

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, or
For the fiscal year ended December 31, 2018

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission File No. 1-11083

BOSTON SCIENTIFIC CORPORATION

(Exact name of registrant as specified in its charter)

DELAWARE

(State or other jurisdiction of incorporation or organization)

04-2695240

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

300 BOSTON SCIENTIFIC WAY, MARLBOROUGH, MASSACHUSETTS 01752-1234

(Address of principal executive offices) (zip code)

(508) 683-4000

(Registrant's telephone number, including area code)

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

COMMON STOCK, \$.01 PAR VALUE PER SHARE

(Title of each class)

NEW YORK STOCK EXCHANGE

(Name of exchange on which registered)

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

NONE

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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

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 Act). Yes: No

The aggregate market value of the registrant's common stock held by non-affiliates was approximately \$ 45.0 billion based on the last reported sale price of \$32.70 of the registrant's common stock on the New York Stock Exchange on June 29, 2018, the last business day of the registrant's most recently completed second fiscal quarter. (For this computation, the registrant has excluded the market value of all shares of common stock of the registrant reported as beneficially owned by executive officers, and directors of the registrant; such exclusion shall not be deemed to constitute an admission that any such person is an affiliate of the registrant.)

The number of shares outstanding of the registrant's common stock as of January 31, 2019 was 1,385,961,926.

Documents Incorporated by Reference

Portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission in connection with its 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

TABLE OF CONTENTS

<u>PART I</u>		<u>3</u>
<u>ITEM 1.</u>	<u>BUSINESS</u>	<u>3</u>
<u>ITEM 1A.</u>	<u>RISK FACTORS</u>	<u>19</u>
<u>ITEM 1B.</u>	<u>UNRESOLVED STAFF COMMENTS</u>	<u>31</u>
<u>ITEM 2.</u>	<u>PROPERTIES</u>	<u>31</u>
<u>ITEM 3.</u>	<u>LEGAL PROCEEDINGS</u>	<u>31</u>
<u>ITEM 4.</u>	<u>MINE SAFETY DISCLOSURES</u>	<u>31</u>
<u>PART II</u>		<u>32</u>
<u>ITEM 5.</u>	<u>MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES</u>	<u>32</u>
<u>ITEM 6.</u>	<u>SELECTED FINANCIAL DATA</u>	<u>34</u>
<u>ITEM 7.</u>	<u>MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	<u>35</u>
<u>ITEM 7A.</u>	<u>QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	<u>57</u>
<u>ITEM 8.</u>	<u>FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u>	<u>59</u>
<u>ITEM 9.</u>	<u>CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u>	<u>117</u>
<u>ITEM 9A.</u>	<u>CONTROLS AND PROCEDURES</u>	<u>117</u>
<u>ITEM 9B.</u>	<u>OTHER INFORMATION</u>	<u>117</u>
<u>PART III</u>		<u>118</u>
<u>ITEM 10.</u>	<u>DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE</u>	<u>118</u>
<u>ITEM 11.</u>	<u>EXECUTIVE COMPENSATION</u>	<u>118</u>
<u>ITEM 12.</u>	<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u>	<u>118</u>
<u>ITEM 13.</u>	<u>CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE</u>	<u>118</u>
<u>ITEM 14.</u>	<u>PRINCIPAL ACCOUNTANT FEES AND SERVICES</u>	<u>118</u>
<u>PART IV</u>		<u>119</u>
<u>ITEM 15.</u>	<u>EXHIBITS AND FINANCIAL STATEMENT SCHEDULES</u>	<u>119</u>
<u>SIGNATURES</u>		<u>129</u>

PART I

ITEM 1. BUSINESS

Our Company

Boston Scientific Corporation is a global developer, manufacturer and marketer of medical devices that are used in a broad range of interventional medical specialties. Our mission is to transform lives through innovative medical solutions that improve the health of patients around the world. As a medical technology leader for nearly 40 years, we advance science for life by providing a broad range of high performance solutions to address unmet patient needs and reduce the cost of healthcare. When used in this report, the terms "we," "us," "our" and "the Company" mean Boston Scientific Corporation and its divisions and subsidiaries.

Our history began in the late 1960s when our co-founder, John Abele, acquired an equity interest in Medi-tech, Inc., a research and development company focused on developing alternatives to surgery. In 1969, Medi-tech introduced a family of steerable catheters used in some of the world's first less-invasive procedures. In 1979, John Abele joined with Pete Nicholas to form Boston Scientific Corporation, which indirectly acquired Medi-tech. This acquisition began a period of active and focused new product development, innovation, market development and organizational growth. Since then, we have advanced the practice of less-invasive medicine by helping physicians and other medical professionals diagnose and treat a wide range of diseases and medical conditions and improve patients' quality of life by providing alternatives to surgery and other medical procedures that are typically traumatic to the body.

Our net sales have increased substantially since our formation. Our growth has been fueled in part by strategic acquisitions designed to improve our ability to take advantage of growth opportunities in the medical device industry and to build depth of portfolio within our core businesses. These strategic acquisitions have helped us to add promising new technologies to our pipeline and to offer one of the broadest product portfolios in the world for use in less-invasive procedures in our core areas of Medical Surgical (MedSurg), Rhythm and Neuro, and Cardiovascular. We believe that the depth and breadth of our product portfolio has also enabled us to compete more effectively in the current healthcare environment that seeks to improve outcomes and lower costs. Our strategy of category leadership also enables us to compete in a changing, contracting landscape and position our products with physicians, managed care, large buying groups, governments and hospitals, while also expanding internationally and managing the complexities of the global healthcare market.

Business Strategy

We operate pursuant to five strategic imperatives: Strengthen Category Leadership, Expand into High Growth Adjacencies, Drive Global Expansion, Fund the Journey to Fuel Growth and Develop Key Capabilities. We believe that our execution of these strategic imperatives will drive innovation, accelerate profitable revenue growth and increase stockholder value while strengthening our leadership position in the medical device industry.

We expect to continue to invest in our core franchises and pursue opportunities to diversify and further expand our presence in strategic growth adjacencies and new global markets. Our approach to innovation combines internally-developed products and technologies with those we may obtain externally through strategic acquisitions, alliances and other investments. Our research and development efforts are focused largely on the development of next-generation and novel technology offerings across multiple programs and divisions. In the past several years, we have completed numerous acquisitions in support of our growth strategy, both strengthening our core franchises and expanding into high growth adjacent markets.

Our Enterprise Risk Management program analyzes the key risks inherent to achieving our strategic and organizational imperatives. Such risk assessment helps us to anticipate and adapt to potential challenges to preserve and grow shareholder value. Our Board of Directors oversees our risk management program and focuses on the most significant risks facing the Company, including strategic, operational, financial, legal and compliance risks.

Products

In 2018, our products were offered for sale by seven core businesses: Interventional Cardiology, Cardiac Rhythm Management, Endoscopy, Urology and Pelvic Health, Peripheral Interventions, Neuromodulation and Electrophysiology. In 2018, our revenue was comprised of 26 percent from our Interventional Cardiology business, 20 percent from our Cardiac Rhythm Management business, 18 percent from our Endoscopy business, 13 percent from our Urology and Pelvic Health business, 12 percent from our Peripheral Interventions business, eight percent from our Neuromodulation business and three percent from our Electrophysiology business.

Our seven core businesses are organized into three reportable segments: MedSurg, Rhythm and Neuro, and Cardiovascular. Effective January 1, 2018, following organizational changes to align the structure of our business with our focus on active implantable devices, we revised our reportable segments, in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 280, *Segment Reporting*. The revision reflects a reclassification of our Neuromodulation business from our Medical Surgical (MedSurg) segment to our newly created Rhythm and Neuro segment. We have revised prior year amounts to conform to the current year's presentation (as denoted with an asterisk (*) throughout). There was no revision to operating segments or reporting units as a result of the organizational change.

The following describes our principal product offerings by reportable segment.

MedSurg

Endoscopy

Gastroenterology and Pulmonary

Our Endoscopy business develops and manufactures devices to diagnose and treat a broad range of gastrointestinal (GI) and pulmonary conditions with innovative, less invasive technologies. Our product offerings include:

- our SpyGlass™ DS System, which brings digital imaging, a wider field of view and a simpler set-up (compared to our legacy SpyGlass System), thus enabling cholangioscopy to play a greater role in the diagnosis and treatment of pancreatico-biliary diseases,
- our Resolution 360™ Clip, a hemostatic clipping technology designed to stop and help prevent bleeding during endoscopic procedures,
- our Epic™ Biliary Endoscopic Stent System, indicated for the palliation of malignant strictures, is our first laser cut self-expanding metal stent and complements our braided metal stent portfolio,
- our Acquire™ Endoscopic Ultrasound Fine Needle Biopsy Device, which is designed to obtain larger tissue specimens for histological assessment and is useful when diagnosing diseases such as pancreatic cancer, liver cancer and stomach lesions,
- our AXIOS™ Stent and Electrocautery Enhanced Delivery System, the first, and currently only, stent in the U.S. indicated for endoscopic drainage of pancreatic pseudocysts,
- our infection prevention portfolio, which includes a customizable Compliance EndoKit™ and single-use Orca™ Valves, designed to minimize the risk of infection transmission and improve operational efficiencies by streamlining manual cleaning or eliminating the need for cleaning and tracking, and
- our endoluminal surgery portfolio with ORISE™ Tissue Retractor System, designed to enable tissue retraction and countertraction during en bloc colonic tissue resection procedures and ORISE™ Gel, designed to be used for submucosal lift of polyps, adenomas, early-stage cancers or other gastrointestinal mucosal lesions prior to excision with a snare or other endoscopic device.

Urology and Pelvic Health

Our Urology and Pelvic Health business develops and manufactures devices to treat various urological and pelvic conditions for both male and female anatomies , including kidney stones, benign prostatic hyperplasia (BPH), prostate cancer, erectile dysfunction, male incontinence, pelvic floor disorders, abnormal uterine bleeding and uterine fibroids and polyps. Our product offerings include:

- a full line of stone management products, including ureteral stents, catheters, baskets, guidewires, sheaths and balloons and stone laser devices,
- our LithoVue™ Single-Use Digital Flexible Ureteroscope, which delivers detailed high-resolution digital images for high-quality visualization and seamless navigation,
- penile implants to treat erectile dysfunction and urinary control systems to treat male urinary incontinence, under our Men's Health portfolio,
- our GreenLight XPS™ Laser System, our MoXy™ Fiber and our newly acquired Rezūm™ System, purchased as part of the NxThera, Inc. (NxThera) acquisition in the second quarter of 2018, under our BPH therapies,
- a range of devices for the treatment of Women's Health conditions such as stress urinary incontinence, pelvic organ prolapse, heavy menstrual bleeding (menorrhagia) and uterine fibroids and polyps and
- our SpaceOAR™ Hydrogel System, purchased as part of the Augmenix, Inc. (Augmenix) transaction in the fourth quarter of 2018, to help reduce side effects that men may experience after receiving radiotherapy to treat prostate cancer.

Rhythm and Neuro

Cardiac Rhythm Management

Our Cardiac Rhythm Management (CRM) business develops and manufactures a variety of implantable devices that monitor the heart and deliver electricity to treat cardiac abnormalities. Our product offerings include:

- our implantable cardioverter defibrillators (ICD) and implantable cardiac resynchronization therapy defibrillators (CRT-D) as well as the world's first, and currently only, commercially available subcutaneous implantable cardiac defibrillators (S-ICD),
- our pacemakers and implantable cardiac resynchronization therapy pacemakers (CRT-P) and
- our LATITUDE™ Remote Patient Management System, which allows for more frequent monitoring and better guided treatment decisions by enabling physicians in most geographies to monitor implantable system performance remotely.

Our entire transvenous defibrillator portfolio leverages our EnduraLife™ Battery Technology, including our extended longevity (EL) ICD, our CRT-D's and our MINI (smallest and thinnest) ICD.

Our most current generation of defibrillators, the RESONATE™ family of devices, is available in most major markets around the world. These devices include our proprietary HeartLogic™ Heart Failure (HF) Diagnostic, EnduraLife Battery Technology and SmartCRT™ with Multisite pacing in CRT-D. Magnetic resonance imaging (MRI) conditional labeling, which was approved by the U.S. Food and Drug Administration (FDA) in September 2017 and launched in the fourth quarter of 2017, covers our current generation RESONATE family of devices, as well as our prior generation of DYNAGEN™ and INOGEN™ devices. We have MRI conditional labeling across our defibrillator portfolio in most major markets around the world, when used with our current generation of leads. Our implantable defibrillator portfolio is complemented by our suite of ACUITY™ X4 Quadripolar LV Leads, RELIANCE™ family of ICD Leads and INGEVITY™ Pacing Lead.

In addition to our transvenous defibrillator portfolio, we offer our EMBLEM™ MRI S-ICD System, which provides physicians the ability to treat patients who are at risk for sudden cardiac arrest without touching the heart or invading the vasculature. Our EMBLEM S-ICD devices have MRI conditional labeling and LATITUDE Remote Patient Management in most major markets.

We market our ACCOLADE™ family of pacemaker systems in nearly all major markets around the world. Approval of our ACCOLADE Pacemaker family in the U.S., Europe and Japan also included approval for use of these products in patients undergoing MRI scans. We received FDA approval of our ACCOLADE™ MRI-Compatible Pacemaker and MRI-compatible INGEVITY™ Pacing Lead in April 2016. Much like our defibrillator portfolio, our pacemakers leverage our INGEVITY Pacing Leads and LATITUDE™ Remote Patient Management in nearly all major markets.

Electrophysiology

Our Electrophysiology business develops and manufactures less-invasive medical technologies used in the diagnosis and treatment of rate and rhythm disorders of the heart, including a broad portfolio of therapeutic and diagnostic catheters and a variety of equipment used in the Electrophysiology lab. Our product offerings include:

- our Rhythmia™ Mapping System, a next-generation, catheter-based, 3-D cardiac mapping and navigation solution designed to help diagnose and guide treatment of a variety of arrhythmias,
- our Blazer™ Therapeutic Ablation Catheter line,
- a broad portfolio of diagnostic catheters including Blazer™ Dx-20, Dynamic Tip™ and Viking™ Catheters,
- intracardiac ultrasound catheters, delivery sheaths and other accessories and
- a full offering of capital equipment used in Electrophysiology labs, such as recording systems, generators and pumps.

Our cooled ablation catheter portfolio includes our U.S. and CE Mark approved Blazer™ Open-Irrigated, IntellaNav™ Open-Irrigated, and IntellaNav MiFi™ Open-Irrigated ablation catheters with a unique Total Tip Cooling™ Design. We also offer our IntellaNav™ XP and IntellaNav™ MiFi XP solid tip catheters. Our IntellaTip™ MiFi XP, IntellaNav™ MiFi XP and IntellaNav™ MiFi Open-Irrigated Catheters include MicroFidelity (MiFi) sensor technology in the catheter tip. All of our IntellaNav Catheters are designed to allow magnetic tracking when used with our Rhythmia Mapping System.

Our capital equipment offerings include our Rhythmia Mapping System, LabSystem™ PRO Recording System, Maestro™ RF Generators and the MetriQ™ Pump. In 2015, the Rhythmia Mapping System and IntellaMap Orion™ Mapping Catheter began full global commercialization, bringing to market a next-generation system capable of high-density high-resolution mapping. We are now in full global commercialization of our next generation Rhythmia HDx™ Mapping System.

Neuromodulation

Our Neuromodulation business develops and manufactures devices to treat various neurological movement disorders and manage chronic pain. Our product offerings include:

- our Precision™, Precision Spectra™, Precision Montage™, Precision Novi™ and Spectra WaveWriter™ Spinal Cord Stimulator (SCS) Systems, designed to provide improved pain relief to a wide range of patients who suffer from chronic pain and
- our Vercise™, Vercise™ PC and Vercise Gevia™ Deep Brain Stimulation (DBS) Systems for the treatment of Parkinson's disease, tremor, and intractable primary and secondary dystonia, a neurological movement disorder characterized by involuntary muscle contractions.

The Precision Spectra SCS System is the world's first and only SCS system with 32 contacts and 32 dedicated power sources. We believe that we continue to have a technological advantage due to our proprietary features such as Multiple Independent Current Control and our Illumina 3D™ Proprietary Programming Software, which together are intended to allow the physician to target specific areas of pain and customize stimulation of nerve fibers more precisely. In 2015, we launched the Precision Novi SCS System in Europe and then in the U.S., offering the smallest 16-contact high capacity primary cell (PC) device, also referred to as non-rechargeable. In 2016, we launched the Precision Montage SCS System in Europe and the U.S. offering a 16-contact rechargeable system with Illumina 3D programming and full body MRI labeling when conditions of use are met. In January 2018, we announced FDA approval for the Spectra WaveWriter SCS System, the first and only system approved by the FDA to simultaneously provide paresthesia-based and sub-perception therapy.

In 2018, we began commercializing our Vercise™ DBS System in the U.S. following FDA approval in late 2017. The Vercise DBS System is approved in the U.S. as an adjunctive therapy that aids in reducing some of the symptoms of moderate to advanced Parkinson's disease. We also have regulatory approval for our Vercise DBS System in various international regions including Europe, Latin America and Asia Pacific. Our Vercise Gevia™ DBS System with the Cartesia™ Directional Lead is the first and only MRI conditional, rechargeable and directional system, using multi-directional stimulation designed for greater precision, intended to minimize side effects for patients. The Cartesia Directional Lead continues to expand our market access in Europe, Japan and various countries in Latin America. In January 2019, Vercise Gevia DBS System with the Cartesia Directional Lead was approved by the FDA. In the third quarter of 2018, we received CE mark approval in Europe for GUIDE™ XT System, the first DBS visualization system built for directionality that utilizes patient specific anatomy and stimulation field modeling. This technology provides physicians with 3-D image planning capability and when used in conjunction with the Vercise DBS Systems, enables physicians to personalize and optimize DBS treatment.

Cardiovascular

Interventional Cardiology

Our Interventional Cardiology business develops and manufactures technologies for diagnosing and treating coronary artery disease and other cardiovascular disorders including structural heart conditions. Our broad, innovative product offerings have led to our leadership in the global interventional cardiology market.

Drug-Eluting Coronary Stent Systems

Our drug-eluting coronary stent product offerings are an important element of our global Interventional Cardiology market leadership. We believe we have enhanced the outcomes associated with the use of coronary stents, particularly the processes that lead to restenosis (the growth of neointimal tissue within an artery after angioplasty and stenting), through our scientific research and product development of drug-eluting stent systems. Our coronary stent offerings include:

- our SYNERGY™ Everolimus-Eluting Platinum Chromium Coronary Stent System, featuring an ultra-thin abluminal (outer) bioabsorbable polymer coating,
- our Promus ELITE™ Everolimus-Eluting Stent and
- our Promus PREMIER™ and Promus™ Element™ Everolimus-Eluting family of Stents.

Complex PCI Therapies

Our product offerings to perform complex percutaneous coronary interventions (PCI) include a broad line of products used to treat patients with atherosclerosis, a principal cause of coronary artery obstructive disease. These include balloon catheters,

rotational atherectomy systems, guide wires, guide catheters, embolic protection devices, crossing and re-entry devices for the treatment of chronically occluded coronary vessels and diagnostic catheters used in percutaneous transluminal coronary angioplasty (PTCA) procedures.

PCI Guidance

Our PCI Guidance offerings include a family of intravascular catheter-directed ultrasound imaging catheters, complemented by our intravascular ultrasound (IVUS) imaging system and our fractional flow reserve (FFR) devices and systems for use in coronary arteries and heart chambers as well as certain peripheral vessels to assist in the diagnosis of coronary artery disease. Our PCI Guidance product offerings include:

- our OptiCross™ IVUS Imaging catheter,
- our COMET™ FFR Pressure Guidewire and
- our iLab™ Ultrasound Imaging System with Polaris Software, designed to enhance the diagnosis and treatment of blocked vessels and other heart disorders, which is compatible with our full line of imaging catheters and FFR devices and continues to be our flagship console.

The iLab Ultrasound Imaging System has been placed in cardiology labs worldwide and provides an installed base through which we expect to continue to sell associated single-use products.

Structural Heart Therapies

Structural heart therapy is one of the fastest growing areas of the medical technology market and is highly synergistic with our Interventional Cardiology and Rhythm Management businesses. Our current structural heart product offerings include:

- our WATCHMAN™ Left Atrial Appendage Closure (LAAC) Technology (WATCHMAN), designed to close the left atrial appendage in patients with non-valvular atrial fibrillation who are at risk for ischemic stroke,
- our ACURATE TA™, ACURATE neo™, ACURATE neo2™ and ACURATE TF™ Aortic Valve Systems, which are based on a self-expanding architecture and
- our Sentinel™ Cerebral Embolic Protection System, purchased as part of our acquisition of Claret Medical, Inc. (Claret) in the third quarter of 2018.

WATCHMAN is the first device to offer a non-pharmacologic alternative to warfarin that has been studied in a randomized clinical trial and is marketed globally. The WATCHMAN device has been commercially available internationally since 2009, received FDA approval in 2015 and is the leading device in percutaneous LAAC globally. We believe that the WATCHMAN device will be the only LAAC technology commercially available in the U.S. for multiple years.

In addition, the Lotus EDGE™ Valve System is a TAVR product based on a mechanically-expanded architecture. It is an investigational device within our structural heart portfolio and is not currently commercially available. We submitted the Premarket Approval (PMA) application for the Lotus EDGE Aortic Valve System in the second half of 2018 which included the filing of the final technical module. Our goal is to return the Lotus EDGE Valve System to market in 2019.

Peripheral Interventions

Our Peripheral Interventions business develops and manufactures products to diagnose and treat peripheral arterial diseases, including a broad line of medical devices used in percutaneous transluminal angioplasty (PTA) and peripheral vascular diseases, as well as products to diagnose, treat and ease various forms of cancer. Our broad peripheral product offerings include products to treat arterial diseases (stents, balloon catheters, wires and atherectomy) and venous diseases (thrombectomy, wires and stents) and employ interventional oncology techniques to treat various cancers (peripheral embolization devices, microcatheters and drainage catheters).

Our peripheral angioplasty balloon technologies include:

- our Mustang™ PTA next-generation Balloon Catheter, a 0.035" balloon with superior crossing and tracking, powerful dilatation, longer lengths and smaller sheath sizes,
- our Coyote™ Balloon Catheter, a highly deliverable and ultra-low profile balloon dilatation catheter designed for a wide range of peripheral angioplasty procedures and
- our Sterling™ Balloon Catheter, a 0.018" PTA balloon catheter designed for post-stent dilatation as well as conventional balloon angioplasty to open blocked peripheral arteries.

Our peripheral stent technologies include:

- our EPIC™ Vascular Self-Expanding Stent System, a nitinol stent designed to sustain vessel patency while providing enhanced visibility and accuracy during placement,
- our Innova™ Self-Expanding Stent System, a laser-cut nitinol stent built for the superficial femoral artery (SFA, a large artery in the thigh) with flexibility, strength and fracture resistance and
- our Eluvia™ Drug Eluting Vascular Stent System, an innovative stent built on the Innova stent platform, designed to deliver a sustained dosage of paclitaxel during the time when restenosis is most likely to occur.

We received FDA approval for the Eluvia Drug-Eluting Vascular Stent System in the third quarter of 2018 and previously received a CE Mark approval in February 2016.

Our venous disease technologies include:

- our AngioJet™ Thrombectomy System, used in endovascular procedures to remove blood clots from blocked arteries and veins,
- our AngioJet Zelante DVT™ Thrombectomy Catheter to treat deep vein thrombosis (DVT) in large-diameter upper and lower limb peripheral veins, in the U.S. and Europe and
- our VICI VENOUS STENT™ System to treat venous obstructive disease, which was purchased as part of the VENITI, Inc. acquisition in the third quarter of 2018.

We also offer products designed to treat patients with non-vascular disease, primarily in interventional oncology. Our product offerings in this area include:

- our Direxion™ Torqueable Microcatheter and
- our line of interventional oncology product solutions, including the Renegade™ HI-FLO™ Fathom™ Microcatheter and Guidewire System and Interlock™ - 35 Fibered IDC™ and 18 Fibered IDC™ Occlusion System for peripheral embolization.

Proposed BTG Acquisition

On November 20, 2018, our board of directors and the board of directors of our wholly owned indirect subsidiary, Bravo Bidco Limited (Bidco), and BTG plc (BTG), a public company organized under the laws of England and Wales, issued an announcement (the Rule 2.7 Announcement) under Rule 2.7 of the United Kingdom City Code on Takeovers and Mergers, disclosing the terms of a recommended cash offer to be made by Bidco for the entire issued and to be issued ordinary share capital of BTG (the proposed BTG Acquisition). On January 24, 2019, Bidco made such offer on the terms and subject to the conditions of the scheme document published on the same date. In connection with the proposed BTG Acquisition, (i) we entered into a co-operation agreement with Bidco and BTG, (ii) certain shareholders and each BTG director owning shares of BTG delivered deeds of irrevocable undertakings to Bidco and (iii) we entered into a bridge credit agreement (the Bridge Facility). Refer to *Note E – Borrowings and Credit Arrangements* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for further details of the Bridge Facility. On February 14, 2019, each of the Company and BTG received a request for additional information and documentary material from the United States Federal Trade Commission in connection with the proposed BTG Acquisition.

Under the terms of the proposed BTG Acquisition, BTG shareholders will receive 840 pence in cash for each BTG share, which values BTG's existing issued and to be issued ordinary share capital at approximately £3.311 billion (or approximately \$4.225 billion based on the exchange rate of U.S. \$1.28 : £1.00 on December 31, 2018). We intend to implement the proposed BTG Acquisition by way of a court-sanctioned scheme of arrangement (Scheme) under Part 26 of the United Kingdom Companies Act 2006, as amended (the Companies Act).

BTG develops and commercializes products used in minimally-invasive procedures targeting cancer and vascular diseases, as well as acute care pharmaceuticals.

The proposed BTG Acquisition will be subject to conditions and certain further terms, including (i) the approval of the Scheme by a majority in number of BTG shareholders also representing not less than 75 percent in value of the BTG shares, in each case, present, entitled to vote and voting, (ii) the sanction of the Scheme by the High Court of Justice in England and Wales, (iii) the Scheme becoming effective no later than August 20, 2019 and (iv) the receipt of regulatory approvals. The conditions to the proposed BTG Acquisition are set out in full in the Rule 2.7 Announcement. Subject to the satisfaction or waiver of all relevant

conditions, we expect the proposed BTG Acquisition to be effective in the first half of 2019. Refer to *Note B – Acquisitions and Strategic Investments* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional details related to the proposed BTG Acquisition.

Research and Development

Our investment in research and development is critical to driving our future growth. Our investment in research and development supports the following:

- internal research and development programs, regulatory design and clinical science, as well as other programs obtained through our strategic acquisitions and alliances and
- engineering efforts that incorporate customer feedback into continuous improvement efforts for currently marketed and next-generation products.

We have directed our development efforts toward innovative technologies designed to expand current markets or enter adjacent markets. We are transforming how we conduct research and development and are scrutinizing our cost structure, which we believe will enable increased development activity and faster concept-to-market timelines.

Focused, cross-functional teams take a formal approach to new product design and development, helping us to manufacture and offer innovative products consistently and efficiently. Involving cross-functional teams early in the process is the cornerstone of our product development cycle. We believe this collaboration allows our teams to concentrate resources on the most viable and clinically relevant new products and technologies and maximize cost and time savings as we bring them to market.

In addition to internal development, we work with hundreds of leading research institutions, universities and clinicians around the world to develop, evaluate and clinically test our products. We are expanding our collaborations to include research and development teams in emerging markets; these teams will focus on both global and local market requirements at a lower cost of development. We believe that these efforts will play a significant role in our future success.

Marketing and Sales

In 2018, we marketed our products and solutions to approximately 35,000 hospitals, clinics, outpatient facilities and medical offices in the U.S. and in approximately 130 countries worldwide. The majority of our net sales are derived from countries in which we have direct sales organizations. We also have a network of distributors and dealers who offer our products in certain countries and markets. We expect to continue to leverage our infrastructure in markets where commercially appropriate and use third party distributors in those markets where it is not economical or strategic to establish or maintain a direct presence.

No single institution accounted for more than ten percent of our net sales in 2018, 2017 or 2016; however, large group purchasing organizations, hospital networks and other buying groups have become increasingly important to our business and represent a substantial portion of our net sales. We have a dedicated corporate accounts organization in the U.S. and Europe focused principally on selling to major buying groups and integrated healthcare networks. We consistently strive to understand and exceed the expectations of our customers. Each of our businesses maintains dedicated sales forces and marketing teams focused on physicians who specialize in the diagnosis and treatment of different medical conditions, as well as on key hospital service line administrators. We believe that this dual focus on disease state management and hospital administrators enables us to develop highly knowledgeable and dedicated sales representatives and to foster collaborative relationships with both physicians and key service line administrators. We believe that our positive working relationships with physicians, service line administrators and others in the medical industry enable us to gain a detailed understanding of new therapeutic and diagnostic alternatives and to respond quickly to our customers' changing needs.

