and circumstances indicate that particular inventories will not be usable. If future market conditions vary from those projected, and our estimates prove to be inaccurate, we may be required to write-down inventory values and record an adjustment to cost of revenues.

Property, Plant, and Equipment. Our property, plant, and equipment consists of land and land improvements, buildings and leasehold improvements, machinery and equipment, information systems, radioisotope (cobalt-60), and construction in progress. Property, plant, and equipment are presented at cost less accumulated depreciation and depletion. We capitalize additions and improvements. Repairs and maintenance are charged to expense as they are incurred.

Land is not depreciated and construction in progress is not depreciated until placed in service. Depreciation of most assets is computed on the cost less the estimated salvage value by using the straight-line method over the estimated remaining useful lives. Depletion of radioisotope is computed using the annual decay factor of the material, which is similar to the sum-of-the-years-digits method.

We generally depreciate or deplete property, plant, and equipment over the useful lives presented in the following table:

Asset Type	Useful Life (years)
Land improvements	3-40
Buildings and leasehold improvements	2-50
Machinery and equipment	2-20
Information Systems	2-20
Radioisotope (cobalt-60)	20

When we sell, retire, or dispose of property, plant, and equipment, we remove the asset's cost and accumulated depreciation from our Consolidated Balance Sheet. We recognize the net gain or loss on the sale or disposition in the Consolidated Statements of Income in the period when the transaction occurs.

Interest. We capitalize interest costs incurred during the construction of long-lived assets. We capitalized interest costs of $495 and $528 for the years ended March 31, 2019 and 2018, respectively. Total interest expense for the years ended March 31, 2019, 2018, and 2017 was $45,015, $50,629, and $44,520, respectively.

Identifiable Intangible Assets. Our identifiable intangible assets include product technology rights, trademarks, licenses, and Customer and vendor relationships. We record these assets at cost, or when acquired as part of a business acquisition, at estimated fair value. We generally amortize identifiable intangible assets over periods ranging from 5 to 20 years using the straight-line method. Our intangible assets also include indefinite lived assets including certain trademarks and tradenames that were acquired in connection with business combinations. These assets are tested at least annually for impairment.

Investments. Investments in marketable securities are stated at fair value and are included in "Other assets" on the Consolidated Balance Sheets. Following the fiscal 2019 adoption of ASU 2016-01, "Financial Instruments - Overall - Recognition and Measurement of Financial Assets and Liabilities, changes in the fair value of these investments are recorded in the "Interest income and miscellaneous expense line" of the Consolidated Statement of Income.

Asset Impairment Losses. Property, plant, equipment, and identifiable intangible assets are reviewed for impairment when indicators of impairment exist and circumstances indicate that the carrying value of such assets may not be recoverable. Impaired assets are recorded at the lower of carrying value or estimated fair value. We monitor for such indicators on an ongoing basis and if an impairment exists, we record the loss in the Consolidated Statements of Income during that period.

Asset Retirement Obligations. We incur retirement obligations for certain assets. We record initial liabilities for the asset retirement obligations ("ARO") at fair value. Recognition of ARO includes: estimating the present value of a liability and offsetting asset, the subsequent accretion of that liability and depletion of the asset, and a periodic review of the ARO liability estimates and discount rates used in the analysis. We provide additional information about our asset retirement obligations in Note 5 to our consolidated financial statements titled, “Property, Plant and Equipment.”

Acquisitions of Business. Assets acquired and liabilities assumed in a business combination are accounted for at fair value on the date of acquisition. Costs related to the acquisition are expensed as incurred.

Goodwill. We perform our annual impairment test for goodwill in the third quarter of each year. We may consider qualitative indicators of the fair value of a reporting unit when it is unlikely that a reporting unit has impaired goodwill. We may also utilize a discounted cash flow analysis that requires certain assumptions and estimates be made regarding market conditions and our future profitability. We review the book value compared to the fair value at the reporting unit level. We calculate the fair value of our reporting units based on the present value of estimated future cash flows. Considerable management judgment is necessary to evaluate the impact of operating and macroeconomic changes and to estimate future cash flows to measure fair value. Assumptions used in our impairment evaluations, such as forecasted growth rates and cost of capital, are consistent with internal projections, strategic plans, and operating plans. We believe such assumptions and estimates are also comparable to those that would be used by other market place participants.

Self-Insurance Liabilities. We record a liability for self-insured risks that we retain for general and product liabilities, workers’ compensation, and automobile liabilities based on actuarial calculations. We use our historical loss experience and actuarial methods to calculate the liability. This liability includes estimates for both losses and incurred but not reported claims. We review the assumptions used to calculate the estimated liability at least annually to evaluate the adequacy of the amount recorded. We maintain insurance policies to cover losses greater than our estimated liability, which are subject to the terms and conditions of those policies. We are also self-insured for certain employee medical claims. We estimate a liability for incurred but not reported claims based upon recent claims experience.

Benefit Plans. We sponsor defined benefit pension plans. We also sponsor a post-retirement benefits plan for certain former employees. We determine our costs and obligations related to these plans by evaluating input from third-party professional advisers. These costs and obligations are affected by assumptions including the discount rate, expected long-term rate of return on plan assets, the annual rate of change in compensation for eligible employees, estimated changes in costs of healthcare benefits, and other factors. We review the assumptions used on an annual basis.

We recognize an asset for the overfunded status or a liability for the underfunded status of defined benefit pension and post-retirement benefits plans in our consolidated balance sheets. This amount is measured as the difference between the fair value of plan assets and the benefit obligation (the projected benefit obligation for pension plans and the accumulated post-retirement benefit obligation for other post-retirement benefit plans). Changes in the funded status of the plans are recorded in other comprehensive income in the year they occur. We measure plan assets and obligations as of the balance sheet date. We provide additional information about our pension and other post-retirement benefits plans in Note 9 to our consolidated financial statements titled, “Benefit Plans.”

Fair Value of Financial Instruments. Except for long-term debt, our financial instruments are highly liquid or have short-term maturities. We provide additional information about the fair value of our financial instruments in Note 17 titled, “Fair Value Measurements.”

Foreign Currency Translation. Most of our operations use their local currency as their functional currency. Financial statements of subsidiaries are translated into U.S. dollars using the exchange rate at each balance sheet date for assets and liabilities and a weighted average exchange rate for each period for revenues, expenses, gains and losses. Translation adjustments for subsidiaries whose local currency is their functional currency are recorded as a component of accumulated other comprehensive income (loss) within equity. Transaction gains and losses resulting from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency are recognized as incurred in the accompanying Consolidated Statement of Income, except for certain inter-company balances designated as long-term in nature.

Forward and Swap Contracts. We enter into foreign currency forward contracts to hedge assets and liabilities denominated in foreign currencies, including inter-company transactions.We may also enter into commodity swap contracts to hedge price changes in nickel that impact raw materials included in our cost of revenues. We do not use derivative financial instruments for speculative purposes. These contracts are marked to market, with gains and losses recognized within “Selling, general, and administrative expenses” or "Cost of revenues" in the accompanying Consolidated Statements of Income.

Warranty. Warranties are provided on the sale of certain of our products and services and an accrual for estimated future claims is recorded at the time revenue is recognized. We estimate warranty expense based primarily on historical warranty claim experience.

Shipping and Handling. We record shipping and handling costs in costs of revenues. Shipping and handling costs charged to Customers are recorded as revenues in the period the product revenues are recognized.

Advertising Expenses. Costs incurred for communicating, advertising and promoting our products are generally expensed when incurred as a component of Selling, General and Administrative Expense. We incurred $10,691, $10,886, and $12,622 of advertising costs during the years ended March 31, 2019, 2018, and 2017, respectively.

Research and Development. We incur research and development costs associated with commercial products and expense these costs as incurred. If a Customer reimburses us for research and development costs, the costs are charged to the related contracts as costs of revenues.

Income Taxes. We defer income taxes for all temporary differences between pre-tax financial and taxable income and between the book and tax basis of assets and liabilities. We record valuation allowances to reduce net deferred tax assets to an amount that we expect will more-likely-than-not be realized. In making such a determination, we consider all available information, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies, and if applicable, any carryback claims that can be filed. In the event we were to determine that we would be able to realize our deferred income tax assets in the future in excess of their net recorded amount, we would make an adjustment to the valuation allowance which would reduce the provision for income taxes and the effective tax rate.

We evaluate uncertain tax positions in accordance with a two-step process. The first step is recognition: The determination of whether or not it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, we presume that the position will be examined by the appropriate tax authority and that the tax authority will have full knowledge of all relevant information. The second step is measurement: A tax position that meets the more-likely-than-not threshold is measured to determine the amount of benefit to recognize in the financial statements. The measurement process requires the determination of the range of possible settlement amounts and the probability of achieving each of the possible settlements. The tax position is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. No tax benefits are recognized for positions that do not meet the more-likely-than-not threshold. Tax positions that previously failed to meet the more-likely-than-not threshold are recognized in the first subsequent financial reporting period in which that threshold is met. Previously recognized tax positions that no longer meet the more-likely-than-not recognition threshold are derecognized in the first subsequent financial reporting period in which the threshold is no longer met. We describe income taxes further in Note 8 to our consolidated financial statements titled, “Income Taxes.”

Medical Device Excise Tax. The Medical Device Excise Tax became effective January 1, 2013. The excise tax was mandated by the 2010 health care reform legislation and assesses a 2.3% tax on the sale or use of certain medical devices that are sold or manufactured in the United States. Many of our products are subject to the excise tax. Late in 2015, Congress enacted legislation that suspended the excise tax for 2016 and 2017. Early in 2018, U.S. Congress enacted legislation that extended the suspension of the excise tax for 2018 and 2019. Therefore, we did not incur Medical Device Excise taxes during fiscal 2019, 2018 or 2017. Should the U.S. Congress take no further action with regard to this tax we may begin to incur excise tax in the fourth quarter of fiscal 2020.

Share-Based Compensation. We describe share-based compensation in Note 14 to our consolidated financial statements titled, "Share-Based Compensation." We measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. We record liability awards at fair value each reporting period and the change in fair value is reflected as share-based compensation expense in our Consolidated Statements of Income. The expense is classified as cost of goods sold, selling, general and administrative expenses or research and development expenses in a manner consistent with the employee's compensation and benefits. These costs are recognized in the Consolidated Statement of Income over the period during which an employee is required to provide service in exchange for the award.

Restructuring. We recognize restructuring expenses as incurred. Asset impairment and accelerated depreciation expenses primarily relate to inventory write-downs for rationalized products and adjustments in the carrying value of the related facilities and machinery and equipment to their estimated fair value. In addition, the remaining useful lives of other property, plant, and equipment associated with the related operations are reevaluated based on the respective restructuring plan, which may result in the acceleration of depreciation and amortization of certain assets.

(dollars in thousands, except per share amounts and as noted)

Recently Issued Accounting Standards Impacting the Company

Recently Issued Accounting Standards Impacting the Company are presented in the following table:

Standard	Date of Issuance	Description	Date of Adoption	Effect on the financial statements or other significant matters
Standards that have recently been adopted				
ASU 2014-09, "Revenue from Contracts with Customers" and subsequently issued amendments	May 2014	The standard replaced existing revenue recognition standards and significantly expands the disclosure requirements for revenue arrangements.	First Quarter Fiscal 2019	Additional information is disclosed in Note 1 under the heading, "Revenue Recognition and Associated Liabilities".
ASU 2016-01, "Financial Instruments - Overall - Recognition and Measurement of Financial Assets and Liabilities" (Subtopic 825-10)	January 2016	The standard changed how equity investments are measured and presented changes in the fair value of financial liabilities measured under the fair value option. Presentation and disclosure requirements for financial instruments were also affected. Entities are required to measure equity investments that do not result in consolidation and are not recorded under the equity method at fair value with changes in fair value recognized in net income. The standard clarifies guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale securities. The accounting for other financial instruments, such as loans, investments in debt securities, and financial liabilities is largely unchanged.	First Quarter Fiscal 2019	We adopted the standard on a modified retrospective basis at the beginning of fiscal 2019 and we recorded a cumulative effect adjustment to our opening retained earnings balance of $1,970 that increased retained earnings and decreased accumulated other comprehensive income.
ASU 2016-15, "Statement of Cash Flows" (Topic 230)	August 2016	This standard provides guidance on the following specific cash flow issues: Debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of borrowing, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle.	First Quarter Fiscal 2019	We adopted this standard effective April 1, 2018. The impact will depend on the future occurrence of the relevant transactions or conditions addressed by the standard.

(dollars in thousands, except per share amounts and as noted)

ASU 2016-16, "Income Taxes, Intra-Entity Transfers of Assets Other Than Inventory" (Topic 740)	October 2016	The standard improves the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. The new standard requires the recognition of income tax consequences resulting from an intra-entity transfer of an asset other than inventory when the transfer occurs.	First Quarter Fiscal 2019	We adopted this standard effective April 1, 2018 with no material impact to our Consolidated Balance Sheets. The impact to our Consolidated Statements of Income will depend on the value of future intra-entity transfers.
ASU 2017-01 "Clarifying the Definition of a Business"	January 2017	The standard update narrows the definition of a business by providing a screen to determine when an integrated set of assets and activities is not a business. The screen specifies that an integrated set of assets and activities is not a business if substantially all of the fair value of the gross assets acquired or disposed of is concentrated in a single or a group of similar identifiable assets.	First Quarter Fiscal 2019	We adopted this standard effective April 1, 2018. The impact will depend on the future occurrence of the relevant transactions or conditions addressed by the standard.
ASU 2017-07 "Compensation - Retirement Benefits - Improving the Presentation of Net Periodic Pension and Net Periodic Postretirement Benefit Cost" (Topic 715)	March 2017	This standard requires that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside the subtotal of income from operations, if one is presented.	First Quarter Fiscal 2019	We retrospectively adopted the standard in the first quarter of fiscal 2019. Prior periods have been recast for the adoption of this standard. Changes have been reflected in the Cost of Revenues, Selling, general and administrative expense, and Interest income and miscellaneous expense lines of our Consolidated Statements of Income. Amounts are not considered material for additional disclosure.
ASU 2017-09 "Compensation - Stock Compensation" (Topic 718)	May 2017	The standard provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718.	First Quarter Fiscal 2019	We adopted this standard effective April 1, 2018. The impact will depend on the future occurrence of the relevant terms or conditions addressed by the standard.

(dollars in thousands, except per share amounts and as noted)

Standards that have not yet been adopted				
ASU 2016-02, "Leases" (Topic 842)	February 2016	The standard will require lessees to record all leases, whether finance or operating, on the balance sheet. An asset will be recorded to represent the right to use the leased asset, and a liability will be recorded to represent the lease obligation. The standard is effective for annual periods beginning after December 15, 2018 and interim periods within that period. Early adoption is permitted.	N/A	We are currently evaluating the impact that the standard will have on our consolidated financial statements. We are also evaluating our lease portfolio, software packages, process and policy change requirements. We expect to adopt this standard using the additional, optional transition method, the package of transitional practical expedients relating to the identification, classification and initial direct costs of leases, and the transitional practical expedient for the treatment of existing land easements. We anticipate that most of our operating leases will result in the recognition of additional assets and corresponding liabilities in our Consolidated Balance Sheet, however we do not expect the standard to have a material impact on our financial position. We currently estimate the impact of the adoption will result in the recognition of the right of use assets and lease liabilities within the range of approximately $110,000 to $130,000 as of April 1, 2019. For more information regarding our total operating lease commitments refer to Note 5, "Property, Plant and Equipment".
ASU 2016-13, "Measurement of Credit Losses on Financial Instruments"	June 2016	The standard requires a financial asset (or group of financial assets) measured at amortized cost to be presented at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset(s) to present the net carrying value at the amount expected to be collected on the financial asset. Credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. The standard is effective for annual periods beginning after December 15, 2019. Early adoption is permitted.	N/A	We are in the process of evaluating the impact that the standard will have on our consolidated financial statements.

(dollars in thousands, except per share amounts and as noted)

ASU 2017-12 "Targeted Improvements to Accounting for Hedging Activities" (Topic 815)	August 2017	The standard provides targeted improvements to accounting for hedging activities by expanding an entity's ability to hedge non-financial and financial risk components and reduce complexity in fair value hedges of interest rate risk. The guidance eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. The guidance also eases certain documentation and assessment requirements and modifies the accounting for components excluded from the assessment of hedge effectiveness. The standard is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption is permitted in any interim period after issuance of the standard. The standard should be applied using a modified retrospective approach for cash flow and net investment hedge relationships that exist on the date of adoption, and prospectively for presentation and disclosure requirements.	N/A	We do not expect this standard to have a material impact on our consolidated financial statements.
ASU 2018-02 "Income Statement - Reporting Comprehensive Income" (Topic 220)	February 2018	The standard allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act ("TCJA") and requires certain disclosures about stranded tax effects. The underlying guidance requiring that the effect of a change in tax laws or rates be included in income from continuing operations is not affected. This standard is effective for fiscal years beginning after December 15, 2018 and interim periods within those years. Early adoption is permitted.	N/A	We are in the process of evaluating the impact that the standard will have on our consolidated financial statements.
ASU 2018-13 "Fair Value Measurement (Topic 820) Disclosure Framework- Changes to Disclosure Requirements for Fair Value Measurement"	August 2018	The standard modifies the disclosure requirements by adding, removing, and modifying certain required disclosures for fair value measurements for assets and liabilities disclosed within the fair value hierarchy. The standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019 and early adoption is permitted.	N/A	We do not expect this standard to have a material impact on our consolidated financial statements as it modifies disclosure requirements only.
ASU 2018-14 "Compensation- Retirement Benefits - Defined Benefit Plans- General Topic (715-20): Disclosure Framework- Changes to the Disclosure Requirements for Defined Benefit Plans"	August 2018	The standard modifies the disclosure requirements by adding, removing, and modifying certain required disclosures for employers that sponsor defined benefit pension or other post-retirement benefit plans. The standard also clarifies disclosure requirements for defined benefit pension plans relating to the projected benefit obligation and accumulated benefit obligation. The standard is effective for fiscal years ending after December 15, 2019 and early adoption is permitted.	N/A	We do not expect this standard to have a material impact on our consolidated financial statements as it modifies disclosure requirements only.

(dollars in thousands, except per share amounts and as noted)

ASU 2018-15 "Intangibles-Goodwill and Other- Internal Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract"	August 2018	The standard aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The standard is effective for fiscal years ending after December 15, 2019 and early adoption is permitted.	N/A	We do not expect this standard to have a material impact on our consolidated financial statements.

2. RESTRUCTURING

Fiscal 2019 Restructuring Plan. During the third quarter of fiscal 2019, we adopted and announced a targeted restructuring plan (the "Fiscal 2019 Restructuring Plan"), which included the closure of two manufacturing facilities, one in Brazil and one in England, as well as other actions including the rationalization of certain products. Fewer than 200 positions are being eliminated. The Company will relocate the production of certain impacted products to other existing manufacturing operations during fiscal 2020. These restructuring actions are designed to enhance profitability and improve efficiency.

We have incurred pre-tax expenses totaling $40,708 related to these restructuring actions, of which $30,987 was recorded as restructuring expenses and $9,721 was recorded in cost of revenues, with a total of $28,417, $2,518, $664, and $7,794 related to the Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies segments, respectively. Corporate related restructuring charges were $1,315. We expect to incur additional restructuring expenses related to this plan of approximately $3,000 in fiscal 2020 and beyond.

The following table summarizes our total pre-tax restructuring expenses for fiscal 2019:

Year Ended March 31, 2019	Fiscal 2019 Restructuring Plan
Severance and other compensation related costs	**$ 5,651**
Accelerated depreciation and amortization	**16,194**
Asset impairment	**4,312**
Lease termination costs and other	**4,830**
Product rationalization [(1)]	**9,721**
Total restructuring expenses	**$ 40,708**

(1) Recorded in cost of revenues on the Consolidated Statements of Income.

Liabilities related to restructuring activities are recorded as current liabilities on the accompanying Consolidated Balance Sheets within "Accrued payroll and other related liabilities" and "Accrued expenses and other." The following table summarizes our restructuring liability balances:

Fiscal 2019 Restructuring Plan	March 31, 2018	Provisions	Payments / Impairments (1)	March 31, 2019
Severance and termination benefits	$ —	$ 5,651	$ (1,549)	**$ 4,102**
Lease termination obligations and other	—	4,830	(2,801)	**2,029**
Total	$ —	$ 10,481	$ (4,350)	**$ 6,131**

(dollars in thousands, except per share amounts and as noted)

(1) Certain amounts reported include the impact of foreign currency movements relative to the U.S. dollar.

3. GOODWILL AND INTANGIBLE ASSETS

Changes to the carrying amount of goodwill for the years ended March 31, 2019, 2018 and 2017 were as follows:

	Healthcare Products Segment	Healthcare Specialty Services Segment	Life Sciences Segment	Applied Sterilization Technologies Segment	Total
Balance at March 31, 2017	377,765	375,879	146,514	1,331,145	2,231,303
Goodwill acquired or allocated	16,418	3,501	—	15,847	35,766
Reassignment	—	(1,855)	—	1,855	—
Foreign currency translation adjustments	10,491	10,500	2,302	143,422	166,715
Balance at March 31, 2018	$ 404,674	$ 388,025	$ 148,816	$ 1,492,269	$ 2,433,784
Goodwill acquired or allocated	**(1,202)**	**(907)**	**—**	**5,341**	**3,232**
Foreign currency translation adjustments	**(6,188)**	**(12,208)**	**(1,021)**	**(94,671)**	**(114,088)**
Balance at March 31, 2019	**$ 397,284**	**$ 374,910**	**$ 147,795**	**$ 1,402,939**	**$ 2,322,928**

The fiscal 2018 goodwill increase was due to our recent business acquisitions, which are discussed in Note 18, titled "Business Acquisitions" and the impact of foreign currency. The fiscal 2018 reassignment between the Healthcare Specialty Services and the Applied Sterilization Technologies segments resulted from certain minor organizational changes that were made to better align with our Customers.

We evaluate the recoverability of recorded goodwill amounts annually during the third fiscal quarter, or when evidence of potential impairment exists. As a result of our annual impairment review for goodwill for fiscal years 2019 and 2018, no indicators of impairment were identified. As a result of our annual goodwill impairment review for fiscal year 2017, we concluded that the carrying value of one of our reporting units exceeded its fair value. The Synergy Health Netherlands linen management unit was reported within our Healthcare Specialty Services segment. Financial forecasts prepared for the annual assessment reflected pricing pressures, volume declines driven by overcapacity in the market, and a decline in the overall market size. These factors resulted in further degradation of the already low operating margin and cash flows of this unit. We incurred a goodwill impairment charge of $58,356 as a result, which is recorded within Goodwill impairment loss in the Consolidated Statements of Income. The fair market value of the reporting unit was determined under an income approach using discounted cash flows and estimated fair market values. Fair value calculated using a discounted cash flow analysis is classified within level 3 of the fair value hierarchy and requires several assumptions including risk adjusted discount rates and financial forecasts.

Our fiscal 2019, 2018, and 2017 acquisitions are described in Note 18 to our consolidated financial statements titled, "Business Acquisitions and Divestitures".

(dollars in thousands, except per share amounts and as noted)

Information regarding our intangible assets is as follows:

	2019		2018	
March 31,	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer relationships	**$ 623,774**	**$ 189,752**	$ 663,532	$ 150,358
Non-compete agreements	**4,693**	**3,945**	4,738	3,790
Patents and technology	**226,520**	**126,149**	226,318	107,598
Trademarks and tradenames	**63,570**	**38,850**	83,509	36,864
Supplier relationships	**54,800**	**10,047**	54,800	7,307
Other	**—**	**—**	10	10
Total	**$ 973,357**	**$ 368,743**	$ 1,032,907	$ 305,927

Certain trademarks and tradenames obtained as a result of business combinations are indefinite-lived assets. The approximate carrying value of these assets at March 31, 2019 and March 31, 2018 was $13,000 and $35,266, respectively. We evaluate our indefinite-lived intangible assets annually during the third quarter, or when evidence of potential impairment exists. During the third quarter of fiscal 2019, management adopted a branding strategy that included phasing out the usage of a tradename associated with certain products in the Healthcare Products business segment. As a result, management recorded an impairment charge of $16,249, which is included within the Selling, general, and administrative line of the Consolidated Statements of Income. The remaining fair value of the asset was calculated using an income approach (the relief from royalty method). The remaining fair value was not material and will be amortized over the asset's remaining useful life. Fair value calculated using this approach is classified within Level 3 of the fair value hierarchy and requires several assumptions. No impairment was recognized for the fiscal years 2018 or 2017.

Total amortization expense for finite-lived intangible assets was $98,747, $70,195, and $68,607 for the years ended March 31, 2019, 2018, and 2017, respectively. Based upon the current amount of intangible assets subject to amortization, the amortization expense for each of the five succeeding fiscal years is estimated to be as follows:

	2020	2021	2022	2023	2024
Estimated amortization expense	$ 71,917	$ 66,716	$ 63,853	$ 58,412	$ 52,452

The estimated annual amortization expense presented in the preceding table has been calculated based upon March 31, 2019 currency exchange rates.

4. INVENTORIES, NET

Inventories, net consisted of the following:

March 31,	2019	2018
Raw materials	**$ 83,009**	$ 83,741
Work in process	**30,694**	34,904
Finished goods	**131,051**	124,005
LIFO reserve	**(16,757)**	(17,280)
Reserve for excess and obsolete inventory	**(19,754)**	(19,639)
Inventories, net	**$ 208,243**	$ 205,731

(dollars in thousands, except per share amounts and as noted)

5. PROPERTY, PLANT AND EQUIPMENT

Information related to the major categories of our depreciable assets is as follows:

March 31,	2019	2018
Land and land improvements [1]	**$ 63,522**	$ 55,417
Buildings and leasehold improvements	**480,359**	467,063
Machinery and equipment	**656,956**	631,623
Information systems	**169,711**	151,360
Radioisotope	**483,080**	458,440
Construction in progress [1]	**133,689**	87,745
Total property, plant, and equipment	**1,987,317**	1,851,648
Less: accumulated depreciation and depletion	**(955,735)**	(841,124)
Property, plant, and equipment, net	**$ 1,031,582**	$ 1,010,524

[1] Land is not depreciated. Construction in progress is not depreciated until placed in service.

Depreciation and depletion expense were $127,174, $108,137 and $119,536, for the years ended March 31, 2019, 2018, and 2017, respectively.

Rental expense for operating leases was $30,319, $30,474, and $32,740 for the years ended March 31, 2019, 2018, and 2017, respectively. Operating leases primarily relate to manufacturing, warehouse and office space, service facilities, vehicles, equipment, and communication systems. Certain lease agreements grant us varying renewal and purchase options.

Future minimum annual rentals payable under noncancelable operating lease agreements at March 31, 2019 were as follows:

	Operating Leases
2020	$ 24,008
2021	18,567
2022	13,917
2023	11,929
2024 and thereafter	93,939
Total minimum lease payments	$ 162,360

In the preceding table, the future minimum annual rentals payable under noncancelable leases denominated in foreign currencies have been calculated using March 31, 2019 foreign currency exchange rates.

Asset Retirement Obligations

We provide contract sterilization services including Gamma irradiation which utilizes cobalt-60 in the form of cobalt pencils. We have incurred asset retirement obligations (ARO) associated with the future disposal of these assets once depleted. Recognition of ARO includes: the present value of a liability and offsetting asset, the subsequent accretion of that liability and depletion of the asset, and the periodic review of the ARO liability estimates and discount rates used in the analysis.

(dollars in thousands, except per share amounts and as noted)

The following table summarizes the activity in the liability for asset retirement obligations.

	Asset Retirement Obligations
Balance at March 31, 2017	$ 9,953
Liabilities incurred during the period	89
Liabilities settled during the period	(352)
Accretion expense	1,198
Foreign currency and other	751
Balance at March 31, 2018	$ 11,639
Liabilities incurred during the period	**1,033**
Accretion expense	**385**
Foreign currency and other	**(671)**
Balance at March 31, 2019	**$ 12,386**

6. DEBT

Indebtedness as of March 31, 2019 and 2018 was as follows:

	2019	2018
Credit Agreement	**$ 301,846**	$ 331,206
Private Placement	**884,967**	988,190
Deferred financing fees	**(3,619)**	(3,395)
Other	**33**	—
Total long term debt	**$ 1,183,227**	$ 1,316,001

On March 23, 2018, STERIS UK and certain of its subsidiaries entered into a Credit Agreement (the "Credit Agreement") with various financial institutions as lenders, and JPMorgan Chase Bank, N.A., as Administrative Agent. STERIS Ireland subsequently became a borrower and guarantor under the Credit Agreement. The Credit Agreement replaced a bank credit facility dated March 31, 2015. The Credit Agreement provides up to $1,000,000 of credit, in the form of a revolver facility, which may be utilized for revolving credit borrowings, swing line borrowings and letters of credit, with sublimits for swing line borrowings and letters of credit. The revolver facility may be increased in specified circumstances by up to $500,000. The Credit Agreement will mature on March 23, 2023, and all unpaid borrowings, together with accrued and unpaid interest thereon, are repayable on that date. The Credit Agreement contains leverage and interest coverage covenants. Borrowings may be taken in U.S. dollars, euros, and pounds sterling and certain other specified currencies and bear interest at our option based upon either the Base Rate or the Eurocurrency Rate, plus the Applicable Margin in effect from time to time under the Credit Agreement. The Applicable Margin is determined based on the ratio of Consolidated Total Debt to Consolidated EBITDA (as such terms are defined in the Credit Agreement). Interest on Base Rate Advances is payable quarterly in arrears and interest on Eurocurrency Rate Advances is payable at the end of the relevant interest period therefor, but in no event less frequently than every three months. Borrowings at closing were used to repay outstanding balances of debt outstanding under the former bank credit facility dated March 31, 2015 that was scheduled to mature on March 31, 2020 and for other general corporate purposes. The Credit Agreement was amended in March 2019, in connection with the Redomiciliation to permit the Redomiciliation. The amendments did not effect any material changes in the terms of the Credit Agreement regarding borrowings or the issuance of letters of credit.

As of March 31, 2019 a total of $301,846 of Credit Agreement and Swing Line Facility borrowings were outstanding under the Credit Agreement, based on currency exchange rates as of March 31, 2019.

(dollars in thousands, except per share amounts and as noted)

Our outstanding Senior Notes at March 31, 2019 and 2018 were as follows:

	Applicable Note Purchase Agreement	Maturity Date	U.S. Dollar Value at March 31, 2019	U.S. Dollar Value at March 31, 2018
$85,000 Senior notes at 6.33%	2008 Private Placement	August 2018	—	85,000
$35,000 Senior notes at 6.43%	2008 Private Placement	August 2020	**35,000**	35,000
$91,000 Senior notes at 3.20%	2012 Private Placement	December 2022	**91,000**	91,000
$80,000 Senior notes at 3.35%	2012 Private Placement	December 2024	**80,000**	80,000
$25,000 Senior notes at 3.55%	2012 Private Placement	December 2027	**25,000**	25,000
$125,000 Senior notes at 3.45%	2015 Private Placement	May 2025	**125,000**	125,000
$125,000 Senior notes at 3.55%	2015 Private Placement	May 2027	**125,000**	125,000
$100,000 Senior notes at 3.70%	2015 Private Placement	May 2030	**100,000**	100,000
$50,000 Senior notes at 3.93%	2017 Private Placement	February 2027	**50,000**	50,000
€60,000 Senior notes at 1.86%	2017 Private Placement	February 2027	**67,352**	73,912
$45,000 Senior notes at 4.03%	2017 Private Placement	February 2029	**45,000**	45,000
€20,000 Senior notes at 2.04%	2017 Private Placement	February 2029	**22,450**	24,637
£45,000 Senior notes at 3.04%	2017 Private Placement	February 2029	**58,702**	63,141
€19,000 Senior notes at 2.30%	2017 Private Placement	February 2032	**21,328**	23,406
£30,000 Senior notes at 3.17%	2017 Private Placement	February 2032	**39,135**	42,094
Total Senior Notes			**$ 884,967**	$ 988,190

On February 27, 2017, STERIS UK issued and sold an aggregate principal amount of $95,000, €99,000, and £75,000, of senior notes in a private placement to certain institutional investors in an offering that was exempt from the registration requirements of the Securities Act of 1933. These notes have maturities of between 10 years and 15 years from the issue date. The agreement governing these notes contains leverage and interest coverage covenants.

On May 15, 2015, STERIS Corporation issued and sold $350,000 of senior notes, in a private placement to certain institutional investors in an offering that was exempt from the registration requirements of the Securities Act of 1933. These notes have maturities of 10 years to 15 years from the issue date. The agreement governing these notes contains leverage and interest coverage covenants.

The agreements governing certain senior notes issued and sold in February 2013, December 2012, and August 2008, were amended and restated in their entirety on March 31, 2015. All of these notes were issued and sold in private placements to certain institutional investors in offerings that were exempt from the registration requirements of the Securities Act of 1933. The amended and restated agreements, which have been consolidated into a single agreement for the 2013 and 2012 notes, and a separate single agreement for the 2008 notes, contain leverage and interest coverage covenants.

All of the note agreements were amended in March 2019, in connection with the Redomiciliation. The amendments waived certain repurchase rights of the note holders and increased the size of certain baskets to more closely align with Credit Agreement baskets.

At March 31, 2019, we were in compliance with all financial covenants associated with our indebtedness.

The combined annual aggregate amount of maturities of our outstanding debt by fiscal year is as follows:

2020	$ —
2021	35,033
2022	—
2023	392,846
2024 and thereafter	758,967
Total	$ 1,186,846

(dollars in thousands, except per share amounts and as noted)

7. ADDITIONAL CONSOLIDATED BALANCE SHEET INFORMATION

Additional information related to our Consolidated Balance Sheet is as follows:

March 31,	2019	2018
Accrued payroll and other related liabilities:		
Compensation and related items	**$ 37,251**	$ 30,270
Accrued vacation/paid time off	**10,191**	11,011
Accrued bonuses	**40,194**	31,716
Accrued employee commissions	**17,854**	17,168
Other post-retirement benefits obligations-current portion	**1,633**	1,906
Other employee benefit plans' obligations-current portion	**1,935**	1,929
Total accrued payroll and other related liabilities	**$ 109,058**	$ 94,000
Accrued expenses and other:		
Deferred revenues	**$ 55,333**	$ 31,621
Service liabilities	**42,101**	43,077
Self-insured and related risk reserves-current portion	**6,537**	7,349
Accrued dealer commissions	**15,283**	16,121
Accrued warranty	**7,194**	6,872
Asset retirement obligation-current portion	**2,656**	1,798
Other	**58,661**	61,379
Total accrued expenses and other	**$ 187,765**	$ 168,217
Other liabilities:		
Self-insured risk reserves-long-term portion	**$ 14,445**	$ 15,008
Other post-retirement benefits obligations-long-term portion	**10,918**	12,194
Defined benefit pension plans obligations-long-term portion	**16,168**	29,407
Other employee benefit plans obligations-long-term portion	**4,711**	3,221
Accrued long-term income taxes	**13,515**	18,922
Asset retirement obligation-long-term portion	**9,730**	9,841
Other	**18,325**	20,007
Total other liabilities	**$ 87,812**	$ 108,600

8. INCOME TAXES

The Tax Cuts and Jobs Act (the "TCJA") was enacted on December 22, 2017. The TCJA reduces the U.S. federal corporate income tax rate from 35.0% to 21.0%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred and creates new taxes on certain foreign sourced earnings. The Company applied the guidance in *Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cut and Jobs Act* when accounting for the enactment-date effects of the TCJA. As of March 31, 2018, the Company had recorded a provisional tax benefit of $18.9 million related to the reduction of the U.S. federal corporate income tax rate and the deemed repatriation tax. During fiscal 2019, the Company completed its accounting for the tax effects of the TCJA. During the nine months ended December 31, 2018, the Company recorded an immaterial favorable adjustment to the provisional amounts recorded as of March 31, 2018 for remeasurement of the Company's deferred tax balances and the one-time transition tax.

The TCJA also subjects a U.S. shareholder to current tax on global intangible low-taxed income ("GILTI") earned by certain foreign subsidiaries and allows a benefit for foreign-derived intangible income ("FDII"). The Company has confirmed its policy decision to treat GILTI as a period expense in the period the tax is incurred. The Company has included the impacts of GILTI and FDII in the estimated annual effective tax rate for the year ended March 31, 2019. The impact was not significant.

(dollars in thousands, except per share amounts and as noted)

We consider the tax expense recorded for the TCJA to be complete at this time. However, it is possible that additional legislation, regulations and/or guidance may be issued in the future that may result in additional adjustments to the tax expense recorded related to the TCJA. We will continue to monitor and assess the impact of any new developments.

Income from continuing operations before income taxes was as follows:

Years Ended March 31,	2019	2018	2017
United States operations	**$ 235,405**	$ 203,872	$ 189,429
Ireland operations	**13,693**	11,837	8,597
Other locations operations	**120,372**	139,273	(13,380)
	$ 369,470	$ 354,982	$ 184,646

The components of the provision for income taxes related to income from continuing operations consisted of the following:

Years Ended March 31,	2019	2018	2017
Current:			
United States federal	**$ 29,943**	$ 47,728	$ 43,900
United States state and local	**12,484**	7,727	8,171
Ireland	**2,627**	2,596	1,899
Other locations	**26,824**	26,742	19,557
	71,878	84,793	73,527
Deferred:			
United States federal	**5,775**	(15,728)	10,293
United States state and local	**2,836**	2,656	2,131
Ireland	**(546)**	(280)	(645)
Other locations	**(15,549)**	(8,081)	(11,291)
	(7,484)	(21,433)	488
Total Provision for Income Taxes	**$ 64,394**	$ 63,360	$ 74,015

(dollars in thousands, except per share amounts and as noted)

The total provision for income taxes can be reconciled to the tax computed at the Ireland statutory tax rate for 2019 and the United Kingdom statutory tax rate for 2018 and 2017 as follows:

Years Ended March 31,	2019	2018	2017
National statutory tax rate	**12.5 %**	19.0 %	20.0 %
Increase in accruals for uncertain tax positions	**— %**	0.1 %	0.3 %
U.S. state and local taxes, net of federal income tax benefit	**3.1 %**	2.3 %	3.8 %
Increase in valuation allowances	**0.4 %**	0.1 %	0.1 %
U.S. research and development credit	**(0.6)%**	(0.5)%	(1.1)%
U.S. foreign income tax credit	**(0.2)%**	(0.2)%	— %
Difference in non-Ireland tax rates	**4.5 %**	— %	— %
Difference in non-United Kingdom tax rates	**— %**	4.1 %	6.0 %
U.S. manufacturing deduction	**— %**	(0.8)%	(2.5)%
Excess tax benefit for equity compensation	**(2.2)%**	(1.8)%	(2.8)%
Tax rate changes on deferred tax assets and liabilities	**(0.6)%**	(10.3)%	(2.3)%
U.S. transition tax on foreign earnings	**(0.3)%**	4.9 %	— %
U.S. tax reform impact, GILTI and FDII	**0.3 %**	— %	— %
Acquisitions and divestitures	**— %**	0.5 %	9.0 %
Goodwill impairment on divestitures	**— %**	— %	7.9 %
Capitalized acquisition, redomiciliation costs	**0.5 %**	— %	0.2 %
All other, net	— %	0.4 %	1.5 %
Total Provision for Income Taxes	**17.4 %**	17.8 %	40.1 %

Unrecognized Tax Benefits. We classify uncertain tax positions and related interest and penalties as long-term liabilities within "Other liabilities" in our accompanying Consolidated Balance Sheets, unless they are expected to be paid within 12 months, in which case, the uncertain tax positions would be classified as current liabilities within "Accrued income taxes." We recognize interest and penalties related to unrecognized tax benefits within "Income tax expense" in our accompanying Consolidated Statements of Income.