International Operations

International net sales accounted for 44 percent of our net sales in 2018 and 43 percent of our net sales in both 2017 and 2016. Maintaining and expanding our international presence is an important component of our long-term growth strategy. Through our international presence, we seek to increase net sales and market share, leverage our relationships with leading physicians and their clinical research programs, accelerate the time to bring new products to market and gain access to worldwide technological developments that we can implement across our product lines. In addition, we are investing in infrastructure in emerging markets to strengthen our sales and service capabilities and maximize our opportunities in these countries.

As of December 31, 2018, we had nine principal international manufacturing facilities, including three in Ireland, two in Costa Rica, one in Brazil, one in Malaysia, one in Puerto Rico and one in Switzerland. Approximately 45 percent of our products

manufactured in 2018 were produced at these facilities. We also maintain research and development capabilities in China, Costa Rica, Germany, India, Ireland and Puerto Rico. We operate physician training centers in China, France, Germany, India, Italy, Japan, Poland, South Africa and South Korea.

Manufacturing and Raw Materials

We are focused on continuously improving our supply chain effectiveness, strengthening our manufacturing processes and increasing operational efficiencies within our organization. We strive to improve the efficiency of our sourcing operations and to leverage the technical expertise of the broader market by partnering with strategic suppliers. In doing so, we seek to focus our internal resources on the development and commercial launch of new products and the enhancement of existing products. We continue to implement new systems designed to provide improved quality, reliability, service, greater efficiency and lower supply chain costs. We also drive continuous improvement in product quality through process controls and validations, supplier and distribution controls and providing our operations teams with the necessary training and tools. In addition, we remain focused on examining our operations and general business activities to enhance our operational effectiveness by identifying cost-improvement opportunities.

We remain committed to maintaining prudent investments in supply chain resiliency on an ongoing basis. Our products are designed and manufactured in technology centers around the world, either by us or third parties. We consistently monitor our inventory levels, manufacturing and distribution capabilities and maintain recovery plans to address potential disruptions that we may encounter. Many components used in the manufacturing of our products are readily fabricated from commonly available raw materials or off-the-shelf items available from multiple supply sources; however, certain items are custom made to meet our specifications. We believe that in most cases, redundant capacity exists at our suppliers and that alternative sources of supply are available or could be developed within a reasonable period of time. We also have an ongoing program to identify single-source components and to develop alternative back-up supplies and we regularly readdress the adequacy and abilities of our suppliers to meet our needs.

Quality Assurance

We are committed to providing high quality products to our customers. Our quality system starts with the initial product specification and continues through the design of the product, component specification process and the manufacturing, sale and servicing of the product. Our quality system is intended to build in quality and process control and to utilize continuous improvement concepts throughout the product life. These systems are designed to enable us to satisfy various international quality system regulations, including those of the FDA with respect to products sold in the U.S. All of our manufacturing facilities and distribution centers are certified under the ISO 13485 quality system standard, established by the International Standards Organization (ISO) for medical devices, which includes requirements for an implemented quality system that applies to component quality, supplier control, product design and manufacturing operations. This certification can be obtained only after a complete audit of a company's quality system by an independent outside auditor. Maintenance of the certification requires that these facilities undergo periodic re-examination.

Environmental Regulation and Management

We are subject to various environmental laws, directives and regulations both in the U.S. and abroad. Our operations involve the use of substances regulated under environmental laws, primarily in manufacturing and sterilization processes. We believe that sound environmental, health and safety performance contributes to our competitive strength while benefiting our customers, stockholders and employees. We are focused on continuous improvement in these areas by reducing pollution, depletion of natural resources and our overall environmental footprint. Specifically, we are working to optimize energy and resource usage, ultimately reducing greenhouse gas emissions and waste. We are listed on the FTSE4Good Corporate Social Responsibility Index, managed by the Financial Times and the London Stock Exchange, which measures the performance of companies that meet globally recognized standards of corporate responsibility. This listing recognizes our dedication to those standards and it places us in a select group of companies with a demonstrated commitment to responsible business practices and sound environmental policies.

We have obtained ISO 14001:2015 certifications at our major manufacturing plants and Tier 1 distribution centers around the world, as well as our Corporate headquarters in Marlborough, Massachusetts. ISO 14001:2015 is a globally recognized standard for Environmental Management Systems, established by the International Standards Organization, which provides a voluntary framework to identify key environmental aspects associated with our business. Using this environmental management system and the specific attributes of our certified locations in the U.S., Ireland, Costa Rica and the Netherlands, we continue to improve our environmental performance and reduce our environmental footprint.

Competition

We encounter significant competition across our product lines and in each market in which we sell our products and solutions, some from companies that may have greater financial and marketing resources than we do. Our primary competitors include Abbott Laboratories, Medtronic plc and Cook Medical, as well as a wide range of medical device companies that sell a single or limited number of competitive products or participate in only a specific market segment. We also face competition from non-medical device companies, such as pharmaceutical companies, which may offer alternative therapies for disease states that could also be treated using our products.

We believe that our products and solutions compete primarily on their ability to deliver both clinical and economic outcomes for our customers while also continuing to perform diagnostic and therapeutic procedures safely and effectively in a less-invasive manner. We also compete on ease of use, comparative effectiveness, reliability and physician familiarity. In the current environment of managed care, with economically-motivated buyers, consolidation among healthcare providers, increased competition and declining reimbursement rates, we have been increasingly required to compete on the basis of price, value, reliability and efficiency. We believe the current global economic conditions and healthcare reform measures could continue to put additional competitive pressure on us, including on our average selling prices, overall procedure rates and addressable market sizes. We recognize that our continued competitive success will depend upon our ability to:

- offer products and solutions that provide differentiated clinical and economic outcomes,
- create or acquire innovative, scientifically advanced technologies,
- apply our technology and solutions cost-effectively and with superior quality across product lines and markets,
- develop or acquire proprietary products and solutions,
- attract and retain skilled personnel,
- obtain patent or other protection for our products,
- obtain required regulatory and reimbursement approvals,
- continually enhance our quality systems,
- manufacture and successfully market our products and solutions either directly or through outside parties and
- supply sufficient inventory to meet customer demand.

Medical Device Regulatory Approvals

The medical devices that we manufacture and market are subject to regulation by numerous worldwide regulatory bodies, including the FDA and comparable international regulatory agencies. These agencies require manufacturers of medical devices to comply with applicable laws and regulations governing development, testing, manufacturing, labeling, marketing and distribution. Medical devices are also generally subject to varying levels of regulatory control based on risk level of the device.

In the U.S., authorization to distribute a new device can generally be met in one of three ways. The first process requires that a premarket notification (510(k)) be made to the FDA to demonstrate that the device is as safe and effective as, or substantially equivalent to, a legally marketed device (the “predicate” device). Applicants must submit performance data to establish substantial equivalence. In some instances, data from human clinical trials must also be submitted in support of a 510(k) premarket notification. If so, these data must be collected in a manner that conforms to the applicable Investigational Device Exemption (IDE) regulations. The FDA must issue a decision finding substantial equivalence before commercial distribution can occur. Changes to cleared devices that could not significantly affect the safety or effectiveness of the device can generally be made without additional 510(k) premarket notifications; otherwise, a new 510(k) is required.

The second process requires the submission of a premarket approval (PMA) application to the FDA to demonstrate that the device is safe and effective for its intended use. This approval process applies to most Class III devices and generally requires clinical data to support the safety and effectiveness of the device, obtained in adherence with IDE requirements. The FDA will approve the PMA application if it finds that there is a reasonable assurance that the device is safe and effective for its intended purpose and that the proposed manufacturing is in compliance with the Quality System Regulation (QSR). For novel technologies, the FDA will generally seek input from an advisory panel of medical experts and seek their views on the safety, effectiveness and benefit-risk of the device. The PMA process is generally more detailed, lengthier and more expensive than the 510(k) process.

The third process requires that an application for a Humanitarian Device Exemption (HDE) be made to the FDA for the use of a Humanitarian Use Device (HUD). An HUD is intended to benefit patients by treating or diagnosing a disease or condition that affects, or is manifested in, not more than 8,000 individuals in the U.S. per year. The application submitted to the FDA for an HDE is similar in both form and content to a PMA application, but is exempt from the effectiveness requirements of a PMA. The HUD

provision of the regulation provides an incentive for the development of devices for use in the treatment or diagnosis of diseases affecting smaller patient populations.

In the European Economic Area (EEA), we are required to comply with applicable Medical Device Directives, specifically the Medical Devices Directive and the Active Implantable Medical Device Directive. These directives require us to affix a CE Mark on medical devices prior to placing them on the market within the EEA. The CE Mark is affixed following conformity assessment and either approval from the appointed independent Notified Body or through self-certification by the manufacturer. The selected pathway to CE marking is based on product risk. CE Marking indicates conformity to the applicable Essential Requirements of the relevant Medical Devices Directive. The European Union (EU) Commission published a new Medical Device Regulation in 2017, providing a three-year transition period until May 2020, at which time, the existing Directives will be repealed. The Medical Device Regulation will change multiple aspects of the existing regulatory framework, such as higher clinical evidence requirements and introduce several new requirements, such as Unique Device Identification (UDI) and many other post-market obligations. Thus, the new Medical Device Regulation significantly modifies and intensifies the compliance requirements for the industry.

We are also required to comply with the regulations of every other country where we commercialize products before we can launch or maintain new products on the market, such as the requirement that we obtain approval from the Japanese Ministry of Health, Labor and Welfare (MHLW), the Japanese Pharmaceutical & Medical Device Agency (PMDA) and the China Food and Drug Administration (NMPA). Many countries that previously did not have medical device regulations, or minimal regulations, are now introducing them. For example, India is in the process of expanding its current regulations to include all medical device categories while many countries in the Middle East and Southeast Asia are introducing new regulations.

The FDA and other worldwide regulatory agencies and competent authorities actively monitor compliance to local laws and regulations through review and inspection of design and manufacturing practices, record keeping, reporting of adverse events, labeling and promotional practices. The FDA can ban certain medical devices, detain or seize adulterated or misbranded medical devices, order repair, replacement or refund of these devices and require notification of health professionals and others with regard to medical devices that present unreasonable risks of substantial harm to the public health. The FDA may also enjoin and restrain a company for certain violations of the Food, Drug and Cosmetic Act and the Safe Medical Devices Act pertaining to medical devices or initiate action for criminal prosecution of such violations. Regulatory agencies and authorities in the countries where we do business can halt production in or distribution within their respective country or otherwise take action in accordance with local laws and regulations.

International sales of medical devices manufactured in the U.S. that are not approved by the FDA for use in the U.S., or that are banned or deviate from lawful performance standards, are subject to FDA export requirements. Exported devices are subject to the regulatory requirements of each country to which the device is exported. Some countries do not have medical device regulations, but in most foreign countries, medical devices are regulated. Frequently, regulatory approval may first be obtained in a foreign country prior to application in the U.S. due to differing regulatory requirements; however, other countries, such as China for example, require approval in the country of origin first. Most countries outside of the U.S. require that product approvals be recertified on a regular basis, generally every five years. The recertification process requires that we evaluate any device changes and any new regulations or standards relevant to the device and, where needed, conduct appropriate testing to document continued compliance. Where recertification applications are required, they must be approved in order to continue selling our products in those countries.

Government Affairs

We maintain a global Government Affairs presence, headquartered in Washington, D.C., to actively monitor and advocate on a myriad legislation and policies impacting us, both on a domestic and an international front. The Government Affairs office works closely with members of Congress and committee staff, the White House and Administration offices, state Governors, legislatures and regulatory agencies, embassies and global governments on issues affecting our business. Our proactive approach and depth of political and policy expertise are aimed at having our positions heard by federal, state and global decision-makers to improve patient care and to advance our business objectives by educating policymakers on our positions, key priorities and the value of our technologies. The Government Affairs office also manages our political action committee and works closely with trade groups on issues affecting our industry and healthcare in general.

Healthcare Policies and Reimbursement

Political, economic and regulatory influences around the world continue to subject the healthcare industry to potential fundamental changes that could substantially affect our results of operations. Government and private sector initiatives related to limiting the growth of healthcare costs (including price regulation), coverage and payment policies, comparative effectiveness reviews of therapies, technology assessments and health care delivery structure reforms, are continuing in many countries where we do

business. We believe that these changes are causing the marketplace to put increased emphasis on the delivery of treatments that can reduce costs, improve efficiencies and/or increase patient access. Although we believe our less-invasive products and technologies generate favorable clinical outcomes, value and cost efficiency, the resources necessary to demonstrate value to our customers, patients, payers and other stakeholders are significant and new therapies now take longer periods of time to gain widespread adoption.

The impact to our business of the U.S. Patient Protection and Affordable Care Act's (ACA) provisions related to coverage expansion, payment reforms and delivery system has been immaterial. The ACA and Health Care and Education Affordability Reconciliation Act were enacted into law in the U.S. in 2010. The legislation imposed on medical device manufacturers a 2.3 percent excise tax on U.S. sales of Class I, II and III medical devices beginning in January 2013. In December 2015, the Promise for Antibiotics and Therapeutics for Health Act, or PATH Act, was passed, which included legislation which temporarily suspended the 2.3 percent excise tax until December 31, 2017. In January 2018, another temporary two-year suspension of the 2.3 percent excise tax was passed, extending the suspension to December 31, 2019. We have reinvested substantial amounts of funds that we would have expended on this tax into jobs, innovation, research and development, collaborations with universities and other initiatives that will help treat patients and drive revenue growth.

The U.S. Federal government, as part of the ACA, and certain state governments have enacted laws aimed at increasing transparency, or "sunshine," in relationships between medical device, biologics and pharmaceutical companies and healthcare professionals (HCPs). As a result, we are required by law to report many types of payments and transfers of value provided to HCPs. Certain foreign jurisdictions are currently acting to implement similar laws. Failure to comply with sunshine laws and/or implement and adhere to adequate policies and practices to address changes to legal and regulatory requirements could have a negative impact on our results of operations. Additional legislation at the state and federal levels may result in further changes to these laws.

As noted below, we expect certain trends to continue placing pressure on pricing and utilization in the U.S. The Tax Cuts and Jobs Acts (TCJA), enacted December 22, 2017 in the U.S., makes changes to the tax treatment of health care expenses and repealed the "individual mandate" to purchase private insurance. These tax law changes have resulted in changes to insurance coverage and financing of insurance coverage in individual markets. Additional legislation may result in changes to government programs such as Medicare and Medicaid. In addition, the current U.S. Administration has enacted a number of administrative policy changes that will likely result in additional changes to insurance coverage, financing of insurance coverage and benefits offered through private insurance in both the employer-sponsored and individual markets. These changes and other similar changes being considered are likely to lead to an increase in the number of people without insurance. Other individual coverage policies will be less generous than those required under the ACA. The impact of these changes on coverage levels and patient cost-sharing could affect utilization of non-urgent, non-acute services in which our devices are used.

Additionally, while the implementation of the medical device tax has further been suspended until December 31, 2019, the status of the tax for sales after December 31, 2019 is not clear. The medical device tax may continue to be suspended, or it may be reinstated at the same or at a different level effective January 1, 2020.

We expect that pricing of medical devices will remain under pressure as alternative payment reform, such as prospective payment systems for hospital care, preferential site of service payments, value-based purchasing and accountable care organizations (ACOs), continue to take shape globally. We also expect marketplace changes to place pressure on medical device pricing globally as hospitals consolidate and large group purchasing organizations, hospital networks and other groups continue to seek to aggregate purchasing power. Similarly, governments are increasing the use of tenders, placing pressure on medical device pricing. Some governments also seek to limit the growth of healthcare costs through price regulation. Implementation of cost containment initiatives and healthcare reforms in significant markets such as the U.S., Japan and Europe and other markets may limit the price of, or the level at which reimbursement is provided for, our products, which in turn may influence a hospital's or physician's selection of products used to treat patients.

Our products are purchased principally by hospitals, physicians and other healthcare providers around the world that typically bill various third-party payers, including government programs (e.g., Medicare and Medicaid in the U.S.) and private insurance payers, for the services provided to their patients. Third-party payers and governments may approve or deny coverage for certain technologies and associated procedures based on independently determined assessment criteria. Coverage decisions by payers for these technologies and associated procedures are based on a wide range of methodologies that may reflect the assessed resource costs, clinical outcomes and economic value of the technologies and associated procedures.

Proprietary Rights and Patent Litigation

We rely on a combination of patents, trademarks, trade secrets and other forms of intellectual property to protect our proprietary rights. We generally file patent applications in the U.S. and foreign countries where patent protection for our technology is appropriate and available. As of December 31, 2018, we held more than 19,000 patents and had approximately 5,000 patent applications pending worldwide that cover various aspects of our technology. In addition, we hold exclusive and non-exclusive licenses to a variety of third-party technologies covered by patents and patent applications. In the aggregate, these intellectual property assets and licenses are of material importance to our business; however, we believe that no single patent, technology, trademark, intellectual property asset or license is material in relation to our business as a whole.

We rely on non-disclosure and non-competition agreements with employees, consultants and other parties to protect, in part, trade secrets and other proprietary technology. There has been substantial litigation regarding patent and other intellectual property rights in the medical device industry, particularly in the areas in which we compete. We continue to defend ourselves against claims and legal actions alleging infringement of the patent rights of others. Additionally, we may find it necessary to initiate litigation to enforce our patent rights, to protect our trade secrets or know-how and to determine the scope and validity of the proprietary rights of others. Accordingly, we may seek to settle some or all of our pending litigation, particularly to manage risk over time. Settlement may include cross licensing of the patents that are the subject of the litigation as well as our other intellectual property and may involve monetary payments to or from third parties.

We maintain insurance policies providing limited coverage against securities claims. We are substantially self-insured with respect to product liability claims and fully self-insured with respect to intellectual property infringement claims. The absence of significant third-party insurance coverage increases our potential exposure to unanticipated claims or adverse decisions. See *Note J – Commitments and Contingencies* to our 2018 consolidated financial statements included in Item 8 of this Annual Report for a discussion of intellectual property, product liability and other litigation and proceedings in which we are involved.

Employees

As of December 31, 2018, we had approximately 32,000 employees, including approximately 15,000 in operations, 10,000 in selling, marketing and distribution, 5,000 in clinical, regulatory and research and development and 4,000 in administration. Of these employees, we employed approximately 17,000 outside the U.S., approximately 10,000 of whom are in the manufacturing operations function.

Community Outreach

We are united by a goal to make a difference in the lives of the 30 million patients we serve. We envision what is possible for communities around the world by giving our time and resources to positively impact the lives of others. Guided by our core values, we seek to improve access to healthcare, to invest in educational programming for students with limited means and access to opportunities, and to support and embrace the spirit of volunteerism within our global workforce, while adhering to strong ethical standards. We also recognize the need to minimize the impact of the manufacturing of our products on the environment and have committed to carbon neutrality in our manufacturing and key distribution sites by 2030.

In some parts of the world, access to health information, screening, care and services can be limited. We have partnered with Project HOPE (Health Opportunities for People Everywhere) and Partners in Health to increase the number of healthcare workers in South Africa, India and Mexico. By increasing the number and proficiency of community healthcare workers, we can impact health outcomes for people today and into the future. In 2018, we added to our list of Global Health Grantees by supporting the Children's HeartLink (CHL) team based in Malaysia. During the year, CHL began formal collaboration with the Malaysian Pediatric Cardiac Society (MPCS) to increase access to high quality pediatric cardiac care for all children in Malaysia. All of our Global Health grants aim to increase the number of healthcare workers, increase screening and awareness about non-communicable diseases, provide an opportunity for our local in-country teams to get involved with our grantees and align with the United Nations Sustainable Development Goal Number Three - *GOOD HEALTH AND WELL-BEING: Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development.*

We are also inspired by young learners who share our passion for innovation and problem solving. Our employees work with students around the world and share their passion for Science, Technology, Engineering and Math (STEM) through participation in more than 200 STEM events and school programs. Beyond the classroom, our employees provided more than 43,000 hours of community service to make a positive impact at more than 600 global community events in 33 countries. Building on our culture of caring, in 2017, we created an Employee Disaster Relief Fund to support families impacted by large natural weather events and disasters. In 2018, many families impacted by Hurricane Maria continued to benefit from resources from this fund, with our employees and the Company donating nearly \$1 million dollars to the fund. In addition, we hosted six employee fundraising

campaigns to support other natural disasters that impacted people around the world. More than 200 employees contributed to these campaigns, which was combined with a Company match and funds donated to the various charitable organizations in support of disaster relief efforts.

We also support the five U.S. communities where we have significant business presences through the Boston Scientific Foundation. The mission of the foundation is simple: to help expand access to quality health care and educational opportunities for underserved populations. The Boston Scientific Foundation awarded nearly \$1 million dollars in grant awards to more than 50 nonprofit organizations across the U.S. in 2018. The process involved more than 65 employee volunteers who evaluated proposals for the Boston Scientific Foundation Board review and approval, upon which the Boston Scientific Foundation was able to help fuel grassroots innovative solutions to improve access to quality healthcare and create new opportunities for students to learn and achieve.

Seasonality

Our net sales are influenced by many factors, including product launches, acquisitions, regulatory and reimbursement approvals, patient, physician and employee holiday schedules and other macro-economic conditions. While our net sales do not reflect any significant degree of seasonality, customer purchases have historically been lower in the first and third quarters of the year.

Available Information

Copies of our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), are available free of charge on our website (www.bostonscientific.com) as soon as reasonably practicable after we electronically file the material with or furnish it to the U.S. Securities and Exchange Commission (SEC). Additionally, the SEC maintains an internet site (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. Printed copies of these posted materials are also available free of charge to stockholders who request them in writing from Investor Relations, 300 Boston Scientific Way, Marlborough, MA 01752-1234. Information on our website or linked to our website is not incorporated by reference into this Annual Report.

Safe Harbor for Forward-Looking Statements

Certain statements that we may make from time to time, including statements contained in this Annual Report and information incorporated by reference into this Annual Report, constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements may be identified by words like “anticipate,” “expect,” “project,” “believe,” “plan,” “estimate,” “intend,” “aiming” and similar words. These forward-looking statements are based on our beliefs, assumptions and estimates using information available to us at the time and are not intended to be guarantees of future events or performance. If our underlying assumptions turn out to be incorrect, or if certain risks or uncertainties materialize, actual results could vary materially from the expectations and projections expressed or implied by our forward-looking statements.

The forward-looking statements in this Annual Report are based on certain risks and uncertainties, including the risk factors described in Item 1A under the heading “Risk Factors” and the specific risk factors discussed below and in connection with forward-looking statements throughout this Annual Report, which could cause actual results to vary materially from the expectations and projections expressed or implied by our forward-looking statements. These risks and uncertainties, in some cases, have affected and in the future could affect our ability to implement our business strategy and may cause actual results to differ materially from those contemplated by the statements expressed in this Annual Report. As a result, readers are cautioned not to place undue reliance on any of our forward-looking statements. Risks and uncertainties that may cause such differences include, among other things: future economic, political, competitive, reimbursement and regulatory conditions, new product introductions and the market acceptance of those products, markets for our products, expected pricing environment, expected procedural volumes, the closing and integration of acquisitions, clinical trial results, demographic trends, intellectual property rights, litigation, financial market conditions, the execution and effect of our restructuring program, the execution and effect of our business strategy, including our cost-savings and growth initiatives and future business decisions made by us and our competitors. New risks and uncertainties may arise from time to time and are difficult to predict. All of these factors are difficult or impossible to predict accurately and many of them are beyond our control. For a further list and description of these and other important risks and uncertainties that may affect our future operations, see Item 1A. Risk Factors contained within this Annual Report on Form 10-K filed with the SEC, which we may update in Part II, Item 1A. Risk Factors in subsequent Quarterly Reports on Form 10-Q that we will file hereafter. We disclaim any intention or obligation to publicly update or revise any forward-looking statement to reflect any change in our expectations or in events, conditions, or circumstances on which those expectations may be based, or that may affect the likelihood

that actual results will differ from those contained in the forward-looking statements. This cautionary statement is applicable to all forward-looking statements contained in this Annual Report.

The following are some of the important risk factors that could cause our actual results to differ materially from our expectations in any forward-looking statements. For further discussion of these and other risk factors, see Item 1A. Risk Factors .

Our Businesses

- Our ability to increase net sales, expand the market, capture market share and adapt to market volatility,
- The ongoing impact on our business of physician alignment to hospitals, governmental investigations and audits of hospitals and other market and economic conditions on the overall number of procedures performed,
- Competitive offerings and related declines in average selling prices for our products,
- The performance of, and physician and patient confidence in, our products and technologies or those of our competitors,
- The impact and outcome of ongoing and future clinical trials and market studies undertaken by us, our competitors or other third parties or perceived product performance of our or our competitors' products,
- Variations in clinical results, reliability or product performance of our and our competitors' products,
- Our ability to acquire or develop, launch and supply new or next-generation products and technologies worldwide and in line with our commercialization strategies in a timely and successful manner and with respect to our recent acquisitions,
- The effect of consolidation and competition in the markets in which we do business or plan to do business,
- Disruption in the manufacture or supply of certain components, materials or products, or the failure to secure in a timely manner alternative manufacturing or additional or replacement components, materials or products,
- Our ability to retain and attract key personnel,
- The impact of enhanced requirements to obtain regulatory approval in the U.S. and around the world, including the associated timing and cost of product approval, and
- The impact of increased pressure on the availability and rate of third-party reimbursement for our products and procedures in the U.S. and around the world, including with respect to the timing and costs of creating and expanding markets for new products and technologies.

Regulatory Compliance, Litigation and Data Protection

- The impact of healthcare policy changes and legislative or regulatory efforts in the U.S., the EU and around the world to modify product approval or reimbursement processes, including a trend toward demonstrating clinical outcomes, comparative effectiveness and cost efficiency, as well as the impact of other healthcare reform legislation,
- Risks associated with our regulatory compliance and quality systems and activities in the U.S., the EU and around the world, including meeting regulatory standards applicable to manufacturing and quality processes,
- Our ability to minimize or avoid future field actions or FDA warning letters relating to our products and processes and the ongoing inherent risk of potential physician advisories related to medical devices,
- The impact of increased scrutiny of and heightened global regulatory enforcement facing the medical device industry arising from political and regulatory changes, economic pressures or otherwise, including under U.S. Anti-Kickback Statute, U.S. False Claims Act and similar laws in other jurisdictions, U.S. Foreign Corrupt Practices Act (FCPA) and similar laws in other jurisdictions, and U.S. and foreign export control, trade embargo and customs laws,
- Costs and risks associated with litigation,

- The effect of our litigation and risk management practices, including self-insurance and compliance activities on our loss contingencies, legal provision and cash flows,
- The impact of, diversion of management attention as a result of, and costs to cooperate with, litigate and/or resolve governmental investigations and our class action, product liability, contract and other legal proceedings,
- The possibility of failure to protect our intellectual property rights and the outcome of patent litigation, and
- Our ability to properly operate our information systems that support our business operations and protect our data integrity and products from a cyber-attack or other breach that has a material adverse effect on our business, reputation or results of operations.

Innovation and Certain Growth Initiatives

- The timing, size and nature of our strategic growth initiatives and market opportunities, including with respect to our internal research and development platforms and externally available research and development platforms and technologies and the ultimate cost and success of those initiatives and opportunities,
- Our ability to complete planned clinical trials successfully, obtain regulatory approvals and launch new and next generation products in a timely manner consistent with cost estimates, including the successful completion of projects from in-process research and development,
- Our ability to identify and prioritize our internal research and development project portfolio and our external investment portfolio on profitable revenue growth opportunities as well as to keep them in line with the estimated timing and costs of such projects and expected revenue levels for the resulting products and technologies,
- Our ability to successfully develop, manufacture and market new products and technologies in a timely manner and the ability of our competitors and other third parties to develop products or technologies that render our products or technologies noncompetitive or obsolete,
- Our ability to execute appropriate decisions to discontinue, write-down or reduce the funding of any of our research and development projects, including projects from in-process research and development, in our growth adjacencies or otherwise,
- Our dependence on acquisitions, alliances or investments to introduce new products or technologies and to enter new or adjacent growth markets and our ability to fund them or to fund contingent payments with respect to those acquisitions, alliances and investments, and
- The potential failure to successfully integrate and realize the expected benefits from the strategic acquisitions, alliances and investments we have consummated or may consummate in the future.

International Markets

- Our dependency on international net sales to achieve growth, including in emerging markets,
- The impact of changes in our international structure and leadership,
- The timing and collectability of customer payments,
- The political and economic conditions (including the impact of the United Kingdom's exit from the EU, often referred to as "Brexit"),
- Protection of our intellectual property,
- Our ability to comply with established and developing U.S. and foreign legal and regulatory requirements, including FCPA and similar laws in other jurisdictions
- Our ability to comply with U.S. and foreign export control, trade embargo and custom laws,

- The impact of changes in reimbursement practices and policies in both the U.S. and abroad,
- Our ability to maintain or expand our worldwide market positions in the various markets in which we compete or seek to compete, including through investments in product diversification and emerging markets such as Brazil, Russia, India and China,
- Our ability to execute and realize anticipated benefits from our investments in emerging markets, and
- The potential effect of foreign currency fluctuations and interest rate fluctuations on our net sales, expenses and resulting margins.

Liquidity

- Our ability to generate sufficient cash flow to fund operations, capital expenditures, global expansion initiatives, any litigation settlements and judgments, share repurchases and strategic investments and acquisitions as well as maintaining our investment grade ratings and managing our debt levels and covenant compliance,
- Our ability to access the public and private capital markets when desired and to issue debt or equity securities on terms reasonably acceptable to us,
- The unfavorable resolution of open tax matters, exposure to additional tax liabilities and the impact of changes in U.S. and international tax laws,
- The impact of examinations and assessments by domestic and international taxing authorities on our tax provision, financial condition or results of operations,
- The possibility of counterparty default on our derivative financial instruments,
- The impact of potential intangible asset impairment charges, including on our results of operations, and
- Our ability to collect outstanding and future receivables and/or sell receivables under our factoring programs.

Cost Reduction and Optimization Initiatives

- Risks associated with significant changes made or expected to be made to our organizational and operational structure, pursuant to our restructuring plans as well as any further restructuring or optimization plans we may undertake in the future and our ability to recognize benefits and cost reductions from such programs and
- Business disruption and employee distraction as we execute our global compliance program, restructuring and optimization plans and divestitures of assets or businesses and implement our other strategic and cost reduction initiatives.

ITEM 1A. RISK FACTORS

In addition to the other information contained in this Annual Report and the exhibits hereto, the following risk factors should be considered carefully in evaluating our business. Our business, financial condition, cash flows or results of operations could be materially adversely affected by any of these risks. This section contains forward-looking statements. You should refer to the explanation of the qualifications and limitations on forward-looking statements set forth at the end of Item 1. Business of this Annual Report. Additional risks not presently known to us or that we currently deem immaterial may also adversely affect our business, financial condition, cash flows or results of operations.

We face intense competition and may not be able to keep pace with the rapid technological changes in the medical devices industry, which could have an adverse effect on our business, financial condition or results of operations.

The medical device markets in which we primarily participate are highly competitive. We encounter significant competition across our product lines and in each market in which our products are sold from various medical device companies. Some of our competitors may have greater financial and marketing resources than we do, including as a result of consolidation among companies in our industry. Our primary competitors include Abbott Laboratories, Medtronic plc and Cook Medical, as well as a wide range of medical device companies that sell a single or limited number of competitive products or which participate in only a specific market segment or set of segments. We also face competition from non-medical device companies, including pharmaceutical companies, which may offer alternative therapies for disease states also amenable to treatment using our products. New direct or indirect competitors may emerge in the future, potentially including companies introducing new sales or distribution models to our industry.

In addition, the medical device markets in which we primarily participate are characterized by extensive research and development and rapid technological change. Developments by other companies of products and/or services, processes or technologies may make our products or proposed products obsolete or less competitive and may negatively impact our net sales. It is necessary for us to devote continued efforts and financial resources to the development or acquisition of scientifically advanced technologies and products. In addition, we will need to apply our technologies cost-effectively across product lines and markets, obtain patent and other protection for our technologies and products, obtain required regulatory and reimbursement approvals and successfully manufacture and market our products consistent with our quality standards. If we fail to develop or acquire new products or enhance existing products, such failure could have a material adverse effect on our business, financial condition or results of operations. In addition, a delay in the timing of the launch of next-generation products and the overall performance of, and continued physician confidence in, those products may result in declines in our market share and have an adverse impact on our business, financial condition or results of operations.

We may experience declines in market size, average selling prices for our products, medical procedure volumes and our share of the markets in which we compete, which may materially adversely affect our results of operations and financial condition.

We continue to experience pressures across many of our businesses due to competitive activity, increased market power of our customers as the healthcare industry consolidates, economic pressures experienced by our customers and the impact of managed care organizations and other third-party payers. These and other factors may adversely impact market sizes, as well as our share of the markets in which we compete, the average selling prices for our products or medical procedure volumes. There can be no assurance that the size of the markets in which we compete will increase above existing levels, that we will be able to regain or gain market share or compete effectively on the basis of price or that the number of procedures in which our products are used will increase above existing levels. Decreases in market sizes or our market share and declines in average selling prices or procedural volumes could materially adversely affect our results of operations or financial condition.

Continued consolidation in the healthcare industry or additional governmental controls exerted over pricing in key markets could lead to increased demands for price concessions or limit or eliminate our ability to sell to certain of our significant market segments, which could have an adverse effect on our business, financial condition or results of operations.

Numerous initiatives and reforms by legislators, regulators and third-party payers to curb the rising cost of healthcare have catalyzed a consolidation of aggregate purchasing power within the markets in which we sell our products. As the healthcare industry consolidates, competition to provide products and services is expected to continue to intensify, resulting in pricing pressures, decreased average selling prices and the exclusion of certain suppliers from important market segments. We expect that market demand, government regulation, third-party coverage and reimbursement policies, government contracting requirements and societal pressures will continue to change the worldwide healthcare industry, resulting in further business consolidations and alliances among our customers, which may increase competition, exert further downward pressure on the prices of our products and services and may adversely impact our business, financial condition or results of operations.

Healthcare cost containment pressures, government payment and delivery system reforms, changes in private payer policies, and marketplace consolidations could decrease the demand for our products, the prices which customers are willing to pay for those products and/or the number of procedures performed using our devices, which could have an adverse effect on our business, financial condition or results of operations.

Our products are purchased principally by hospitals, physicians and other healthcare providers around the world that typically bill various third-party payers, including government programs, authorities or agencies (e.g., Medicare and Medicaid in the United States) and private health plans, for the healthcare services provided to their patients. Governments and payers may also institute changes in healthcare delivery systems that may reduce funding for services or encourage greater scrutiny of health care costs. The ability of customers to obtain appropriate reimbursement for their products and services from private and governmental third-party payers is critical to the success of medical technology companies because it affects which products customers purchase and the prices they are willing to pay. Reimbursement and funding vary by country and can significantly impact the acceptance of new products and technologies and the use of established products and technologies. Even if we develop a promising new product, we may find limited demand for the product unless reimbursement approval is obtained from private and governmental third-party payers. Further legislative or administrative reforms to the reimbursement systems in the U.S., Japan, or other countries in a manner that significantly reduces reimbursement for procedures using our medical devices or denies coverage for those procedures, including price regulation, competitive bidding and tendering, coverage and payment policies, comparative effectiveness of therapies, heightened clinical data requirements, technology assessments and managed-care arrangements, could have a material adverse effect on our business, financial condition or results of operations

We are subject to a number of market, business, financial, legal and regulatory risks and uncertainties with respect to our international operations that could have a material impact on our business, financial condition or results of operations.

International net sales accounted for 44 percent of our global net sales in 2018 , which includes sales from emerging markets accounting for approximately 11 percent . An important part of our strategy is to continue pursuing growth opportunities in net sales and market share outside of the U.S. by expanding global presence, including in emerging markets. Our international operations are subject to a number of market, business and financial risks and uncertainties, including those related to geopolitical and economic instability, foreign currency exchange and interest rate fluctuations, competitive product offerings, local changes in health care financing and payment systems and health care delivery systems, local product preferences and requirements, including preferences for local manufacturers; workforce instability, less intellectual property protection in certain countries than exists in the U.S. and, in certain foreign countries, longer accounts receivable cycles. Such risks and uncertainties may adversely impact our ability to implement our growth strategy in these markets and, as a result, our sales growth, market share and operating profits from our international operations may be adversely affected.

Our international operations are subject to established and developing legal and regulatory requirements for medical devices in each country in which our products are marketed and sold. Most foreign countries have medical device regulations. Further, most countries outside of the U.S. require product approvals be renewed or recertified on a regular basis in order to continue to be marketed and sold there. In addition, several countries that previously did not have regulatory requirements for medical devices have established such requirements in recent years and other countries have expanded, or plan to expand, on existing regulations, including requiring local clinical data in addition to global clinical data. These factors have caused or may cause us to experience more uncertainty, risk, expense and delay in commercializing products in certain foreign jurisdictions, which could affect our ability to obtain approvals for our products in those jurisdictions and adversely impact our net sales, market share and operating profits from our international operations.

Further, international markets are affected by economic pressure to contain healthcare costs, which can lead to more rigorous evidence requirements and lower reimbursement rates for either our products directly or procedures in which our products are used. Governments and payers may also institute changes in health care delivery systems that may reduce funding for services or encourage greater scrutiny of health care costs. In addition, certain international markets may also be affected by foreign government efforts to reference reimbursement rates in other countries. All of these types of changes may ultimately reduce selling prices of our products and/or reduce the number of procedures in which our products are used, which may adversely impact our net sales, market share and operating profits from our international operations.

In addition, our international operations are subject to other established and developing U.S. and foreign legal and regulatory requirements, including the U.S. Foreign Corrupt Practices Act (FCPA) and/or similar laws in other countries and U.S. and foreign import and export controls and licensing requirements, trade protection and embargo measures and customs laws. Global businesses, including those in the medical device industry, are facing increasing scrutiny of, and heightened enforcement efforts with respect to, their international operations. Any alleged or actual failure to comply with legal and regulatory requirements may subject us to government scrutiny, civil and/or criminal proceedings, sanctions and other liabilities, which may have a material adverse effect on our international operations, financial condition, results of operations and/or liquidity.

In a referendum on June 23, 2016, voters approved for the United Kingdom (UK) to exit the European Union (EU). As it stands, the UK will depart the EU on March 30, 2019 but the terms of its withdrawal and the nature of its future relationship with the EU are still being decided. Future exit of the UK from the EU will have numerous consequences in all areas of the business, including, economic, regulatory, operational, and the actual impact depends on the ultimate deal reached and is very difficult to assess at this time. Changes in the industry regulations could have an effect on existing CE certificates being renewed and new certificates being issued which would impact the ability to trade; however, it is impossible to assess the full impact at this stage.

In December of 2017, EU leaders announced an agreement to begin the next phase of negotiations, with talks on a transition period after March 2019 to begin in early 2018 and discussions on the future UK-EU relationship, including trade and security, to begin in March. At this stage, the materiality to us of the Brexit risk factor remains unknown and unquantifiable.

Any significant changes in the political and economic, financial, competitive, legal and regulatory or reimbursement conditions where we conduct, or plan to expand, our international operations may have a material impact on our business, financial condition or results of operations.

If we are unable to manage our debt levels, maintain investment grade credit ratings at the three ratings agencies, or experience a disruption in our cash flows it could have an adverse effect on our cost of borrowing, financial condition or results of operations.

As part of our strategy to maximize stockholder value, we use financial leverage to reduce our cost of capital. Our outstanding debt balance was \$7.056 billion as of December 31, 2018 and \$5.616 billion as of December 31, 2017. Although we currently have investment grade ratings at Moody's Investor Service, Standard & Poor's Rating Service and Fitch Ratings, our inability to maintain investment grade credit ratings could increase our cost of borrowing funds in the future and reduce our access to liquidity. Delays in our product development and new product launches could result in disruption in our cash flow or our ability to continue to effectively manage our debt levels could have an adverse effect on our cost of borrowing, financial condition or results of operations. In addition, our credit and security facilities contain covenants that require us to maintain specified financial ratios and place other limits on our business. If we are unable to satisfy these covenants, we may be required to obtain waivers from our lenders and no assurance can be made that our lenders would grant such waivers on favorable terms or at all and we could be required to repay any borrowings on demand.

We may record future intangible asset impairment charges related to one or more of our global reporting units, which could materially adversely impact our results of operations.

We test our goodwill balances during the second quarter of each year for impairment, or more frequently if indicators are present or changes in circumstances suggest that impairment may exist. We assess goodwill for impairment at the reporting unit level and, in evaluating the potential for impairment of goodwill, we make assumptions regarding estimated revenue projections, growth rates, cash flows and discount rates. In the second quarter of 2018, we performed our annual goodwill impairment test for all of our reporting units. In conjunction with our annual test, the fair value of each reporting unit exceeded its carrying value and none of our reporting units were at risk of impairment. Refer to *Critical Accounting Policies and Estimates* contained in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations of this Annual Report for a discussion of key assumptions used in our testing.

On a quarterly basis, we monitor the key drivers of fair value to detect events or other changes that would warrant an interim impairment test of our goodwill and other intangible assets. Relatively small declines in the future performance and cash flows of a reporting unit or asset group, changes in our reporting units or in the structure of our business as a result of future reorganizations, acquisitions or divestitures of assets or businesses, or small changes in other key assumptions, may result in the recognition of significant asset impairment charges, which could have a material adverse impact on our results of operations.

Failure to integrate acquired businesses into our operations successfully could adversely affect our business, financial condition and operating results.

As part of our strategy to realign our business portfolio, we have completed multiple acquisitions over the past three years and may pursue additional acquisitions in the future. Our integration of acquired businesses requires significant efforts, including corporate restructuring and the coordination of information technologies, research and development, sales and marketing, operations, regulatory, supply chain, manufacturing, quality systems and finance. These efforts result in additional expenses and involve significant management time. Some of the factors that could affect the success of our acquisitions include, among others, the effectiveness of our due diligence process, our ability to execute our business plan for the acquired companies, the strength of the acquired technology, results of clinical trials, regulatory approvals and reimbursement levels of the acquired products and related procedures, the continued performance of critical transition services, our ability to adequately fund acquired in-process

research and development projects and retain key employees and our ability to achieve synergies with our acquired companies, such as increasing sales of our products, achieving cost savings and effectively combining technologies to develop new products. In addition, foreign acquisitions involve unique risks, including those related to integration of operations across different geographies, cultures and languages, currency risks and risks associated with the economic, political, legal and regulatory environment in specific countries. Our failure to manage successfully and coordinate the growth of the acquired companies could have an adverse impact on our business and our future growth. In addition, we cannot be certain that the businesses we acquire will become profitable or remain so, and if our acquisitions are not successful, we may record related asset impairment charges in the future or experience other negative consequences on our results.

We may not be successful in our strategy relating to future strategic acquisitions of, investments in, or alliances with, other companies and businesses, which have been a significant source of historical growth for us, and will be key to our diversification into new markets and technologies.

Our strategic acquisitions, investments and alliances are intended to further expand our ability to offer customers effective, high quality medical devices that satisfy their interventional needs. These acquisitions, investments and alliances have been a significant source of our growth. If we are unsuccessful in our acquisitions, investments and alliances, we may be unable to grow our business. The success of our strategy relating to future acquisitions, investments or alliances will depend on a number of factors, including:

- our ability to identify suitable opportunities for acquisition, investment or alliance, if at all,
- our ability to manage acquisition, investment or alliance opportunities within our capital capacity and prioritize those investments to execute on our strategy,
- our ability to manage our due diligence process to uncover potential issues with targets,
- our ability to finance any future acquisition, investment or alliance on terms acceptable to us, if at all,
- our ability to complete acquisitions, investments or alliances in a timely manner on terms that are satisfactory to us, if at all,
- our ability to successfully integrate and operate acquired businesses,
- our ability to successfully identify and retain key target employees,
- our ability to comply with applicable laws and regulations, including foreign laws and regulations and
- our ability to protect intellectual property and to prevail in litigation related to newly acquired technologies.

Any potential future acquisitions we consummate may be dilutive to our earnings and may require additional debt or equity financing, depending on their size or nature.

We may not realize the expected benefits from our restructuring and optimization initiatives, our long-term expense reduction programs may result in an increase in short-term expenses and our efforts may lead to unintended consequences.

We monitor the dynamics of the economy, the healthcare industry and the markets in which we compete and assess opportunities for improved operational effectiveness and efficiency and to better align expenses with revenues, while preserving our ability to make investments in research and development projects, capital and our people that we believe are important to our long-term success. As a result of these assessments, we have undertaken restructuring and optimization initiatives in order to enhance our growth potential and position us for long-term success. For example, in November 2018, we announced a restructuring initiative (the 2019 Restructuring Plan) intended to support our effort to improve operating performance and meet anticipated market demands by ensuring that we are appropriately structured and resourced to deliver sustainable value to patients and customers. Key activities under the 2019 Restructuring Plan include supply chain network optimization intended to maximize our global manufacturing and distribution network capacity and building functional capabilities that support business growth. These activities are expected to be initiated in 2019, with the majority of activity expected to be complete by the end of 2021. The 2019 Restructuring Plan is expected to result in total pre-tax charges of approximately \$200 million to \$300 million and reduce gross annual pre-tax operating expenses by approximately \$100 million to \$150 million by the end of 2022 as program benefits are realized. We expect a substantial portion of the savings to be reinvested in strategic growth initiatives. These measures could yield unintended consequences, such as distraction of our management and employees, business disruption, inability to attract or retain key personnel and reduced employee productivity, which could negatively affect our business, sales, financial condition and results of operations. Moreover, our restructuring and optimization initiatives result in charges and expenses some of which impact our operating results. We cannot guarantee that the activities under our restructuring plans or other optimization initiatives will result in the desired efficiencies and estimated cost savings.

Current domestic and international economic conditions could adversely affect our cash flows and results of operations.

Uncertainty about global economic conditions, including those resulting from credit and sovereign debt issues, has caused and may continue to cause disruption in the financial markets, including diminished liquidity and credit availability. These conditions

may adversely affect our suppliers, leading them to experience financial difficulties or be unable to borrow money to fund their operations, which could cause disruptions in our ability to produce our products. Our customers may experience financial difficulties or be unable to borrow money to fund their operations, which may adversely impact their ability or decision to purchase our products, particularly capital equipment, or to pay for our products they purchase on a timely basis, if at all. In addition, we have accounts receivable factoring programs in certain European countries. Continued deterioration of the global economy or increase in sovereign debt issues may impact our ability to transfer receivables to third parties in certain of those countries in the future. Third parties such as banks offering factoring programs in these countries are looking to reduce their exposure levels to government owned or supported debt. This could result in terminations of, or changes to the costs or credit limits of our existing factoring programs. Such terminations or changes could have a negative impact on our cash flow and days sales outstanding.

The strength and timing of economic recovery remains uncertain and there can be no assurance that there will not be further deterioration in the global economy. Accordingly, we cannot predict to what extent global economic conditions, including sovereign debt issues and increased focus on healthcare systems and costs in the U.S. and abroad, may continue to impact negatively our average selling prices, net sales and profit margins, procedural volumes and reimbursement rates from third party payers. In addition, conditions in the financial markets and other factors beyond our control may adversely affect our ability to borrow money in the credit markets, access the capital markets and to obtain financing for acquisitions or other general corporate and commercial purposes.

Healthcare policy changes, including healthcare reform legislation, may have a material adverse effect on our business, financial condition, results of operations and cash flows.

Political, economic and policy influences are leading the healthcare industry to make substantial structural and financial changes that will continue affecting our results of operations. Government and private sector initiatives limiting the growth of healthcare costs (including price regulation), coverage and payment policies, comparative effectiveness of therapies, technology assessments and healthcare delivery structure reforms, are continuing in many countries where we do business. We believe that these changes are causing the marketplace to put increased emphasis on the delivery of more treatments that can reduce costs, improve efficiencies and/or increase patient access. Although we believe our less-invasive products and technologies generate favorable clinical outcomes, value and cost efficiency, the resources necessary and evidence necessary to demonstrate value to our customers, patients, payers and other stakeholders may be significant and it may take a longer period of time to gain widespread adoption. Moreover, there can be no assurance that our strategies will succeed for every product.

The Patient Protection and Affordable Care Act (ACA) and Health Care and Education Affordability Reconciliation Act of 2010 were enacted into law in the U.S. in March 2010. As a U.S. headquartered company with significant domestic sales, the medical device tax included in this law has materially affected us. The law imposed on medical device manufacturers a 2.3 percent excise tax on U.S. sales of Class I, II and III medical devices beginning in January 2013. Under the current administration, there may be a permanent repeal or an alteration of some or all elements of the ACA, but at this time it is not definite that a change will be enacted or what new healthcare provisions may be implemented. While the implementation of the medical device tax has been suspended until December 31, 2019, the status of the tax for sales after December 31, 2019 is not clear. The tax may continue to be suspended or may be reinstated at the same or at a different level effective January 1, 2020. Other provisions of this law, including comparative effectiveness research, pilot programs to evaluate alternative payment methodologies and other changes to the payment systems, have started changing the way healthcare is delivered, reimbursed and funded. While the extent to which it has affected our business is not clear, these changes, over the long-term, may adversely affect our business and results of operations.

We cannot predict the specific healthcare programs and regulations that will be ultimately implemented by regional and national governments globally. However, any changes that lower reimbursements for either our products and/or procedures using our products reduce medical procedure volumes and/or increase cost containment pressures on us or others in the healthcare sector could adversely affect our business and results of operations.

We are subject to extensive and dynamic medical device regulation, which may impede or hinder the approval or sale of our products and, in some cases, may ultimately result in an inability to obtain approval of certain products or may result in the recall or seizure of previously approved products.

Our products, marketing, sales and development activities and manufacturing processes are subject to extensive and rigorous regulation by the FDA pursuant to the Federal Food, Drug and Cosmetic Act (FDC Act), by comparable agencies in foreign countries and by other regulatory agencies and governing bodies. Under the FDC Act, medical devices must receive FDA clearance or approval or an exemption from such clearance or approval before they can be commercially marketed in the U.S. In the EU, we are required to comply with applicable medical device directives (including the Medical Devices Directive and the Active Implantable Medical Devices Directive and beginning in May 2020, the European Medical Device Regulation) and obtain CE

Mark certification in order to market medical devices. The CE Mark is applied following approval from an independent notified body or declaration of conformity. The process of obtaining marketing approval or clearance from the FDA or by comparable agencies in foreign countries for new products, or with respect to enhancements or modifications to existing products, could:

- take a significant period of time,
- require the expenditure of substantial resources,
- involve rigorous pre-clinical and clinical testing, as well as increased post-market surveillance,
- require changes to products and
- result in limitations on the indicated uses of products.

In addition, exported devices are subject to the regulatory requirements of each country to which the device is exported. Some countries do not have medical device regulations, but in most foreign countries, medical devices are regulated. Frequently, regulatory approval may first be obtained in a foreign country prior to application in the U.S. due to differing regulatory requirements; however, other countries, such as China for example, require approval in the country of origin or legal manufacturer first. Most countries outside of the U.S. require that product approvals be renewed or recertified on a regular basis, generally every four to five years. The renewal or recertification process requires that we evaluate any device changes and any new regulations or standards relevant to the device and conduct appropriate testing to document continued compliance. Where renewal or recertification applications are required, they may need to be renewed and/or approved in order to continue selling our products in those countries. There can be no assurance that we will receive the required approvals for new products or modifications to existing products on a timely basis or that any approval will not be subsequently withdrawn or conditioned upon extensive post-market study requirements.

Our global regulatory environment is becoming increasingly stringent and unpredictable, which could increase the time, cost and complexity of obtaining regulatory approvals for our products, as well as the clinical and regulatory costs of supporting those approvals. Several countries that did not have regulatory requirements for medical devices have established such requirements in recent years and other countries have expanded on existing regulations. Certain regulators are exhibiting less flexibility and are requiring local preclinical and clinical data in addition to global data. While harmonization of global regulations has been pursued, requirements continue to differ significantly among countries. We expect this global regulatory environment will continue to evolve, which could impact our ability to obtain future approvals for our products or could increase the cost and time to obtain such approvals in the future.

The European Union regulatory bodies finalized a new Medical Device Regulation (MDR) in 2017, which replaced the existing Directives and provided three years for transition and compliance. The MDR will change several aspects of the existing regulatory framework, such as updating clinical data requirements and introducing new ones, such as Unique Device Identification (UDI). We and the Notified Bodies who will oversee compliance to the new MDR face uncertainties as the MDR is rolled out and enforced by the Commission and EEA Competent Authorities, creating risks in several areas, including the CE Marking process and data transparency, in the upcoming years.

The FDA and other worldwide regulatory agencies actively monitor compliance with local laws and regulations through review and inspection of design and manufacturing practices, recordkeeping, reporting of adverse events, labeling and promotional practices. The FDA can ban certain medical devices, detain or seize adulterated or misbranded medical devices, order repair, replacement or refund of these devices and require notification of health professionals and others with regard to medical devices that present unreasonable risks of substantial harm to the public health. The FDA can take action against a company that promotes "off-label" uses. The FDA may also enjoin and restrain a company for certain violations of the FDC Act and other amending Acts pertaining to medical devices, or initiate action for criminal prosecution of such violations. Any adverse regulatory action, depending on its magnitude, may restrict a company from effectively marketing and selling its products, may limit a company's ability to obtain future premarket clearances or approvals and could result in a substantial modification to our business practices and operations. International sales of medical devices manufactured in the U.S. that are not approved by the FDA for use in the U.S., or that are banned or deviate from lawful performance standards, are subject to FDA export requirements.

Regulations regarding the development, manufacture and sale of medical devices are evolving and subject to future change. We cannot predict what impact, if any, those changes might have on our business. Failure to comply with regulatory requirements could have a material adverse effect on our business, financial condition and results of operations. Later discovery of previously unknown problems with a product or manufacturer could result in fines, delays or suspensions of regulatory clearances or approvals, seizures or recalls of products, physician advisories or other field actions, operating restrictions and/or criminal prosecution. We may also initiate field actions as a result of a failure to strictly comply with our internal quality policies. The failure to receive product approval clearance on a timely basis, suspensions of regulatory clearances, seizures or recalls of products, physician advisories or other field actions, or the withdrawal of product approval by the FDA or by comparable agencies in foreign countries could have a material adverse effect on our business, financial condition or results of operations.

Our products are continually subject to clinical trials conducted by us, our competitors or other third parties, the results of which may be unexpected, or perceived as unfavorable by the market, and could have a material adverse effect on our business, financial condition or results of operations.

As a part of the regulatory process of obtaining marketing clearance for new products and new indications for existing products, we conduct and participate in numerous clinical trials with a variety of study designs, patient populations and trial endpoints. Unexpected or inconsistent clinical data from existing or future clinical trials conducted by us, by our competitors or by third parties, including acquired businesses prior to acquisition by us, or the FDA's or the market's perception of this clinical data, may adversely impact our ability to obtain product approvals, our position in, and share of, the markets in which we participate and our business, financial condition, results of operations or future prospects.

Our future growth is dependent upon the development of new products and enhancement of existing products, which requires significant research and development, clinical trials and regulatory approvals, all of which may be very expensive and time-consuming and may not result in commercially viable products.

In order to develop new products and enhance existing products, we focus our research and development programs largely on the development of next-generation and novel technology offerings across multiple programs and businesses. The development of new products and enhancement of existing products requires significant investment in research and development, clinical trials and regulatory approvals. The results of our product development efforts may be affected by a number of factors, including our ability to anticipate customer needs, innovate and develop new products, complete clinical trials, obtain regulatory approvals and reimbursement in the United States and abroad, manufacture products in a cost-effective manner, obtain appropriate intellectual property protection for our products and gain and maintain market approval of our products. There can be no assurance that any products now in development or that we may seek to develop in the future will achieve technological feasibility, obtain regulatory approval or gain market acceptance. If we are unable to develop and launch new products and enhanced products, our ability to maintain or expand our market position in the markets in which we participate may be materially adversely impacted. Further, we are continuing to investigate and have completed several acquisitions that involve opportunities to further expand our presence in and diversify into, priority growth areas by accessing new products and technologies. There can be no assurance that our investments will be successful or that we will be able to access new products and technologies on terms favorable to us, or that these products and technologies will achieve commercial feasibility, obtain regulatory approval or gain market acceptance. A delay in the development or approval of new products and technologies or our decision to reduce our investments may adversely impact the contribution of these technologies to our future growth.

Additionally, certain products or groups of products, in particular new products or enhancements of existing products, may have a disproportionate impact on our business, financial condition and results of operations. Failure to meet growth projections, poor clinical outcomes, increasing regulatory requirements, launch delays and inability to effectively scale manufacturing and achieve targeted margins with respect to any of these products or groups of products in particular may materially adversely impact on our business, financial condition and results of operations.

The medical device industry and its customers continue to face scrutiny and regulation by governmental authorities and are often the subject of numerous investigations, often involving marketing and other business practices or product quality issues including device recalls or advisories. These investigations could result in the commencement of civil and criminal proceedings; imposition of substantial fines, penalties and administrative remedies, including corporate integrity agreements, stipulated judgments or exclusion; diversion of our employees and management's attention; imposition of administrative costs and have an adverse effect on our financial condition, results of operations and liquidity; and may lead to greater governmental regulation in the future.