A reconciliation of the beginning and ending balances of the total amounts of unrecognized tax benefits is as follows:

	2019	2018
Unrecognized Tax Benefits Balance at April 1	**$ 2,500**	$ 1,884
Increases for tax provisions of current year	**178**	356
Decreases for tax provisions of prior year	**(186)**	—
Other, including currency translation	**(178)**	260
Unrecognized Tax Benefits Balance at March 31	**$ 2,314**	$ 2,500

We recognized interest and penalties related to uncertain tax positions in the provision for income taxes. As of March 31, 2019, and 2018 we had $360 and $295 accrued for interest and penalties, respectively. If all unrecognized tax benefits were recognized, the net impact on the provision for income tax expense would be $2,674. It is reasonably possible that during the next 12 months, there will be no material reductions in unrecognized tax benefits as a result of the expiration of various statutes of limitations or matters related to transfer pricing.

We operate in numerous taxing jurisdictions and are subject to regular examinations by various United States federal, state and local, as well as foreign jurisdictions. We are no longer subject to United States federal examinations for years before fiscal 2016 and, with limited exceptions, we are no longer subject to United States state and local, or non-United States, income tax examinations by tax authorities for years before fiscal 2013. We remain subject to tax authority audits in various jurisdictions wherever we do business.

(dollars in thousands, except per share amounts and as noted)

In May 2019, we received two notices of proposed tax adjustment from the U.S. Internal Revenue Service (the "IRS") regarding the deductibility of interest paid on certain intercompany debt. The notices relate to fiscal years 2016 and 2017. The IRS adjustment would result in a tax liability of approximately $25,000. We intend to contest the IRS's assertions, including pursuing all available remedies such as appeals and litigation, if necessary. We have not established reserves related to these notices. An unfavorable outcome is not expected to have a material adverse impact on our consolidated financial position but could be material to our consolidated results of operations and cash flows for any one period.

We estimate that the tax benefit from our Costa Rican Tax Holiday is $1,008 (or $0.01 per fully diluted share), annually. The Tax Holiday runs fully exempt, from income tax, through 2025 and partially exempt through 2029.

Deferred Taxes. The significant components of the deferred tax assets and liabilities recorded in our accompanying balance sheets at March 31, 2019 and 2018 were as follows:

March 31,	2019	2018
Deferred Tax Assets:		
Post-retirement benefit accrual	**$ 3,142**	$ 3,505
Compensation	**14,275**	12,334
Net operating loss carryforwards	**19,195**	26,217
Accrued expenses	**4,858**	5,795
Insurance	**3,187**	3,417
Deferred income	**7,509**	4,632
Bad debt	**1,386**	1,426
Pension	**3,364**	5,247
Other	**7,707**	1,668
Deferred Tax Assets	**64,623**	64,241
Less: Valuation allowance	**13,478**	13,596
Total Deferred Tax Assets	**51,145**	50,645
Deferred Tax Liabilities:		
Depreciation and depletion	**61,060**	61,171
Intangibles	**128,479**	140,398
Other	**2,197**	2,774
Total Deferred Tax Liabilities	**191,736**	204,343
Net Deferred Tax Assets (Liabilities)	**$ (140,591)**	$ (153,698)

At March 31, 2019, we had U.S. federal operating loss carryforwards of $13,665, which remain subject to a 20 year carryforward period. Additionally, we had non-U.S. operating loss carry forwards of $46,595. Although the majority of the non-U.S. carryforwards have indefinite expiration periods, those carryforwards that have definite expiration periods will expire if unused between fiscal years 2020 and 2040. In addition, we have recorded tax benefits of $2,602 related to state operating loss carryforwards. If unused, these state operating loss carryforwards will expire between fiscal years 2020 and 2039. At March 31, 2019, we had $1,379 of tax credit carryforwards. These credit carryforwards can be used through fiscal 2029.

We review the need for a valuation allowance against our deferred tax assets. A valuation allowance of $13,478 has been applied to a portion of the net deferred tax assets because we do not believe it is more-likely-than-not that we will receive future benefit. The valuation allowance decreased during fiscal 2019 by $118.

Other than the tax expense recorded for the one-time transition tax on unremitted earnings of non-US subsidiaries, no additional provision has been made for income taxes on undistributed earnings of foreign subsidiaries as the amounts continue to be indefinitely reinvested. The Company is still evaluating whether to change its indefinite reinvestment assertion in light of U.S. Tax Reform and considers this conclusion to be incomplete. If the Company subsequently changes its assertion, it will account for the change in the quarter of fiscal year 2020 when the analysis is complete. The amount of undistributed earnings of subsidiaries was approximately $1,300,000 at March 31, 2019. It is not practicable to estimate the additional income taxes and applicable withholding taxes that would be payable on the remittance of such undistributed earnings.

In October 2015, the Organization for Economic Cooperation and Development (OECD), in conjunction with the G20, finalized broad-based international tax policy guidelines that involve transfer pricing and other international tax subjects. While some member jurisdictions automatically adopt the new OECD guidelines, most member countries can adopt the guidelines only by new law or regulations. We are currently adopting processes to comply with the reporting requirements specified by the guidelines and are evaluating the other parts of the guidelines.

9. BENEFIT PLANS

In the United States, we sponsor an unfunded post-retirement benefits plan for two groups of United States retirees. Benefits under this plan include retiree life insurance and retiree medical insurance, including prescription drug coverage.

During the second quarter of fiscal 2009, we amended our United States post-retirement welfare benefits plan, reducing the benefits to be provided to retirees under the plan and increasing their share of the costs. The amendments resulted in a decrease of $46,001 in the accumulated post-retirement benefit obligation. The impact of this change was recognized in our Consolidated Balance Sheets in fiscal 2009 and is being amortized as a component of the annual net periodic benefit cost over a period of approximately thirteen years.

We also sponsor several defined benefit pension schemes outside the United States: two in the UK, one in the Netherlands, two in Germany, and one in Switzerland. The Synergy Health plc Retirement Benefit Scheme is a defined benefit (final salary) funded pension scheme. In previous years, Synergy sponsored a funded defined benefit arrangement in the Netherlands. This was a separate fund holding the pension scheme assets to meet long-term pension liabilities for past and present employees. Accrual of benefits ceased under the scheme effective January 1, 2013. The Synergy Radeberg and Synergy Allershausen Schemes are unfunded defined pension schemes and are closed to new entrants. The Synergy Daniken Scheme is a defined benefit funded pension scheme. As a result of our fiscal 2018 acquisition of Harwell Dosimeters Ltd, we also sponsor in the Harwell Dosimeters Ltd Retirement Benefits Scheme which is a defined benefit funded pension scheme.

We recognize the funded status of our defined benefit pension and post-retirement benefit plans in our Consolidated Balance Sheets, with a corresponding adjustment to accumulated other comprehensive income, net of tax. The funded status is measured as of March 31 each year and is calculated as the difference between the fair value of plan assets and the benefit obligation (which is the projected benefit obligation for pension plans and the accumulated post-retirement benefit obligation for post-retirement benefit plans). Accumulated comprehensive income (loss) represents the net unrecognized actuarial losses and unrecognized prior service cost. These amounts will be recognized in net periodic benefit cost as they are amortized. We will recognize future changes to the funded status of these plans in the year the change occurs, through other comprehensive income.

(dollars in thousands, except per share amounts and as noted)

Obligations and Funded Status. The following table reconciles the funded status of the defined benefit pension plans and the other post-retirement benefits plan to the amounts recorded on our Consolidated Balance Sheets at March 31, 2019 and 2018, respectively. Benefit obligation balances presented in the following table reflect the projected benefit obligations for our defined benefit pension plans and the accumulated other post-retirement benefit obligation for our post-retirement benefits plan. The measurement date of our defined benefit pension plans and other post-retirement benefits plan is March 31, for both periods presented.

	Other Defined Benefit Pension Plans		Other Post-Retirement Benefits Plan	
	2019	2018	2019	2018
Change in Benefit Obligations:				
Benefit Obligations at Beginning of Year	**$ 148,848**	$ 128,897	**$ 14,100**	$ 16,008
Obligation assumed in business acquisition	**—**	3,843	**—**	—
Service cost	**2,394**	2,402	**—**	—
Prior service cost	**831**	—	**—**	—
Interest cost	**3,255**	3,262	**457**	519
Actuarial loss (gain)	**(4,402)**	(697)	**(106)**	(501)
Benefits and expenses	**(6,150)**	(6,075)	**(1,900)**	(1,926)
Employee contributions	**743**	765	**—**	—
Impact of foreign currency exchange rate changes	**(11,847)**	16,451	**—**	—
Benefit Obligations at End of Year	**133,672**	148,848	**12,551**	14,100
Change in Plan Assets:				
Fair Value of Plan Assets at Beginning of Year	**119,441**	101,663	**—**	—
Assets assumed in business acquisition	**—**	4,462	**—**	—
Actual return on plan assets	**6,543**	1,052	**—**	—
Employer contributions	**5,005**	5,150	**1,900**	1,926
Employee contributions	**742**	765	**—**	—
Benefits and expenses paid	**(6,150)**	(6,078)	**(1,900)**	(1,926)
Impact of foreign currency exchange rate changes	**(8,077)**	12,427	**—**	—
Fair Value of Plan Assets at End of Year	**117,504**	119,441	**—**	—
Funded Status of the Plans	**$ (16,168)**	$ (29,407)	**$ (12,551)**	$ (14,100)

Amounts recognized in the consolidated balance sheets consist of the following:

	Other Defined Benefit Pension Plans		Other Post-Retirement Benefits Plan	
	2019	2018	2019	2018
Current liabilities	**$ —**	$ —	**$ (1,633)**	$ (1,906)
Noncurrent liabilities	**(16,168)**	(29,407)	**(10,918)**	(12,194)
	$ (16,168)	$ (29,407)	**$ (12,551)**	$ (14,100)

(dollars in thousands, except per share amounts and as noted)

The pre-tax amount of unrecognized actuarial net loss and unamortized prior service cost included in accumulated other comprehensive (loss) income at March 31, 2019, was approximately $15,326 and $10,833, respectively. During fiscal 2020, we will amortize the following pre-tax amounts from accumulated other comprehensive income:

	Defined Benefit Pension Plans	Other Post-Retirement Benefits Plan
Actuarial loss	**$ 8**	**$ 552**
Prior Service Cost	**71**	**(3,263)**

Defined benefit plans with an accumulated benefit obligation and projected benefit obligation exceeding the fair value of plan assets had the following plan assets and obligations at March 31, 2019 and 2018:

	Other Defined Benefit Pension Plans	
	2019	2018
Aggregate fair value of plan assets	**$ 117,504**	$ 119,441
Aggregate accumulated benefit obligations	**130,669**	148,848
Aggregate projected benefit obligations	**133,672**	148,848

Components of Net Periodic Benefit Cost and Other Amounts Recognized in Other Comprehensive Income. Components of the annual net periodic benefit cost of our defined benefit pension plans and our other post-retirement benefits plan were as follows:

	Other Defined Benefit Pension Plans			Other Post-Retirement Benefits Plan		
	2019	2018	2017	2019	2018	2017
Service cost	**$ 2,394**	$ 2,402	$ 1,650	**$ —**	$ —	$ —
Interest cost	**3,139**	3,262	3,434	**457**	519	554
Expected return on plan assets	**(4,930)**	(4,835)	(2,853)		—	—
Prior service cost recognition	**51**	—	—	**(3,263)**	(3,263)	(3,263)
Net amortization and deferral	**474**	126	—	**552**	648	739
Net periodic benefit cost	**$ 1,128**	$ 955	$ 2,231	**$ (2,254)**	$ (2,096)	$ (1,970)
Recognized in other comprehensive loss (income) before tax:						
Net loss (gain) occurring during year	**$ (6,545)**	$ (697)	$ (7,553)	**$ 106**	$ 501	$ 531
Amortization of prior service credit	**781**	—	—	**3,263**	3,263	3,263
Amortization of net loss	**(468)**	(126)	—	**(552)**	(648)	(739)
Total recognized in other comprehensive loss (income)	**(6,232)**	(823)	(7,553)	**2,817**	3,116	3,055
Total recognized in total benefits cost and other comprehensive loss (income)	**$ (5,104)**	$ 132	$ (5,322)	**$ 563**	$ 1,020	$ 1,085

(dollars in thousands, except per share amounts and as noted)

Assumptions Used in Calculating Benefit Obligations and Net Periodic Benefit Cost. The following table presents significant assumptions used to determine the projected benefit obligations at March 31:

	2019	2018
Discount Rate:		
Synergy Health plc Retirement Benefits Scheme	**2.50%**	2.50%
Isotron BV Pension Plan	**1.20%**	1.60%
Synergy Health Daniken AG	**0.85%**	0.95%
Synergy Health Radeberg	**1.60%**	1.60%
Synergy Health Allershausen	**1.60%**	1.60%
Harwell Dosimeters Ltd Retirement Benefits Scheme	**2.35%**	2.55%
Other post-retirement plan	**3.50%**	3.50%

The following table presents significant assumptions used to determine the net periodic benefit costs for the years ended March 31:

	2019	2018	2017
Discount Rate:			
Synergy Health plc Retirement Benefits Scheme	**2.50%**	2.60%	3.50%
Isotron BV Pension Plan	**1.60%**	1.60%	1.60%
Synergy Health Daniken AG	**0.95%**	0.65%	0.65%
Synergy Health Radeberg	**1.60%**	1.50%	1.50%
Synergy Health Allershausen	**1.60%**	1.50%	1.50%
Harwell Dosimeters Ltd Retirement Benefits Scheme	**2.55%**	2.55%	n/a
Other post-retirement plan	**3.50%**	3.50%	3.50%
Expected Return on Plan Assets:			
Synergy Health plc Retirement Benefits Scheme	**5.02%**	4.97%	4.87%
Isotron BV Pension Plan	**1.60%**	1.60%	1.60%
Synergy Health Daniken AG	**1.20%**	1.40%	1.40%

The net periodic benefit cost and the actuarial present value of projected benefit obligations are based upon assumptions that we review on an annual basis. These assumptions may be revised annually based upon an evaluation of long-term trends, as well as market conditions that may have an impact on the cost of providing benefits.

We develop our expected long-term rate of return on plan assets assumptions by evaluating input from third-party professional advisers, taking into consideration the asset allocation of the portfolios and the long-term asset class return expectations.

We develop our discount rate assumptions by evaluating input from third-party professional advisers, taking into consideration the current yield on country specific investment grade long-term bonds which provide for similar cash flow streams as our projected obligations.

We have made assumptions regarding healthcare costs in computing our other post-retirement benefit obligation. The assumed rates of increase generally decline ratably over a five-year period from the assumed current year healthcare cost trend rate to the assumed long-term healthcare cost trend rate noted below.

	2019	2018	2017
Healthcare cost trend rate – medical	**6.8%**	7.0%	7.0%
Healthcare cost trend rate – prescription drug	**6.8%**	7.0%	7.0%
Long-term healthcare cost trend rate	**4.5%**	4.5%	4.5%

To determine the healthcare cost trend rates, we evaluate a combination of information, including ongoing claims cost monitoring, annual statistical analyses of claims data, reconciliation of forecasted claims against actual claims, review of trend

assumptions of other plan sponsors and national health trends, and adjustments for plan design changes, workforce changes, and changes in plan participant behavior.

A one-percentage-point change in assumed healthcare cost trend rates (including medical, prescription drug, and long-term rates) would have had the following effect on our other post-retirement benefit obligation at March 31, 2019:

	One-Percentage Point	
	Increase	Decrease
Effect on total service and interest cost components	**$ —**	**$ —**
Effect on other post-retirement benefit obligation	**11**	**(11)**

Plan Assets. The investment policies for our plans are generally established by the local pension plan trustees and seek to maintain the plans' ability to meet liabilities and to comply with local minimum funding requirements. Plan assets are invested in diversified portfolios that provide adequate levels of return at an acceptable level of risk. The investment policies are reviewed at least annually and revised, as deemed appropriate to ensure that the objectives are being met. At March 31, 2019, the targeted allocation for the plans were approximately 75% equity investments and 25% fixed income investments.

Financial instruments included in pension plan assets are categorized into three tiers. These tiers include a fair value hierarchy of three levels, based on the degree of subjectivity inherent in the valuation methodology as follows:

Level 1 - Quoted prices for identical assets in active markets.

Level 2 - Quoted prices for similar assets in active markets with inputs that are observable, either directly or indirectly.

Level 3 - Unobservable prices or inputs in which little or no market data exists.

The fair value of our pension benefits plan assets at March 31, 2019 and 2018 by asset category is as follows:

	Fair Value Measurements at March 31, 2019			
(In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Cash	**$ 450**	**$ 450**	**$ —**	**$ —**
Insured annuities	**14,720**	**—**	**14,720**	**—**
Insurance contracts	**5,089**	**—**	**—**	**5,089**
Common and collective trusts valued at net asset value:				
Equity security trusts	**73,532**	**—**	**—**	**—**
Debt security trusts	**23,713**	**—**	**—**	**—**
Total Plan Assets	**$ 117,504**	**$ 450**	**$ 14,720**	**$ 5,089**

	Fair Value Measurements at March 31, 2018			
(In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Cash	$ 67	$ 67	$ —	$ —
Insured annuities	15,228	—	15,228	—
Insurance contracts	5,484	—	—	5,484
Common and collective trusts valued at net asset value:				
Equity security trusts	74,081	—	—	—
Debt security trusts	24,581	—	—	—
Total Plan Assets	$ 119,441	$ 67	$ 15,228	$ 5,484

(dollars in thousands, except per share amounts and as noted)

Collective investment trusts are measured at fair value using the net asset value per share practical expedient. These trusts have not been categorized in the fair value hierarchy and are being presented in the tables above to permit a reconciliation of the fair value hierarchy to the total plan assets.

The fair value measurement of plan assets using significant unobservable inputs (Level 3) changed during fiscal year 2019 due to the following:

	Insurance contracts
Balance at March 31, 2017	$ 3,959
Gains (losses) related to assets still held at year-end	(43)
Additions from business acquisition	2,231
Transfers out of Level 3	(852)
Foreign currency	189
Balance at March 31, 2018	$ 5,484
Gains (losses) related to assets still held at year-end	**29**
Transfers out of Level 3	**(132)**
Foreign currency	**(292)**
Balance at March 31, 2019	**$ 5,089**

Cash Flows. We contribute amounts to our defined benefit pension plans at least equal to the minimum amounts required by applicable employee benefit laws and local tax laws. We expect to make contributions of approximately $3,781 during fiscal 2020.

Based upon the actuarial assumptions utilized to develop our benefit obligations at March 31, 2019, the following benefit payments are expected to be made to plan participants:

	Other Defined Benefit Pension Plans	Other Post-Retirement Benefits Plan
2020	$ 5,613	$ 1,633
2021	5,767	1,499
2022	5,928	1,394
2023	6,441	1,261
2024	6,254	1,139
2025-2030	34,102	4,244

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 (the "Act") provides a prescription drug benefit for Medicare beneficiaries, a benefit we provide to Medicare eligible retirees covered by our post-retirement benefits plan. We have concluded that the prescription drug benefit provided in our post-retirement benefit plan is considered to be actuarially equivalent to the benefit provided under the Act and thus qualifies for the subsidy under the Act. Benefits are subject to a per capita per month cost cap and any costs above the cap become the responsibility of the retiree. The subsidy is applied to reduce the retiree responsibility. As a result, the expected future subsidy no longer reduces our accumulated post-retirement benefit obligation and net periodic benefit cost. We collected subsidies totaling approximately $706 and $383, during fiscal 2019 and fiscal 2018, respectively, which reduced the retiree responsibility for costs in excess of the caps established in the post-retirement benefit plan.

Defined Contribution Plans. We maintain a 401(k) defined contribution plan for eligible U.S. employees, a 401(k) defined contribution plan for eligible Puerto Rico employees and similar savings plans for certain employees in Canada, United Kingdom, Ireland, and Finland. We provide a match on a specified portion of an employee's contribution. The U.S. plan assets are held in trust and invested as directed by the plan participants. The Canadian plan assets are held by insurance companies. The aggregate fair value of the U.S. plan assets was $703,740 at March 31, 2019. At March 31, 2019, the U.S. plan held 617,900 STERIS ordinary shares with a fair value of $79,110. We paid dividends of $826, $781, and $734 to the plan and participants on STERIS shares held by the plan for the years ended March 31, 2019, 2018, and 2017, respectively. We contributed approximately $25,935, $24,037, and $22,676, to the defined contribution plans for the years ended March 31, 2019, 2018, and 2017, respectively.

We also maintain a domestic non-qualified deferred compensation plan covering certain employees, which formerly allowed for the deferral of compensation for an employee-specified term or until retirement or termination. There have been no employee contributions made to this plan since fiscal 2012. The Plan was amended in fiscal 2012 to disallow deferrals of salary payable in 2012 and subsequent calendar years and of commissions and other incentive compensation payable in respect of the 2013 and subsequent fiscal years. We hold investments in mutual funds to satisfy future obligations of the plan. We account for these assets as available-for-sale securities and they are included in "Other assets" on our accompanying Consolidated Balance Sheets, with a corresponding liability for the plan's obligation recorded in "Accrued expenses and other." The aggregate value of the assets was $1,400 and $1,583 at March 31, 2019 and March 31, 2018, respectively. Realized gains and losses on these investments are recorded in "Interest and miscellaneous income" within "Non-operating expenses" on our accompanying Consolidated Statements of Income. Changes in the fair value of the assets are recorded in other comprehensive income on our accompanying balance sheets.

10. COMMITMENTS AND CONTINGENCIES

We are, and will likely continue to be, involved in a number of legal proceedings, government investigations, and claims, which we believe generally arise in the course of our business, given our size, history, complexity, and the nature of our business, products, Customers, regulatory environment, and industries in which we participate. These legal proceedings, investigations and claims generally involve a variety of legal theories and allegations, including, without limitation, personal injury (e.g., slip and falls, burns, vehicle accidents), product liability or regulation (e.g., based on product operation or claimed malfunction, failure to warn, failure to meet specification, or failure to comply with regulatory requirements), product exposure (e.g., claimed exposure to chemicals, asbestos, contaminants, radiation), property damage (e.g., claimed damage due to leaking equipment, fire, vehicles, chemicals), commercial claims (e.g., breach of contract, economic loss, warranty, misrepresentation), financial (e.g., taxes, reporting), employment (e.g., wrongful termination, discrimination, benefits matters), and other claims for damage and relief.

We believe we have adequately reserved for our current litigation and claims that are probable and estimable, and further believe that the ultimate outcome of these pending lawsuits and claims will not have a material adverse effect on our consolidated financial position or results of operations taken as a whole. Due to their inherent uncertainty, however, there can be no assurance of the ultimate outcome or effect of current or future litigation, investigations, claims or other proceedings (including without limitation the matters discussed below). For certain types of claims, we presently maintain insurance coverage for personal injury and property damage and other liability coverages in amounts and with deductibles that we believe are prudent, but there can be no assurance that these coverages will be applicable or adequate to cover adverse outcomes of claims or legal proceedings against us.

On May 31, 2012, our Albert Browne Limited subsidiary received a warning letter from the FDA regarding chemical indicators manufactured in the United Kingdom. These devices are intended for the monitoring of certain sterilization and other processes. The FDA warning letter states that the agency has concerns regarding operational business processes. We do not believe that the FDA's concerns are related to product performance, or that they result from Customer complaints. We have reviewed our processes with the agency and finalized our remediation measures, and are awaiting FDA reinspection. We do not currently believe that the impact of this event will have a material adverse effect on our financial results.

Civil, criminal, regulatory or other proceedings involving our products or services could possibly result in judgments, settlements or administrative or judicial decrees requiring us, among other actions, to pay damages or fines or effect recalls, or be subject to other governmental, Customer or other third party claims or remedies, which could materially effect our business, performance, prospects, value, financial condition, and results of operations.

For additional information regarding these matters, see the risks and uncertainties described under the title "product related regulations and claims" in Item 1A. of this Annual Report on Form 10-K.

From time to time, STERIS is also involved in legal proceedings as a plaintiff involving contract, patent protection, and other claims asserted by us. Gains, if any, from these proceedings are recognized when they are realized.

We are subject to taxation from United States federal, state and local, and foreign jurisdictions. Tax positions are settled primarily through the completion of audits within each individual jurisdiction or the closing of statutes of limitation. Changes in applicable tax law or other events may also require us to revise past estimates. We describe income taxes further in Note 8 to our consolidated financial statements titled, “Income Taxes” in this Annual Report on Form 10-K.

Additional information regarding our contingencies is included in Item 7 of Part II titled, “Management’s Discussion and Analysis of Financial Conditions and Results of Operations under "Contingencies".

As of March 31, 2019 and 2018, our commercial commitments totaled $73,765 and $66,992, respectively. Commercial commitments include standby letters of credit, letters of credit required as security under our self-insured risk retention policies, and other potential cash outflows resulting from an event that requires payment by us. Approximately $7,794 and $7,694 of the March 31, 2019 and 2018 totals, respectively, relate to letters of credit required as security under our self-insured risk retention policies.

As of March 31, 2019, we had minimum purchase commitments with suppliers for raw material purchases totaling $96,087. As of March 31, 2019, we also had commitments of $82,040 for long term construction contracts.

11. BUSINESS SEGMENT INFORMATION

We operate and report in four reportable business segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. Corporate is presented separately and contains the costs that are associated with being a publicly traded company and certain other corporate costs.

Our Healthcare Products segment offers infection prevention and procedural solutions for healthcare providers worldwide, including consumable products, equipment maintenance and installation services, and capital equipment.

Our Healthcare Specialty Services segment provides a range of specialty services for healthcare providers including hospital sterilization services and instrument and scope repairs. Linen Management Services were divested in fiscal 2017.

Our Life Sciences segment offers consumable products, equipment maintenance and specialty services for pharmaceutical manufacturers and research facilities, and capital equipment.

Our Applied Sterilization Technologies segment offers contract sterilization and laboratory services for medical device and pharmaceutical Customers and others.

We disclose a measure of segment income that is consistent with the way management operates and views the business. The accounting policies for reportable segments are the same as those for the consolidated Company. In fiscal 2019, we ceased the allocation of certain corporate costs to our segments to align with internal management measures. The prior period operating income measures have been recast for comparability.

For the year ended March 31, 2019, revenues from a single Customer did not represent ten percent or more of any reportable segment’s revenues.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(dollars in thousands, except per share amounts and as noted)

Years Ended March 31,	2019	2018	2017
Revenues:			
Healthcare Products	**$ 1,338,428**	$ 1,276,054	$ 1,266,517
Healthcare Specialty Services	**510,057**	469,065	539,536
Life Sciences	**378,558**	361,590	328,866
Applied Sterilization Technologies	**555,127**	513,287	477,837
Total revenues	**$ 2,782,170**	$ 2,619,996	$ 2,612,756
Operating income (loss):			
Healthcare Products	**323,684**	294,162	285,177
Healthcare Specialty Services	**64,222**	58,458	41,019
Life Sciences	**132,129**	123,889	109,953
Applied Sterilization Technologies	**221,828**	196,297	176,397
Total reportable segments	**741,863**	672,806	612,546
Corporate	**(184,900)**	(162,999)	(137,403)
Total operating income before adjustments	**$ 556,963**	$ 509,807	$ 475,143
Less: Adjustments			
Goodwill impairment loss [1]	**—**	—	58,356
Amortization of inventory and property "step up" to fair value [2]	**2,440**	1,599	4,743
Amortization of acquired intangible assets [2]	**86,878**	67,793	66,398
Acquisition and integration related transaction charges [3]	**8,901**	16,211	30,082
(Gain) loss on fair value adjustment of acquisition related contingent consideration	**(842)**	(593)	2,569
Net (gain) loss on divestiture of businesses [2]	**(1,370)**	14,547	86,574
Impact of the U.S. Tax Cuts and Jobs Act [4]	**—**	10,264	—
Redomiciliation costs [5]	**8,783**	—	—
Restructuring charges [6]	**40,708**	103	215
Total operating income	**$ 411,465**	$ 399,883	$ 226,206

[1] For more information regarding our goodwill impairment loss see Note 3 titled, "Goodwill and Intangible Assets".
[2] For more information regarding our recent acquisitions and divestitures see Note 18 titled, "Business Acquisitions and Divestitures". Amortization of purchased intangible assets fiscal 2019 total includes an impairment charge of $16,249, see Note 3 titled, "Goodwill and Intangible Assets", for more information.
[3] Acquisition and integration related charges include transaction costs and integration expenses associated with acquisitions.
[4] Represents a one-time special employee bonus paid to most U.S. employees and associated professional fees.
[5] Costs incurred in connection with the decision to redomicile.
[6] See Note 2 titled, "Restructuring", for more information.

Assets include the current and long-lived assets directly attributable to the segment based on the management of the location or on utilization. Certain corporate assets were allocated to the reportable segments based on revenues. Assets attributed to sales and distribution locations are only allocated to the Healthcare Products and Life Sciences segments.

(dollars in thousands, except per share amounts and as noted)

Individual facilities, equipment, and intellectual properties are utilized for production by both the Healthcare Products and Life Sciences segments at varying levels over time. As a result, an allocation of total assets, capital expenditures, and depreciation and amortization is not meaningful to the individual performance of the Healthcare Products and Life Sciences segments. Therefore, their respective amounts are reported together.

March 31,	2019	2018
Assets:		
Healthcare Products and Life Sciences	**$ 1,611,852**	$ 1,621,156
Healthcare Specialty Services	**805,349**	813,909
Applied Sterilization Technologies	**2,655,870**	2,765,269
Total assets	**$ 5,073,071**	$ 5,200,334

Years Ended March 31,	2019	2018	2017
Capital Expenditures			
Healthcare Products and Life Sciences	**$ 49,688**	$ 52,767	$ 39,253
Healthcare Specialty Services	**39,950**	16,497	42,408
Applied Sterilization Technologies	**100,077**	96,193	91,240
Total Capital Expenditures	**$ 189,715**	$ 165,457	$ 172,901
Depreciation, Depletion, and Amortization			
Healthcare Products and Life Sciences [(1)]	**$ 81,264**	$ 52,025	$ 46,709
Healthcare Specialty Services	**33,392**	29,269	56,860
Applied Sterilization Technologies [(1)]	**111,265**	97,038	84,573
Total Depreciation, Depletion, and Amortization	**$ 225,921**	$ 178,332	$ 188,142

[(1)] The fiscal 2019 totals include the impact of Restructuring and an impairment charge. See Note 2 titled, "Restructuring" and Note 3 titled, "Goodwill and Intangible Assets", for additional information.

Financial information for each of our United States and international geographic areas is presented in the following table. Revenues are based on the location of these operations and their Customers. Property, plant and equipment, net are those assets that are identified within the operations in each geographic area.

March 31,	2019	2018
Property, Plant, and Equipment, Net		
Ireland	**$ 41,137**	$ 38,946
United States	**577,113**	530,591
Other locations	**413,332**	440,987
Property, Plant, and Equipment, Net	**$ 1,031,582**	$ 1,010,524

Years Ended March 31,	2019	2018	2017
Revenues:			
Ireland	**$ 56,784**	$ 48,246	$ 42,733
United States	**1,976,814**	1,836,414	1,803,457
Other locations	**748,572**	735,336	766,566
Total Revenues	**$ 2,782,170**	$ 2,619,996	$ 2,612,756

Years Ended March 31,	2019	2018	2017
Healthcare Products:			
Capital equipment	**$ 568,811**	527,402	549,238
Consumables	**414,969**	412,495	403,747
Service	**354,648**	336,157	313,532
Total Healthcare Products Revenues	**$ 1,338,428**	$ 1,276,054	$ 1,266,517
Total Healthcare Specialty Services Revenues	**$ 510,057**	$ 469,065	$ 539,536
Life Sciences:			
Capital equipment	**$ 102,714**	100,555	84,069
Consumables	**161,780**	150,656	143,143
Service	**114,064**	110,379	101,654
Total Life Sciences Revenues	**$ 378,558**	$ 361,590	$ 328,866
Applied Sterilization Technologies Service Revenues	**$ 555,127**	$ 513,287	$ 477,837
Total Revenues	**$ 2,782,170**	$ 2,619,996	$ 2,612,756

12. SHARES AND PREFERRED SHARES

Ordinary Shares

In connection with the Redomiciliation, STERIS UK shareholders exchanged their shares of stock in STERIS UK for STERIS Ireland shares of stock pursuant to a cancellation scheme of arrangement under UK law. Each STERIS UK ordinary shareholder received one ordinary share, par value $75.00, of STERIS Ireland for each STERIS UK ordinary share held. The par value of these shares was subsequently reduced to $0.001 per share, as described further in note 21 to our Consolidated Financial Statements titled, "Subsequent Events."

We calculate basic earnings per share based upon the weighted average number of shares outstanding. We calculate diluted earnings per share based upon the weighted average number of shares outstanding plus the dilutive effect of share equivalents calculated using the treasury stock method. The following is a summary of shares and share equivalents outstanding used in the calculations of basic and diluted earnings per share:

Years ended March 31,	2019	2018	2017
Denominator (*shares in thousands*):			
Weighted average shares outstanding—basic	**84,577**	85,028	85,473
Dilutive effect of share equivalents	**891**	685	621
Weighted average shares outstanding and share equivalents—diluted	**85,468**	85,713	86,094

Options to purchase the following number of shares were outstanding but excluded from the computation of diluted earnings per share because the combined exercise prices, unamortized fair values, and assumed tax benefits upon exercise were greater than the average market price for the shares during the periods, so including these options would be anti-dilutive:

Years ended March 31,	2019	2018	2017
Number of ordinary share options (*shares in thousands*)	**352**	393	576

Preferred Shares

Pursuant to an engagement letter dated October 23, 2015, we issued 100,000 preferred shares, par value of £0.10 each, for an aggregate consideration of approximately $15, in satisfaction of debt owed to a service provider. The holders of the preferred shares were entitled to a fixed cumulative preferential annual dividend of 5 percent on the amount paid periodically on the preferred shares respectively held by them. The shares were redeemed in connection with the Redomiciliation that occurred on March 28, 2019 and the holders of the preferred shares received £0.10 per preferred share plus accrued but unpaid dividends, and will not be entitled to any further participation in the assets of the Company.

(dollars in thousands, except per share amounts and as noted)

Additional Authorized Shares

STERIS Ireland has an additional authorized share capital of 50,000,000 preferred shares of $0.001 each, plus €25,000 divided into 25,000 deferred ordinary shares of €1.00 each, in order to satisfy minimum statutory capital requirements for all Irish public limited companies.

13. REPURCHASE OF ORDINARY SHARES

On August 9, 2016, STERIS UK announced that its Board of Directors had authorized the purchase of up to $300 million (net of taxes, fees and commissions) of our ordinary shares. We repurchased 651,093 of our ordinary shares during fiscal 2019 for the amount of $72,082, excluding taxes, fees and commissions. We repurchased 664,963 of our ordinary shares during fiscal 2018 for the amount of $58,939, excluding taxes, fees and commissions. As a result of the Redomiciliation that share repurchase authorization terminated.

On May 7, 2019, our Board of Directors authorized the continuation of the share repurchase program by STERIS Ireland. There is approximately $80,000 (net of taxes, fees and commissions) of remaining availability under the authorization. Under the authorization, the Company may repurchase its shares from time to time through open market purchases, including 10b5-1 plans. The repurchase program may be suspended or discontinued at any time.

We obtained 112,356 of our shares during fiscal 2019 in the aggregate amount of $8,262 in connection with stock based compensation award programs. We obtained 127,903 of our shares during fiscal 2018 in the aggregate amount of $7,014 in connection with these programs. We obtained 168,906 of our shares during fiscal 2017 in the aggregate amount of $7,034 in connection with these programs.

14. SHARE-BASED COMPENSATION

We maintain a long-term incentive plan that makes available shares for grants, at the discretion of the Compensation and Organization Development Committee of the Board of Directors, or the Board of Directors, to officers, directors, and key employees in the form of stock options, restricted shares, restricted share units, stock appreciation rights and share grants. We satisfy share award incentives through the issuance of new ordinary shares.

Stock options provide the right to purchase our shares at the market price on the date of grant, or for options granted to employees in fiscal 2019 and thereafter, 110% of the market price on the date of grant, subject to the terms of the option plan and agreements. Generally, one-fourth of the stock options granted to employees become exercisable for each full year of employment following the grant date. Stock options granted generally expire 10 years after the grant date, or in some cases earlier if the option holder is no longer employed by us. Restricted shares and restricted share units generally cliff vest after a four year period or vest in tranches of one-fourth of the number granted for each year of employment after the grant date. As of March 31, 2019, 4,400,306 shares remained available for grant under the long-term incentive plan.

The fair value of share-based stock option compensation awards was estimated at their grant date using the Black-Scholes-Merton option pricing model. This model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable, characteristics that are not present in our option grants. If the model permitted consideration of the unique characteristics of employee stock options, the resulting estimate of the fair value of the stock options could be different. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in our Consolidated Statements of Income. The expense is classified as cost of goods sold or selling, general and administrative expenses in a manner consistent with the employee's compensation and benefits.

The following weighted-average assumptions were used for options granted during fiscal 2019, fiscal 2018 and fiscal 2017:

	Fiscal 2019	Fiscal 2018	Fiscal 2017
Risk-free interest rate	**2.64%**	2.01%	1.29%
Expected life of options	**6.2 years**	5.7 years	5.7 years
Expected dividend yield of stock	**1.47%**	1.58%	1.54%
Expected volatility of stock	**19.91%**	22.08%	22.92%

(dollars in thousands, except per share amounts and as noted)

The risk-free interest rate is based upon the U.S. Treasury yield curve. The expected life of options is reflective of historical experience, vesting schedules and contractual terms. The expected dividend yield of stock represents our best estimate of the expected future dividend yield. The expected volatility of stock is derived by referring to our historical stock prices over a time frame similar to that of the expected life of the grant. An estimated forfeiture rate of 2.37%, 2.25% and 1.85% was applied in fiscal 2019, 2018 and 2017, respectively. This rate is calculated based upon historical activity and represents an estimate of the granted options not expected to vest. If actual forfeitures differ from this calculated rate, we may be required to make additional adjustments to compensation expense in future periods. The assumptions used above are reviewed at the time of each significant option grant, or at least annually.

A summary of share option activity is as follows:

	Number of Options	Weighted Average Exercise Price	Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at March 31, 2018	2,021,662	$ 58.56		
Granted	436,121	114.49		
Exercised	(335,358)	40.70		
Forfeited	(17,740)	79.91		
Outstanding at March 31, 2019	**2,104,685**	**$ 72.82**	**6.7 years**	**$ 116,199**
Exercisable at March 31, 2019	**1,164,583**	**$ 57.81**	**5.5 years**	**$ 81,780**

We estimate that 924,224 of the non-vested stock options outstanding at March 31, 2019 will ultimately vest.