The medical devices we design, develop, manufacture and market are subject to rigorous regulation by the FDA and numerous other federal, state and foreign governmental authorities. These authorities continue to highly scrutinize our industry. We have received and in the future may receive, subpoenas and other requests for information from Congress and other state and federal governmental agencies, including, among others, the U.S. Department of Justice (DOJ), the Office of Inspector General of the Department of Health and Human Services (HHS) and the Department of Defense, as well as from foreign governments and agencies. The requests and/or subpoenas we have received relate primarily to financial arrangements with healthcare providers, regulatory compliance and sale and/or product promotional practices. We have cooperated with these subpoenas and other requests for information and expect to continue to do so in the future. We cannot predict when a matter will be resolved, the outcome of the matter or its impact on us and cooperation may involve significant costs, including document production costs. An adverse outcome in any matter could include the commencement of an investigation, civil and criminal proceedings, substantial fines, penalties and administrative remedies, including exclusion from government reimbursement programs, entry into Corporate Integrity Agreements (CIAs) with governmental agencies and amendments to any existing CIAs. In addition, resolution of any matter could involve the imposition of additional and costly compliance obligations. Cooperation with requests and investigations

from external agencies result in employee resource costs and diversion of employee focus. If any requests or investigations continue over a long period of time, they could divert the attention of management from the day-to-day operations of our business and impose significant additional administrative burdens on us. These potential consequences, as well as any adverse outcome from these requests or investigations, could have a material adverse effect on our financial condition, results of operations and liquidity.

In addition, certain foreign governments, state governments (including that of Massachusetts, where we are headquartered) and the U.S. federal government have enacted legislation aimed at increasing transparency of our interactions with healthcare providers. As an example, compliance with the U.S. Physician Payment Sunshine Act requires us by law to disclose payments and other transfers of value to all U.S. physicians and U.S. teaching hospitals at the U.S. federal level made after August 1, 2013. Any failure to comply with these legal and regulatory requirements could impact our business. In addition, we have and may continue to devote substantial additional time and financial resources to further develop and implement enhanced structure, policies, systems and processes to comply with enhanced legal and regulatory requirements, which may also impact our business.

We anticipate that governmental authorities will continue to scrutinize our industry closely and that additional regulation may increase compliance and legal cost and exposure to litigation and have additional adverse effects on our operations.

Changes in tax laws, unfavorable resolution of tax contingencies, or exposure to additional income tax liabilities could have a material impact on our financial condition, results of operations and/or liquidity.

We are subject to income taxes as well as non-income based taxes, in both the U.S. and various foreign jurisdictions. We are subject to ongoing tax audits in various jurisdictions. Tax authorities may disagree with certain positions we have taken and assess additional taxes. We regularly assess the likely outcomes of these audits to determine the appropriateness of our tax provision, and we have established contingency reserves for material, known tax exposures. However, the calculation of such tax exposures involves the application of complex tax laws and regulations in many jurisdictions, as well as interpretations as to the legality under European Union state aid rules of tax advantages granted in certain jurisdictions. Therefore, there can be no assurance that we will accurately predict the outcomes of these disputes or other tax audits or that issues raised by tax authorities will be resolved at a financial cost that does not exceed our related reserves and the actual outcomes of these disputes and other tax audits could have a material impact on our results of operations or financial condition.

Changes in tax laws and regulations, or their interpretation and application, in the jurisdictions where we are subject to tax could materially impact our effective tax rate. The U.S. enacted the Tax Cuts and Jobs Act (TCJA) on December 22, 2017 and we expect the U.S. Treasury to issue future notices and regulations under the TCJA. Certain provisions of the TCJA and the regulations issued thereunder could have a significant impact on our future results of operations as could interpretations made by the Company in the absence of regulatory guidance and judicial interpretations.

Additionally, the Organization for Economic Co-operation and Development (OECD), the European Commission (EC) and individual taxing jurisdictions where we and our affiliates do business have recently focused on issues related to the taxation of multinational corporations. The OECD has released its comprehensive plan to create an agreed set of international rules for fighting base erosion and profit shifting. In addition, the OECD, the EC and individual countries are examining changes to how taxing rights should be allocated among countries considering the digital economy. As a result, the tax laws in the U.S. and other countries in which we and our affiliates do business could change on a prospective or retroactive basis and any such changes could materially adversely affect our business.

Our operations in Puerto Rico and Costa Rica presently benefit from various tax incentives and grants. Unless these incentives and grants are extended, they will expire between 2023 and 2028. If we are unable to renew, extend, or obtain new incentive and grants, the expiration of the existing incentives and grants could have a material impact on our financial results in future periods.

We may not effectively be able to protect our intellectual property or other sensitive data, which could have a material adverse effect on our business, financial condition or results of operations.

The medical device market in which we primarily participate is largely technology driven. Physician customers have historically moved quickly to new products and new technologies. As a result, intellectual property rights, particularly patents and trade secrets, play a significant role in product development and differentiation. However, intellectual property litigation is inherently complex and unpredictable and appellate courts can overturn lower court decisions. Furthermore, as our business increasingly relies on technology systems and infrastructure, our intellectual property, other proprietary technology and other sensitive data are potentially vulnerable to loss, damage or misappropriation. Finally, our ability to protect novel business models is uncertain.

Competing parties in our industry frequently file multiple suits to leverage patent portfolios across product lines, technologies and geographies and to balance risk and exposure between the parties. In some cases, several competitors are parties in the same

proceeding, or in a series of related proceedings, or litigate multiple features of a single class of devices. These forces frequently drive settlement not only of individual cases, but also of a series of pending and potentially related and unrelated cases. In addition, although monetary and injunctive relief is typically sought, remedies and restitution are generally not determined until the conclusion of the trial court proceedings and can be modified on appeal. Accordingly, the outcomes of individual cases are difficult to time, predict or quantify and are often dependent upon the outcomes of other cases in other geographies.

A number of third parties have asserted that our current and former product offerings infringe patents owned or licensed by them. We have similarly asserted that products sold by our competitors infringe patents owned or licensed by us. Adverse outcomes in one or more of the proceedings against us could limit our ability to sell certain products in certain jurisdictions, or reduce our operating margin on the sale of these products and could have a material adverse effect on our financial condition, results of operations or liquidity.

Patents and other proprietary rights are and will continue to be essential to our business and our ability to compete effectively with other companies will be dependent upon the proprietary nature of our technologies. We rely upon trade secrets, know-how, continuing technological innovations, strategic alliances and licensing opportunities to develop, maintain and strengthen our competitive position. We pursue a policy of generally obtaining patent protection in both the U.S. and abroad for patentable subject matter in our proprietary devices and attempt to review third-party patents and patent applications to the extent publicly available in order to develop an effective patent strategy, avoid infringement of third-party patents, identify licensing opportunities and monitor the patent claims of others. We currently own numerous U.S. and foreign patents and have numerous patent applications pending. We also are party to various license agreements pursuant to which patent rights have been obtained or granted in consideration for cash, cross-licensing rights or royalty payments. No assurance can be made that any pending or future patent applications will result in the issuance of patents, that any current or future patents issued to, or licensed by, us will not be challenged or circumvented by our competitors, or that our patents will not be found invalid. In addition, we may have to take legal action in the future to protect our patents, trade secrets or know-how or to assert them against claimed infringement by others. Any legal action of that type could be costly and time consuming and no assurances can be made that any lawsuit will be successful. We are generally involved as both a plaintiff and a defendant in a number of patent infringement and other intellectual property-related actions. The invalidation of key patents or proprietary rights that we own, or an unsuccessful outcome in lawsuits to protect our intellectual property, could have a material adverse effect on our business, financial condition or results of operations.

In addition, the laws of certain countries in which we market and plan on manufacturing some of our products in the near future, do not protect our intellectual property rights to the same extent as the laws of the U.S. If we are unable to protect our intellectual property in these countries, it could have a material adverse effect on our business, financial condition or results of operations.

Furthermore, our intellectual property, other proprietary technology and other sensitive data are potentially vulnerable to loss, damage or misappropriation from system malfunction, computer viruses and unauthorized access to our data or misappropriation or misuse thereof by those with permitted access and other events. While we have invested to protect our intellectual property, products and other data and continue to work diligently in this area, there can be no assurance that our precautionary measures will prevent breakdowns, breaches, cyber-attacks or other events. Such events could have a material adverse effect on our reputation, business, financial condition or results of operations.

We rely on the proper function, availability and security of information technology systems to operate our business and a cyber-attack or other breach of these systems could have a material adverse effect on our business, financial condition or results of operations.

We rely on information technology systems, including technology from third party vendors, to process, transmit and store electronic information in our day-to-day operations. Similar to other large multi-national companies, the size and complexity of our information technology systems makes them vulnerable to a cyber-attack, malicious intrusion, breakdown, destruction, loss of data privacy, or other significant disruption. Our information systems require an ongoing commitment of significant resources to maintain, protect and enhance existing systems and develop new systems to keep pace with continuing changes in information processing technology, evolving systems and regulatory standards, the increasing need to protect patient and customer information and changing customer patterns. In addition, third parties may attempt to hack into our products to obtain data relating to patients or disrupt performance of our products or to access our proprietary information and the technology from third party vendors that we rely upon may have defects or vulnerabilities which, in turn, create vulnerabilities or disruptions in our system. Any failure by us to maintain or protect our information technology systems, products and data integrity, including from cyber-attacks, intrusions or other breaches, could result in the unauthorized access to patient data and personally identifiable information, theft of intellectual property or other misappropriation of assets, or otherwise compromise our confidential or proprietary information and disrupt our operations, or, in the worst case, could result in harm to patients. Such failure, or demonstration of vulnerability to such failure, may also result in additional regulatory scrutiny. We also grow our company through acquisitions and may face risks associated with defects and vulnerabilities in their systems as we work to integrate the acquisitions into our information technology system.

In the U.S., federal and state privacy and security laws require certain of our operations to protect the confidentiality of personal information including patient medical records and other health information. In Europe, the Data Protection Directive requires us to manage individually identifiable information in the EU and, the new General Data Protection Regulation may impose fines of up to four percent of our global revenue in the event of violations after implementation of the requirements on May 25, 2018. Internationally, some countries have also passed laws that require individually identifiable data on their citizens to be maintained on local servers and that may restrict transfer or processing of that data. We believe that we meet the expectations of applicable regulations and that the ongoing costs and impacts of ensuring compliance with such rules are not material to our business. However, there is no guarantee that we will avoid enforcement actions by governmental bodies. Enforcement actions could be costly and interrupt regular operations of our business. Any of these events, in turn, may cause us to lose existing customers, have difficulty preventing, detecting and controlling fraud, have disputes with customers, physicians and other healthcare professionals, be subject to legal claims and liability, have regulatory sanctions or penalties imposed, have increases in operating expenses, incur expenses or lose revenues as a result of a data privacy breach or theft of intellectual property, or suffer other adverse consequences, any of which could have a material adverse effect on our business, financial condition or results of operations.

Pending and future intellectual property litigation could be costly and disruptive to us.

We operate in an industry that is susceptible to significant intellectual property litigation and, in recent years, it has been common for companies in the medical device field to aggressively challenge the patent rights of other companies. We are currently the subject of various patent litigation proceedings and other proceedings described in more detail under *Note J – Commitments and Contingencies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report . Intellectual property litigation is expensive, complex and lengthy and its outcome is difficult to predict. Adverse outcomes in one or more of these matters could have a material adverse effect on our ability to sell certain products and on our operating margins, financial condition, results of operation or liquidity. Pending or future patent litigation may result in significant royalty or other payments or injunctions that can prevent the sale of products and may significantly divert the attention of our technical and management personnel. In the event that our right to market any of our products is successfully challenged, we may be required to obtain a license on terms which may not be favorable to us, if at all. If we fail to obtain a required license or are unable to design around a patent, our business, financial condition or results of operations could be materially adversely affected.

Pending and future product liability claims and other litigation, including private securities litigation, stockholder derivative suits and contract litigation, may adversely affect our financial condition and results of operations or liquidity.

The design, manufacturing and marketing of medical devices of the types that we produce entail an inherent risk of product liability claims. Many of the medical devices that we manufacture and sell are designed to be implanted in the human body for long periods of time or indefinitely. A number of factors could result in an unsafe condition or injury to, or death of, a patient with respect to these or other products that we manufacture or sell, including physician technique and experience in performing the surgical procedure, component failures, manufacturing flaws, design defects, off-label use or inadequate disclosure of product-related risks or product-related information. These factors could result in product liability claims, a recall of one or more of our products or a safety alert relating to one or more of our products. Product liability claims may be brought by individuals or by groups seeking to represent a class.

We are currently the subject of product liability litigation proceedings and other proceedings described in more detail under *Note J – Commitments and Contingencies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report . The outcome of litigation, particularly class action lawsuits, is difficult to assess or quantify. Plaintiffs in these types of lawsuits often seek recovery of very large or indeterminate amounts, including not only actual damages, but also punitive damages. The magnitude of the potential losses relating to these lawsuits may remain unknown for substantial periods of time. In addition, the cost to defend against any future litigation may be significant. Product liability claims, securities and commercial litigation and other litigation in the future, regardless of the outcome, could have a material adverse effect on our financial condition, results of operations or liquidity. Additionally, we maintain an insurance policy providing limited coverage against securities claims and we are substantially self-insured with respect to product liability claims and fully self-insured with respect to intellectual property infringement claims. The fact that we do not maintain third-party insurance coverage for all categories of losses increases our exposure to unanticipated claims and adverse decisions and these losses could have a material adverse effect on our financial condition, results of operations or liquidity.

Any failure to meet regulatory quality standards applicable to our manufacturing and quality processes could have an adverse effect on our business, financial condition and results of operations.

As a medical device manufacturer, we are required to register our establishments and list our devices with the FDA and are subject to periodic inspection by the FDA for compliance with its Quality System Regulation requirements, which require manufacturers

of medical devices to adhere to certain regulations, including testing, quality control and documentation procedures. In addition, the Federal Medical Device Reporting regulations require us to provide information to the FDA whenever there is evidence that reasonably suggests that a device may have caused or contributed to a death or serious injury or, if a malfunction were to occur, could cause or contribute to a death or serious injury. Compliance with applicable regulatory requirements is subject to continual review and is monitored rigorously through periodic inspections by the FDA which may result in observations on Form 483 and in some cases warning letters that require corrective action. In the European Community, we are required to maintain certain International Standards Organization (ISO) certifications in order to sell our products and must undergo periodic inspections by notified bodies to obtain and maintain these certifications. Many other countries in which we do business have requirements similar to those of the U.S. or the EU and other foreign governments or agencies may subject us to periodic inspections as well. If we, or our manufacturers, fail to adhere to quality system regulations or ISO requirements, this could delay production of our products and lead to fines, difficulties in obtaining regulatory clearances, recalls, enforcement actions, including injunctive relief or consent decrees, or other consequences, which could, in turn, have a material adverse effect on our financial condition or results of operations.

Interruption of our manufacturing operations could adversely affect our results of operations and financial condition.

Our products are designed and manufactured in technology centers around the world, either by us or third parties. In most cases, the manufacturing of any specific product is concentrated in one or a few locations. Factors such as a failure to follow specific internal protocols and procedures, equipment malfunction, environmental factors or damage to one or more of our facilities could adversely affect our ability to manufacture our products. In the event of an interruption in manufacturing, we may be unable to quickly move to alternate means of producing affected products or to meet customer demand. In the event of a significant interruption, for example, as a result of a failure to follow regulatory protocols and procedures, we may experience lengthy delays in resuming production of affected products due primarily to needs for regulatory approvals. As a result, we may experience loss of market share, which we may be unable to recapture and harm to our reputation, which could adversely affect our results of operations and financial condition.

Disruptions in the supply of the materials and components used in manufacturing our products or the sterilization of our products by third-party vendors could adversely affect our results of operations and financial condition.

We purchase many of the materials and components used in manufacturing our products from third-party vendors. Certain of these materials and components are purchased from single sources due to quality considerations, expertise, costs or constraints resulting from regulatory requirements. In certain cases we may not be able to establish additional or replacement vendors for such materials or components in a timely or cost effective manner, largely as a result of FDA regulations that require validation of materials and components prior to their use in our products and the complex nature of our and many of our vendors' manufacturing processes. A reduction or interruption in the supply of materials and components used in manufacturing our products, an inability to timely develop and validate alternative sources if required or a significant increase in the price of such materials or components could adversely affect our results of operations and financial condition.

In addition, many of our products require sterilization prior to sale and we utilize a mix of internal resources and contract sterilizers to perform this service. To the extent we or our contract sterilizers are unable to sterilize our products, whether due to capacity, availability of materials for sterilization, regulatory or other constraints, we may be unable to transition to other contract sterilizer, sterilizer locations or sterilization methods in a timely or cost effective manner or at all, which could have an adverse impact on our results of operations and financial condition.

One of our contract sterilizers, Sterigenics U.S. LLC (Sterigenics), uses ethylene oxide to provide sterilization services for certain men's health products within our Urology and Pelvic Health business. In October 2018, the DuPage County State's Attorney and Illinois Attorney General filed a lawsuit against Sterigenics over the emissions in connection with the use of ethylene oxide during sterilization at Sterigenics' Willowbrook, Illinois plant. On February 15, 2019, the Illinois Environmental Protection Agency (EPA) took action to suspend operations at the Willowbrook facility. Sterigenics is challenging the action by the Illinois EPA. We are committed to ethical and sustainable business practices and have an expectation that our partners comply with all applicable regulations. We believe we currently have adequate inventory levels to sustain the disruption at the Willowbrook facility for the near term and are also pursuing various options to manage any impact to patients or our financial results, including accelerating our plans to move to existing sterilization facilities in our supply chain network. If we are unable to execute any of these options, there may be a material impact to our Urology and Pelvic Health business in the first half of 2019.

Our share price has been volatile and may fluctuate, and accordingly, the value of an investment in our common stock may also fluctuate.

Stock markets in general and our common stock in particular have experienced significant price and trading volume volatility over recent years. The market price and trading volume of our common stock may continue to be subject to significant fluctuations

due to factors described under this Item 1A. Risk Factors , as well as economic and geopolitical conditions in general and to variability in the prevailing sentiment regarding our operations or business prospects, as well as, among other things, changing investment priorities of our stockholders. Because the market price of our common stock fluctuates significantly, stockholders may not be able sell their shares at attractive prices.

If we are unable to attract or retain key personnel, it could have an adverse effect on our business, financial condition and results from operations.

In our industry, there is substantial competition for key personnel in the regions in which we operate and we may face increased competition for such employees, particularly in emerging markets as the trend toward globalization continues. Our business depends to a significant extent on the continued service of senior management and other key personnel, the development of additional management personnel and the hiring of new qualified employees. There can be no assurance that we will be successful in retaining and developing existing personnel or recruiting new personnel. The loss of one or more key employees, our ability to attract or develop additional qualified employees or any delay in hiring key personnel could have material adverse effects on our business, financial condition or results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our world headquarters is located in Marlborough, Massachusetts, with regional headquarters located in Singapore and Voisins-le-Bretonneux, France. As of December 31, 2018, our principal manufacturing and technology centers were located in Minnesota, California and Indiana within the U.S., as well as internationally in Ireland, Costa Rica, Puerto Rico, Malaysia, Brazil and Switzerland. Our products are distributed worldwide from customer fulfillment centers in Massachusetts and the Netherlands. As of December 31, 2018, we maintained 16 principal manufacturing facilities, including seven in the U.S., three in Ireland, two in Costa Rica, one in Puerto Rico, one in Malaysia, one in Brazil and one in Switzerland, as well as various distribution and technology centers around the world. Many of these facilities produce and manufacture products for more than one of our divisions and include research facilities. The following is a summary of our facilities as of December 31, 2018 (in approximate square feet):

	Owned (1)	Leased (2)	Total
U.S.	4,043,000	1,283,000	5,326,000
International	2,269,000	1,304,000	3,573,000
	6,312,000	2,587,000	8,899,000

(1) Includes our principal manufacturing facilities in Minnesota, Ireland, Puerto Rico and one facility in Costa Rica, our manufacturing facility in Malaysia, our customer fulfillment centers in Massachusetts, the Netherlands and Japan, and our global headquarters location in Marlborough, Massachusetts.

(2) Includes our principal manufacturing facilities in California, Indiana, Brazil, Switzerland and one in Costa Rica, and our regional headquarters located in Singapore and Voisins-le-Bretonneux, France.

ITEM 3. LEGAL PROCEEDINGS

See *Note J – Commitments and Contingencies* to our consolidated financial statements included in Item 8 of this Annual Report and incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

PART II

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

Market Information

Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "BSX."

Holders of Record

As of January 31, 2019, there were 8,087 holders of record of our common stock.

Dividends

We did not pay a cash dividend in 2018, 2017 or 2016 and currently we do not intend to pay cash dividends. We may consider declaring and paying a cash dividend in the future; however, there can be no assurance that we will do so.

Securities Authorized for Issuance under Equity Compensation Plans

Please see Item 12. "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" under Part III of this Annual Report for information on where to find information required by Item 201(d) of Regulation S-K.

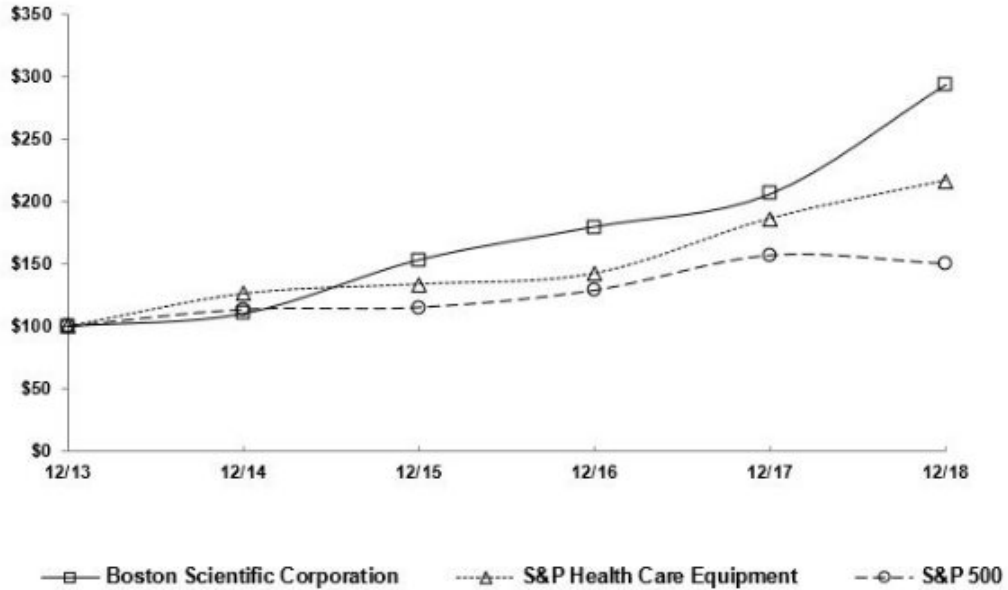
Purchases of Equity Securities by the Issuer and Affiliated Purchases

On January 25, 2013, our Board of Directors approved and on January 29, 2013, we announced a program authorizing the repurchase of up to \$1.000 billion of our common stock. In 2014, we used \$125 million of cash generated from operations to repurchase approximately 10 million shares of our common stock pursuant to our share repurchase authorizations. We made no share repurchases in 2018, 2017 or 2016. Refer to *Note K - Stockholders' Equity* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information. As of December 31, 2018, we had approximately \$535 million remaining available under the 2013 share repurchase program.

Stock Performance Graph

The graph below compares the five-year total return to stockholders on our common stock with the return of the Standard & Poor’s (S&P) 500 Stock Index and the S&P Health Care Equipment Index. The graph assumes \$100 was invested in our common stock and in each of the named indices on December 31, 2013 and that any dividends were reinvested.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN†
 Among Boston Scientific Corporation, the S&P 500 Index
 and the S&P Health Care Equipment Index



†\$100 invested on 12/31/13 in stock or index, including reinvestment of dividends.
 Fiscal year ending December 31.

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Note: The stock price performance shown on the graph above is not indicative of future price performance. This graph shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section nor shall it be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, regardless of any general incorporation language in such filing.

ITEM 6. SELECTED FINANCIAL DATA**FIVE-YEAR SELECTED FINANCIAL DATA***(in millions, except per share data)***Operating Data**

Year Ended December 31,	2018	2017	2016	2015	2014
Net sales	\$ 9,823	\$ 9,048	\$ 8,386	\$ 7,477	\$ 7,380
Gross profit	7,011	6,455	5,962	5,304	5,170
Total operating expenses	5,504	5,170	5,515	5,587	5,471
Operating income (loss)	1,506	1,285	447	(283)	(301)
Income (loss) before income taxes	1,422	933	177	(650)	(509)
Net income (loss)	1,671	104	347	(239)	(119)
Net income (loss) per common share:					
Basic	\$ 1.21	\$ 0.08	\$ 0.26	\$ (0.18)	\$ (0.09)
Assuming dilution	\$ 1.19	\$ 0.08	\$ 0.25	\$ (0.18)	\$ (0.09)

Balance Sheet Data

As of December 31,	2018	2017	2016	2015	2014
Cash, cash equivalents and marketable securities	\$ 146	\$ 188	\$ 196	\$ 319	\$ 587
Working capital (deficit)	(1,257)	(1,832)	(348)	1,041	760
Total assets	20,999	19,042	18,096	18,133	17,024
Borrowings (short-term)	2,253	1,801	64	3	403
Borrowings (long-term)	4,803	3,815	5,420	5,674	3,841
Stockholders' equity	8,726	7,012	6,733	6,320	6,457
Book value per common share ††	\$ 6.30	\$ 5.11	\$ 4.94	\$ 4.69	\$ 4.86

†† Book value per common share is calculated using shares outstanding as of December 31, for each year, respectively shown.

The data above should be read in conjunction with our consolidated financial statements, including the notes thereto, included in Item 8. Financial Statements and Supplementary Data of our Annual Report on Form 10-K.

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

The following discussion and analysis provides information management believes to be relevant to understanding the financial condition and results of operations of Boston Scientific Corporation and its subsidiaries. For a full understanding of our financial condition and results of operations, this discussion should be read in conjunction with our consolidated financial statements and accompanying notes included in Item 8. Financial Statements and Supplementary Data of this Annual Report.

Executive Summary

Financial Highlights and Trends

In 2018, we generated net sales of \$9.823 billion, as compared to \$9.048 billion in 2017. This increase of \$775 million, or 8.6 percent, included operational growth of 8.0 percent and the positive impact of 60 basis points from foreign currency fluctuations. Operational net sales included approximately \$78 million in 2018 due to the acquisitions of Symetis SA (Symetis) in the second quarter of 2017, NxThera, Inc. (NxThera) in the second quarter of 2018, Claret Medical, Inc. (Claret) in the third quarter of 2018 and Augmenix, Inc. (Augmenix) in the fourth quarter of 2018, each with no prior period related net sales. ¹ Refer to the *Business and Market Overview* section for further discussion of our net sales by global business.

Our reported net income in 2018 was \$1.671 billion, or \$1.19 per diluted share. Our reported results for 2018 included certain charges and/or credits totaling \$389 million (after-tax), or \$0.28 per diluted share. Excluding these items, adjusted net income for 2018 was \$2.060 billion, or \$1.47 per diluted share. ¹

Our reported net income in 2017 was \$104 million, or \$0.08 per diluted share. Our reported results for 2017 included certain charges and/or credits totaling \$1.647 billion (after-tax), or \$1.18 per diluted share. Excluding these items, adjusted net income for 2017 was \$1.752 billion, or \$1.26 per diluted share. ¹

¹ Operational net sales growth rates, which exclude the impact of foreign currency fluctuations and adjusted net income and adjusted net income per share, which exclude certain items required by generally accepted accounting principles in the United States (U.S. GAAP), are not prepared in accordance with U.S. GAAP and should not be considered in isolation from, or as a replacement for, the most directly comparable GAAP measure. Refer to *Additional Information* for a discussion of management's use of these non-GAAP financial measures.

The following is a reconciliation of our results of operations prepared in accordance with U.S. GAAP to those adjusted results considered by management. Refer to *Results of Operations* for a discussion of each reconciling item:

<i>(in millions, except per share data)</i>	Year Ended December 31, 2018	
	Net Income (Loss)	Impact per Share
GAAP net income (loss)	\$ 1,671	\$ 1.19
Non-GAAP adjustments:		
Amortization expense	520	0.37
Intangible asset impairment charges	31	0.02
Acquisition-related net charges (credits)	5	0.00
Restructuring and restructuring-related net charges (credits)	77	0.05
Litigation-related net charges (credits)	79	0.06
Investment impairment charges	6	0.00
Discrete tax items	(328)	(0.23)
Adjusted net income	\$ 2,060	\$ 1.47

<i>(in millions, except per share data)</i>	Year Ended December 31, 2017	
	Net Income (Loss)	Impact per Share
GAAP net income (loss)	\$ 104	\$ 0.08
Non-GAAP adjustments:		
Amortization expense	492	0.35
Intangible asset impairment charges	4	0.00
Acquisition-related net charges (credits)	9	0.01
Restructuring and restructuring-related net charges (credits)	75	0.05
Litigation-related net charges (credits)	172	0.12
Investment impairment charges	36	0.03
Discrete tax items	861	0.62
Adjusted net income	\$ 1,752	\$ 1.26

Cash provided by operating activities was \$310 million in 2018 . As of December 31, 2018 , we had total debt of \$7.056 billion , Cash and cash equivalents of \$146 million and a working capital deficit of \$1.257 billion . Refer to *Liquidity and Capital Resources* for further information.

Business and Market Overview

The following section describes an overview of our product offerings and results of operations by business unit. For additional information on our businesses and their product offerings, see Item 1. Business of this Annual Report.

Effective January 1, 2018, following organizational changes to align the structure of our business with our focus on active implantable devices, we revised our reportable segments, in accordance with FASB ASC Topic 280, *Segment Reporting*. The revision reflects a reclassification of our Neuromodulation business from our MedSurg segment to our newly created Rhythm and Neuro segment. We have revised prior year amounts to conform to the current year's presentation (as denoted with an asterisk (*) throughout). There was no revision to operating segments or reporting units as a result of the organizational change. Refer to *Note A – Significant Accounting Policies* to our consolidated financial statements in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information.

MedSurg

Endoscopy

Our Endoscopy business develops and manufactures devices to diagnose and treat a broad range of gastrointestinal (GI) and pulmonary conditions with innovative, less invasive technologies.

Our net sales of Endoscopy products of \$1.762 billion represented approximately 18 percent of our consolidated net sales in 2018. Our Endoscopy net sales increased \$143 million, or 8.8 percent, in 2018, as compared to 2017. This increase included operational net sales growth of 8.3 percent and the positive impact of 50 basis points from foreign currency fluctuations, as compared to 2017. This year-over-year increase was primarily driven by growth in our hemostasis franchise featuring our Resolution 360™ Clip, our biliary franchise with both our SpyGlass™ DS Direct Visualization System and AXIOS™ Stent and Electrocautery Enhanced Delivery System and our infection prevention products and pathology services.

Urology and Pelvic Health

Our Urology and Pelvic Health business develops and manufactures devices to treat various urological and pelvic conditions for both male and female anatomies.

Our net sales of Urology and Pelvic Health products of \$1.245 billion represented approximately 13 percent of our consolidated net sales in 2018. Urology and Pelvic Health net sales increased \$122 million, or 10.8 percent, in 2018, as compared to 2017. This increase included operational net sales growth of 10.6 percent and the positive impact of 20 basis points from foreign currency fluctuations, as compared to 2017. This year-over-year increase was primarily attributable to growth in sales of our stone franchise, including our LithoVue™ Digital Flexible Ureterscope, our men's health products and our benign prostatic hyperplasia (BPH) product family, including the Rezūm™ System purchased as part of our NxThera acquisition and the SpaceOAR™ Hydrogel System purchased as part of our Augmenix acquisition.

Rhythm and Neuro

Cardiac Rhythm Management

Our Cardiac Rhythm Management (CRM) business develops and manufactures a variety of implantable devices that monitor the heart and deliver electricity to treat cardiac abnormalities.

Our net sales of CRM products of \$1.951 billion represented approximately 20 percent of our consolidated net sales in 2018. Our net sales of CRM products increased \$56 million, or 2.9 percent, in 2018, as compared to 2017. This increase included operational net sales growth of 2.1 percent and the positive impact of 80 basis points from foreign currency fluctuations, as compared to 2017. This year-over-year increase was driven by the global strength of our implantable cardioverter defibrillator (ICD), our implantable cardiac resynchronization therapy defibrillator (CRT-D) and our subcutaneous implantable cardiac defibrillator (S-ICD) products. Our current generation of ICD and CRT-D products were both favorably impacted by our U.S. magnetic resonance imaging (MRI) safe conditional labeling, which was approved by the FDA in September 2017 and launched in the fourth quarter of 2017. Our defibrillator growth was also driven by a combination of the ongoing global commercialization of our RESONATE™ family of ICD and CRT-D devices which includes our HeartLogic™ Heart Failure (HF) Diagnostic and the increasing market penetration of our S-ICDs. This year-over-year defibrillator growth was partially offset by declines in our pacemaker portfolio due to market share loss as a result of competitive product entrance.

Electrophysiology

Our Electrophysiology business develops and manufactures less-invasive medical technologies used in the diagnosis and treatment of rate and rhythm disorders of the heart .

Our net sales of Electrophysiology products of \$311 million represented approximately three percent of our consolidated net sales in 2018 . Our Electrophysiology net sales increased \$33 million , or 12.1 percent , in 2018 , as compared to 2017 . This increase included operational net sales growth of 10.9 percent and the positive impact of 120 basis points from foreign currency fluctuations, as compared to 2017 . This year-over-year increase was primarily driven by global expansion of our Rhythmia™ Mapping System products and capital equipment offerings, our expanded portfolio of navigation enabled open-irrigated catheters, including the Blazer IntellaNav MiFi™ Open-Irrigated catheter, and advanced diagnostic catheters, including the IntellaMap Orion™ Mapping Catheter.

Neuromodulation

Our Neuromodulation business develops and manufactures devices to treat various neurological movement disorders and manage chronic pain.

Our net sales of Neuromodulation products of \$779 million represented eight percent of our consolidated net sales in 2018 . Neuromodulation net sales increased \$144 million , or 22.7 percent , in 2018 , as compared to 2017 . This increase included operational net sales growth of 22.5 percent and the positive impact of 20 basis points from foreign currency fluctuations, as compared to 2017 . This year-over-year increase was primarily driven by the successful launch of Spectra WaveWriter™ Spinal Cord Stimulator (SCS) Systems in the U.S. and the continued strong sales growth in our Vercise™ Deep Brain Stimulation (DBS) Systems.

Cardiovascular

Interventional Cardiology

Our Interventional Cardiology business develops and manufactures technologies for diagnosing and treating coronary artery disease and other cardiovascular disorders including structural heart conditions.

Our net sales of Interventional Cardiology products of \$2.590 billion represented approximately 26 percent of our consolidated net sales in 2018 . Our Interventional Cardiology net sales increased \$171 million , or 7.1 percent , in 2018 , as compared to 2017 . This increase included operational net sales growth of 6.6 percent and the positive impact of 50 basis points from foreign currency fluctuations, as compared to 2017 . This year-over-year increase was primarily related to our structural heart therapies, including sales of our WATCHMAN™ Left Atrial Appendage Closure (LAAC) Device, our ACURATE™ Transcatheter Aortic Valve Replacement (TAVR) platform purchased as part of our Symetis acquisition, our Sentinel™ Cerebral Embolic Protection System purchased as part of our Claret acquisition and our complex percutaneous coronary interventions (PCI) product offerings, partially offset by a decline in sales of our drug-eluting coronary stent product offerings.

Peripheral Interventions

Our Peripheral Interventions business develops and manufactures products to diagnose and treat peripheral arterial diseases, including a broad line of medical devices used in percutaneous transluminal angioplasty (PTA) and peripheral vascular diseases, as well as products to diagnose, treat and ease various forms of cancer.

Our net sales of Peripheral Interventions products of \$1.187 billion represented approximately 12 percent of our consolidated net sales in 2018 . Our Peripheral Interventions net sales increased \$106 million , or 9.8 percent , in 2018 , as compared to 2017 . This increase included operational net sales growth of 9.2 percent and the positive impact of 60 basis points from foreign currency fluctuations, as compared to 2017 . This year-over-year increase was primarily driven by strong performance in each region, particularly in Asia Pacific and U.S., and growth in our interventional oncology product solutions, drug-eluting technologies, including Ranger™ Drug-Coated Balloon and Eluvia™ Drug Eluting Vascular Stent System and core technologies to treat vascular diseases.

Emerging Markets

As part of our strategic imperatives to drive global expansion, described in *Item 1. Business* of this Annual Report, we are seeking to grow net sales and market share by expanding our global presence, including in Emerging Markets. We define Emerging Markets as including 20 countries that we believe have strong growth potential based on their economic conditions, healthcare sectors and our global capabilities. We have increased our investment in infrastructure in these countries in order to maximize opportunities. Our Emerging Markets net sales represented 11 percent of our consolidated net sales in 2018 and 10 percent in 2017 . In 2018 , our Emerging Markets net sales grew 18.0 percent on a reported basis including operational net sales growth of 21.4 percent and the negative impact of 340 basis points from foreign currency fluctuations, as compared to 2017 .

Results of Operations

Net Sales

The following table provides our net sales by business and the relative change in growth on a reported basis:

(in millions)	Year Ended December 31,			2018 versus 2017	2017 versus 2016
	2018	2017	2016		
Endoscopy	\$ 1,762	\$ 1,619	\$ 1,440	8.8%	12.4%
Urology and Pelvic Health	1,245	1,124	1,005	10.8%	11.8%
MedSurg*	3,007	2,742	2,445	9.7%	12.2%
Cardiac Rhythm Management	1,951	1,895	1,850	2.9%	2.5%
Electrophysiology	311	278	243	12.1%	14.5%
Neuromodulation	779	635	556	22.7%	14.2%
Rhythm and Neuro*	3,041	2,808	2,649	8.3%	6.0%
Interventional Cardiology	2,590	2,419	2,281	7.1%	6.1%
Peripheral Interventions	1,187	1,081	1,011	9.8%	6.8%
Cardiovascular	3,777	3,500	3,292	7.9%	6.3%
Net Sales	\$ 9,823	\$ 9,048	\$ 8,386	8.6%	7.9%

Refer to *Executive Summary* for further discussion of our net sales and a comparison of our 2018 and 2017 net sales.

In 2017, we generated net sales of \$9.048 billion, as compared to \$8.386 billion in 2016. This increase of \$662 million, or 7.9 percent, included operational net sales growth of 7.8 percent and a positive impact of 10 basis points from foreign currency fluctuations, as compared to 2016. This increase was primarily due to increases in net sales from our Endoscopy business of \$179 million, which included sales from our acquisition of EndoChoice Holdings, Inc. (EndoChoice) during the fourth quarter of 2016, from our Interventional Cardiology business of \$138 million, primarily due to increased sales from our WATCHMAN™ LAAC Technology and from our acquisition of Symetis SA (Symetis) during the second quarter of 2017, and from our Urology and Pelvic Health business of \$119 million.

Gross Profit

Our gross profit was \$7.011 billion in 2018, \$6.455 billion in 2017 and \$5.962 billion in 2016. As a percentage of net sales, our gross profit increased to 71.4 percent in 2018, as compared to 71.3 percent in 2017 and 71.1 percent in 2016. The following is a reconciliation of our gross profit margins and a description of the drivers of the change from period to period:

	Gross Profit Margin
Year Ended December 31, 2016	71.1%
Manufacturing cost reductions	1.9%
Sales pricing and mix	0.1%
Inventory step-up due to acquisition accounting	(0.2)%
Net impact of foreign currency fluctuations	(1.3)%
All other, including other inventory charges and other period expense	(0.3)%
Year Ended December 31, 2017	71.3%
Manufacturing cost reductions	0.8%
Sales pricing and mix	(0.2)%
Inventory step-up due to acquisition accounting	(0.1)%
Net impact of foreign currency fluctuations	(0.8)%
All other, including other inventory charges and other period expense	0.4%
Year Ended December 31, 2018	71.4%

The primary factors contributing to the increase in our gross profit margin for 2018 as compared to 2017 were the positive impacts of cost reductions resulting from our process improvement programs and restructuring programs and favorable period expense, partially offset by negative impacts from foreign currency fluctuations. The primary factors contributing to the increase in our gross profit margin for 2017 as compared to 2016 were the positive impacts of cost reductions resulting from our process improvement programs and restructuring program, partially offset by negative impacts from foreign currency fluctuations and unfavorable period expense. Our gross profit margin in 2017 included unfavorable period expenses due to the charges we recorded in the first quarter of 2017 related to the voluntary removal of Lotus Valve Devices from global commercial and clinical sites.

Operating Expenses

The following table provides a summary of certain of our operating expenses:

<i>(in millions)</i>	Year Ended December 31,					
	2018		2017		2016	
	\$	% of Net Sales	\$	% of Net Sales	\$	% of Net Sales
Selling, general and administrative expenses	\$ 3,569	36.3%	\$ 3,294	36.4%	\$ 3,099	37.0%
Research and development expenses	1,113	11.3%	997	11.0%	920	11.0%
Royalty expense	70	0.7%	68	0.8%	79	0.9%

Selling, General and Administrative (SG&A) Expenses

In 2018, our *SG&A expenses* increased \$275 million, or eight percent, as compared to 2017 and was 10 basis points lower as a percentage of net sales. This decrease in *SG&A expenses* as a percentage of net sales was primarily due to leverage from increased sales, as well as the benefit of our targeted initiatives focused on reducing *SG&A expenses* such as end-to-end business process streamlining and automation, including functional expansion of global shared service and robotic process utilization. In 2017, our *SG&A expenses* increased \$195 million, or six percent, as compared to 2016 and were 60 basis points lower as a percentage of net sales. This decrease in *SG&A expenses* as a percentage of net sales was primarily driven by increased net sales, as well as the benefit of our targeted initiatives focused on reducing *SG&A expenses*.

Research and Development (R&D) Expenses

We remain committed to advancing medical technologies and investing in meaningful research and development projects across our businesses. In 2018, our *R&D expenses* increased \$116 million, or 12 percent, as compared to 2017, and were 30 basis points higher as a percentage of net sales. In 2017, our *R&D expenses* increased \$77 million, or eight percent, as compared to 2016, yet remained flat as a percentage of net sales. *R&D expenses* increased each year as a result of investments across our businesses in order to maintain a pipeline of new products that we believe will contribute to profitable sales growth.

Royalty Expense

In 2018, our *Royalty expense* increased \$2 million, or three percent, as compared to 2017 and was 10 basis points lower as a percentage of net sales. The increase in *Royalty expense* in 2018, as compared to 2017, relates primarily to increased sales partially offset by expired royalties in certain countries.

In 2017, our *Royalty expense* decreased \$11 million, or 14 percent, as compared to 2016 and was 10 basis points lower as a percentage of net sales. The decrease in *Royalty expense* in 2017 as compared to 2016 relates primarily to a renegotiated lower royalty rate structure on certain products.

The following table provides a summary of certain of our other operating expenses, which are excluded by management for purposes of evaluating operating performance:

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Amortization expense	\$ 599	\$ 565	\$ 545
Intangible asset impairment charges	35	4	11
Contingent consideration expense (benefit)	(21)	(80)	29
Restructuring charges (credits)	36	37	28
Restructuring-related charges (credits)	59	58	50
Litigation-related net charges (credits)	103	285	804

Amortization Expense

In 2018, our *Amortization expense* increased \$33 million, or six percent, as compared to 2017. In 2017, our *Amortization expense* increased \$20 million, or four percent, as compared to 2016. The increases in each period were primarily due to amortizable intangible assets acquired as part of our recent acquisitions including Symetis in the second quarter of 2017, nVision Medical Corporation (nVision) and NxThera in the second quarter of 2018 and Augmenix in the fourth quarter of 2018.

Intangible Asset Impairment Charges

In 2018, 2017 and 2016, our *Intangible asset impairment charges* were immaterial. Refer to *Critical Accounting Estimates* for a discussion of key assumptions used in our goodwill and intangible asset impairment testing and future events that could have a negative impact on the recoverability of our goodwill and amortizable intangible assets.

Contingent Consideration Expense (Benefit)

In 2018 and 2017, we recorded net benefits, and in 2016, we recorded net expenses related to the change in fair value of our contingent consideration liability. Refer to *Note B – Acquisitions and Strategic Investments* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional details related to our contingent consideration arrangements.

Restructuring and Restructuring-related Activities

In 2018, 2017 and 2016, our restructuring and restructuring-related charges remained relatively flat for all periods.

In November 2018, the Board of Directors approved, and we committed to, a new global restructuring program (the 2019 Restructuring Plan). The 2019 Restructuring Plan is expected to result in total pre-tax charges of approximately \$200 million to \$300 million and reduce gross annual pre-tax operating expenses by approximately \$100 million to \$150 million by the end of 2022 as program benefits are realized. The 2016 Restructuring Plan is expected to result in total pre-tax charges of approximately \$275 million to \$325 million and is expected to reduce gross annual expenses by approximately \$165 million to \$175 million by the end of 2020 as program benefits are realized. A substantial portion of the savings from both programs are being reinvested in strategic growth initiatives.

As of December 31, 2018, we have made cumulative cash payments of \$197 million in association with our 2016 Restructuring Plan.

See *Note G – Restructuring-related Activities* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional details on our restructuring plans.

Litigation-related Net Charges (Credits)

In 2018, 2017 and 2016, our litigation-related net charges were primarily in connection with transvaginal surgical mesh product liability cases and claims.

We continue to assess certain litigation and claims to determine the amounts, if any, that management believes will be paid as a result of such claims and litigation, and therefore, additional losses may be accrued and paid in the future, which could materially

adversely impact our operating results, cash flows and/or our ability to comply with our debt covenants. Refer to *Note J – Commitments and Contingencies* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional discussion of our material legal proceedings.

Interest Expense

The following table provides a summary of our *Interest expense* and average borrowing rate:

(in millions)	Year Ended December 31,		
	2018	2017	2016
Interest expense	\$ (241)	\$ (229)	\$ (233)
Weighted average borrowing rate	3.6%	3.8%	4.0%

Refer to *Liquidity and Capital Resources* in this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and *Note D – Hedging Activities and Fair Value Measurements* and *Note E – Borrowings and Credit Arrangements* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for information regarding our debt obligations.

Other, net

The following are the components of *Other, net* :

(in millions)	Year Ended December 31,		
	2018	2017	2016
Interest income	\$ 3	\$ 5	\$ 5
Net foreign currency gain (loss)	11	(15)	(13)
Net gains (losses) on investments	155	(92)	(21)
Other income (expense), net	(14)	(22)	(8)
	\$ 156	\$ (124)	\$ (37)

In 2018 , we recorded gains of \$184 million based on the difference between the book values and the fair values of our previously-held investments immediately prior to the acquisition dates, which aggregated to \$251 million . We remeasured the fair value of each previously-held investment based on the implied enterprise value and allocation of purchase price consideration according to priority of equity interests. Gains and losses recorded on previously-held investments are excluded by management for purposes of evaluating operating performance.

Refer to *Note B – Acquisitions and Strategic Investments* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for information regarding our strategic investments.

Tax Rate

The following table provides a summary of our reported tax rate:

	Year Ended December 31,		
	2018	2017	2016
Reported tax rate	(17.5)%	88.8 %	(95.9)%
Impact of certain receipts/charges (1)	30.7 %	(75.8)%	108.3 %
	13.2 %	13.0 %	12.4 %

(1) These receipts/charges are taxed at different rates than our effective tax rate.

The change in our reported tax rate for 2018 , as compared to 2017 and 2016 , relates primarily to the impact of certain receipts and charges that are taxed at different rates than our effective tax rate. These receipts and charges included intangible asset impairment charges, acquisition-related items, restructuring and restructuring-related items, litigation-related items, as well as certain discrete tax items. Included in the discrete tax items were the effective settlement of our transfer pricing dispute with the Internal Revenue Service (IRS) for the 2001 through 2010 tax years, the conclusion of the IRS examinations of our 2011 through 2013 tax years, and the final impact of the Tax Cuts and Jobs Act (TCJA), enacted on December 22, 2017.

In 2017, these receipts and charges included intangible asset impairment charges, acquisition-related items, restructuring and restructuring-related items, litigation-related items and certain investment impairments. Our reported tax rate for 2017 was also affected by discrete items primarily related to the TCJA.

In 2016, these receipts and charges included intangible asset impairment charges, acquisition-related items, restructuring and restructuring-related items and litigation-related items. Our reported tax rate for 2016 was also affected by discrete items primarily related to the resolution of various uncertain tax positions through settlement or expiration of statute, offset by a charge related to changes in state apportionment.

During 2010 and 2011, we received Notices of Deficiency from the Internal Revenue Service (IRS) reflecting proposed audit adjustments for Guidant Corporation (Guidant) for its 2001 through 2006 tax years and our 2006 and 2007 tax years. The total incremental tax liability asserted by the IRS for the applicable periods was \$1.162 billion plus interest. The primary issue in dispute for all years was the transfer pricing associated with the technology license agreements between domestic and foreign subsidiaries of Guidant. In addition, the IRS proposed adjustments in connection with the financial terms of our Transaction Agreement with Abbott Laboratories pertaining to the sale of Guidant's vascular intervention business to Abbott Laboratories in April 2006. During 2014, we received a Revenue Agent Report (RAR) from the IRS reflecting significant proposed audit adjustments to our 2008, 2009 and 2010 tax years based upon the same transfer pricing methodologies that the IRS applied to our 2001 through 2007 tax years.

We contested in U.S. Tax Court the proposed adjustments from the IRS for Guidant for its 2001 through 2006 tax years and our 2006 and 2007 tax years related to its audit of our transfer pricing methodologies. During 2016, we entered a Stipulation of Settled Issues with the IRS intended to resolve all of the aforementioned transfer pricing issues, as well as issues related to our 2006 transaction with Abbott Laboratories. This stipulation was contingent upon the IRS Office of Appeals applying the same basis of settlement to all transfer pricing issues for the 2008 through 2010 tax years.

In the second quarter of 2018, a decision was entered by the U.S. Tax Court resolving all disputes related to the transfer pricing issues for Guidant for its 2001 through 2006 tax years and our 2006 and 2007 tax years as well as the tax issues related to our 2006 transaction with Abbott Laboratories. Additionally, we resolved all issues with the IRS Office of Appeals for our 2008 through 2010 tax years, including the transfer pricing issue and other unrelated issues. The final settlement calculation included certain elections made in these relevant years and resulted in a final net tax payment of \$303 million plus \$307 million of estimated interest, which was remitted in the second quarter of 2018. Due to the final settlement of these disputes, we recorded a net tax benefit of \$250 million in 2018.

In the fourth quarter of 2018, we received a RAR from the IRS for our 2011 through 2013 tax years. The RAR reflected transfer pricing adjustments consistent with the basis of settlement for all transfer pricing issues agreed to in the Stipulation of Settled Issues. We remitted \$93 million to the IRS in the fourth quarter of 2018 reflecting the net balance of tax and interest due for these years after consideration of amounts owed to us by the IRS. Due to the resolution of these tax years, we recorded a net tax benefit of \$90 million .

See *Note I - Income Taxes* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional details on our tax rate.

Liquidity and Capital Resources

Based on our current business plan, we believe our existing balance of *Cash and cash equivalents* , future cash generated from operations, access to capital markets and existing credit facilities will be sufficient to fund our operations, invest in our infrastructure, pay our legal-related liabilities, pay taxes due, fund possible mergers and/or acquisitions and service and repay our existing debt. Please refer to *Contractual Obligations and Commitments* below for additional details on our future payment obligations and commitments.

As of December 31, 2018 , we had \$146 million of *Cash and cash equivalents* on hand, comprised of \$13 million invested in money market and government funds and \$133 million in interest bearing and non-interest-bearing bank accounts. We invest excess cash on hand in short-term financial instruments that earn at market interest rates while mitigating principal risk through instrument and counterparty diversification, as well as what we believe to be prudent instrument selection. We limit our direct exposure to securities in any one industry or issuer. We also have access to our \$2.750 billion commercial paper program, which is backed by our 2018 revolving credit facility entered into on December 19, 2018. As of December 31, 2018 , we had \$1.248 billion in commercial paper debt outstanding resulting in an additional \$1.502 billion of available liquidity.

For the purpose of funding the proposed BTG Acquisition, as described below, we have access to a bridge facility entered into on November 20, 2018 (Bridge Facility), which is comprised of a £3.115 billion debt bridge facility and a £200 million cash bridge facility for an aggregate principal amount of £3.315 billion . Borrowings from the debt bridge facility mature in 364 days from the date of the first borrowing under the Bridge Facility, and borrowings from the cash bridge facility mature 90 days from the date of the first borrowing under the Bridge Facility. In addition, on December 19, 2018, we entered into a \$1.000 billion two-year delayed draw term loan credit facility, maturing in two years from the date of the closing of the proposed BTG Acquisition (Two-Year Delayed Draw Term Loan) and a \$1.000 billion three-year delayed draw term loan credit facility, maturing in three years from the date of the closing of the proposed BTG Acquisition (Three-Year Delayed Draw Term Loan). As of December 31, 2018 , we had no amounts borrowed under the Bridge Facility, the Two-Year Delayed Draw Term Loan or the Three-Year Delayed Draw Term Loan. In December 2018, in connection with our new term loans and currency hedging activities, we reduced the debt bridge facility by an aggregate amount of £1.569 billion to a remaining available amount of £1.546 billion .

On December 19, 2018 and effective on December 20, 2018, we terminated our \$400 million credit and security facility secured by our U.S. trade receivables. We had no amounts outstanding under this facility as of December 31, 2017 .

For additional information on our credit facilities, refer to *Note E – Borrowings and Credit Arrangements* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report.

The following provides a summary and description of our net cash inflows (outflows):

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Cash provided by (used for) operating activities	\$ 310	\$ 1,426	\$ 1,182
Cash provided by (used for) investing activities	(1,921)	(1,010)	(887)
Cash provided by (used for) financing activities	1,432	110	(206)
Cash provided by (used for) operating activities	\$ 310	\$ 1,426	\$ 1,182
Less: Purchases of property, plant and equipment	316	319	376
Add: Proceed on disposals of property, plant and equipment	14	—	29
Free cash flow	8	1,107	835
Add: Restructuring and restructuring-related payments	89	72	52
Add: Acquisitions-related payments	205	95	108
Add: Certain discrete tax payments (refunds/credits)	977	(239)	(74)
Add: Litigation-related settlements	791	694	701
Adjusted free cash flow ²	\$ 2,070	\$ 1,729	\$ 1,622

Operating Activities

In 2018 , cash from operating activities decrease d \$1.116 billion , or 78 percent , as compared to 2017 . This decrease was primarily due to the IRS tax settlement in 2018.

In 2017 , cash from operating activities increase d \$244 million , or 21 percent , as compared to 2016 . This increase was primarily driven by the increase in operating profit for 2017 compared to 2016.

² Adjusted free cash flow, which excludes certain items required by U.S. GAAP is not prepared in accordance with U.S. GAAP and should not be considered in isolation from, or as a replacement for, the most directly comparable GAAP measure . Refer to *Additional Information* for a discussion of management's use of non-GAAP financial measures.

Investing Activities

In 2018 , cash used for investing activities included \$1.448 billion of payments, net of cash acquired, for acquisitions including Augmenix, NxThera, Cryterion Medical, Inc., Claret and nVision, \$316 million of payments for purchases of property, plant and equipment and \$172 million of payments related to investments and acquisitions of certain technologies, including our \$90 million investment in Millipede, Inc. in the first quarter of 2018.

In 2017 , cash used for investing activities included \$560 million of payments, net of cash acquired, for acquisitions including Symetis and Apama Medical Inc. (Apama), \$319 million of payments for purchases of property, plant and equipment, including amounts to complete our manufacturing plant in Malaysia and \$131 million of payments related to investments and acquisitions of certain technologies.

In 2016 , cash used for investing activities included \$408 million of payments net of cash acquired, for acquisitions including EndoChoice, \$376 million in purchases of property, plant and equipment and \$132 million of payments related to investments and acquisitions of certain technologies, partially offset by proceeds from the sale of one of two buildings located in Quincy, Massachusetts for \$29 million .

Financing Activities

Our cash flows from financing activities reflect issuances and repayments of debt, including our commercial paper program and cash used for new share settlement and stock issuances related to our equity incentive programs, as discussed in *Note K - Stockholders' Equity* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report. Additionally, our financing activities included \$19 million of contingent payments in 2018 , \$33 million of payments in 2017 and \$65 million of payments in 2016 associated with our previous acquisitions.

Our liquidity plans are subject to a number of risks and uncertainties, including those described in Item 1A. Risk Factors of this Annual Report, some of which are outside our control. Macroeconomic conditions, adverse litigation outcomes and other risks and uncertainties could limit our ability to successfully execute our business plans and adversely affect our liquidity plans.

Debt

The following table presents the current and long-term portions of our total debt:

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Current debt obligations	\$ 2,253	\$ 1,801
Long-term debt	4,803	3,815
Total debt	\$ 7,056	\$ 5,616

The following table presents the portions of our total debt that are comprised of fixed and variable rate debt instruments, which are presented on an amortized cost basis:

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Fixed-rate debt instruments	\$ 4,797	\$ 4,414
Variable rate debt instruments	2,259	1,202
Total debt	\$ 7,056	\$ 5,616

As of and through December 31, 2018 , we were in compliance with all the required covenants related to our debt obligations. For additional details related to our debt obligations, including our debt covenant requirements, refer to *Note E – Borrowings and Credit Arrangements* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report.