The aggregate intrinsic value in the table above represents the total pre-tax difference between the $128.03 closing price of our ordinary shares on March 29, 2019 over the exercise prices of the stock options, multiplied by the number of options outstanding or outstanding and exercisable, as applicable. The aggregate intrinsic value is not recorded for financial accounting purposes and the value changes daily based on the daily changes in the fair market value of our ordinary shares.

The total intrinsic value of stock options exercised during the years ended March 31, 2019, 2018 and 2017 was $25,371, $16,096 and $6,454, respectively. Net cash proceeds from the exercise of stock options were $13,308, $11,093 and $4,955 for the years ended March 31, 2019, 2018 and 2017, respectively. The tax benefit from stock option exercises was $8,306, $6,581 and $5,058 for the years ended March 31, 2019, 2018 and 2017, respectively.

The weighted average grant date fair value of stock option grants was $18.12, $15.51 and $13.42 for the years ended March 31, 2019, 2018 and 2017, respectively.

Stock appreciation rights ("SARS") carry generally the same terms and vesting requirements as stock options except that they are settled in cash upon exercise and therefore, are classified as liabilities. The fair value of the outstanding SARS as of March 31, 2019, 2018 and 2017 was $889, $1,437, and $1,622, respectively. The fair value of outstanding SARS is revalued at each reporting date and the related liability and expense are adjusted appropriately.

A summary of the non-vested restricted share activity is presented below:

	Number of Restricted Shares	Number of Restricted Share Units	Weighted-Average Grant Date Fair Value
Non-vested at March 31, 2018	763,201	35,431	$ 68.65
Granted	178,142	22,038	104.83
Vested	(233,629)	(23,290)	62.15
Forfeited	(31,341)	(960)	76.98
Non-vested at March 31, 2019	**676,373**	**33,219**	**$ 80.86**

Restricted shares granted are valued based on the closing stock price at the grant date. The value of restricted shares and units that vested during fiscal 2019 was $15,968.

As of March 31, 2019, there was a total of $39,023 in unrecognized compensation cost related to non-vested share-based compensation granted under our share-based compensation plans. We expect to recognize the cost over a weighted average period of 2.09 years.

(dollars in thousands, except per share amounts and as noted)

15. FINANCIAL AND OTHER GUARANTEES

We generally offer a limited parts and labor warranty on capital equipment. The specific terms and conditions of those warranties vary depending on the product sold and the countries where we conduct business. We record a liability for the estimated cost of product warranties at the time product revenues are recognized. The amounts we expect to incur on behalf of our Customers for the future estimated cost of these warranties are recorded as a current liability on the accompanying Consolidated Balance Sheets. Factors that affect the amount of our warranty liability include the number and type of installed units, historical and anticipated rates of product failures, and material and service costs per claim. We periodically assess the adequacy of our recorded warranty liabilities and adjust the amounts as necessary.

Changes in our warranty liability during the periods presented are as follows:

Years Ended March 31,	2019	2018	2017
Balance, Beginning of Year	**$ 6,872**	$ 6,861	$ 5,909
Warranties issued during the period	**11,177**	12,305	11,823
Settlements made during the period	**(10,855)**	(12,294)	(10,871)
Balance, End of Year	**$ 7,194**	$ 6,872	$ 6,861

16. DERIVATIVES AND HEDGING

From time to time, we enter into forward contracts to hedge potential foreign currency gains and losses that arise from transactions denominated in foreign currencies, including inter-company transactions. We may also enter into commodity swap contracts to hedge price changes in nickel that impact raw materials included in our cost of revenues. We do not use derivative financial instruments for speculative purposes. These contracts are not designated as hedging instruments and do not receive hedge accounting treatment; therefore, changes in their fair value are not deferred but are recognized immediately in the Consolidated Statements of Income. At March 31, 2019, we held foreign currency forward contracts to buy 9.0 million Canadian dollars and 150.0 million Mexican pesos. At March 31, 2019, we held commodity swap contracts to buy 652.9 thousand pounds of nickel.

	Asset Derivatives		Liability Derivatives	
Balance Sheet Location	Fair Value at March 31, 2019	Fair Value at March 31, 2018	Fair Value at March 31, 2019	Fair Value at March 31, 2018
Prepaid & Other	**$ 552**	$ 187	**$ —**	$ —
Accrued expenses and other	**$ —**	$ —	**$ 278**	$ —

The following table presents the impact of derivative instruments and their location within the Consolidated Statements of Income:

		Amount of (loss) gain recognized in income		
		Years Ended March 31,		
	Location of (loss) gain recognized in income	2019	2018	2017
Foreign currency forward contracts	Selling, general and administrative	**$ 235**	$ (1,357)	$ (1,886)
Commodity swap contracts	Cost of revenues	**$ 434**	$ 373	$ 376

Additionally, we hold our debt in multiple currencies to fund our operations and investments in certain subsidiaries. We designate portions of non-functional currency denominated intercompany loans as hedges of portions of net investments in foreign operations. Net debt designated as non-derivative net investment hedging instruments totaled $51,916 at March 31, 2019. These hedges are designed to be fully effective and any associated gain or loss is recognized in Accumulated Other Comprehensive Income and will be reclassified to income in the same period when a gain or loss related to the net investment in the foreign operation is included in income.

(dollars in thousands, except per share amounts and as noted)

17. FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or that would be paid to transfer a liability in an orderly transaction between market participants at the measurement date. We estimate the fair value of financial assets and liabilities using available market information and generally accepted valuation methodologies. The inputs used to measure fair value are classified into three tiers. These tiers include Level 1, defined as observable inputs such as quoted prices in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring the entity to develop its own assumptions. The following table shows the fair value of our financial assets and liabilities at March 31, 2019 and March 31, 2018:

			Fair Value Measurements					
	Carrying Value		Quoted Prices in Active Markets for Identical Assets		Significant Other Observable Inputs		Significant Unobservable Inputs	
			Level 1		Level 2		Level 3	
At March 31,	2019	2018	2019	2018	2019	2018	2019	2018
Assets:								
Cash and cash equivalents	**$ 220,633**	$ 201,534	**$ 220,633**	$ 201,534	**$ —**	$ —	**$ —**	$ —
Forward and swap contracts [1]	**552**	187	**—**	—	**552**	187	**—**	—
Equity investments [2]	**13,873**	12,961	**13,873**	12,961	**—**	—	**—**	—
Other investments	**2,545**	3,421	**2,545**	3,421	**—**	—	**—**	—
Liabilities:								
Forward and swap contracts [1]	**$ 278**	$ —	**$ —**	$ —	**$ 278**	$ —	**$ —**	$ —
Deferred compensation plans [2]	**1,564**	1,694	**1,564**	1,694	**—**	—	**—**	—
Long term debt [3]	**1,183,227**	1,316,001	**—**	—	**1,200,558**	1,305,181	**—**	—
Contingent consideration obligations [4]	**5,950**	8,068	**—**	—	**—**	—	**5,950**	8,068

[1] The fair values of forward and swap contracts are based on period-end forward rates and reflect the value of the amount that we would pay or receive for the contracts involving the same notional amounts and maturity dates.

[2] We maintain a frozen domestic non-qualified deferred compensation plan covering certain employees, which allowed for the deferral of payment of previously earned compensation for an employee-specified term or until retirement or termination. Amounts deferred can be allocated to various hypothetical investment options (compensation deferrals have been frozen under the plan). We hold investments to satisfy the future obligations of the plan. Employees who made deferrals are entitled to receive distributions of their hypothetical account balances (amounts deferred, together with earnings (losses)). We also hold an investment in the common stock of Servizi Italia, S.p.A, a leading provider of integrated linen washing and outsourced sterile processing services to hospital Customers. Beginning in fiscal 2019, changes in the fair value of these investments are recorded in the "Interest income and miscellaneous expense line" of the Consolidated Statement of Income. During fiscal 2019, we recorded a loss of $2,731, related to these investments.

[3] We estimate the fair value of our long-term debt using discounted cash flow analyses, based on our current incremental borrowing rates for similar types of borrowing arrangements.

[4] Contingent consideration obligations arise from prior business acquisitions. The fair values are based on discounted cash flow analyses reflecting the possible achievement of specified performance measures or events and captures the contractual nature of the contingencies, commercial risk, and the time value of money. Contingent consideration obligations are classified in the consolidated balance sheets as accrued expense (short-term) and other liabilities (long-term), as appropriate based on the contractual payment dates.

(dollars in thousands, except per share amounts and as noted)

The changes in Level 3 assets and liabilities measured at fair value on a recurring basis at March 31, 2019 are summarized as follows:

	Contingent Consideration
Balance at March 31, 2017	$ 4,451
Additions	5,774
Payments	(1,735)
Reductions and adjustments	(593)
Foreign currency translation adjustments	171
Balance at March 31, 2018	$ 8,068
Payments	**(691)**
Reductions and adjustments	**(1,466)**
Foreign currency translation adjustments	**39**
Balance at March 31, 2019	**$ 5,950**

Additions and payments of contingent consideration obligations during fiscal year 2019 and 2018 were primarily related to our fiscal year 2018 and 2017 acquisitions. Refer to Note 18, "Business Acquisitions and Divestitures" for more information.

18. BUSINESS ACQUISITIONS AND DIVESTITURES

Fiscal 2019 Acquisitions

During fiscal 2019, we completed a minor purchase to expand our service offerings in the Applied Sterilization Technologies segment. The total purchase price was $13,313, and was financed with both cash on hand and with credit facility borrowings. Purchase price allocations will be finalized within a measurement period not to exceed one year from closing.

Fiscal 2018 Acquisitions

We completed several minor purchases that continued to expand our product and service offerings in the Healthcare Products, Healthcare Specialty Services and Applied Sterilization Technologies segments. The aggregate purchase price associated with these transactions was approximately $52,527, net of cash acquired and including contingent consideration of $5,018. The purchase price for the acquisitions was financed with both cash on hand and with credit facility borrowings.

Fiscal 2017 Acquisitions

Compass Medical, Inc.

On September 16, 2016, we purchased the assets of Compass Medical, Inc. ("Compass") for approximately $16,000. The purchase price was financed with bank credit facility borrowings. Compass specializes in the sale and repair of flexible endoscopes. Prior to the acquisition, Compass generated annual revenues of approximately $6,000 and was integrated into our Healthcare Specialty Services segment.

Phoenix Surgical Holdings, Ltd. and Endo-Tek LLP

On August 31, 2016, we purchased 100% of the shares of Phoenix Surgical Holdings, Ltd. and the assets of Endo-Tek LLP ("Phoenix Surgical and Endo-Tek") for approximately $14,300 combined, net of cash acquired. The purchase price was financed with cash on hand. Prior to the acquisition, these operations, which specialize in the repair of endoscopes, generated approximately $8,000 in combined annual revenue and were integrated into our Healthcare Specialty Services segment.

Medisafe

On July 22, 2016, we purchased 100% of the shares of Medisafe Holdings, Ltd. ("Medisafe"), a U.K. manufacturer of washer/disinfector equipment and related consumables and services for approximately $34,500, net of cash acquired. The purchase price was financed with cash on hand. Prior to the acquisition, the Medisafe product line generated $18,000 in annual revenue. The acquisition of Medisafe provides washer manufacturing and research and development capabilities in the U.K. Medisafe's products and services are being integrated into our Healthcare Products segment.

Fair Value of Assets Acquired and Liabilities Assumed

The table below summarizes the allocation of the purchase price to the net assets acquired based on fair values at the acquisition dates for our fiscal 2019, 2018 and 2017 acquisitions.

	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017		
(dollars in thousands)	All Acquisitions (1)	All Acquisitions	Medisafe	Compass	Phoenix Surgical and Endo-Tek
Cash	**$ —**	$ 235	$ 3,751	$ —	$ 769
Accounts receivable	**750**	1,464	3,634	629	1,123
Inventory	**51**	2,289	2,454	659	950
Property, plant and equipment	**2,004**	3,381	639	13	1,092
Other assets	**479**	126	—	31	46
Intangible assets	**4,070**	17,404	17,151	5,992	7,824
Goodwill	**6,614**	32,384	19,599	8,987	5,938
Total Assets	**13,968**	57,283	47,228	16,311	17,742
Current liabilities	**(146)**	(2,077)	(5,562)	(309)	(1,373)
Non-current liabilities	**(509)**	(2,679)	(3,398)	—	(1,263)
Total Liabilities	**(655)**	(4,756)	(8,960)	(309)	(2,636)
Net Assets	**$ 13,313**	$ 52,527	$ 38,268	$ 16,002	$ 15,106

(1) Purchase price allocation is still preliminary as of March 31, 2019, as valuations have not been finalized.

Acquisition related transaction and integration costs totaled $8,901, $16,211, and $30,082 for the fiscal years ended March 31, 2019, 2018, and 2017, respectively. These costs are included in Selling, general, and administrative expenses in the Consolidated Statements of Income.

Divestitures

Synergy Health Healthcare Consumable Solutions

On November 20, 2017, we sold our Synergy Health Healthcare Consumable Solutions ("HCS") business to Vernacare. Annual revenues for the HCS business were approximately $40,000 and were included in the Healthcare Products segment. We recorded proceeds of $8,891, net of cash divested, including a working capital adjustment. We also recognized a pre-tax loss on the sale, subject to final working capital adjustments, of $13,021 in Selling, general, and administrative expense in the Consolidated Statement of Income.

Netherlands Linen Management Services

On February 9, 2017, we sold our Synergy Health Netherlands Linen Management Services business to EMEA B.V. Annual revenues for Synergy Health Netherlands Linen Management Services were approximately $75,000 and were included in the Healthcare Specialty Services segment. We recorded a $43,000 pre-tax loss on the sale in Selling, general, and administrative expense in the Consolidated Statements of Income as a result of the divestiture.

U.S. Linen Management Services

On November 3, 2016, we sold our Synergy Health U.S. Linen Management Services business to SRI Healthcare LLC. Annual revenues for U.S. Linen Management Services were approximately $50,000 and were included in the Healthcare Specialty Services segment. We recorded proceeds of $4,500 and recognized a pre-tax loss on the sale, subject to final adjustments, of $31,200 in Selling, general, and administrative expense in the Consolidated Statements of Income.

Synergy Health Labs

On September 2, 2016, we sold Synergy Health Laboratory Services to SYNLAB International. Annual revenues for the Synergy Health Labs were approximately $15,000 and were included in the Applied Sterilization Technologies segment. We recorded proceeds of $26,300, net of cash divested, and recognized a pre-tax gain on the sale of $18,700 in Selling, general, and administrative expense in the Consolidated Statements of Income.

(dollars in thousands, except per share amounts and as noted)

Applied Infection Control

On August 31, 2016, we completed the sale of our Applied Infection Control ("AIC") product line to DEB USA, Inc., a wholly-owned subsidiary of S.C. Johnson & Son, Inc. Annual revenues for the AIC product line were typically less than $50,000 and were included in the Healthcare Products segment. We recorded proceeds of $41,800 and recognized a pre-tax gain on the sale of $36,200 in Selling, general, and administrative expense in the Consolidated Statements of Income.

UK Linen Management Services

On July 1, 2016, we sold our Synergy Health UK Linen Management Services business to STAR Mayan Limited. Annual revenues for UK Linen Management Services were approximately $50,000 and were included in the Healthcare Specialty Services segment. We recorded proceeds of $65,400, net of cash divested, and recognized a pre-tax loss on the sale of $66,400 in Selling, general, and administrative expense in the Consolidated Statements of Income.

Loans Receivable

In connection with a fiscal 2019 equity investment of $4,955, we agreed to provide a credit facility of up to approximately $10,000 for a term of up to 7 years. Loans carry an interest rate of 4% compounded daily and interest is payable annually. Outstanding borrowings under the agreement totaled $7,465 at March 31, 2019.

In connection with the fiscal 2017 divestiture of Synergy Health Netherlands Linen Management Services, we entered into a loan agreement to provide financing of up to €15,000 for a term of up to 15 years. The loan carries an interest rate of 4% for the first four years and 12% thereafter. Outstanding borrowings under the agreement totaled $8,494 (or €7,550) at March 31, 2019.

Amounts for loan receivables as noted above are recorded in the "Other assets" line of our Consolidated balance sheets. Interest income is not material.

19. RECLASSIFICATIONS OUT OF ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

Amounts in Accumulated Other Comprehensive Income (Loss) are presented net of the related tax. Foreign Currency Translation is not adjusted for income taxes. Accumulated other comprehensive income (loss) shown in our Consolidated Statements of Shareholders' Equity and changes in our balances, net of tax, for the years ended March 31, 2019, 2018 and 2017 were as follows:

	Gain (Loss) on Available for Sale Securities [1]			Defined Benefit Plans [2]			Foreign Currency Translation [3]			Total Accumulated Other Comprehensive Income (Loss)		
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
Beginning Balance	**$ 1,970**	$ 178	$ (673)	**$ (6,742)**	$ (2,355)	$ 5,108	**$ 16,457**	$(238,525)	$ (72,594)	**$ 11,685**	$ (240,702)	$ (68,159)
Other Comprehensive Income (Loss) before reclassifications	—	1,703	745	**3,920**	(2,291)	(5,491)	**(172,031)**	254,982	(165,931)	**(168,111)**	254,394	(170,677)
Reclassified from Accumulated Other Comprehensive Income (Loss)	—	89	106	**(1,382)**	(2,096)	(1,972)	**—**	—	—	**(1,382)**	(2,007)	(1,866)
Net current-period Other Comprehensive Income (Loss)	—	1,792	851	**2,538**	(4,387)	(7,463)	**(172,031)**	254,982	(165,931)	**(169,493)**	252,387	(172,543)
Cumulative adjustment to Retained Earnings [4]	**$ (1,970)**	$ —	$ —	**$ —**	$ —	$ —	**$ —**	$ —	$ —	**$ (1,970)**	$ —	$ —
Ending Balance	**$ —**	$ 1,970	$ 178	**$ (4,204)**	$ (6,742)	$ (2,355)	**$ (155,574)**	$ 16,457	$ (238,525)	**$(159,778)**	$ 11,685	$(240,702)

[1] Realized gain (loss) on available for sale securities is reported in the Interest income and miscellaneous expense line of the Consolidated

Statements of Income for fiscal 2018 and 2017.

(2) Amortization (gain) of defined benefit plan items are reported in the Interest income and miscellaneous expense line of our Consolidated Statements of Income.

(3) The effective portion of gain or loss on net debt designated as non-derivative net investment hedging instruments is recognized in Accumulated other comprehensive income and is reclassified to income in the same period when a gain or loss related to the net investment in the foreign operation is included in income.

(4) As a result of the adoption of ASC 2016-01 we recorded a cumulative effect adjustment to our opening fiscal 2019 retained earnings balance that increased retained earnings and decreased accumulated other comprehensive income. See Note 1 titled, "Nature of Operations and Summary of Significant Accounting Policies" for further details.