Equity

During 2018 we received \$101 million in proceeds from stock issuances related to our stock option and employee stock purchase plans, as compared to \$ 85 million in 2017 and \$111 million 2016 . Proceeds from the exercise of employee stock options and employee stock purchases vary from period to period based upon, among other factors, fluctuations in the trading price of our common stock and in the exercise and stock purchase patterns of employees.

We did not repurchase any shares of our common stock during 2018 , 2017 , or 2016 . As of December 31, 2018 , we had remaining approximately \$535 million authorized under our 2013 share repurchase program. There were approximately 248 million shares in treasury as of December 31, 2018 and December 31, 2017 .

Stock-based compensation expense related to our stock ownership plans was \$140 million in 2018 , \$127 million in 2017 and \$116 million in 2016 . Stock-based compensation expense varies from period to period based upon, among other factors, the timing, number and fair value of awards granted during the period, forfeiture levels related to unvested awards and employee contributions to our employee stock purchase plan.

Contractual Obligations and Commitments

The following table provides a summary of certain information concerning our obligations and commitments to make future payments and is based on conditions in existence as of December 31, 2018 :

(in millions)	2019	2020	2021	2022	2023	Thereafter	Total
Debt obligations (1)	\$ 2,248	\$ 1,450	\$ —	\$ 500	\$ 450	\$ 2,400	\$ 7,048
Interest payments (2)	245	190	156	147	139	928	1,804
Lease obligations (2)	73	61	47	39	31	111	362
Purchase obligations (2)	362	23	12	3	2	7	409
Minimum royalty obligations (2)	4	5	3	2	2	2	17
Legal reserves	712	—	—	—	—	—	712
One-time transition tax	9	40	40	40	75	225	429
Acquisition (3)	325	—	—	—	—	—	325
	<u>\$ 3,977</u>	<u>\$ 1,768</u>	<u>\$ 257</u>	<u>\$ 731</u>	<u>\$ 699</u>	<u>\$ 3,673</u>	<u>\$ 11,106</u>

- (1) Debt obligations are comprised of our senior notes, term loan and commercial paper outstanding as of December 31, 2018 . This does not include unamortized debt issuance discounts, deferred financing costs and gain on fair value hedges or capital lease obligations. Refer to *Note E – Borrowings and Credit Arrangements* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information.
- (2) In accordance with U.S. GAAP, these obligations relate to expenses associated with future periods and are not reflected in our consolidated balance sheets. Interest payments included above are calculated based on rates and required fees applicable to our outstanding debt obligations as of December 31, 2018 described in *Note E – Borrowings and Credit Arrangements* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report. Interest payments above do not include interest on variable rate debt instruments. Lease obligations included an immaterial amount of capital leases which are included in our consolidated balance sheets as of December 31, 2018 .
- (3) On January 29, 2019, we announced the closing of our acquisition of Millipede, Inc. (Millipede) after exercising our option to acquire the remaining shares of Millipede in the fourth quarter of 2018 upon the recent successful completion of a first-in-human clinical study. The transaction price for the remaining stake consists of an upfront cash payment of \$325 million , which was paid in January 2019 and included in the table above, and up to an additional \$125 million payment upon achievement of a commercial milestone, which has not been achieved and is not included in the table above. Refer to *Note B – Acquisitions and Strategic Investments* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information.

The amounts in the table above with respect to lease obligations represent amounts pursuant to contractual arrangements for the lease of property, plant and equipment used in the normal course of business. Purchase obligations relate primarily to non-cancellable inventory commitments and capital expenditures entered in the normal course of business. Royalty obligations reported above represent minimum contractual obligations under our current royalty agreements.

The table above does not include:

- Our long-term liability for legal matters that are probable and estimable of \$217 million due to the timing of payment being uncertain. Refer to *Note J – Commitments and Contingencies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for more information,

- Unrecognized tax benefits, accrued interest and penalties and other related items totaling \$266 million because the timing of their future cash settlement is uncertain and tax payments and interest totaling \$5 million related to state obligations of recently settled IRS tax years to be remitted in 2019. Refer to *Note I - Income Taxes* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for more information,
- Our recommended offer to acquire BTG plc (BTG) announced on November 20, 2018 for an upfront cash payment of approximately £3.311 billion or approximately \$4.225 billion based on the exchange rate of U.S. \$1.28 : £1.00 on December 31, 2018 (the proposed BTG Acquisition). Refer to *Note B – Acquisitions and Strategic Investments* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for more information,
- With certain of our acquisitions, we acquired IPR&D projects that require future funding to complete the projects. We estimate that the total remaining R&D cost to complete acquired IPR&D projects is between \$55 million and \$65 million. Net cash inflows from the projects currently in development are expected to commence in 2018 and will continue through 2031, following the respective launches of these technologies in the U.S., Europe and Japan. Certain of our acquisitions also involve the potential payment of contingent consideration, but the timing and amounts are uncertain. See *Note B – Acquisitions and Strategic Investments* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for more information, and
- The \$275 million purchase agreement that on September 12, 2018, Channel Medsystems, Inc. (Channel) filed a complaint in Delaware Chancery Court against us for alleged breach of our purchase agreement with Channel. Refer to *Note J – Commitments and Contingencies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for more information.

Legal Matters

For a discussion of our material legal proceedings see *Note J – Commitments and Contingencies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report.

Critical Accounting Policies and Estimates

Our financial results are affected by the selection and application of accounting policies and methods. We have adopted accounting policies to prepare our consolidated financial statements in conformity with U.S. GAAP.

To prepare our consolidated financial statements in accordance with U.S. GAAP, management makes estimates and assumptions that may affect the reported amounts of our assets and liabilities, including our contingent liability, as of the date of our financial statements and the reported amounts of our revenues and expenses during the reporting periods. Our actual results may differ from these estimates. We consider estimates to be critical (i) if we are required to make assumptions about material matters that are uncertain at the time of estimation or (ii) if materially different estimates could have been made or it is reasonably likely that the accounting estimate will change from period to period. The following are areas considered to be critical and require management’s judgment: Revenue Recognition, Bad Debt Reserves, Inventory Provisions, Valuation of Intangible Assets and Contingent Consideration Liability, Goodwill Valuation, Legal and Product Liability Accruals and Income Taxes.

See *Note A – Significant Accounting Policies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information related to our accounting policies and our consideration of these critical accounting areas. In addition, see *Note B – Acquisitions and Strategic Investments* and *Note C - Goodwill and Other Intangible Assets* for further discussion of the valuation of goodwill and intangible assets and contingent consideration, *Note I - Income Taxes* for further discussion of income tax related matters, *Note J – Commitments and Contingencies* for further discussion of legal and product liability matters and *Note O – Revenue* for further discussion of revenue recognition.

Revenue Recognition

Deferred Revenue

We record a contract liability, or deferred revenue, when we have an obligation to provide a product or service to the customer and payment is received or due in advance of our performance. When we sell a device with a future service obligation, we defer revenue on the unfulfilled performance obligation and recognize this revenue over the related service period. Many of our Cardiac Rhythm Management (CRM) product offerings combine the sale of a device with our LATITUDE™ Patient Management System, which represents a future service obligation. Generally, we do not have observable evidence of the standalone selling price related

to our future service obligations; therefore, we estimate the selling price using an expected cost plus a margin approach. We allocate the transaction price using the relative standalone selling price method. The use of alternative estimates could result in a different amount of revenue deferral.

Contract liabilities are classified within *Other current liabilities* and *Other long-term liabilities* on our accompanying consolidated balance sheets. Our contractual liabilities are primarily composed of deferred revenue related to the LATITUDE Patient Management System. Revenue is recognized over the average service period which is based on device and patient longevity.

Variable Consideration

We generally allow our customers to return defective, damaged and, in certain cases, expired products for credit. We base our estimate for sales returns upon historical trends and record the amount as a reduction to revenue when we sell the initial product. In addition, we may allow customers to return previously purchased products for next-generation product offerings. For these transactions, we defer recognition of revenue on the sale of the earlier generation product based upon an estimate of the amount of product to be returned when the next-generation products are shipped to the customer. Uncertain timing of next-generation product approvals, variability in product launch strategies, product recalls and variation in product utilization all affect our estimates related to sales returns and could cause actual returns to differ from these estimates.

We also offer sales rebates and discounts to certain customers. We treat sales rebates and discounts as a reduction of revenue and classify the corresponding liability as current. We estimate rebates for products where there is sufficient historical information available to predict the volume of expected future rebates. If we are unable to reasonably estimate the expected rebates, we record a liability for the maximum rebate percentage offered.

Post Implant Services

We provide non-contractual services to customers to ensure the safe and effective use of certain implanted devices. Since our modified retrospective adoption of FASB ASC Topic 606, *Revenue from Contracts with Customers* on January 1, 2018, because the revenue related to the immaterial services is recognized before they are delivered, we forward accrue the costs to provide these services at the time the devices are sold. We record these costs to *Selling, general and administrative expenses*. We estimate the amount of time spent by our representatives performing these services and their compensation throughout the device life to determine the service cost. Changes to our business practice or the use of alternative estimates could result in a different amount of accrued cost. Refer to *Note A – Significant Accounting Policies* and *Note O – Revenue* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for further information on our adoption of FASB ASC Topic 606 and our revenue recognition accounting policies.

Inventory Provisions

We base our provisions for excess, expired and obsolete inventory primarily on our estimates of forecasted net sales. A significant change in the timing or level of demand for our products as compared to forecasted amounts may result in recording additional provisions for excess, expired and obsolete inventory in the future. Further, the industry in which we participate is characterized by rapid product development and frequent new product introductions. Uncertain timing of next-generation product approvals, variability in product launch strategies, product recalls and variation in product utilization all affect our estimates related to excess, expired and obsolete inventory.

Valuation of Intangible Assets and Contingent Consideration Liability

We base the fair value of identifiable intangible assets acquired in a business combination, including IPR&D, on detailed valuations that use information and assumptions provided by management, which consider management's best estimates of inputs and assumptions that a market participant would use. Further, for those arrangements that involve potential future contingent consideration, we record on the date of acquisition a liability equal to the fair value of the estimated additional consideration we may be obligated to make in the future. We re-measure this liability each reporting period and record changes in the fair value through a separate line item within our consolidated statements of operations. Increases or decreases in the fair value of the contingent consideration liability can result from changes in discount rates, periods, timing and amount of projected revenue or timing or likelihood of achieving regulatory, revenue or commercialization-based milestones. The use of alternative valuation assumptions, including estimated revenue projections, growth rates, cash flows, discount rates, useful life or probability of achieving clinical, regulatory or revenue-based milestones could result in different purchase price allocations and recognized amortization expense and contingent consideration expense or benefit in current and future periods.

We review intangible assets subject to amortization quarterly to determine if any adverse conditions exist or a change in circumstances has occurred that would indicate impairment or adjustment to the remaining useful life. If we determine it is more likely than not that the asset is impaired based on our qualitative assessment of impairment indicators, we test the intangible asset for recoverability. If the carrying value of the intangible asset is determined not recoverable, we will write the carrying value down to fair value in the period identified. We calculate fair value of our intangible assets as the present value of estimated future cash flows we expect to generate from the asset using a risk-adjusted discount rate. The use of alternative assumptions, including estimated cash flows, discount rates and alternative estimated remaining useful lives could result in different calculations of impairment.

In addition, we test our indefinite-lived intangible assets at least annually for impairment and reassess their classification as indefinite-lived assets, or more frequently if change in circumstance or indicators exist. We assess qualitative factors to determine whether the existence of events and circumstances indicate that it is more likely than not that our indefinite-lived intangible assets are impaired. If we conclude that it is more likely than not that the asset is impaired, we then determine the fair value of the intangible asset and perform the quantitative impairment test by comparing the fair value with the carrying value in accordance with FASB ASC Topic 350, *Intangibles - Goodwill and Other* (FASB ASC Topic 350). If the carrying value exceeds the fair value of the indefinite-lived intangible asset, we write the carrying value down to fair value. The use of alternative valuation assumptions, including estimated revenue projections, growth rates, cash flows and discount rates could result in different fair value estimates.

Goodwill Valuation

We allocate any excess purchase price over the fair value of the net tangible and identifiable intangible assets acquired in a business combination to goodwill. We test our goodwill balances during the second quarter of each year for impairment, or more frequently if indicators are present or changes in circumstances suggest that impairment may exist. We assess goodwill for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment, referred to as a component. For our 2018, 2017 and 2016 annual impairment assessment, we identified seven reporting units: Interventional Cardiology, Peripheral Interventions, Cardiac Rhythm Management, Electrophysiology, Endoscopy, Urology and Pelvic Health and Neuromodulation. Beginning in 2016, we aggregated the Cardiac Rhythm Management and Electrophysiology reporting units, components of the Rhythm Management operating segment, based on the criteria prescribed in FASB ASC Topic 350. These reporting units were aggregated due to a reorganization that commenced in 2015 that resulted in integrated leadership, shared resources and consolidation of certain sites in 2016.

Refer to *Note A – Significant Accounting Policies* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional details related to our annual goodwill impairment assessments performed in 2018, 2017 and 2016.

Although we use consistent methodologies in developing the assumptions and estimates underlying the fair value calculations used in our impairment tests, these estimates are uncertain by nature and can vary from actual results. The use of alternative valuation assumptions, including estimated revenue projections, growth rates, cash flows and discount rates could result in different fair value estimates.

Future events that could have a negative impact on the levels of excess fair value over carrying value of our reporting units include, but are not limited to, the following:

- decreases in estimated market sizes or market growth rates due to greater-than-expected declines in procedural volumes, pricing pressures, reductions in reimbursement levels, product actions and/or competitive technology developments,
- declines in our market share and penetration assumptions due to increased competition, an inability to develop or launch new and next-generation products and technology features in line with our commercialization strategies and market and/or regulatory conditions that may cause significant launch delays or product recalls,
- decreases in our forecasted profitability due to an inability to implement successfully and achieve timely and sustainable cost improvement measures consistent with our expectations,
- negative developments in intellectual property litigation that may impact our ability to market certain products or increase our costs to sell certain products,
- the level of success of ongoing and future research and development efforts, including those related to recent acquisitions and increases in the research and development costs necessary to obtain regulatory approvals and launch new products,

- the level of success in managing the growth of acquired companies, achieving sustained profitability consistent with our expectations, establishing government and third-party payer reimbursement, supplying the market and increases in the costs and time necessary to integrate acquired businesses into our operations successfully,
- changes in our reporting units or in the structure of our business as a result of future reorganizations, acquisitions or divestitures of assets or businesses and
- increases in our market-participant risk-adjusted weighted average cost of capital (WACC) and increases in our market-participant tax rate and/or changes in tax laws or macroeconomic conditions.

Negative changes in one or more of these factors, among others, could result in future impairment charges.

Refer to *Note C - Goodwill and Other Intangible Assets* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional details related to our annual goodwill balances.

Legal and Product Liability Accruals

In the normal course of business, we are involved in various legal and regulatory proceedings, including intellectual property, breach of contract, securities litigation and product liability suits. In some cases, the claimants seek damages, as well as other relief, which, if granted, could require significant expenditures or impact our ability to sell our products. We accrue anticipated costs of settlement, damages, losses for product liability claims and, under certain conditions, costs of defense, based on historical experience or to the extent specific losses are probable and estimable. Otherwise, we expense these costs as incurred. If the estimate of a probable loss is a range and no amount within the range is more likely, we accrue the minimum amount of the range. Litigation and product liability matters are inherently uncertain, and the outcomes of individual matters are difficult to predict and quantify. As such, significant judgment is required in determining our legal and product liability accruals. Our estimates related to our legal and product liability accruals may change as additional information becomes available to us, including information related to the nature or existence of claims against us, trial court or appellate proceedings, and mediation, arbitration or settlement proceedings.

Income Taxes

We establish reserves when we believe that certain positions are likely to be challenged despite our assertion that our tax return positions are fully supportable. The calculation of our tax liabilities involves significant judgment based on individual facts, circumstances and information available in addition to applying complex tax regulations in various jurisdictions across our global operations. Under U.S. GAAP, in order to recognize an uncertain tax benefit, the taxpayer must determine it is more likely than not the position will be sustained, and the measurement of the benefit is calculated as the largest amount that is more than 50 percent likely to be realized upon resolution of the benefit. Although we believe that we have adequately provided for liabilities resulting from tax assessments by taxing authorities, positions taken by these tax authorities could have a material impact on our effective tax rate, results of operations, financial position and/or cash flows.

As part of the Tax Cut and Jobs Act of 2017, we are subject to a territorial tax system in which we are required to make an accounting policy in providing for tax on Global Intangible Low Taxed Income (GILTI) earned by certain foreign subsidiaries. We have elected to treat the impact of GILTI as a period cost and will be reported as a part of continuing operations.

New Accounting Pronouncements

See *Note A – Significant Accounting Policies* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information on standards implemented since December 31, 2017 and *Note Q - New Accounting Pronouncements* to our consolidated financial statements included in Item 8. Financial Statements and Supplementary Data of this Annual Report for additional information on standards to be implemented.

Additional Information

Use of Non-GAAP Financial Measures

To supplement our consolidated financial statements presented on a GAAP basis, we disclose certain non-GAAP financial measures, including adjusted net income (earnings) and adjusted net income (earnings) per share that exclude certain amounts, operational net sales growth that exclude the impact of foreign currency fluctuations and adjusted free cash flow that excludes certain amounts. These non-GAAP financial measures are not in accordance with generally accepted accounting principles in the United States and should not be considered in isolation from or as a replacement for the most directly comparable GAAP financial measures. Further, other companies may calculate these non-GAAP financial measures differently than we do, which may limit the usefulness of those measures for comparative purposes.

To calculate adjusted net income (earnings) and adjusted net income (earnings) per share we exclude certain charges (credits) from GAAP net income as detailed below. Amounts are presented after-tax using our effective tax rate, unless the amount is a significant unusual or infrequently occurring item in accordance with FASB ASC section 740-270-30, "General Methodology and Use of Estimated Annual Effective Tax Rate." The GAAP financial measure most directly comparable to adjusted net income is GAAP net income (loss) and the GAAP financial measure most directly comparable to adjusted net income per share is GAAP net income (loss) per share.

To calculate operational net sales, which exclude the impact of foreign currency fluctuations, we convert actual net sales from local currency to U.S. dollars using constant foreign currency exchange rates in the current and prior periods. The GAAP financial measure most directly comparable to operational growth rate percentages is growth rate percentages using net sales on a GAAP basis.

To calculate adjusted free cash flow, we exclude the cash component of certain charges (credits) that are also excluded from adjusted net income (earnings) as well as any cash tax benefits of such charges, as detailed below. In addition, we exclude tax settlements payments that relate to prior periods. The GAAP measure that is most directly comparable to adjusted free cash flow is free cash flow on a GAAP basis. Free cash flow on a GAAP basis is calculated by subtracting net purchases of property, plant and equipment from cash provided by operating activities.

Reconciliations of each of these non-GAAP financial measures to the corresponding GAAP financial measure are included in the relevant sections of this Annual Report.

Management uses these supplemental non-GAAP financial measures to evaluate performance period over period, to analyze the underlying trends in our business, to assess our performance relative to our competitors and to establish operational goals and forecasts that are used in allocating resources. In addition, management uses these non-GAAP financial measures to further its understanding of the performance of our operating segments. The adjustments excluded from our non-GAAP financial measures are consistent with those excluded from our operating segments' measures of net sales and profit or loss. These adjustments are excluded from the segment measures reported to our chief operating decision maker that are used to make operating decisions and assess performance.

We believe that presenting adjusted net income, adjusted net income per share that exclude certain amounts, operational net sales growth that exclude the impact of changes in foreign currency exchange rates, and adjusted free cash flow that excludes certain amounts, in addition to the corresponding GAAP financial measures, provides investors greater transparency to the information used by management for its operational decision-making and allows investors to see our results "through the eyes" of management. We further believe that providing this information assists our investors in understanding our operating performance and the methodology used by management to evaluate and measure such performance.

The following is an explanation of each of the adjustments that management excluded as part of these non-GAAP financial measures as well as reasons for excluding each of these individual items. In each case, management has excluded the item for purposes of calculating the relevant non-GAAP financial measure to facilitate an evaluation of our current operating performance and a comparison to our past operating performance:

Adjusted Net Income, Adjusted Net Income per Share and Adjusted Free Cash Flow

- Amortization expense - We record intangible assets at historical cost and amortize them over their estimated useful lives. Amortization expense is excluded from management's assessment of operating performance and is also excluded from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.

- Intangible asset impairment charges - This amount represents write-downs of certain intangible asset balances during 2018, 2017 and 2016 .We review intangible assets subject to amortization quarterly to determine if any adverse conditions exist or a change in circumstances has occurred that would indicate impairment and test our indefinite-lived intangible assets at least annually for impairment. If we determine the carrying value of the amortizable intangible asset is not recoverable or we conclude that it is more likely than not that the indefinite-live asset is impaired , we will write the carrying value down to fair value in the period identified. Impairment charges are excluded from management's assessment of operating performance and from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.
- Acquisition-related net charges (credits) or payments- These adjustments may consist of (a) contingent consideration fair value adjustments; (b) gains on previously held investments; (c) due diligence, deal fees, inventory step-up amortization, integration and exit costs, other fees, and accelerated compensation expense; and (d) separation costs and gains primarily associated with the sale of a business or portion of a business. The contingent consideration adjustments represent accounting adjustments to state contingent consideration liabilities at their estimated fair value. These adjustments can be highly variable depending on the assessed likelihood and amount of future contingent consideration payments. Due diligence, deal fees, inventory step-up amortization, integration and exit costs include legal, tax, severance and other expenses associated with prior and potential future acquisitions and divestitures that can be highly variable and not representative of ongoing operations. Separation costs and gains/losses on the sale of a business unit would represent those costs associated with a divestiture and are not representative of ongoing operations. Acquisition-related net charges (credits) are excluded from management's assessment of operating performance and from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.
- Restructuring and restructuring-related net charges (credits) or payments - These adjustments primarily represent compensation-related charges, fixed asset write-offs, contract cancellations, project management fees and other direct costs associated with our restructuring plans. These restructuring plans each consist of distinct initiatives that are fundamentally different from our ongoing, core cost reduction initiatives in terms of, among other things, the frequency with which each action is performed and the required planning, resourcing, cost and timing. Examples of such initiatives include the movement of business activities, facility consolidations and closures and the transfer of product lines between manufacturing facilities, which, due to the highly regulated nature of our industry, requires a significant investment in time and cost to create duplicate manufacturing lines, run product validations and seek regulatory approvals. Restructuring initiatives take place over a defined timeframe and have a distinct project timeline that begins subsequent to approval by our Board of Directors. In contrast to our ongoing cost reduction initiatives, restructuring initiatives typically result in duplicative cost and exit costs over this period of time, are one-time shut downs or transfers and are not considered part of our core, ongoing operations. These restructuring plans are incremental to the core activities that arise in the ordinary course of our business. Restructuring and restructuring-related net charges (credits) are excluded from management's assessment of operating performance and from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.
- Litigation-related net charges (credits) or payments - These adjustments include certain significant product liability and other litigation-related charges and credits. We record these charges and credits, which we consider to be unusual or infrequent and significant, within the litigation-related charges line in our consolidated statements of operations; all other legal and product liability charges, credits and costs are recorded within selling general and administrative expenses. Litigation-related net charges (credits) are excluded from management's assessment of operating performance and from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.
- Investment impairment charges - These amounts represent write-downs relating to our investment portfolio that are considered unusual or infrequent and significant. Each reporting period, we evaluate our investments to determine if there are any events or circumstances that are likely to have a significant adverse effect on the fair value of the investment. If we identify an impairment indicator, we will estimate the fair value of the investment and compare it to its carrying value and determine if the impairment is other-than-temporary. For other-than-temporary impairments, we recognize an impairment loss equal to the difference between an investment's carrying value and its fair value. Certain investment impairment charges are excluded from management's assessment of operating performance and from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.
- Discrete tax items - These items represent adjustments of certain tax positions including those which a) are related to the finalization of the enactment date impact of the TCJA, and, or b) were a benefit resulting from the finalization of the IRS Stipulation of Settled Issues consistent with the manner in which the tax reserves were originally booked. These adjustments are not indicative of expected ongoing operating results. Certain discrete tax items are excluded

from management's assessment of operating performance and from our operating segments' measures of profit and loss used for making operating decisions and assessing performance.

Operational Net Sales Excluding the Impact of Foreign Currency Fluctuations

- The impact of foreign currency fluctuations is highly variable and difficult to predict. Accordingly, management may exclude the impact of foreign currency fluctuations for purposes of reviewing the net sales and growth rates to facilitate an evaluation of our current operating performance and a comparison to our past operating performance.

Rule 10b5-1 Trading Plans by Executive Officers

Periodically, certain of our executive officers adopt written stock trading plans in accordance with Rule 10b5-1 under the Exchange Act and our own Stock Trading Policy. A Rule 10b5-1 Trading Plan is a written document that pre-establishes the amount, prices and dates (or formulas for determining the amounts, prices and dates) of future purchases or sales of our stock, including shares issued upon exercise of stock options or vesting of deferred stock units. These plans are entered into at a time when the person is not in possession of material non-public information about our company. We disclose details regarding individual Rule 10b5-1 Trading Plans on the Investor Relations section of our website.

Management's Annual Report on Internal Control over Financial Reporting

As the management of Boston Scientific Corporation, we are responsible for establishing and maintaining adequate internal control over financial reporting. We designed our internal control process to provide reasonable assurance to management and the Board of Directors regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

We assessed the effectiveness of our internal control over financial reporting as of December 31, 2018 . In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control–Integrated Framework (2013 framework). Based on our assessment, we believe that, as of December 31, 2018 , our internal control over financial reporting is effective at a reasonable assurance level based on these criteria.

Ernst & Young LLP, an independent registered public accounting firm, has issued an audit report on the effectiveness of our internal control over financial reporting. This report, in which they expressed an unqualified opinion, is included below.

/s/ Michael F. Mahoney

Michael F. Mahoney
President and Chief Executive Officer

/s/ Daniel J. Brennan

Daniel J. Brennan
Executive Vice President and Chief
Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Boston Scientific Corporation

Opinion on Internal Control over Financial Reporting

We have audited Boston Scientific Corporation's internal control over financial reporting as of December 31, 2018, 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, Boston Scientific Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2018 consolidated financial statements of the Company and our report dated February 19, 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 Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Ernst & Young LLP
Boston, Massachusetts
February 19, 2019

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We develop, manufacture and sell medical devices globally and our earnings and cash flows are exposed to market risk from changes in currency exchange rates and interest rates. We address these risks through a risk management program that includes the use of derivative financial instruments. We operate the program pursuant to documented corporate risk management policies. We do not enter derivative transactions for speculative purposes. Gains and losses on derivative financial instruments substantially offset losses and gains on underlying hedged exposures. Furthermore, we manage our exposure to counterparty risk on derivative instruments by entering into contracts with a diversified group of major financial institutions and by actively monitoring outstanding positions.

Our currency risk consists primarily of foreign currency denominated firm commitments, forecasted foreign currency denominated intercompany and third-party transactions and net investments in certain subsidiaries. We use both nonderivative (primarily European manufacturing operations) and derivative instruments to manage our earnings and cash flow exposure to changes in currency exchange rates. We had currency derivative instruments outstanding in the contract amount of \$11.326 billion as of December 31, 2018 and \$5.923 billion as of December 31, 2017. A ten percent appreciation in the U.S. dollar's value relative to the hedged currencies would increase the derivative instruments' fair value by \$181 million as of December 31, 2018 as compared to \$321 million as of December 31, 2017. A ten percent depreciation in the U.S. dollar's value relative to the hedged currencies would decrease the derivative instruments' fair value by \$222 million as of December 31, 2018 as compared to \$421 million as of December 31, 2017. Any increase or decrease in the fair value of our currency exchange rate sensitive derivative instruments would be substantially offset by a corresponding decrease or increase in the fair value of the hedged underlying asset, liability or forecasted transaction, resulting in minimal impact on our consolidated statements of operations.

Our interest rate risk relates primarily to U.S. dollar borrowings partially offset by U.S. dollar cash investments. We have historically used interest rate derivative instruments to manage our earnings and cash flow exposure to changes in interest rates. We had interest rate derivative instruments outstanding in the contract amount of \$1.000 billion as of December 31, 2018 and no interest rate derivative instruments outstanding as of December 31, 2017. As of December 31, 2018, \$4.800 billion of our outstanding debt obligations was at fixed interest rates, representing approximately 68 percent of our total debt.

Certain of our non-designated forward currency contracts outstanding as of December 31, 2018, relate to hedging a portion of the purchase price of the proposed BTG Acquisition (\$2.550 billion notional value as of December 31, 2018). During the first quarter of 2019, we entered into additional non-designated forward currency contracts, after which our combined notional value is £3.311 billion, which represents the full purchase price for the proposed BTG Acquisition.