(dollars in thousands, except per share amounts and as noted)

20. QUARTERLY RESULTS (UNAUDITED)

Quarters Ended	March 31,	December 31,	September 30,	June 30,
Fiscal 2019				
Revenues:				
Product	**$ 374,937**	**$ 327,639**	**$ 314,659**	**$ 278,790**
Service	**393,276**	**368,599**	**364,302**	**359,968**
Total Revenues	**768,213**	**696,238**	**678,961**	**638,758**
Cost of Revenues:				
Product	**201,357**	**182,229**	**172,107**	**146,602**
Service	**232,140**	**227,012**	**222,190**	**223,106**
Total Cost of Revenues	**433,497**	**409,241**	**394,297**	**369,708**
Gross Profit	**334,716**	**286,997**	**284,664**	**269,050**
Percentage of Revenues	**43.6%**	**41.2%**	**41.9%**	**42.1%**
Restructuring Expenses	**4,840**	**26,147**	**—**	**—**
Net Income Attributable to Shareholders	**$ 108,745**	**$ 47,858**	**$ 77,457**	**$ 69,991**
Basic Income Per Ordinary Share Attributable to Shareholders:				
Net income	**$ 1.29**	**$ 0.57**	**$ 0.92**	**$ 0.83**
Diluted Income Per Ordinary Share Attributable to Shareholders:				
Net income	**$ 1.27**	**$ 0.56**	**$ 0.91**	**$ 0.82**
Fiscal 2018				
Revenues:				
Product	$ 351,010	$ 309,461	$ 286,557	$ 273,605
Service	364,963	352,439	347,602	334,359
Total Revenues	715,973	661,900	634,159	607,964
Cost of Revenues:				
Product	187,710	162,611	152,611	143,245
Service	235,898	221,071	215,151	208,953
Total Cost of Revenues	423,608	383,682	367,762	352,198
Gross Profit	292,365	278,218	266,397	255,766
Percentage of Revenues	40.8%	42.0%	42.0%	42.1%
Restructuring Expenses	(53)	78	27	51
Net Income Attributable to Shareholders	$ 73,598	$ 94,781	$ 64,459	$ 58,077
Basic Income Per Ordinary Share Attributable to Shareholders:				
Net income	$ 0.87	$ 1.12	$ 0.76	$ 0.68
Diluted Income Per Ordinary Share Attributable to Shareholders:				
Net income	$ 0.86	$ 1.11	$ 0.75	$ 0.68

21. SUBSEQUENT EVENTS

Under Irish law, STERIS Ireland may only declare dividends and make distributions out of distributable profits. As a new holding company, with no operational history, STERIS Ireland had no distributable profits as of March 31, 2019.

In connection with the Redomiciliation, on February 28, 2019, the shareholders of STERIS UK approved a special resolution authorizing a capital reduction of, and the creation of distributable profits for, STERIS Ireland through a reduction in the nominal value of its ordinary shares. To implement the approved proposal, STERIS Ireland authorized, subject to the confirmation of the High Court of Ireland, the creation of approximately $6,338,536 of distributable profits within STERIS Ireland by reducing the nominal value from $75.00 to $0.001 per share and cancelling the associated company capital paid-up on each of the ordinary shares of STERIS Ireland issued (1) pursuant to the Scheme, and (2) following the effective time of the Scheme and up to 11:59 a.m. on the day immediately prior to the High Court confirmation hearing (the "Par Value Reduction").

On May 2, 2019, the High Court of Ireland confirmed the creation of distributable profits of STERIS Ireland via the Par Value Reduction, such that the reserve resulting from the cancellation of paid-up company capital will be treated as distributable profits of STERIS Ireland, and made a related order (the "Order"). The Par Value Reduction took effect on May 3, 2019, upon the registration with the Irish Registrar of Companies of the Order and of an associated minute approved by the High Court with respect to the company capital of STERIS Ireland. In connection with the Par Value Reduction, the authorized share capital of STERIS Ireland was also amended to (a) 500,000,000 ordinary shares, $0.001 par value per share, (b) 50,000,000 preferred shares, $0.001 par value per share and (c) 25,000 deferred ordinary shares, €1.00 par value per share. The rights and obligations of the ordinary shares of STERIS Ireland otherwise remain unchanged.

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS

Description	Balance at Beginning of Period	Charges to Costs and Expenses	Charges to Other Accounts	Deductions	Balance at End of Period
(in thousands)					
Year ended March 31, 2019					
Deducted from asset accounts:					
Allowance for trade accounts receivable [1]	**$ 12,472**	**$ 356**	**$ (327)** [3]	**$ (2,856)** [4]	**$ 9,645**
Inventory valuation reserve	**19,639**	**(673)** [2]	**788** [3]	**—**	**19,754**
Deferred tax asset valuation allowance	**13,596**	**4,055**	**(1,653)** [3]	**(2,520)**	**13,478**
Recorded within liabilities:					
Casualty loss reserves	**$ 20,949**	**$ 4,456**	**$ (1,158)**	**$ (4,505)**	**$ 19,742**
Year ended March 31, 2018					
Deducted from asset accounts:					
Allowance for trade accounts receivable [1]	$ 10,357	$ 2,183	$ 1,925 [3]	$ (1,993) [4]	$ 12,472
Inventory valuation reserve	17,854	2,446 [2]	(661) [3]	—	19,639
Deferred tax asset valuation allowance	16,366	3,535	209 [3]	(6,514)	13,596
Recorded within liabilities:					
Casualty loss reserves	$ 22,718	$ 5,713	$ (2,563)	$ (4,919)	$ 20,949
Year ended March 31, 2017					
Deducted from asset accounts:					
Allowance for trade accounts receivable [1]	$ 11,185	$ 1,248	$ 11 [3]	$ (2,087) [4]	$ 10,357
Inventory valuation reserve	18,707	(171) [2]	(682) [3]	—	17,854
Deferred tax asset valuation allowance	16,435	4,014	(214) [3]	(3,869)	16,366
Recorded within liabilities:					
Casualty loss reserves	$ 20,222	$ 5,000	$ 768	$ (3,272)	$ 22,718

[1] Net allowance for doubtful accounts and allowance for sales and returns.
[2] Provision for excess and obsolete inventory, net of inventory written off.
[3] Change in foreign currency exchange rates and acquired reserves.
[4] Uncollectible accounts written off, net of recoveries.

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

Our management, including the Principal Executive Officer ("PEO") and Principal Financial Officer ("PFO"), has evaluated the effectiveness of our disclosure controls and procedures, as defined in Exchange Act Rules 13a-15(e) and 15d-15(e), as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, the PEO and PFO have determined that, as of the end of the period covered by this Annual Report on Form 10-K, our disclosure controls and procedures were effective.

CHANGES IN INTERNAL CONTROLS

During the quarter ended March 31, 2019, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in the Exchange Act Rules 13a-15(f). Under the supervision and with the participation of management, including the PEO and PFO, we conducted an evaluation of the effectiveness of internal control over financial reporting as of March 31, 2019 based on the framework in 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Our evaluation of internal control over financial reporting did not include the internal controls of the entity that was acquired during fiscal 2019. Total assets of the acquired business (inclusive of acquired intangible assets and goodwill) represented approximately 0.25 percent of our total assets as of March 31, 2019 and approximately 0.15 percent of our total revenues for the year ended March 31, 2019. Based on this evaluation under this framework, management concluded that the internal control over financial reporting was effective as of March 31, 2019.

The independent registered public accounting firm that audited the financial statements has issued an attestation report on internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of STERIS plc

Opinion on Internal Control over Financial Reporting

We have audited STERIS plc and subsidiaries' internal control over financial reporting as of March 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, STERIS plc and subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of March 31, 2019, based on the COSO criteria.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of the entity that was acquired during the year ended March 31, 2019, which is included in the fiscal 2019 consolidated financial statements of the Company and constituted approximately 0.25% of total assets as of March 31, 2019 and approximately 0.15% of total revenues for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of the entity that was acquired during the year ended March 31, 2019.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of March 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended March 31, 2019, and the related notes and the financial statement schedule listed in the Index at Item 15(a) and our report dated May 30, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report

on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Cleveland, Ohio
May 30, 2019

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

This Annual Report on Form 10-K incorporates by reference the information appearing under the caption "Nominees for Election as Directors," "Section 16(a) Beneficial Ownership Reporting Compliance," "Board Meetings and Committees" and "Shareholder Nominations of Directors and Nominee Criteria" of our definitive proxy statement to be filed with the SEC in connection with our 2019 Annual Meeting of Shareholders (the "Proxy Statement").

Our executive officers serve for a term of one year from the date of election to the next organizational meeting of the Board of Directors and until their respective successors are elected and qualified, except in the case of death, resignation, or removal. Information concerning our executive officers is contained in Item 1 of Part 1 of this Annual Report and is incorporated herein by reference. We have adopted a code of ethics, our Code of Business Conduct for Employees, that applies to our CEO and CFO and Principal Accounting Officer as well as all of our other employees. We have also adopted a code of ethics, our Director Code of Ethics, which applies to the members of the Company's Board of Directors, including our CEO. Our Code of Business Conduct for Employees and the Director Code of Ethics can be found on our Investor Relations website at www.steris-ir.com. Any amendments or waivers of either of these codes will be made available on this website.

ITEM 11. EXECUTIVE COMPENSATION

This Annual Report on Form 10-K incorporates by reference the information appearing beginning under the captions "Executive Compensation," "Non-Employee Director Compensation" and "Miscellaneous Matters" of the Proxy Statement.

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

This Annual Report on Form 10-K incorporates by reference the information appearing under the captions "Ownership of Voting Securities" of the Proxy Statement.

The table below presents information concerning all equity compensation plans and individual equity compensation arrangements in effect as of our fiscal year ended March 31, 2019.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights ($)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	2,104,685	$72.82	4,400,306
Equity compensation plans not approved by security holders	—	—	—
Total	2,104,685	$72.82	4,400,306

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

RELATED PERSON TRANSACTIONS

This Annual Report on Form 10-K incorporates by reference the information beginning under the captions "Governance Generally", "Board Meetings and Committees" and "Miscellaneous Matters" of the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

This Annual Report on Form 10-K incorporates by reference the information relating to principal accountant fees and services appearing under the caption "Independent Registered Public Accounting Firm" of the Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

LIST OF CONSOLIDATED FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE

(a) (1) The following consolidated financial statements of STERIS plc and subsidiaries are included in Item 8:

Consolidated Balance Sheets – March 31, 2019 and 2018.

Consolidated Statements of Income – Years ended March 31, 2019, 2018, and 2017.

Consolidated Statements of Comprehensive Income – Years ended March 31, 2019, 2018, and 2017.

Consolidated Statements of Cash Flows – Years ended March 31, 2019, 2018, and 2017.

Consolidated Statements of Shareholders' Equity – Years ended March 31, 2019, 2018, and 2017.

Notes to Consolidated Financial Statements.

(a) (2) The following consolidated financial statement schedule of STERIS plc and subsidiaries is included in Item 8:

Schedule II - Valuation and Qualifying Accounts

All other schedules for which provision is made in the applicable accounting regulation of the SEC are not required under the related instructions or are inapplicable and, therefore, have been omitted.

(a) (3) Exhibits

Exhibit Number	**Exhibit Description**
3.1	STERIS plc Amended Memorandum and Articles of Association.
10.1	STERIS plc 2006 Long-Term Equity Incentive Plan, as Assumed, Amended and Restated Effective March 28, 2019 (filed as Exhibit 10.1 to STERIS plc Form 8-K filed March 28, 2019 (Commission File No. 001-38848) and incorporated herein by reference).*
10.2	STERIS Corporation Form of Nonqualified Stock Option Agreement for Nonemployee Directors (filed as Exhibit 10.4 to Form 10-Q for the fiscal quarter ended June 30, 2008 (Commission File No. 1-14643), and incorporated herein by reference).*
10.3	STERIS Corporation Form of Non-Qualified Stock Option Agreement for Employees (filed as Exhibit 10.2 to Form 10-Q for the fiscal quarter ended June 30, 2009 (Commission File No. 1-14643), and incorporated herein by reference).*
10.4	STERIS Corporation Form of Non-Qualified Stock Option Agreement for Employees. (filed as Exhibit 10.22 to Form 10-K for the fiscal year ended March 31, 2011(Commission File No. 1-14643), and incorporated herein by reference).*
10.5	STERIS Corporation Form of Nonqualified Stock Option Agreement for Employees (filed as Exhibit 10.2 to Form 10-Q for the fiscal quarter ended June 30, 2011 (Commission File No. 1-14643), and incorporated herein by reference).*
10.6	STERIS Corporation Form of Restricted Stock Agreement for Employees (filed as Exhibit 10.27 to Form 10-K for the fiscal year ended March 31, 2012 (Commission File No. 1-14643, and incorporated herein by reference).*
10.7	STERIS Corporation Form of Restricted Stock Agreement for Employees (filed as Exhibit 10.28 to Form 10-K for the fiscal year ended March 31, 2012 (Commission File No. 1-14643, and incorporated herein by reference).*
10.8	Amendment to STERIS Corporation Nonqualified Stock Option Agreement (filed as Exhibit 10.11 to Form 10-Q for the fiscal quarter ended December 31, 2012 (Commission File No. 1-14643), and incorporated herein by reference).*
10.9	STERIS Corporation Form of Nonqualified Stock Option Agreement for Nonemployee Directors (filed as Exhibit 10.12 to Form 10-Q for the fiscal quarter ended December 31, 2012 (Commission File No. 1-14643), and incorporated herein by reference).*

10.10	STERIS Corporation Form of Nonqualified Stock Option Agreement for Employees (filed as Exhibit 10.13 to Form 10-Q for the fiscal quarter ended December 31, 2012 (Commission File No. 1-14643), and incorporated herein by reference).*
10.11	STERIS Corporation Form of Nonqualified Stock Option Agreement for Employees (filed as Exhibit 10.14 to Form 10-Q for the fiscal quarter ended December 31, 2012 (Commission File No. 1-14643), and incorporated herein by reference).*
10.12	STERIS Corporation Form of Career Restricted Stock Unit Agreement for Nonemployee Directors (filed as Exhibit 10.33 to Form 10-K for the fiscal year ended March 31, 2013 (Commission File No. 1-14643), and incorporated by reference).*
10.13	STERIS Corporation Form of Nonqualified Stock Option Agreement for Nonemployee Directors(filed as Exhibit 10.34 to Form 10-K for the fiscal year ended March 31, 2013 (Commission File No. 1-14643), and incorporated by reference).*
10.14	STERIS plc Form of Nonqualified Stock Option Agreement for Employees (filed as Exhibit 10.2 to STERIS plc Form 10-Q for the fiscal quarter ended December 31, 2015 (Commission File No. 1-37614) and incorporated herein by reference).*
10.15	STERIS plc Form of Nonqualified Stock Option Agreement for Employees (filed as Exhibit 10.16 to STERIS plc Form 10-K for the fiscal year ended March 31, 2018 (Commission File No. 1-37614) and incorporated herein by reference).*
10.16	Amendment to STERIS plc Nonqualified Stock Option Agreement (filed as Exhibit 10.4 to STERIS plc Form 10-Q for the fiscal quarter ended September 30, 2018 (Commission File No. 1-37614) and incorporated herein by reference).*
10.17	Form of STERIS plc Nonqualified Stock Option Agreement for Employees (filed as Exhibit 10.2 to STERIS plc Form 10-Q for the fiscal quarter ended September 30, 2018 (Commission File No. 1-37614) and incorporated herein by reference).*
10.18	STERIS plc Form of Restricted Stock Agreement for Employees (filed as Exhibit 10.3 to STERIS plc Form 10-Q for the fiscal quarter ended December 31, 2015 (Commission File No. 1-37614) and incorporated herein by reference).*
10.19	STERIS plc Form of Nonqualified Stock Option Agreement for Nonemployee Directors (filed as Exhibit 10.20 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614) and incorporated herein by reference).*
10.20	STERIS plc Form of Career Restricted Stock Agreement for Nonemployee Directors (filed as Exhibit 10.21 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614) and incorporated herein by reference).*
10.21	STERIS plc Form of Performance Restricted Stock Agreement for Employees (filed as Exhibit 10.1 to STERIS plc Form 8-K filed June 1, 2017 (Commission File No. 1-37614), and incorporated herein by reference).*
10.22	STERIS plc Form of Restricted Stock Agreement for Employees (filed as Exhibit 10.3 to STERIS plc Form 10-Q for the fiscal quarter ended September 30, 2018 (Commission File No. 1-37614), and incorporated herein by reference).*
10.23	Description of STERIS plc Non-Employee Director Compensation Program (filed as Exhibit 10.6 to STERIS plc Form 10-Q for the fiscal quarter ended September 30, 2017 (Commission File No. 1-37614), and incorporated herein by reference)*
10.24	Description of STERIS plc Non-Employee Director Compensation Program (filed as Exhibit 10.1 to STERIS plc Form 10-Q for the fiscal quarter ended September 30, 2018 (Commission File No. 1-37614), and incorporated herein by reference)*
10.25	STERIS Corporation Deferred Compensation Plan Document (filed as Exhibit 10.1 to Form 8-K filed September 1, 2006 (Commission File No. 1-14643), and incorporated herein by reference).*
10.26	STERIS Corporation Deferred Compensation Plan Document (as Amended and Restated Effective January 1, 2009) (filed as Exhibit 10.1 to Form 10-Q for the fiscal quarter ended December 31, 2008 (Commission File No. 1-14643), and incorporated herein by reference).*

10.27 Amended and Restated Adoption Agreement related to STERIS Corporation Deferred Compensation Plan (filed as Exhibit 10.2 to Form 10-Q filed for the fiscal quarter ended December 31, 2008 (Commission File No. 1-14643), and incorporated herein by reference).*

10.28 Amendment No. 1 to STERIS Corporation Deferred Compensation Plan Document (as Amended and Restated Effective January 1, 2009) dated November 4, 2011 (filed as Exhibit 10.1 to Form 10-Q for the fiscal quarter ended December 31, 2011 (Commission File No. 1-14643), and incorporated herein by reference).*

10.29 STERIS plc Management Incentive Compensation Plan, Effective April 1, 2016 (filed as Exhibit 10.31 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614) and incorporated herein by reference).*

10.30 STERIS plc Senior Executive Management Incentive Compensation Plan, Effective April 1, 2016 (filed as Appendix B to STERIS plc definitive proxy statement on Schedule 14A filed June 13, 2016 (Commission File No. 1-37614) and incorporated herein by reference).*

10.31 STERIS plc Management Incentive Compensation Plan (As Amended and Restated Effective April 1, 2018) (filed as Exhibit 10.2 to STERIS plc Form 8-K filed March 26, 2018 (Commission File No. 1-37614), and incorporated herein by reference).*

10.32 STERIS plc Management Incentive Compensation Plan (As Amended and Restated Effective March 28, 2019) (filed as Exhibit 10.2 to STERIS plc Form 8-K filed March 28, 2019 (Commission File No. 001-38848), and incorporated herein by reference).*

10.33 Form of Make-Whole Payment and Repayment Conditions Agreement Between Former STERIS Corporation Non-Employee Directors and STERIS Corporation (filed as Exhibit 10.32 to STERIS plc Form 10-K or the year ended March 31, 2016 (Commission File No. 1-37614) and incorporated herein by reference).*

10.34 Form of Make-Whole Payment and Repayment Conditions Agreement Between STERIS Corporation Executive Officers and STERIS Corporation (filed as Exhibit 10.33 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614) and incorporated herein by reference).*

10.35 STERIS plc Senior Executive Severance Plan, as Amended and Restated Effective January 25, 2017 (filed as Exhibit 10.3 to STERIS plc Form 8-K filed January 26, 2017 (Commission File No. 1-37614) and incorporated herein by reference).*

10.36 STERIS plc Senior Executive Severance Plan, As Adopted effective March 28, 2019 (filed as Exhibit 10.3 to STERIS plc 8-K filed March 28, 2019 (Commission File No. 001-38848), and incorporated herein by reference).*

10.37 Service Agreement between Dr. Adrian Coward and Synergy Health Limited as amended, and STERIS plc letter (filed as Exhibit 10.6 to STERIS plc Form 10-Q for the fiscal quarter ended December 31, 2015 (Commission File No. 1-37614), and incorporated herein by reference).*

10.38 Form of Indemnification Agreement between STERIS Corporation and each of its directors and certain executive officers (filed as Exhibit 10.31 to Form 10-K for the fiscal year ended March 31, 2010 (Commission File No. 1-14643), and incorporated herein by reference).

10.39 Form of Deed of Indemnity for STERIS plc Directors and executive officers (filed as Exhibit 10.5 to STERIS plc Form 10-Q for the fiscal quarter ended December 31, 2015 (Commission File No. 1-37614), and incorporated herein by reference).

10.40 Form of Deed of Indemnity for STERIS plc directors and executive officers (filed as Exhibit 10.4 to STERIS plc Form 8-K filed March 28, 2019 (Commission File No. 001-38848), and incorporated herein by reference).

10.41 Agreement dated as of April 23, 2008 by and among STERIS Corporation, Richard C. Breeden, Robert H. Fields, and the Breeden Investors identified therein (filed as Exhibit 10.1 to Form 8-K filed April 24, 2008 (Commission File No. 1-14643), and incorporated herein by reference).

10.42 Agreement dated November 4, 2011 between STERIS Corporation and Bank of America, N.A. providing Transfer and Advised Line for Letters of Credit (filed as Exhibit 10.2 to Form 10-Q for the fiscal quarter ended December 31, 2011 (Commission File No. 1-14643), and incorporated herein by reference).

10.43 Credit Agreement, dated as of March 23, 2018, by and among STERIS Corporation and STERIS plc, as borrowers, various U.S. and U.K. subsidiaries of STERIS plc, as guarantors, various financial institutions, as lenders and JPMorgan Chase Bank, N.A., as Administrative Agent (filed as Exhibit 10.1 to STERIS plc Form 8-K filed March 26, 2018 (Commission File No. 1-37614), and incorporated herein by reference).

10.44 First Amendment dated March 5, 2019 to the Credit Agreement, dated as of March 23, 2018, by and among STERIS Corporation and STERIS plc, as borrowers and guarantors, various U.S. and U.K. Subsidiaries of STERIS plc, as guarantors, various financial institutions, as lenders, and JPMorgan Chase Bank, N.A., as Administrative Agent (filed as Exhibit 10.1 to form 8-K filed March 5, 2019 (Commission File No. 001-14643), and incorporated herein by reference).

10.45 Borrower Joinder Agreement dated March 28, 2019 among STERIS plc and Synergy Health Limited and JPMorgan Chase Bank, N.A., as Administrative Agent.

10.46 Guarantor Joinder Agreement dated March 28, 2019 by STERIS plc and STERIS Emerald IE Limited in favor of JPMorgan Chase Bank, N.A., as Administrative Agent.

10.47 First Amendment, dated as of March 31, 2015, to Note Purchase Agreement dated as of August 15, 2008, among STERIS Corporation and each of the institutions party thereto (filed as Exhibit 10.5 to Form 8-K filed April 2, 2015 (Commission File No. 1-14643), and incorporated herein by reference).

10.48 Second Amendment dated as of March 5, 2019 to the Amended and Restated Note Purchase Agreement dated as of March 31, 2015, as amended by that certain First Amendment dated as of January 23, 2017, by and among STERIS Corporation and each of the purchasers listed in Schedule A thereto, filed as Exhibit 10.2 to Form 8-K filed March 5, 2019 (Commission File No. 001-37614), and incorporated herein by reference).

10.49 Affiliate Guaranty, dated as of March 31, 2015, by STERIS Corporation and each of American Sterilizer Company, Integrated Medical Systems International, Inc., STERIS Europe, Inc., STERIS Inc., United States Endoscopy Group, Inc., Isomedix Inc. and Isomedix Operations Inc., of the August 15, 2008 Note Purchase Agreements, as amended and restated, and Notes issued pursuant thereto (filed as Exhibit 10.6 to Form 8-K filed April 2, 2015 (Commission File No. 1-14643), and incorporated herein by reference).

10.50 Guaranty Supplement dated September 9, 2015 by General Econopak, Inc. and STERIS Corporation of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation August 15, 2008 Note Purchase Agreements as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.10 to STERIS plc Form 10-Q for the fiscal quarter ending December 31, 2015 (Commission File No. 1-37614), and incorporated herein by reference).

10.51 Guaranty Supplement dated November 2, 2015 by Solar New US Holding Co, LLC, Solar New US Parent Co, LLC and Solar New US Acquisition Co, LLC and STERIS Corporation of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation August 15, 2008 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.52 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614), and incorporated herein by reference).

10.52 Guaranty Supplement dated January 12, 2016 by Synergy Health Holdings Limited, Synergy Health Sterilisation UK Limited, Synergy Health (UK) Limited, Synergy Health Investments Limited and Synergy Health US Holdings Limited of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation August 15, 2008 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.53 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614), and incorporated herein by reference).

10.53 Guaranty Supplement dated August 8, 2017 by Synergy Health AST, LLC, Synergy Health US Holdings, Inc., and Synergy Health North America, Inc. of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation August 15, 2008 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.2 to STERIS plc Form 10-Q for the fiscal quarter ending September 30, 2017 (Commission File No. 1-37614), and incorporated herein by reference).

10.54 Guaranty Supplement dated March 28, 2019 by STERIS plc and STERIS Emerald IE Limited and STERIS Corporation of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation August 15, 2008 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto.

10.55 First Amendment, dated as of March 31, 2015, to Note Purchase Agreements dated as of December 4, 2012, among STERIS Corporation and each of the institutions party thereto (filed as Exhibit 10.7 to Form 8-K filed April 2, 2015 (Commission File No. 1-14643), and incorporated herein by reference).

10.56 Second Amendment dated as of March 5, 2019 to the Amended and Restated Note Purchase Agreement dated as of March 31, 2015, as amended by that certain First Amendment dated as of January 23, 2017, by and among STERIS Corporation and each of the purchasers listed in Schedule A thereto, filed as Exhibit 10.3 to Form 8-K filed March 5, 2019 (Commission File No. 1-37614), and incorporated herein by reference).

10.57 Affiliate Guaranty, dated as of March 31, 2015, by STERIS Corporation and each of American Sterilizer Company, Integrated Medical Systems International, Inc., STERIS Europe, Inc., STERIS Inc., United States Endoscopy Group, Inc., Isomedix Inc. and Isomedix Operations Inc., of the December 4, 2012 Note Purchase Agreements, as amended and restated, and Notes issued pursuant thereto (filed as Exhibit 10.8 to Form 8-K filed April 2, 2015 (Commission File No. 1-14643), and incorporated herein by reference).

10.58 Guaranty Supplement dated September 9, 2015 by General Econopak, Inc. and STERIS Corporation of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation December 4, 2012 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.11 to STERIS plc Form 10-Q for the fiscal quarter ended December 31, 2015 (Commission File No. 1-37614), and incorporated herein by reference).

10.59 Guaranty Supplement dated November 2, 2015 by Solar New US Holding Co, LLC, Solar New US Parent Co, LLC and Solar New US Acquisition Co, LLC and STERIS Corporation of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation December 4, 2012 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.57 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614), and incorporated herein by reference).

10.60 Guaranty Supplement dated January 12, 2016 by Synergy Health Holdings Limited, Synergy Health Sterilisation UK Limited, Synergy Health (UK) Limited, Synergy Health Investments Limited and Synergy Health US Holdings Limited of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation December 4, 2012 Note Purchase Agreements, as amended and restated and of the Notes issued pursuant thereto (filed as Exhibit 10.58 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614), and incorporated herein by reference).

10.61 Guaranty Supplement dated August 8, 2017 by Synergy Health AST, LLC, Synergy Health US Holdings, Inc., and Synergy Health North America, Inc. of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation December 4, 2012 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto (filed as Exhibit 10.3 to STERIS plc Form 10-Q for the fiscal quarter ending September 30, 2017 (Commission File No. 1-37614), and incorporated herein by reference).

10.62 Guaranty Supplement dated March 28, 2019 by STERIS plc and STERIS Emerald IE Limited and STERIS Corporation of Affiliate Guaranty dated as of March 31, 2015 of STERIS Corporation December 4, 2012 Note Purchase Agreements, as amended and restated, and of the Notes issued pursuant thereto.

10.63 Note Purchase Agreement dated as of May 15, 2015, among STERIS Corporation and each of the institutions party thereto (filed as Exhibit 10.1 to Form 8-K of STERIS Corporation filed May 18, 2015 (Commission File No. 1-14643), and incorporated herein by reference).

10.64 Second Amendment dated as of March 5, 2019 to the Note Purchase Agreement dated as of May 15, 2015, as amended by that certain First Amendment dated as of January 23, 2017, by and among STERIS Corporation and each of the purchasers listed in Schedule A thereto, filed as Exhibit 10.4 to Form 8-K filed March 5, 2019 (Commission File No. 1-37614), and incorporated herein by reference).

10.65 Affiliate Guaranty, dated as of May 15, 2015, by STERIS Corporation and each of American Sterilizer Company, Integrated Medical Systems International, Inc., STERIS Europe, Inc., STERIS Inc., United States Endoscopy Group, Inc., Isomedix Inc. and Isomedix Operations Inc., of STERIS Corporation May 15, 2015 Note Purchase Agreement and Notes issued pursuant thereto (filed as Exhibit 10.2 to Form 8-K of STERIS Corporation filed May 18, 2015 (Commission File No. 1-14643), and incorporated herein by reference).

10.66 Guaranty Supplement dated September 9, 2015 by General Econopak, Inc. and STERIS Corporation of Affiliate Guaranty dated as of May 15, 2015 of STERIS Corporation May 15, 2015 Note Purchase Agreement and of the Notes issued pursuant thereto (filed as Exhibit 10.12 to STERIS plc Form 10-Q for the fiscal quarter ended December 31, 2015 (Commission File No. 1-37614), and incorporated herein by reference).

10.67 Guaranty Supplement dated November 2, 2015 by Solar New US Holding Co, LLC, Solar New US Parent Co, LLC and Solar New US Acquisition Co, LLC and STERIS Corporation of Affiliate Guaranty dated as of May 15, 2015 of STERIS Corporation May 15, 2015 Note Purchase Agreement and of the Notes issued pursuant thereto (filed as Exhibit 10.62 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614), and incorporated herein by reference).

10.68 Guaranty Supplement dated January 12, 2016 by Synergy Health Holdings Limited, Synergy Health Sterilisation UK Limited, Synergy Health (UK) Limited, Synergy Health Investments Limited and Synergy Health US Holdings Limited of STERIS Corporation May 15, 2015 Note Purchase Agreement and of the Notes issued pursuant thereto (filed as Exhibit 10.63 to STERIS plc Form 10-K for the year ended March 31, 2016 (Commission File No. 1-37614), and incorporated herein by reference).

10.69 Guaranty Supplement dated August 8, 2017 by Synergy Health AST, LLC, Synergy Health US Holdings, Inc., and Synergy Health North America, Inc. of STERIS Corporation May 15, 2015 Note Purchase Agreement and of the Notes issued pursuant thereto (filed as Exhibit 10.4 to STERIS plc Form 10-Q for the fiscal quarter ending September 30, 2017 (Commission File No. 1-37614), and incorporated herein by reference).

10.70 Guaranty Supplement dated March 28, 2019 by STERIS plc and STERIS Emerald IE Limited and STERIS Corporation of Affiliate Guaranty dated as of May 15, 2015 of STERIS Corporation May 15, 2015 Note Purchase Agreement, as amended and restated, and of the Notes issued pursuant thereto.

10.71 Note Purchase Agreement dated as of January 23, 2017, among STERIS plc and each of the institutions party thereto (filed as Exhibit 10.1 to Form 8-K filed January 26, 2017 (Commission File No. 1-37614), and incorporated herein by reference).

10.72 First Amendment dated as of March 5, 2019 to the Note Purchase Agreement dated as of January 23, 2017, by and among STERIS plc and each of the purchasers listed in Schedule A thereto, filed as Exhibit 10.5 to Form 8-K filed March 5, 2019 (Commission File No. 1-37614), and incorporated herein by reference).

10.73 Affiliated Guaranty, dated as of January 23, 2017, by STERIS plc and each of the American Sterilizer Company, Integrated Medical Systems International, Inc., Isomedix Inc., Isomedix Operations Inc., Solar New US Holding Co, LLC, Solar New US Parent Co, LLC, Solar US Acquisition Co, LLC, STERIS Barrier Products Solutions, Inc., STERIS Corporation, STERIS Europe, Inc., STERIS Inc., Synergy Health Holdings Limited, Synergy Health Limited, Synergy Health Sterilisation UK Limited, Synergy Health (UK) Limited, Synergy Health Investments Limited, Synergy Health US Holdings Limited, and United States Endoscopy Group, Inc., of STERIS plc January 23, 2017 Note Purchase Agreement and Notes issued pursuant thereto (filed as Exhibit 10.2 to Form 8-K filed January 26, 2017 (Commission File No. 1-37614), and incorporated herein by reference).

10.74 Guaranty Supplement dated August 8, 2017 by Synergy Health AST, LLC, Synergy Health US Holdings, Inc. and Synergy Health North America, Inc., of Affiliate Guaranty dated as January 23, 2017 of STERIS plc January 23, 2017 Note Purchase Agreement, and of the Notes issued pursuant thereto (filed as Exhibit 10.5 to STERIS plc Form 10-Q for the fiscal quarter ending September 30, 2017 (Commission File No. 1-37614), and incorporated herein by reference).

10.75 Guaranty Supplement dated March 28, 2019 by STERIS plc and STERIS Emerald IE Limited and STERIS Limited of Affiliate Guaranty dated as of January 23, 2017 of STERIS plc January 23, 2017 Note Purchase Agreement, as amended and restated, and of the Notes issued pursuant thereto.

10.76 Stock Purchase Agreement dated July 16, 2012 by and among STERIS Corporation, United States Endoscopy Group, Inc. and the shareholders party thereto (filed as Exhibit 2.1 to Form 8-K filed August 15, 2012 (Commission File No. 1-14643), and incorporated herein by reference).

10.77	Stock Purchase Agreement dated March 31, 2014 by and among STERIS Corporation, Integrated Medical Systems International, Inc. and the shareholders party thereto (filed as Exhibit 2.1 to Form 8-K filed May 9, 2014 (Commission File No. 1-14643), and incorporated herein by reference).
10.78	Stock Purchase Agreement dated June 23, 2015 by and among STERIS Corporation, General Econopak, Inc. and each of the Stockholders of General Econopak, Inc. (filed as Exhibit 10.1 to STERIS Corporation Form 10-Q for the fiscal quarter ended June 30, 2015 (Commission File No. 1-14643), and incorporated herein by reference).
21.1	Subsidiaries of STERIS plc.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney
31.1	Certification of the Principal Executive Officer Pursuant to Exchange Act Rule 13a-14(a)/ 15d-14(a).
31.2	Certification of the Principal Financial Officer Pursuant to Exchange Act Rule 13a-14(a)/ 15d-14(a).
32.1	Certification of the Principal Executive Officer and the Principal Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
EX-101	Schema Document.
EX-101	Calculation Linkbase Document.
EX-101	Definition Linkbase Document.
EX-101	Labels Linkbase Document.
EX-101	Presentation Linkbase Document.
*	A management contract or compensatory plan or arrangement required to be filed as an exhibit hereto.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Sections 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the date indicated.

STERIS plc
(Registrant)

Date: May 30, 2019

By: /S/ KAREN L. BURTON
Karen L. Burton
Vice President, Controller, and Chief Accounting Officer

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

SIGNATURE	TITLE	DATE
/S/ WALTER M ROSEBROUGH, JR. Walter M Rosebrough, Jr.	President, Chief Executive Officer and Director	May 30, 2019
/S/ MICHAEL J. TOKICH Michael J. Tokich	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	May 30, 2019
/S/ KAREN L. BURTON Karen L. Burton	Vice President, Controller and Chief Accounting Officer	May 30, 2019
* Mohsen M. Sohi	Chairman and Director	May 30, 2019
* Richard C. Breeden	Director	May 30, 2019
* Cynthia L. Feldmann	Director	May 30, 2019
* David B. Lewis	Director	May 30, 2019
* Jacqueline B. Kosecoff	Director	May 30, 2019
* Sir Duncan K. Nichol	Director	May 30, 2019
* Nirav R. Shah	Director	May 30, 2019
* Richard M. Steeves	Director	May 30, 2019
* Loyal W. Wilson	Director	May 30, 2019
* Michael B. Wood	Director	May 30, 2019

* The undersigned, by signing his name hereto, does sign and execute this Annual Report on Form 10-K pursuant to the Powers of Attorney executed by the above-named directors of the Registrant and filed with the Securities and Exchange Commission on behalf of such directors.

Date: May 30, 2019

By: /S/ J. ADAM ZANGERLE
J. Adam Zangerle,
Attorney-in-Fact for Directors

EXHIBIT 21.1

SUBSIDIARIES OF STERIS PLC

STERIS plc has no parent company. As of March 31, 2019, its direct and indirect subsidiaries[(1)] were as follows:

Albert Browne Limited	England & Wales
American Sterilizer Company	Pennsylvania
Anecto Test Services DAC	Ireland
Bioster Mottahedoon Egypt SAE	Egypt
Bizworth Gammarad Sdn Bhd	Malaysia
Black Diamond Video, Inc.	California
CLBV Limited	England & Wales
Controlled Environment Certification Services, Inc.	Ohio
Dover UK I Limited	England & Wales
Dover UK II Limited	England & Wales
Dover UK III Limited	England & Wales
Eschmann Holdings Limited	England & Wales
Gammaster Sweden AB	Sweden
Genii, Inc.	Minnesota
Harwell Dosimeters Limited	England & Wales
Herotron E-Beam Service GmbH	Germany
Isomedix Inc.	Delaware
Isomedix Operations Inc.	Delaware
Isotron Limited	England & Wales
Medisafe America, L.L.C.	Florida
Medisafe Holdings Limited	England & Wales
Medisafe UK Limited	England & Wales
PeriOptimum, Inc.	Delaware
Phoenix Optics Limited	England & Wales
Phoenix Surgical Holdings Limited	England & Wales
ReNOVA Surgical Limited	England & Wales
SATYAtek S.A.	Switzerland
Sercon Indústria E Comércio De Aparelhos Médicos E Hospitalares Ltda.	Brazil
Shiloh Limited	England & Wales
Shiloh Properties Limited	England & Wales
Solar New US Holding Co, LLC	Delaware
Solar New US Parent Co, LLC	Delaware
Solar US Acquisition Co, LLC	Delaware
STE UK HoldCo Limited	England & Wales
STE UK Sub HoldCo Limited	England & Wales
Sterile Supplies Limited	England & Wales
STERIS AB	Sweden
STERIS Applied Sterilization Technologies ULC	Canada
STERIS Asia Pacific, Inc.	Delaware