See *Note D – Hedging Activities and Fair Value Measurements* to our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data of this Annual Report for further information regarding our derivative financial instruments.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Boston Scientific Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Boston Scientific Corporation (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and 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 December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, 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 December 31, 2018, 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 February 19, 2019 expressed an unqualified opinion thereon.

Adoption of ASU No. 2014-09

As discussed in Note A to the consolidated financial statements, the Company changed its method for recognizing revenue as a result of the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606), and the amendments in ASUs 2015-14, 2016-08, 2016-10 and 2016-12 effective January 1, 2018.

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.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1992.

Boston, Massachusetts

February 19, 2019

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

**BOSTON SCIENTIFIC CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS**

<i>(in millions, except per share data)</i>	Year Ended December 31,		
	2018	2017	2016
Net sales	\$ 9,823	\$ 9,048	\$ 8,386
Cost of products sold	2,813	2,593	2,424
Gross profit	7,011	6,455	5,962
Operating expenses:			
Selling, general and administrative expenses	3,569	3,294	3,099
Research and development expenses	1,113	997	920
Royalty expense	70	68	79
Amortization expense	599	565	545
Intangible asset impairment charges	35	4	11
Contingent consideration expense (benefit)	(21)	(80)	29
Restructuring charges (credits)	36	37	28
Litigation-related charges (credits)	103	285	804
	5,504	5,170	5,515
Operating income (loss)	1,506	1,285	447
Other income (expense):			
Interest expense	(241)	(229)	(233)
Other, net	156	(124)	(37)
Income (loss) before income taxes	1,422	933	177
Income tax (benefit) expense	(249)	828	(170)
Net income (loss)	\$ 1,671	\$ 104	\$ 347
Net income (loss) per common share — basic	\$ 1.21	\$ 0.08	\$ 0.26
Net income (loss) per common share — assuming dilution	\$ 1.19	\$ 0.08	\$ 0.25
<u>Weighted-average shares outstanding</u>			
Basic	1,381.0	1,370.1	1,357.6
Assuming dilution	1,401.4	1,392.7	1,377.2

See notes to the consolidated financial statements.

BOSTON SCIENTIFIC CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Net income (loss)	\$ 1,671	\$ 104	\$ 347
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	(21)	48	(25)
Net change in derivative financial instruments	110	(106)	(45)
Net change in available-for-sale securities	—	5	(6)
Net change in defined benefit pensions and other items	2	(6)	(11)
Total other comprehensive income (loss)	91	(59)	(87)
Total comprehensive income (loss)	\$ 1,761	\$ 45	\$ 260

See notes to the consolidated financial statements.

BOSTON SCIENTIFIC CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

<i>(in millions, except share and per share data)</i>	As of December 31,	
	2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 146	\$ 188
Trade accounts receivable, net	1,608	1,548
Inventories	1,166	1,078
Prepaid income taxes	161	66
Other current assets	921	942
Total current assets	4,003	3,822
Property, plant and equipment, net	1,782	1,697
Goodwill	7,911	6,998
Other intangible assets, net	6,372	5,837
Other long-term assets	932	688
TOTAL ASSETS	\$ 20,999	\$ 19,042
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current debt obligations	\$ 2,253	\$ 1,801
Accounts payable	349	530
Accrued expenses	2,246	2,456
Other current liabilities	412	867
Total current liabilities	5,260	5,654
Long-term debt	4,803	3,815
Deferred income taxes	328	191
Other long-term liabilities	1,882	2,370
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, \$0.01 par value - authorized 50,000,000 shares, none issued and outstanding		
Common stock, \$0.01 par value - authorized 2,000,000,000 shares; issued 1,632,148,030 shares as of December 31, 2018 and 1,621,062,898 shares as of December 31, 2017	16	16
Treasury stock, at cost - 247,566,270 shares as of December 31, 2018 and December 31, 2017	(1,717)	(1,717)
Additional paid-in capital	17,346	17,161
Accumulated deficit	(6,953)	(8,390)
Accumulated other comprehensive income (loss), net of tax:		
Foreign currency translation adjustment	(53)	(32)
Unrealized gain (loss) on derivative financial instruments	111	1
Unrealized gain (loss) on available-for-sale securities	—	(1)
Unrealized costs associated with defined benefit pensions and other items	(25)	(27)
Total stockholders' equity	8,726	7,012
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 20,999	\$ 19,042

See notes to the consolidated financial statements.

BOSTON SCIENTIFIC CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

<i>(in millions, except share data)</i>	Common Stock		Treasury Stock	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss), Net of Tax
	Shares Issued	Par Value				
Balance as of December 31, 2015	1,594,213,786	\$ 16	\$ (1,717)	\$ 16,860	\$ (8,927)	\$ 88
Net income (loss)					347	
Changes in other comprehensive income (loss), net of tax:						
Foreign currency translation adjustment						(25)
Derivative financial instruments						(45)
Available-for-sale securities						(6)
Defined benefit pensions and other items						(11)
Impact of stock-based compensation plans, net of tax	15,457,031			153		
Rounding				1	(1)	
Balance as of December 31, 2016	1,609,670,817	\$ 16	\$ (1,717)	\$ 17,014	\$ (8,581)	\$ 1
Net income (loss)					104	
Cumulative effect adjustment for ASU 2016-09					86	
Changes in other comprehensive income (loss), net of tax:						
Foreign currency translation adjustment						48
Derivative financial instruments						(106)
Available-for-sale securities						5
Defined benefit pensions and other items						(6)
Impact of stock-based compensation plans, net of tax	11,392,081			147		
Balance as of December 31, 2017	1,621,062,898	\$ 16	\$ (1,717)	\$ 17,161	\$ (8,390)	\$ (59)
Net income (loss)					1,671	
Cumulative effect adjustment for ASU Adoptions ⁽¹⁾					(233)	
Changes in other comprehensive income (loss), net of tax:						
Foreign currency translation adjustment						(21)
Derivative financial instruments						110
Available-for-sale securities						—
Defined benefit pensions and other items						2
Impact of stock-based compensation plans, net of tax	11,085,132			185		
Balance as of December 31, 2018	1,632,148,030	\$ 16	\$ (1,717)	\$ 17,346	\$ (6,953)	\$ 33

(1) In 2018, we recorded a cumulative effect adjustment to Retained Earnings to reflect the adoption of ASU 2014-09, ASU 2016-16 and ASU 2016-01. Please refer to *Note A – Significant Accounting Policies* for additional details.

See notes to the consolidated financial statements.

BOSTON SCIENTIFIC CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Operating Activities			
Net income (loss)	\$ 1,671	\$ 104	\$ 347
<i>Adjustments to reconcile net income (loss) to cash provided by operating activities</i>			
Depreciation and amortization	894	844	815
Deferred and prepaid income taxes	(87)	245	(305)
Stock-based compensation expense	140	127	116
Intangible asset impairment charges	35	4	11
Net loss (gain) on investments and notes receivable	(155)	92	21
Contingent consideration expense (benefit)	(21)	(80)	29
Payment of contingent consideration in excess of amount recognized at acquisition	(9)	(14)	(57)
Inventory step-up amortization	6	10	22
Other, net	(3)	27	(23)
<i>Increase (decrease) in operating assets and liabilities, net of acquisitions:</i>			
Trade accounts receivable	(110)	(30)	(216)
Inventories	(83)	(107)	40
Other assets	(172)	(20)	(43)
Accounts payable and accrued expenses	(631)	195	553
Other liabilities	(1,164)	28	(128)
Cash provided by (used for) operating activities	310	1,426	1,182
Investing Activities			
Purchases of property, plant and equipment	(316)	(319)	(376)
Proceeds on disposals of property, plant and equipment	14	—	29
Payments for acquisitions of businesses, net of cash acquired	(1,448)	(560)	(408)
Payments for investments and acquisitions of certain technologies	(172)	(131)	(132)
Cash provided by (used for) investing activities	(1,921)	(1,010)	(887)
Financing Activities			
Payments of contingent consideration previously established in purchase accounting	(19)	(33)	(65)
Proceeds from short-term borrowings, net of debt issuance costs	999	—	—
Net increase (decrease) in commercial paper	21	1,183	—
Proceeds from borrowings on credit facilities	569	2,156	630
Payments on borrowings from credit facilities	(569)	(2,216)	(570)
Payments on long-term borrowings	(602)	(1,000)	(250)
Proceeds from long-term borrowings, net of debt issuance and extinguishment costs	987	—	—
Cash used to net share settle employee equity awards	(56)	(65)	(62)
Proceeds from issuances of shares of common stock	101	85	111
Cash provided by (used for) financing activities	1,432	110	(206)
Effect of foreign exchange rates on cash	(8)	4	(2)
Net increase (decrease) in cash, cash equivalents, restricted cash and restricted cash equivalents	(188)	530	87
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of period	1,017	487	400
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of period	\$ 829	\$ 1,017	\$ 487
Supplemental Information			
Cash (received) paid for income taxes, net	\$ 1,037	\$ (42)	\$ 94
Cash paid for interest	262	235	233
Fair value of contingent consideration recorded in purchase accounting	248	94	50
As of December 31,			
Reconciliation to amounts within the consolidated balance sheets:	2018	2017	2016
Cash and cash equivalents	\$ 146	\$ 188	\$ 196
Restricted cash and restricted cash equivalents included in <i>Other current assets</i>	655	803	269
Restricted cash equivalents included in <i>Other long-term assets</i>	27	26	22

Cash, cash equivalents, restricted cash and restricted cash equivalents at end of period

<u>\$ 829</u>	<u>\$ 1,017</u>	<u>\$ 487</u>
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See notes to the consolidated financial statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

NOTE A – SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

Our consolidated financial statements include the accounts of Boston Scientific Corporation and our wholly-owned subsidiaries, after the elimination of intercompany transactions. When used in this report, the terms "we," "us," "our" and "the Company" mean Boston Scientific Corporation and its divisions and subsidiaries. We assess the terms of our investment interests to determine if any of our investees meet the definition of a variable interest entity (VIE). For any VIEs, we perform an analysis to determine whether our variable interests give us a controlling financial interest in a VIE. The analysis identifies the primary beneficiary of a VIE as the enterprise that has both 1) the power to direct activities of a VIE that most significantly impact the entity's economic performance and 2) the obligation to absorb losses of the entity or the right to receive benefits from the entity. Based on our assessments under the applicable guidance, we did not have controlling financial interests in any VIEs and, therefore, did not consolidate any VIEs for 2018, 2017 and 2016.

Basis of Presentation

The accompanying consolidated financial statements and notes thereto have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP) and with the instructions to Form 10-K and Regulation S-X.

Amounts reported in millions within this report are computed based on the amounts in thousands. As a result, the sum of the components reported in millions may not equal the total amount reported in millions due to rounding. Certain columns and rows within tables may not add due to the use of rounded numbers. Percentages presented are calculated from the underlying numbers in dollars. Balances in 2016 and 2015 balances were subject to rounding.

Revision of Reportable Segments

Effective January 1, 2018, following organizational changes to align the structure of our business with our focus on active implantable devices, we revised our reportable segments, in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 280, *Segment Reporting*. The revision reflects a reclassification of our Neuromodulation business from our Medical Surgical (MedSurg) segment to our newly created Rhythm and Neuro segment. We have revised prior year amounts to conform to the current year's presentation (as denoted with an asterisk (*) throughout). There was no revision to operating segments or reporting units as a result of the organizational change. See *Note C - Goodwill and Other Intangible Assets* and *Note N - Segment Reporting* for further details.

Subsequent Events

We evaluate events occurring after the date of our accompanying consolidated balance sheets for potential recognition or disclosure in our consolidated financial statements. We did not identify any material subsequent events requiring adjustment to our accompanying consolidated financial statements (recognized subsequent events). Those items requiring disclosure (unrecognized subsequent events) in the consolidated financial statements have been disclosed accordingly. Refer to *Note B - Acquisitions and Strategic Investments*, *Note D - Hedging Activities and Fair Value Measurements* and *Note J - Commitments and Contingencies* for further details.

Accounting Estimates

To prepare our consolidated financial statements in accordance with U.S. GAAP, management makes estimates and assumptions that may affect the reported amounts of our assets and liabilities, the disclosure of contingent liabilities as of the date of our consolidated financial statements and the reported amounts of our revenues and expenses during the reporting period. Our actual results may differ from these estimates. Refer to *Critical Accounting Estimates* included in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations of this Annual Report for further discussion.

Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents

Cash and Cash Equivalents

We record *Cash and cash equivalents* in our consolidated balance sheets at cost, which approximates fair value. Our policy is to invest excess cash in short-term marketable securities earning a market rate of interest without assuming undue risk of loss of principal amounts invested and we limit our direct exposure to securities in any one industry or issuer. We consider to be cash equivalents all short-term marketable securities with remaining days to maturity of 90 days or less from the purchase date that can be readily converted to cash.

Restricted Cash and Restricted Cash Equivalents

Amounts included in restricted cash represent cash on hand required to be set aside by a contractual agreement related to receivable factoring arrangements and deferred compensation plans and are included in the *Other current assets* caption on our consolidated balance sheets . Generally, the restrictions related to the factoring arrangements lapse at the time we remit the customer payments collected by us as servicer of previously sold customer receivables to the purchaser. Restrictions for deferred compensation lapse when amounts are paid to the employee. Restricted cash equivalents primarily represent amounts paid into various qualified settlement funds related to our ongoing transvaginal surgical mesh litigation and current amounts related to our non-qualified pension plan and are included in the *Other current assets* caption on our consolidated balance sheets . The restrictions related to the various qualified settlement funds will lapse as we approve amounts payable to claimants, at which time we no longer have rights to a return of the amounts paid into the various qualified settlement funds. Restricted cash equivalents included in the *Other long-term assets* caption on our consolidated balance sheets are related to the long-term portion of our non-qualified pension plan and deferred compensation plans.

Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents, derivative financial instruments and accounts and notes receivable. Our investment policy limits exposure to concentrations of credit risk and changes in market conditions. Counterparties to financial instruments expose us to credit-related losses in the event of nonperformance. We transact our financial instruments with a diversified group of major financial institutions with investment grade credit ratings and actively monitor their credit ratings and our outstanding positions to limit our credit exposure. In the normal course, our payment terms with customers, including hospitals, healthcare agencies, clinics, doctors' offices and other private and governmental institutions, are typically 30 days in the U.S. but may be longer in international markets and generally do not require collateral. We record our Accounts receivable in our consolidated balance sheets at net realizable value. We perform ongoing credit evaluations of our customers and maintain allowances for potential credit losses, based on historical information and management's best estimates. We write-off amounts determined to be uncollectible against this reserve. Write-offs of uncollectible accounts receivable were immaterial in 2018 , 2017 and 2016 . We are not dependent on any single institution, and no single customer accounted for more than ten percent of our net sales in 2018 , 2017 and 2016 ; however, large group purchasing organizations, hospital networks and other buying groups have become increasingly important to our business and represent a substantial portion of our U.S. net sales.

We closely monitor outstanding receivables for potential collection risks, including those that may arise from economic conditions, in both the U.S. and international economies. Our European sales to government-owned or supported customers in Southern Europe, specifically Greece, Italy, Spain and Portugal are subject to an increased number of days outstanding relative to other countries prior to payment. Historically, receivable balances with certain publicly-owned hospitals in these countries accumulated over a period of time and are then subsequently settled as large lump sum payments. While we believe our allowance for doubtful accounts in these countries is adequate as of December 31, 2018 and 2017 , if significant changes were to occur in the payment practices of these European governments or if government funding becomes unavailable, we may not be able to collect on receivables due to us from these customers, and our write-offs of uncollectible accounts receivable may increase.

Revenue Recognition

ASC Update No. 2014-09

In May 2014, the FASB issued FASB ASC Topic 606, *Revenue from Contracts with Customers* (Topic 606), which was subsequently updated. We adopted the standard as of January 1, 2018, using the modified retrospective method. Under this method, we applied FASB ASC Topic 606 to contracts that were not complete as of January 1, 2018 and recognized the cumulative effect of initially applying the standard as an adjustment to the opening balance of retained earnings. Results for reporting periods beginning after

January 1, 2018 are presented in accordance with FASB ASC Topic 606 . Prior period amounts are not adjusted and are reported in accordance with legacy GAAP requirements in FASB ASC Topic 605, *Revenue Recognition* .

Due to the adoption of FASB ASC Topic 606 , we recorded a net reduction to retained earnings of \$177 million on January 1, 2018, primarily related to the cost of providing non-contractual post-implant support to certain customers, which we historically deemed immaterial in the context of the arrangement. Upon the adoption of FASB ASC Topic 606 , when we sell a device with an implied non-contractual post-implant support obligation, we forward accrue the cost of the service within *Selling, general and administrative expenses* and recognize it at the point in time the associated revenue is earned. We release the accrual over the related service period. These costs were previously expensed as incurred due to such service obligation being non-contractual.

The impact of adopting FASB ASC Topic 606 on our consolidated balance sheets resulted in an increase in *Other current liabilities* of \$59 million and an increase in *Other long-term liabilities* of \$205 million as of December 31, 2018 , as a result of accruing for our post-implant support obligation. We also recorded deferred tax assets primarily related to post-implant support, resulting in an increase in *Other long-term assets* of \$12 million and a reduction in *Deferred income taxes* of \$41 million as of December 31, 2018 . The remaining impact of adopting FASB ASC Topic 606 was not material to our financial position or results of operations.

We sell our products primarily through a direct sales force. In certain international markets, we sell our products through independent distributors. We consider revenue to be earned when all of the following criteria are met:

- We have a contract with a customer that creates enforceable rights and obligations,
- Promised products or services are identified,
- The transaction price, or the amount we expect to receive, is determinable and
- We have transferred control of the promised items to the customer.

Transfer of control is evidenced upon passage of title and risk of loss to the customer unless we are required to provide additional services. We treat shipping and handling costs performed after a customer obtains control of the good as a fulfillment cost and record these costs as a selling expense when incurred. We recognize revenue from consignment arrangements based on product usage, or implant, which indicates that the sale is complete. We recognize a receivable at the point in time we have an unconditional right to payment. Payment terms are typically 30 days in the U.S. but may be longer in international markets.

Deferred Revenue

We record a contract liability, or deferred revenue, when we have an obligation to provide a product or service to the customer and payment is received or due in advance of our performance. When we sell a device with a future service obligation, we defer revenue on the unfulfilled performance obligation and recognize this revenue over the related service period. Many of our Cardiac Rhythm Management (CRM) product offerings combine the sale of a device with our LATITUDE™ Patient Management System, which represents a future service obligation. Generally, we do not have observable evidence of the standalone selling price related to our future service obligations; therefore, we estimate the selling price using an expected cost plus a margin approach. We allocate the transaction price using the relative standalone selling price method. The use of alternative estimates could result in a different amount of revenue deferral.

Contract liabilities are classified within *Other current liabilities* and *Other long-term liabilities* on our accompanying consolidated balance sheets . Our contractual liabilities are primarily composed of deferred revenue related to the LATITUDE Patient Management System. Revenue is recognized over the average service period which is based on device and patient longevity. We have elected not to disclose the transaction price allocated to unsatisfied performance obligations when the original expected contract duration is one year or less. In addition, we have not identified material unfulfilled performance obligations for which revenue is not currently deferred.

Variable Consideration

We generally allow our customers to return defective, damaged and, in certain cases, expired products for credit. We base our estimate for sales returns upon historical trends and record the amount as a reduction to revenue when we sell the initial product. In addition, we may allow customers to return previously purchased products for next-generation product offerings. For these transactions, we defer recognition of revenue on the sale of the earlier generation product based upon an estimate of the amount of product to be returned when the next-generation products are shipped to the customer. Uncertain timing of next-generation product approvals, variability in product launch strategies, product recalls and variation in product utilization all affect our estimates related to sales returns and could cause actual returns to differ from these estimates.

We also offer sales rebates and discounts to certain customers. We treat sales rebates and discounts as a reduction of revenue and classify the corresponding liability as current. We estimate rebates for products where there is sufficient historical information available to predict the volume of expected future rebates. If we are unable to reasonably estimate the expected rebates, we record a liability for the maximum rebate percentage offered. We have entered certain agreements with group purchasing organizations to sell our products to participating hospitals at negotiated prices. We recognize revenue from these agreements following the same revenue recognition criteria discussed above.

Capitalized Contract Costs

We capitalize commission fees related to contracts with customers when the associated revenue is expected to be earned over a period that exceeds one year. Deferred commissions are primarily related to the sale of devices enabled with our LATITUDE™ Patient Management System. We have elected to expense commission costs when incurred for contracts with an expected duration of one year or less. Capitalized commission fees are amortized over the period the associated products or services are transferred. Similarly, we capitalize certain recoverable costs related to the delivery of the LATITUDE Remote Monitoring Service. These fulfillment costs are amortized over the average service period. Our total capitalized contract costs are immaterial to our consolidated financial statements .

Post Implant Services

We provide non-contractual services to customers to ensure the safe and effective use of certain implanted devices. Since our modified retrospective adoption of FASB ASC Topic 606 on January 1, 2018, because the revenue related to the immaterial services is recognized before they are delivered, we forward accrue the costs to provide these services at the time the devices are sold. We record these costs to *Selling, general and administrative expenses* . We estimate the amount of time spent by our representatives performing these services and their compensation throughout the device life to determine the service cost. Changes to our business practice or the use of alternative estimates could result in a different amount of accrued cost.

Warranty Obligations

We offer warranties on certain of our product offerings. The majority of our warranty liability relates to implantable devices offered by our CRM business, which include defibrillator and pacemaker systems. Our CRM products come with a standard limited warranty covering the replacement of these devices. We offer a full warranty for a portion of the period post-implant and a partial warranty for a period of time thereafter. We estimate the costs that we may incur under our warranty programs based on the number of units sold, historical and anticipated rates of warranty claims and cost per claim and record a liability equal to these estimated costs as cost of products sold at the time the product sale occurs. We assess the adequacy of our recorded warranty liabilities on a quarterly basis and adjust these amounts as necessary. Aggregate year over year changes in our product warranty accrual during 2018 , 2017 and 2016 were immaterial.

Inventories

We state inventories at the lower of first-in, first-out cost or net realizable value. We base our provisions for excess, expired and obsolete inventory primarily on our estimates of forecasted net sales. A significant change in the timing or level of demand for our products as compared to forecasted amounts may result in recording additional provisions for excess, expired and obsolete inventory in the future. Further, the industry in which we participate is characterized by rapid product development and frequent new product introductions. Uncertain timing of next-generation product approvals, variability in product launch strategies, product recalls and variation in product utilization all affect our estimates related to excess, expired and obsolete inventory. Approximately 40 percent of our finished goods inventory as of both December 31, 2018 and December 31, 2017 was at customer locations pursuant to consignment arrangements or held by sales representatives.

Property, Plant and Equipment

We state property, plant, equipment and leasehold improvements at historical cost. We charge expenditures for maintenance and repairs to expense and capitalize additions and improvements that extend the life of the underlying asset. We provide for depreciation using the straight-line method at rates that approximate the estimated useful lives of the assets. We depreciate buildings over a maximum life of 40 years; building improvements over the remaining useful life of the building structure; equipment, furniture and fixtures over a three to seven year life; and leasehold improvements over the shorter of the useful life of the improvement or the term of the related lease.

Valuation of Business Combinations

We allocate the amounts we pay for each acquisition to the assets we acquire and liabilities we assume based on their fair values at the date of acquisition, including identifiable intangible assets and in-process research and development (IPR&D), which either arise from a contractual or legal right or are separable from goodwill. We base the fair value of identifiable intangible assets acquired in a business combination, including IPR&D, on detailed valuations that use information and assumptions provided by management, which consider management's best estimates of inputs and assumptions that a market participant would use. We allocate to goodwill any excess purchase price over the fair value of the net tangible and identifiable intangible assets acquired. Transaction costs associated with these acquisitions are expensed as incurred through *Selling, general and administrative expenses*.

In those circumstances where an acquisition involves a contingent consideration arrangement, we recognize a liability equal to the fair value of the contingent payments we expect to make as of the acquisition date. We re-measure this liability each reporting period and record changes in the fair value through *Contingent consideration expense (benefit)* on our consolidated statements of operations. Increases or decreases in the fair value of the contingent consideration liability can result from changes in discount rates, periods, timing and amount of projected revenue or timing or likelihood of achieving regulatory, revenue or commercialization-based milestones. Payment of additional consideration is generally contingent on the acquired company reaching certain performance milestones after the acquisition date, including attaining specified revenue levels, achieving product development targets and/or obtaining regulatory approvals for products in development at the date of the acquisition.

Indefinite-lived Intangibles, including IPR&D

Our indefinite-lived intangible assets, which are not subject to amortization, include acquired balloon and other technology, which is foundational to our ongoing operations within the Cardiovascular market and other markets within interventional medicine and IPR&D intangible assets acquired in a business combination. Our IPR&D represents intangible assets acquired in a business combination that are used in research and development activities but have not yet reached technological feasibility, regardless of whether they have alternative future use. The primary basis for determining the technological feasibility or completion of these projects is obtaining regulatory approval to market the underlying products in an applicable geographic region. We classify IPR&D acquired in a business combination as an indefinite-lived intangible asset until the completion or abandonment of the associated research and development efforts. Upon completion of the associated research and development efforts, we will determine the useful life of the technology and begin amortizing the assets to reflect their use over their remaining lives. Upon permanent abandonment, we write-off the remaining carrying amount of the associated IPR&D intangible asset.

We test our indefinite-lived intangible assets at least annually during the third quarter for impairment and reassess their classification as indefinite-lived assets. In addition, we review our indefinite-lived intangible assets for classification and impairment more frequently if changes in circumstances or impairment indicators exist. We assess qualitative factors to determine whether the existence of events and circumstances indicate that it is more likely than not that our indefinite-lived intangible assets are impaired. If we conclude that it is more likely than not that the asset is impaired, we then determine the fair value of the intangible asset and perform the quantitative impairment test by comparing the fair value with the carrying value in accordance with FASB ASC Topic 350, *Intangibles - Goodwill and Other*. If the carrying value exceeds the fair value of the indefinite-lived intangible asset, we write the carrying value down to the fair value.

We use the income approach to determine the fair values of our IPR&D. We base our revenue assumptions on estimates of relevant market sizes, expected market growth rates, expected trends in technology and expected levels of market share. In arriving at the value of the in-process projects, we consider, among other factors, the in-process projects' stage of completion, the complexity of the work completed as of the acquisition date, the costs already incurred, the projected costs to complete, the contribution of other acquired assets, the expected regulatory path and introduction dates by region and the estimated useful life of the technology. See *Note C - Goodwill and Other Intangible Assets* for more information related to indefinite-lived intangibles, including IPR&D.

For asset purchases outside of business combinations, we expense any purchased research and development assets as of the acquisition date.

Amortization and Impairment of Intangible Assets

We record definite-lived intangible assets at historical cost and amortize them over their estimated useful lives. We use a straight-line method of amortization, unless a method that better reflects the pattern in which the economic benefits of the intangible asset are consumed or otherwise used up can be reliably determined. The approximate useful lives for amortization of our intangible assets are as follows: patents and licenses, two to 20 years; amortizable technology-related and customer relationships, five to 25 years; other intangible assets, various.

We review intangible assets subject to amortization quarterly to determine if any adverse conditions exist or a change in circumstances has occurred that would indicate impairment or a change in the remaining useful life. Conditions that may indicate impairment include, but are not limited to, a significant adverse change in legal factors or business climate that could affect the value of an asset, a product recall or an adverse action or assessment by a regulator. If we determine it is more likely than not that the asset is impaired based on our qualitative assessment of impairment indicators, we test the intangible asset for recoverability. For purposes of the recoverability test, we group our amortizable intangible assets with other assets and liabilities at the lowest level of identifiable cash flows if the intangible asset does not generate cash flows independent of other assets and liabilities. If the carrying value of the intangible asset or asset group exceeds the undiscounted cash flows expected to result from the use and eventual disposition of the intangible asset or asset group, we will write the carrying value down to fair value in the period impairment is identified.

We calculate fair value of our intangible assets as the present value of estimated future cash flows we expect to generate from the asset. In determining our estimated future cash flows associated with our intangible assets, we use estimates and assumptions about future revenue contributions, cost structures and remaining useful lives of the asset or asset group. See *Note C - Goodwill and Other Intangible Assets* for more information related to impairments of intangible assets.

For patents developed internally, we capitalize costs incurred to obtain patents, including attorney fees, registration fees, consulting fees and other expenditures directly related to securing the patent.