STERIS AST CZ s.r.o.	Czech Republic
STERIS AST d.o.o.	Slovenia
STERIS AST SK s.r.o.	Slovakia
STERIS Barrier Products Solutions, Inc.	Pennsylvania
STERIS Brazil Holdings, LLC	Delaware
STERIS (BVI) I Limited	British Virgin Islands
STERIS Canada Sales ULC	Canada
STERIS Canada ULC	Canada
STERIS CH Limited	England & Wales
STERIS China Holdings Limited	Hong Kong
STERIS Corporation	Ohio
STERIS Corporation de Costa Rica, S.A.	Costa Rica
STERIS Deutschland GmbH	Germany
STERIS Dover AST Holdings Limited	England & Wales
STERIS Dover Canada Holdings Limited	England & Wales
STERIS Dover Limited	England & Wales
STERIS Emerald IE Limited	Ireland
STERIS Enterprises LLC	Russia
STERIS Europe, Inc.	Delaware
STERIS FinCo S.à r.l.	Luxembourg
STERIS FinCo II S.à r.l.	Luxembourg
STERIS GmbH	Switzerland
STERIS Holdings B.V.	Netherlands
STERIS Iberia, S.A.	Spain
STERIS IMS Canada Inc.	Canada
STERIS IMS Limited	England & Wales
STERIS Inc.	Delaware
STERIS (India) Private Limited	India
STERIS Instrument Management Services, Inc.	Delaware
STERIS Ireland Limited	Ireland
STERIS Irish FinCo Unlimited Company	Ireland
STERIS Irish FinCo II Unlimited Company	Ireland
STERIS Isomedix Puerto Rico, LLC	Puerto Rico
STERIS Japan Inc.	Japan
STERIS Laboratories, Inc.	Minnesota
STERIS Latin America, Inc.	Delaware
STERIS Luxembourg Finance S.à r.l.	Luxembourg
STERIS Luxembourg Holding S.à r.l.	Luxembourg
STERIS Mauritius Limited	Republic of Mauritius
STERIS Mexico, S. de R.L. de C.V.	Mexico
STERIS NV	Belgium
STERIS Personnel Services, Inc.	Delaware
STERIS Personnel Services Mexico, S. de R.L. de C.V.	Mexico

STERIS S.r.l.	Italy
STERIS SAS	France
STERIS SEA Sdn. Bhd.	Malaysia
STERIS (Shanghai) Trading Co., Ltd.	China
STERIS Singapore Pte Ltd	Singapore
STERIS Solutions Limited	England & Wales
STERIS Solutions Pte. Limited	Singapore
STERIS S.p.A.	Italy
STERIS UK Holding Limited	England & Wales
STERIS–Austar Pharmaceutical Systems Hong Kong Limited	Hong Kong
STERIS–Austar Pharmaceutical Systems (Shanghai) Limited	China
Strategic Technology Enterprises, Inc.	Delaware
Synergy Health Allershausen GmbH	Germany
Synergy Health Amsterdam B.V.	The Netherlands
Synergy Health AST, LLC	Delaware
Synergy Health AST S.r.l.	Costa Rica
Synergy Health Däniken AG	Switzerland
Synergy Health Ede B.V.	The Netherlands
Synergy Health France SAS	France
Synergy Health Holding B.V.	The Netherlands
Synergy Health Holdings Limited	England & Wales
Synergy Health Investments Limited	England & Wales
Synergy Health Ireland Limited	Ireland
Synergy Health Limited	England & Wales
Synergy Health Logistics B.V.	The Netherlands
Synergy Health Marseille SAS	France
Synergy Health Nederland B.V.	The Netherlands
Synergy Health Radeberg GmbH	Germany
Synergy Health Sterilisation UK Limited	England & Wales
Synergy Health (Suzhou) Limited	China
Synergy Health (Suzhou) Sterilization Technologies Limited	China
Synergy Health Systems Limited	England & Wales
Synergy Health (Thailand) Limited	Thailand
Synergy Health True North, LLC	New York
Synergy Health (UK) Limited	England & Wales
Synergy Health US Holdings, Inc.	Delaware
Synergy Health US Holdings Limited	England & Wales
Synergy Health Utrecht B.V.	The Netherlands
Synergy Health Westport Limited	Ireland
Synergy Sterilisation KL (M) Sdn Bhd	Malaysia
Synergy Sterilisation Kulim (M) Sdn Bhd	Malaysia
Synergy Sterilisation (M) Sdn Bhd	Malaysia
Synergy Sterilisation Rawang (M) Sdn Bhd	Malaysia

Synergy Sterilisation South Africa (Proprietary) Limited	South Africa
United States Endoscopy Group, Inc.	Ohio
Vernon and Co. Limited	England & Wales
Vernon Carus (Malta) Limited	Malta
Vernon-Carus Limited	England & Wales

(1) The names of one or more subsidiaries which, considered in the aggregate as a single subsidiary, would not constitute at the end of fiscal 2019 a "significant subsidiary" within the meaning of Rule 1-02(w) of Regulation S-X have been excluded.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

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

(1) Registration Statement (Form S-8, No. 333-230557) of STERIS plc pertaining to the STERIS Corporation 401(k) Plan, and

(2) Registration Statement (From S-8, No. 333-230558) of STERIS plc pertaining to the STERIS plc 2006 Long-Term Equity Incentive Plan (As Assumed, Amended and Restated Effective March 28, 2019);

of our reports dated May 30, 2019, with respect to the consolidated financial statements and schedule of STERIS plc and subsidiaries (STERIS) and the effectiveness of internal control over financial reporting of STERIS included in this Annual Report (Form 10-K) of STERIS for the year ended March 31, 2019.

/s/ Ernst & Young LLP

Cleveland, Ohio
May 30, 2019

Exhibit 24.1

STERIS PLC
POWER OF ATTORNEY
FORM 10-K

Each of the undersigned hereby makes, constitutes, and appoints Walter M Rosebrough, Jr., Michael J. Tokich, Karen L. Burton, J. Adam Zangerle, Ronald E. Snyder, Julia Kipnis, and each of them, his or her true and lawful attorney, with full power of substitution, for and in his or her name, place, and stead, to affix, as attorney-in-fact, his or her signature in any and all capacities, to the Annual Report on Form 10-K of STERIS plc for its fiscal year ended March 31, 2019, and any and all amendments thereto to be filed with the Securities and Exchange Commission, Washington, D.C., under the provisions of the Securities Exchange Act of 1934, as amended, with power to file said Form 10-K and such amendments, and any and all other documents that may be required in connection therewith, with the Securities and Exchange Commission, hereby granting unto said attorneys-in-fact, and each of them, full power and authority to do and perform any and all acts and things requisite or appropriate in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact or any of them may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned have executed this Power of Attorney as of the 29th day of May, 2019.

/s/ RICHARD C. BREEDEN
Richard C. Breeden, Director

/s/ CYNTHIA L. FELDMANN
Cynthia L. Feldmann, Director

/s/ JACQUELINE B. KOSECOFF
Jacqueline B. Kosecoff, Director

/s/ DAVID B. LEWIS
David B. Lewis, Director

/s/ SIR DUNCAN K. NICHOL
Sir Duncan K. Nichol, Director

/s/ NIRAV R. SHAH
Nirav R. Shah, Director

/s/ MOHSEN M. SOHI
Mohsen M. Sohi, Chairman of the Board

/s/ RICHARD M. STEEVES
Richard M. Steeves, Director

/s/ LOYAL W. WILSON
Loyal W. Wilson, Director

/s/ MICHAEL B. WOOD
Michael B. Wood, Director

/s/ WALTER M ROSEBROUGH, JR
Walter M Rosebrough, Jr.

President and Chief Executive Officer
(Principal Executive Officer), Director

/s/ MICHAEL J. TOKICH
Michael J. Tokich

Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

/s/ KAREN L. BURTON
Karen L. Burton

Vice President, Controller and Chief Accounting Officer
(Principal Accounting Officer)

Exhibit 31.1

CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER

I, Walter M Rosebrough, Jr., certify that:

1. I have reviewed this annual report on Form 10-K of STERIS plc;

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

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

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

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

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

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

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

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

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

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

Date: May 30, 2019

/s/ Walter M Rosebrough, Jr.

Walter M Rosebrough, Jr.
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER

I, Michael J. Tokich, certify that:

1. I have reviewed this annual report on Form 10-K of STERIS plc;

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

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

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

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

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

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

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

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

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

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

Date: May 30, 2019

/s/ Michael J. Tokich

Michael J. Tokich
Senior Vice President and Chief Financial Officer

Exhibit 32.1

Certification Pursuant to § 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, in connection with the filing of the Form 10-K of STERIS plc (the "Company") for the fiscal year ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies, that, to such officer's knowledge:

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

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

/s/ Walter M Rosebrough, Jr.

Name: **Walter M Rosebrough, Jr.**
Title: **President and Chief Executive Officer**

/s/ Michael J. Tokich

Name: **Michael J. Tokich**
Title: **Senior Vice President and Chief Financial Officer**

Dated: May 30, 2019

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This Page is Not Part of STERIS plc's Form 10-K Filing

(In thousands, except per share data)

Non-GAAP Financial Measures. Non-GAAP financial measures are presented with the intent of providing greater transparency to supplemental financial information used by management and the Board of Directors in their financial analysis and operational decision making. These amounts are disclosed so that the reader has the same financial data that management uses with the belief that it will assist investors and other readers in making comparisons to our historical operating results and analyzing the underlying performance of our operations for the periods presented.

Management and the Board of Directors believe that the presentation of these non-GAAP financial measures, when considered along with our GAAP financial measures and the reconciliation to the corresponding GAAP financial measures, provide the reader with a more complete understanding of the factors and trends affecting our business than could be obtained absent this disclosure. It is important for the reader to note that the non-GAAP financial measure used may be calculated differently from, and therefore may not be comparable to, a similarly titled measure used by other companies.

	Twelve months ended March 31, (unaudited)							
	As reported, GAAP		Impact of Acquisitions	Impact of Divestitures	Impact of Foreign Currency Movements	GAAP Growth	Organic Growth	Constant Currency Organic Growth
	2019	2018	2019	2018	2019	2019	2019	2019
Segment revenues:								
Healthcare Products	$ 1,338,428	$ 1,276,054	$ —	$ (25,907)	$ (4,690)	4.9%	7.1%	7.4%
Healthcare Specialty Services	510,057	469,065	—	—	(1,286)	8.7%	8.7%	9.0%
Life Sciences	378,558	361,590	—	—	(1,415)	4.7%	4.7%	5.1%
Applied Sterilization Technologies	555,127	513,287	—	—	(2,328)	8.2%	8.2%	8.6%
Total	$ 2,782,170	$ 2,619,996	$ —	$ (25,907)	$ (9,719)	6.2%	7.3%	7.6%

To measure the percentage organic revenue growth, the Company removes the impact of acquisitions and divestitures that affect the comparability and trends in revenue. To measure the percentage constant currency organic revenue growth, the impact of changes in currency exchange rates and acquisitions and divestitures that affect the comparability and trends in revenue are removed. The impact of changes in currency exchange rates is calculated by translating current year results at prior year average currency exchange rates.

	Twelve months ended March 31, (unaudited)							
	Gross Profit		Income from Operations		Net Income attributable to shareholders		Diluted EPS	
	2019	2018	2019	2018	2019	2018	2019	2018
GAAP	$ 1,175,427	$ 1,092,746	$ 411,465	$ 399,883	$ 304,051	$ 290,915	$ 3.56	$ 3.39
Adjustments:								
Amortization of inventory and property "step up" to fair value	2,604	2,619	2,440	1,599				
Amortization of acquired intangible assets	721	207	86,878	67,793				
Acquisition related transaction and integration charges	2,145	4,202	8,901	16,211				
(Gain) on fair value adjustment of acquisition related contingent consideration	—	—	(842)	(593)				
Net (gain) loss on divestiture of businesses	—	—	(1,370)	14,547				
Restructuring charges	9,721	—	40,708	103				
Redomiciliation costs	—	—	8,783	—				
Impact of the U.S. Tax Cuts and Jobs Act*	—	5,542	—	10,264	—	(13,597)		
Net impact of adjustments after tax**					113,497	78,309		
Net EPS impact							1.33	0.76
Adjusted	$ 1,190,618	$ 1,105,316	$ 556,963	$ 509,807	$ 417,548	$ 355,627	$ 4.89	$ 4.15

*Represents the re-measurement of U.S. deferred tax balances and the related taxation of unremitted earnings of non-U.S. subsidiaries along with a one-time special employee bonus paid to most U.S. employees.

** The tax expense includes both the current and deferred income tax impact of the adjustments.

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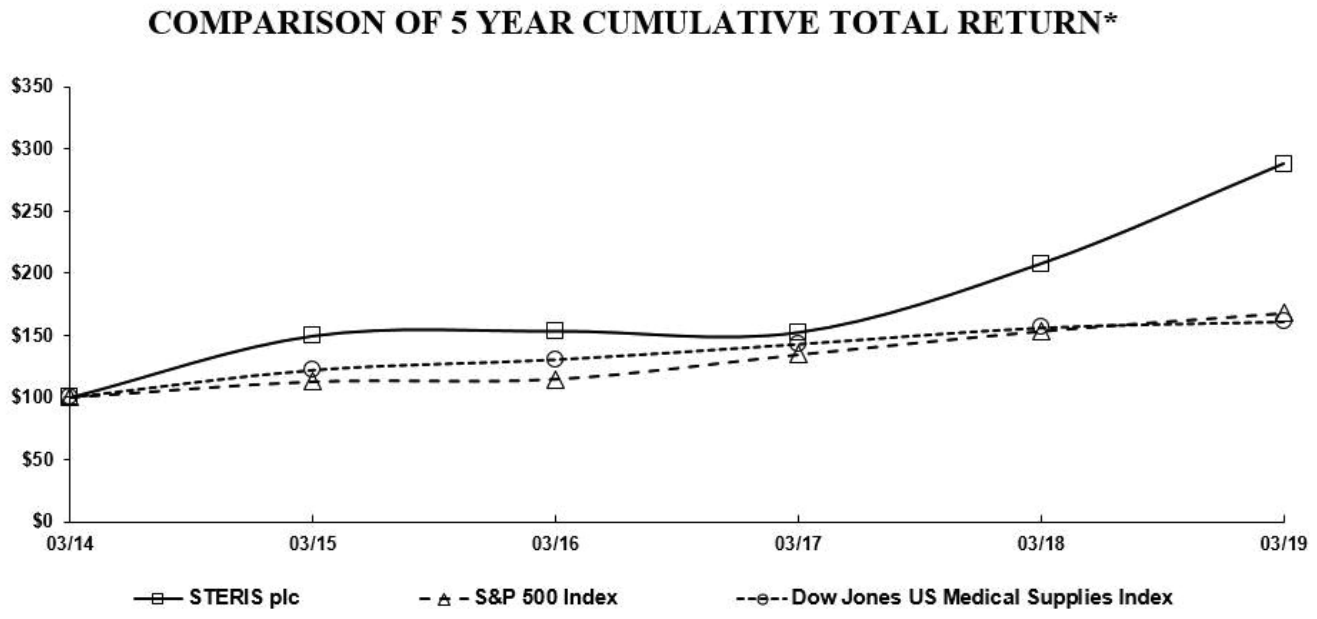
The following table presents a financial measure which is considered to be "non-GAAP financial measures" under Securities Exchange Commission rules. Free cash flow is defined by the Company as cash flows from operating activities less purchases of property, plant, equipment and intangibles (capital expenditures) plus proceeds from the sale of property, plant, equipment and intangibles. The Company uses free cash flow as a measure to gauge its ability to pay cash dividends, fund growth outside of core operations, fund future debt principal repayments, and repurchase shares.

	Twelve Months Ended March 31,	
	2019	2018
	(Unaudited)	Unaudited)
Calculation of Free Cash Flow:		
Cash flows from operating activities	$ 539,505	$ 457,632
Purchases of property, plant, equipment, and intangibles, net	(189,715)	(165,457)
Proceeds from the sale of property, plant, equipment, and intangibles	5,567	2,094
Free Cash Flow	$ 355,357	$ 294,269

Performance Graph. The following graph shows the cumulative performance for our ordinary shares over the last five years as of March 31 of each year compared with the performance of the Standard & Poor's 500 Index and the Dow Jones U.S. Medical Supplies Index as of the same date. The graph assumes $100 invested as of March 31, 2014 in our ordinary shares and in each of the named indices. The past performance shown in this graph does not necessarily guarantee future performance.



*$100 invested on 3/31/14 in stock or index, including reinvestment of dividends. Fiscal year ending March 31.

	3/14	3/15	3/16	3/17	3/18	3/19
STERIS plc	100.00	149.43	153.32	152.26	207.55	287.96
S&P 500 Index	100.00	112.73	114.74	134.45	153.26	167.81
Dow Jones US Medical Supplies Index	100.00	122.20	130.68	143.21	156.43	161.31

Corporate Information

BOARD OF DIRECTORS

Dr. Mohsen M. Sohi
Chairman of the Board,
STERIS plc
Chief Executive Officer,
Freudenberg and Co.

Richard C. Breeden [2,4]
Chairman and Chief Executive Officer,
Breeden Capital Management LLC;
Chairman, Richard C. Breeden & Co., LLC

Cynthia L. Feldmann [2,3]
Former President and Founder,
Jetty Lane Associates

Dr. Jacqueline B. Kosecoff [1,4]
Managing Partner,
Moriah Partners, LLC

David B. Lewis [2,4]
Of Counsel and Former Chairman,
Lewis & Munday

Sir Duncan Nichol [1,4]
Former Chairman of Synergy Health plc
Chairman, Countess of Chester NHS Trust, UK

Walter M Rosebrough, Jr. [3]
President and Chief Executive Officer,
STERIS plc

Dr. Nirav R. Shah [3]
Senior Scholar, Clinical Excellence
Research Center, Stanford University

Dr. Richard Steeves [3]
Former Chief Executive Officer
and Director of Synergy Health plc

Loyal W. Wilson [1,2]
Retired Founder and Senior Advisor,
Primus Capital Partners, Inc.

Dr. Michael B. Wood [1,3]
Consultant Orthopedic Surgeon,
Mayo Clinic, Jacksonville, FL and Professor of
Orthopedics, Mayo Clinic College of Medicine

[1] Compensation and Organization Development Committee Member

[2] Audit Committee Member

[3] Compliance Committee Member

[4] Nominating and Governance Committee Member

EXECUTIVE OFFICERS

Kathleen L. Bardwell
Senior Vice President and
Chief Compliance Officer

Karen L. Burton
Vice President, Controller
and Chief Accounting Officer

Daniel A. Carestio
Senior Vice President and
Chief Operating Officer

Dr. Adrian Coward
Senior Vice President,
Healthcare Specialty Services

Cary L. Majors
Vice President,
North America Commercial Operations

Michiel de Zwaan
Vice President and Chief
Human Resources Officer

Gulam A. Khan
Senior Vice President,
Procedural Solutions

Walter M Rosebrough, Jr.
President and Chief Executive Officer

Renato G. Tamaro
Vice President and Corporate Treasurer

Michael J. Tokich
Senior Vice President and
Chief Financial Officer

J. Adam Zangerle
Senior Vice President, General Counsel
and Secretary

REGISTERED OFFICE

STERIS plc
70 Sir John Rogerson's Quay
Dublin 2
Ireland

ANNUAL REPORT

Included in this Annual Report is a copy of STERIS's Form 10-K filed with the Securities and Exchange Commission for the year ended March 31, 2019. Additional copies of the Company's Form 10-K and other information are available at www.steris-ir.com or upon written request to:

Julie Winter
Senior Director, Investor Relations
STERIS
5960 Heisley Road
Mentor, OH 44060-1834 USA

TRANSFER AGENT AND REGISTRAR

Computershare
C/O: Shareholder Services
PO Box 505000
Louisville KY 40233-5000
Toll free: 866-395-6420
Toll: +1-781-575-2662
www.computershare.com/investor

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Ernst & Young LLP
Suite 1800
950 Main Avenue
Cleveland, OH 44113-7214

STOCK EXCHANGE LISTING

STERIS is listed on the New York Stock Exchange under the symbol STE.

ANNUAL MEETING OF SHAREHOLDERS

The Company's 2019 annual meeting will be held Tuesday, July 30, 2019.

Portions of this Annual Report, other than the Form 10-K, have not been filed with the SEC.

Product and service descriptions and financial information herein are for illustration purposes only and do not modify or alter product warranties, labeling, instructions, or other technical literature, or the financial information contained in the Form 10-K.

STERIS plc
70 Sir John Rogerson's Quay
Dublin 2
Ireland
www.steris.com
Registered in Ireland No. 98-1455064

Document #ANNRPT19.2019-05, Rev. A