Goodwill Valuation

We allocate any excess purchase price over the fair value of the net tangible and identifiable intangible assets acquired in a business combination to goodwill. We test our goodwill balances during the second quarter of each year for impairment or more frequently if indicators are present or changes in circumstances suggest that impairment may exist. We assess goodwill for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment, referred to as a component. For our 2018, 2017 and 2016 annual impairment assessment, we identified seven reporting units: Interventional Cardiology, Peripheral Interventions, Cardiac Rhythm Management, Electrophysiology, Endoscopy, Urology and Pelvic Health and Neuromodulation. We aggregated the Cardiac Rhythm Management and Electrophysiology reporting units, components of the Rhythm Management operating segment, based on the criteria prescribed in FASB ASC Topic 350. These reporting units were aggregated due to a reorganization that commenced in 2015 that resulted in integrated leadership, shared resources and consolidation of certain sites in 2016.

In performing the goodwill impairment assessments for 2018, 2017 and 2016, we utilized both the optional qualitative assessment and the quantitative approach prescribed under FASB ASC Topic 350. The qualitative assessment was used for testing certain reporting units where fair value has historically exceeded carrying value by greater than 100 percent. All other reporting units were tested using the quantitative approach described below. The qualitative assessment requires an evaluation of whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount based on an assessment of relevant events including macroeconomic factors, industry and market conditions, cost factors, overall financial performance and other entity-specific factors. After assessing the totality of events, if it is determined that it is more likely than not that the fair value of the reporting unit exceeds its carrying value, no further steps are required. If it is determined that impairment is more likely than not, then we perform the quantitative impairment test. In 2018, we performed a qualitative assessment for our Urology and Pelvic Health and Neuromodulation reporting units since their fair values have exceeded carrying value by greater than 100 percent. The remaining reporting units were quantitatively tested for impairment. For all reporting units tested using the optional qualitative assessment, no further steps were required, and we concluded such reporting units were not impaired. For all reporting units tested using the quantitative approach, we concluded that the fair value of each reporting unit exceeded its carrying value.

When allocating goodwill from business combinations to our reporting units, we assign goodwill to the reporting units that we expect to benefit from the respective business combination at the time of acquisition. In addition, for purposes of performing our goodwill impairment tests, assets and liabilities, including corporate assets, which relate to a reporting unit's operations, and would be considered in determining its fair value, are allocated to the individual reporting units. We allocate assets and liabilities not directly related to a specific reporting unit, but from which the reporting unit benefits, based primarily on the respective revenue contribution of each reporting unit.

For our 2018, 2017 and 2016 annual impairment assessments, for those reporting units for which a quantitative test was performed, we used only the income approach, specifically the Discounted Cash Flow method, to derive the fair value of each of our reporting units in preparing our goodwill impairment assessments. We selected this method as being the most meaningful in preparing our goodwill assessments because we believe the income approach most appropriately measures our income producing assets. We have considered using the market approach and cost approach but concluded they are not appropriate in valuing our reporting units given the lack of relevant market comparisons available for application of the market approach and the inability to replicate

the value of the specific technology-based assets within our reporting units for application of the cost approach. Therefore, we believe that the income approach represents the most appropriate valuation technique for which sufficient data are available to determine the fair value of our reporting units.

In applying the income approach to our accounting for goodwill, we make assumptions about the amount and timing of future expected cash flows, terminal value growth rates and appropriate discount rates. The amount and timing of future cash flows within our Discounted Cash Flow analysis is based on our most recent operational budgets, long range strategic plans and other estimates. The terminal value growth rate reflects our best estimates for stable, perpetual growth of our reporting units. We use estimates of market-participant risk-adjusted weighted average cost of capital as a basis for determining the discount rates to apply to our reporting units' future expected cash flows.

Refer to *Note C - Goodwill and Other Intangible Assets* to our consolidated financial statements for additional details related to our goodwill balances.

Investments in Publicly Traded and Privately Held Entities

ASC Update No. 2016-01

In January 2016, the FASB issued ASC Update No. 2016-01, *Financial Instruments - Overall* (Subtopic 825-10) : *Recognition and Measurement of Financial Assets and Financial Liabilities*. The purpose of Update No. 2016-01 is to improve financial reporting for financial instruments by reducing the number of items recorded to other comprehensive income. We adopted Update No. 2016-01 in the first quarter of 2018, using both the modified retrospective and prospective methods. For publicly-held securities, we used the modified retrospective approach. Unrealized gains and losses previously recorded to *Other comprehensive income (loss)* were reclassified to retained earnings, and all future fair value changes will be recorded to *Net income (loss)*. For privately-held securities that we do not have the ability to exercise significant influence over the investee, we elected the measurement alternative approach for our existing investments, which is applied prospectively upon adoption. This approach requires entities to measure their investments at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The adoption of the standard did not have a material impact on our financial position or results of operations. The actual impact to future periods resulting from fair value changes of our equity investments is difficult to predict as it will depend on their future performance.

In 2017 and 2016, we accounted for our publicly traded investments as available-for-sale securities based on the quoted market price at the end of the reporting period. Unrealized holding gains or losses during the period, net of tax, were recorded to *Accumulated other comprehensive income (loss), net of tax*. We computed realized gains and losses on sales of available-for-sale securities at fair value, adjusted for any other-than-temporary declines in fair value. We accounted for investments in private entities in which we have less than a 20 percent ownership interest under the cost method of accounting if we do not have the ability to exercise significant influence over the investee in accordance with FASB ASC Topic 325, *Investments - Other*.

We account for investments in entities over which we have the ability to exercise significant influence under the equity method if we hold 50 percent or less of the voting stock and the entity is not a VIE in which we are the primary beneficiary in accordance with FASB ASC Topic 323, *Investments - Equity Method and Joint Ventures*. We record these investments initially at cost and adjust the carrying amount to reflect our share of the earnings or losses of the investee, including all adjustments similar to those made in preparing consolidated financial statements. Lastly, we have notes receivable from certain companies that we account for in accordance with FASB ASC Topic 320, *Investments - Debt and Equity Securities*. Refer to *Note B - Acquisitions and Strategic Investments* for additional details on our investment balances.

Each reporting period, we evaluate our investments to determine if there are any events or circumstances that are likely to have a significant adverse effect on the fair value of the investment. Examples of such impairment indicators include, but are not limited to, a significant deterioration in earnings performance, recent financing rounds at reduced valuations, a significant adverse change in the regulatory, economic or technological environment of an investee or a significant doubt about an investee's ability to continue as a going concern. If we identify an impairment indicator, we will estimate the fair value of the investment and compare it to its carrying value. Our estimation of fair value considers financial information related to the investee available to us, including valuations based on recent third-party equity investments in the investee. If the fair value of the investment is less than its carrying value, the investment is impaired and we recognize an impairment loss equal to the difference between an investment's carrying value and its fair value if accounted for under measurement alternative. For our equity method investments, an impairment loss is recorded if we determine the impairment is other-than-temporary. We deem an impairment to be other-than-temporary unless available evidence indicates that the valuation is more likely than not to recover up to the carrying value of the investment in a reasonable period of time, and we have both the ability and intent to hold the investment for a sufficient period of time needed to recover the value. For other-than-temporary impairments, we recognize an impairment loss equal to the difference between an

investment's carrying value and its fair value. Impairment losses on our investments are included in *Other, net* in our consolidated statements of operations .

Income Taxes

ASC Update No. 2016-16

In October 2016, the FASB issued ASC Update No. 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory* . The purpose of Update No. 2016-16 is to allow an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs, as opposed to waiting until the asset is sold to a third party, or impaired. Update No. 2016-16 was effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods. We adopted Update No. 2016-16 prospectively in the first quarter of 2018 and recognized a net reduction to opening retained earnings of \$55 million for income tax consequences not previously recognized for intra-entity transfers of assets other than inventories. All future income tax consequences of intra-entity transfers of assets other than inventories will be recognized through *Income tax expense (benefit)* .

We utilize the asset and liability method of accounting for income taxes. Under this method, we determine deferred tax assets and liabilities based on differences between the financial reporting and tax bases of our assets and liabilities. We measure deferred tax assets and liabilities using the enacted tax rates and laws that will be in effect when we expect the differences to reverse. We reduce our deferred tax assets by a valuation allowance if, based upon the weight of available evidence, it is more likely than not that we will not realize some portion or all of the deferred tax assets. We consider relevant evidence, both positive and negative, to determine the need for a valuation allowance. Information evaluated includes our financial position and results of operations for the current and preceding years, the availability of deferred tax liabilities and tax carrybacks, as well as estimates of the impact of future taxable income and available prudent and feasible tax-planning strategies. We recognize interest and penalties related to income taxes as a component of income tax expense. As part of the Tax Cut and Jobs Act of 2017 (TCJA), we are subject to a territorial tax system in which we are required to make an accounting policy in providing for tax on Global Intangible Low Taxed Income (GILTI) earned by certain foreign subsidiaries. We have elected to treat the impact of GILTI as a period cost and will be reported as a part of continuing operations. See *Note I - Income Taxes* for further information and discussion of our income tax provision and balances including a discussion of the impacts of the TCJA.

Legal and Product Liability Costs

In the normal course of business, we are involved in various legal and regulatory proceedings, including intellectual property, breach of contract, securities litigation and product liability suits. In some cases, the claimants seek damages, as well as other relief, which, if granted, could require significant expenditures or impact our ability to sell our products. We are also the subject of certain governmental investigations, which could result in substantial fines, penalties and administrative remedies. We maintain an insurance policy providing limited coverage against securities claims, and we are substantially self-insured with respect to product liability claims and fully self-insured with respect to intellectual property infringement claims. We accrue anticipated costs of settlement, damages, losses for product liability claims and, under certain conditions, costs of defense, based on historical experience or to the extent specific losses are probable and estimable. Otherwise, we expense these costs as incurred. If the estimate of a probable loss is a range and no amount within the range is more likely, we accrue our best estimate of the minimum amount of the range. We analyze litigation settlements to identify each element of the arrangement. We allocate arrangement consideration to patent licenses received based on estimates of fair value and capitalize these amounts as assets if the license will provide an ongoing future benefit. We record certain legal and product liability charges, credits and costs of defense, which we consider to be unusual or infrequent and significant as *Litigation-related charges (credits)* in our consolidated statements of operations ; all other legal and product liability charges, credits and costs are recorded within *Selling, general and administrative expenses* . See *Note J – Commitments and Contingencies* for discussion of our individual material legal proceedings.

Costs Associated with Exit Activities

We record employee termination costs in accordance with FASB ASC Topic 712 , *Compensation - Nonretirement and Postemployment Benefits* , if we pay the benefits as part of an ongoing benefit arrangement, which includes benefits provided as part of our established severance policies or that we provide in accordance with international statutory requirements. We accrue employee termination costs associated with an ongoing benefit arrangement if the obligation is attributable to prior services rendered, the rights to the benefits have vested, the payment is probable and we can reasonably estimate the liability. We account for employee termination benefits that represent a one-time benefit in accordance with FASB ASC Topic 420 , *Exit or Disposal Cost Obligations* . We record such costs into expense over the employee's future service period, if any.

Other costs associated with exit activities may include contract termination costs, including costs related to consultant fees and contract cancellations. The costs are expensed in accordance with FASB ASC Topic 420 and FASB ASC Topic 360 , *Property, Plant and Equipment* and are included in *Restructuring charges (credits)* in our consolidated statements of operations . Additionally, costs directly related to our active restructuring initiatives, including program management costs, accelerated depreciation, fixed asset write-offs and costs to transfer product lines among facilities are included within *Costs of products sold* and *Selling, general and administrative expenses* in our consolidated statements of operations . See *Note G – Restructuring-related Activities* for further information and discussion of our restructuring plans.

Translation of Foreign Currency

We translate all assets and liabilities of foreign subsidiaries from the functional currency, which is generally the local currency, into U.S. dollars using the year-end exchange rate and translate revenues and expenses at the average exchange rates in effect during the year. We show the net effect of these translation adjustments in our consolidated financial statements as a component of *Accumulated other comprehensive income (loss), net of tax* . For any significant foreign subsidiaries located in highly inflationary economies, we would re-measure their financial statements as if the functional currency were the U.S. dollar. We recorded immaterial highly inflationary economy translation adjustments in 2018 , 2017 or 2016 .

Foreign currency transaction gains and losses are included in *Other, net* in our consolidated statements of operations , net of losses and gains from any related derivative financial instruments.

Financial Instruments

ASC Update No. 2017-12

In August 2017, the FASB issued ASC Update No. 2017-12, *Derivatives and Hedging (Topic 815) : Targeted Improvements to Accounting for Hedging Activities* . The purpose of Update No. 2017-12 is to simplify the application of hedge accounting and better align financial reporting of hedging relationships with risk management objectives. Update No. 2017-12 was effective for annual periods beginning after December 15, 2018, including interim periods within those annual periods. We early adopted Update No. 2017-12 in the first quarter of 2018. The adoption of the standard had no impact on our financial position or results of operations.

We recognize all derivative financial instruments in our consolidated financial statements at fair value in accordance with FASB ASC Topic 815 , *Derivatives and Hedging* , and we present assets and liabilities associated with our derivative financial instruments on a gross basis in our financial statements. In accordance with FASB ASC Topic 815 , for those derivative instruments that are designated and qualify as hedging instruments, the hedging instrument must be designated, based upon the exposure being hedged, as a fair value hedge, cash flow hedge, or a hedge of a net investment in a foreign operation. The accounting for changes in the fair value of a derivative instrument depends on whether it qualifies for, and has been designated as part of a hedging relationship, as well as on the type of hedging relationship. Our derivative instruments do not subject our earnings to material risk, as gains and losses on these derivatives generally offset gains and losses on the item being hedged. We do not enter into derivative transactions for speculative purposes, and we do not have any non-derivative instruments that are designated as hedging instruments pursuant to FASB ASC Topic 815 . Refer to *Note D – Hedging Activities and Fair Value Measurements* for more information on our derivative instruments.

Shipping and Handling Costs

We generally do not bill customers for shipping and handling of our products. We treat shipping and handling costs incurred after a customer obtains control of the good as a fulfillment cost and record in *Selling, general and administrative expenses* in our consolidated statements of operations . Shipping and handling costs were \$124 million in 2018 , \$110 million in 2017 and \$101 million in 2016 .

Research and Development

We expense research and development costs, including new product development programs, regulatory compliance and clinical research as incurred. Refer to *Indefinite-lived Intangibles, including In-Process Research and Development* above for our policy regarding IPR&D acquired in connection with our business combinations and asset purchases.

Net Income (Loss) per Common Share

We base *Net income (loss) per common share* upon the weighted-average number of common shares and common stock equivalents outstanding during each year. Potential common stock equivalents are determined using the treasury stock method. We exclude stock options and stock awards whose effect would be anti-dilutive from the calculation.

NOTE B – ACQUISITIONS AND STRATEGIC INVESTMENTS

Our consolidated financial statements include the operating results for each acquired entity from its respective date of acquisition. We do not present pro forma financial information for these acquisitions given their results are not material to our consolidated financial statements. Transaction costs associated with these acquisitions were expensed as incurred and are not material for 2018, 2017 and 2016.

Proposed BTG Acquisition

On November 20, 2018, our board of directors and the board of directors of our wholly owned indirect subsidiary, Bravo Bidco Limited (Bidco), and BTG plc (BTG), a public company organized under the laws of England and Wales, issued an announcement (the Rule 2.7 Announcement) under Rule 2.7 of the United Kingdom City Code on Takeovers and Mergers, disclosing the terms of a recommended cash offer to be made by Bidco for the entire issued and to be issued ordinary share capital of BTG (the proposed BTG Acquisition). On January 24, 2019, Bidco made such offer on the terms and subject to the conditions of the scheme document published on the same date. In connection with the proposed BTG Acquisition, (i) we entered into a co-operation agreement with Bidco and BTG (the Co-operation Agreement), (ii) certain shareholders and each BTG director owning shares of BTG delivered deeds of irrevocable undertakings to Bidco and (iii) we entered into a bridge credit agreement (the Bridge Facility). Refer to *Note E – Borrowings and Credit Arrangements* for further details of the Bridge Facility. On February 14, 2019, each of the Company and BTG received a request for additional information and documentary material from the United States Federal Trade Commission in connection with the proposed BTG Acquisition.

Under the terms of the proposed BTG Acquisition, BTG shareholders will receive 840 pence in cash for each BTG share, which values BTG's existing issued and to be issued ordinary share capital at approximately £3.311 billion (or approximately \$4.225 billion based on the exchange rate of U.S. \$1.28 : £1.00 on December 31, 2018). We intend to implement the proposed BTG Acquisition by way of a court-sanctioned scheme of arrangement (Scheme) under Part 26 of the United Kingdom Companies Act 2006, as amended (the Companies Act).

The proposed BTG Acquisition will be subject to conditions and certain further terms, including (i) the approval of the Scheme by a majority in number of BTG shareholders also representing not less than 75 percent in value of the BTG shares, in each case, present, entitled to vote and voting, (ii) the sanction of the Scheme by the High Court of Justice in England and Wales, (iii) the Scheme becoming effective no later than August 20, 2019 and (iv) the receipt of regulatory approvals. The conditions to the proposed BTG Acquisition are set out in full in the Rule 2.7 Announcement. Subject to the satisfaction or waiver of all relevant conditions, we expect the proposed BTG Acquisition to be effective in the first half of 2019.

We are entitled to implement the proposed BTG Acquisition by way of a takeover offer (as defined in Part 28 of the Companies Act) in certain circumstances, subject to the terms of the Co-operation Agreement and the consent of the Panel on Takeovers and Mergers in the United Kingdom.

Pursuant to the Co-operation Agreement, the Company and Bidco have undertaken to use commercially reasonable efforts to secure the required regulatory clearances in respect of the proposed BTG Acquisition as soon as reasonably practicable, to provide each other with such information and assistance as may reasonably be required for the purpose of making any filing, notification or submission to relevant antitrust and regulatory authorities, and Bidco has agreed to provide BTG with information required for the preparation of Scheme documentation. The Co-operation Agreement addresses certain other matters, as set forth therein.

Invesco Asset Management Limited subsequently sold certain BTG shares, subject to its irrevocable undertaking, to certain funds managed by Pentwater Capital Management Europe LLP (together, the Pentwater Funds) and Woodford Investment Management Limited sold all of the BTG shares subject to its irrevocable undertaking to Arrowgrass Master Fund Limited and Anavio Capital Master Fund Limited and funds managed, variously, by Anavio Capital Partners LLP, Sand Grove Capital Management LLP, Tavira Securities and Melquart Asset Management (UK) Ltd. (all together with the Pentwater Funds, the New Shareholders). These BTG shares remain subject to deeds of irrevocable undertakings under which each New Shareholder is committed, among other things, to vote its BTG shares in favor of the Scheme and against any proposal that would impede or frustrate the completion of the proposed BTG Acquisition.

The Shareholder Undertakings and the Director Undertakings will remain in effect if the Company and Bidco elect to effect the proposed BTG Acquisition by way of a takeover offer and will cease to be binding in certain circumstances.

BTG develops and commercializes products used in minimally-invasive procedures targeting cancer and vascular diseases, as well as acute care pharmaceuticals.

2019 Acquisitions

Millipede, Inc.

On January 29, 2019, we announced the closing of our acquisition of Millipede, Inc. (Millipede), a privately-held company that has developed the IRIS Transcatheter Annuloplasty Ring System for the treatment of severe mitral regurgitation. We have been an investor in Millipede since the first quarter of 2018 as part of an investment and acquisition option agreement, whereby we purchased a portion of the outstanding shares of Millipede along with newly issued shares of the company for an upfront cash payment of \$90 million. In the fourth quarter of 2018, upon the recent successful completion of a first-in-human clinical study, we exercised our option to acquire the remaining shares of Millipede. We held an interest of approximately 20 percent immediately prior to the acquisition date. The transaction price for the remaining stake consists of an upfront cash payment of \$325 million and up to an additional \$125 million payment upon achievement of a commercial milestone. Millipede will be part of our Interventional Cardiology business. Our initial accounting for Millipede will be completed in the first quarter of 2019, and as such, the purchase price allocation in the aggregated disclosures below excludes Millipede.

2018 Acquisitions

Augmenix, Inc.

On October 16, 2018, we announced the closing of our acquisition of Augmenix, Inc. (Augmenix), a privately-held company that developed and commercialized the SpaceOAR™ Hydrogel System to help reduce common and debilitating side effects that men may experience after receiving radiotherapy to treat prostate cancer. The transaction price consists of an upfront cash payment of \$500 million and up to \$100 million in payments contingent upon revenue-based milestones. Augmenix is part of our Urology and Pelvic Health business.

Claret Medical, Inc.

On August 2, 2018, we announced the closing of our acquisition of Claret Medical, Inc. (Claret), a privately-held company that has developed and commercialized the Sentinel™ Cerebral Embolic Protection System. The device is used to protect the brain during certain interventional procedures, predominately in patients undergoing transcatheter aortic valve replacement (TAVR). The transaction price consists of an upfront cash payment of \$220 million and an additional \$50 million payment for reaching a reimbursement-based milestone that was achieved in the third quarter. Claret is part of our Interventional Cardiology business.

Cryterion Medical, Inc.

On July 5, 2018, we announced the closing of our acquisition of Cryterion Medical, Inc. (Cryterion), a privately-held company developing a single-shot cryoablation platform for the treatment of atrial fibrillation. We have been an investor in Cryterion since 2016 and held an interest of approximately 35 percent immediately prior to the acquisition date. The transaction price to acquire the remaining stake consists of an upfront cash payment of \$202 million. Cryterion is part of our Electrophysiology business.

NxThera, Inc.

On April 30, 2018, we announced the closing of our acquisition of NxThera, Inc. (NxThera), a privately-held company that developed the Rezūm™ System, a minimally invasive therapy in a growing category of treatment options for patients with benign prostatic hyperplasia (BPH). We held a minority interest immediately prior to the acquisition date. The transaction price to acquire the remaining stake consists of an upfront cash payment of approximately \$240 million and up to approximately \$85 million in commercial-based milestones. NxThera is part of our Urology and Pelvic Health business.

nVision Medical Corporation

On April 16, 2018, we announced the closing of our acquisition of nVision Medical Corporation (nVision), a privately-held company focused on women's health. nVision developed the first and only device cleared by the U.S. Food and Drug Administration (FDA) to collect cells from the fallopian tubes, offering a potential platform for earlier diagnosis of ovarian cancer. The transaction price consists of an upfront cash payment of \$150 million and up to approximately \$125 million in payments contingent upon clinical and commercial-based milestones. nVision is part of our Urology and Pelvic Health business.

In addition, we completed other individually immaterial acquisitions in 2018 for total consideration of \$158 million in cash at closing plus aggregate contingent consideration of up to \$62 million.

We recorded gains of \$184 million in 2018 within *Other, net* on our consolidated statements of operations based on the difference between the book values and the fair values of our previously-held investments immediately prior to the acquisition dates, which aggregate to \$251 million. We re-measured the fair value of each previously-held investment based on the implied enterprise value and allocation of purchase price consideration according to priority of equity interests.

Purchase Price Allocation

We accounted for these acquisitions as business combinations, and in accordance with FASB ASC Topic 805, *Business Combinations*, we recorded the assets acquired and liabilities assumed at their respective fair values as of the acquisition dates. The components of the aggregate preliminary purchase prices are as follows for our 2018 acquisitions as of December 31, 2018:

(in millions)

Payments for acquisitions, net of cash acquired	\$	1,449
Fair value of contingent consideration		248
Fair value of prior interests		251
	\$	<u>1,948</u>

The following summarizes the preliminary purchase price allocations for our 2018 acquisitions as of December 31, 2018:

(in millions)

Goodwill	\$	942
Amortizable intangible assets		938
IPR&D		213
Other assets acquired		38
Liabilities assumed		(19)
Net deferred tax liabilities		(164)
	\$	<u>1,948</u>

We allocated a portion of the preliminary purchase prices to specific intangible asset categories as follows:

	Amount Assigned <i>(in millions)</i>	Amortization Period <i>(in years)</i>	Risk-Adjusted Discount Rates used in Purchase Price Allocation
Amortizable intangible assets			
Technology-related	\$ 907	6 - 14	14% - 23%
Other intangible assets	31	6 - 13	13% - 15%
Indefinite-lived intangible assets			
IPR&D	213	N/A	15%
	<u>\$ 1,152</u>		

2017 Acquisitions

Apama Medical Inc.

On October 11, 2017, we announced the closing of our acquisition of Apama Medical Inc. (Apama), a privately-held company developing the Apama™ Radiofrequency single-shot Balloon Catheter System for the treatment of atrial fibrillation. The transaction price consisted of an upfront cash payment of approximately \$175 million and up to approximately \$125 million in payments contingent upon clinical and regulatory milestones. Apama is part of our Electrophysiology business.

Symetis SA

On May 16, 2017, we announced the closing of our acquisition of Symetis SA (Symetis), a privately-held Swiss structural heart company focused on minimally-invasive TAVR devices. The transaction price consisted of an upfront cash payment of approximately \$430 million. Symetis is part of our Interventional Cardiology business.

Purchase Price Allocation

We accounted for these acquisitions as a business combination and, in accordance with FASB ASC Topic 805, *Business Combinations*, we recorded the assets acquired and liabilities assumed at their respective fair values as of the acquisition date. The components of the aggregated purchase prices are as follows for our 2017 acquisitions as of December 31, 2018:

(in millions)

Payment for acquisitions, net of cash acquired	\$	560
Fair value of contingent consideration		72
	\$	632

The following summarizes the aggregated purchase price allocations for our 2017 acquisitions as of December 31, 2018:

(in millions)

Goodwill	\$	287
Amortizable intangible assets		278
Indefinite-lived intangible assets		186
Other assets acquired		44
Liabilities assumed		(61)
Deferred tax liabilities		(102)
	\$	632

We allocated a portion of the purchase prices to specific intangible asset categories as follows:

	Amount Assigned <i>(in millions)</i>	Amortization Period <i>(in years)</i>	Risk-Adjusted Discount Rates used in Purchase Price Allocation
Amortizable intangible assets			
Technology-related	\$ 268	13	24%
Other intangible assets	10	2 - 13	24%
Indefinite-lived intangible assets			
IPR&D	\$ 186	N/A	15%
	\$ 464		

2016 Acquisitions

EndoChoice Holdings, Inc.

On November 22, 2016, we announced the closing of our acquisition of EndoChoice Holdings, Inc. (EndoChoice), an Alpharetta, Georgia based company focused on the development and commercialization of infection control products, pathology services and single-use devices for specialists treating a wide range of gastrointestinal (GI) conditions. The transaction price consisted of an upfront cash payment of approximately \$213 million, or \$8.00 per share, and repayment of EndoChoice's existing senior term loan facility totaling \$43 million and related acquisition fees and expenses. EndoChoice is part of our Endoscopy business.

In addition, we completed other individually immaterial acquisitions during 2016 for total consideration of \$189 million in cash at closing plus aggregate contingent consideration of up to \$125 million.

Purchase Price Allocation

We accounted for these acquisitions as a business combination and, in accordance with FASB ASC Topic 805, we recorded the assets acquired and liabilities assumed at their respective fair values as of the acquisition date. The components of the aggregated purchase prices are as follows:

(in millions)

Payment for acquisitions, net of cash acquired	\$	365
Fair value of contingent consideration		50
Fair value of debt repaid		43
	\$	458

The following summarizes the aggregated purchase price allocations for our 2016 acquisitions:

(in millions)

Goodwill	\$	204
Amortizable intangible assets		228
Other assets acquired		83
Liabilities assumed		(57)
	\$	458

We allocated a portion of the purchase prices to specific intangible asset categories as follows:

	Amount Assigned <i>(in millions)</i>	Weighted Average Amortization Period <i>(in years)</i>	Risk-Adjusted Discount Rates used in Purchase Price Allocation
Amortizable intangible assets			
Technology-related	\$ 176	9 - 13	11% - 20%
Customer relationships	51	9 - 13	11% - 12%
Other intangible assets	1	4	11%
	\$ 228		

For our 2018, 2017 and 2016 acquisitions, our technology-related intangible assets consist of technical processes, intellectual property and institutional understanding with respect to products and processes that we will leverage in future products or processes and will carry forward from one product generation to the next. We used the multi-period excess earnings method, a variation of the income approach and relief from royalty approach to derive the fair value of the technology-related intangible assets and are amortizing them on a straight-line basis over their assigned estimated useful lives.

Other intangible assets primarily include acquired customer relationships and tradenames. Customer relationships represent the estimated fair value of non-contractual customer, payor and distributor relationships. Customer relationships are direct relationships with physicians and hospitals performing procedures with the acquired products, payor relationships are contracts and relationships with healthcare payors relating to reimbursement of services and distributor relationships are relationships with third parties used

to sell the acquired products, all as of the acquisition date. These relationships were valued separately from goodwill because there is a history and pattern of conducting business with customers and distributors. We used the income approach or the replacement cost and lost profits methodology to derive the fair value of the customer relationships. The customer relationships intangible assets are amortized on a straight-line basis over their assigned estimated useful lives. Tradenames include brand names that we expect to continue using in our product portfolio and related marketing materials. The tradenames are valued using a relief from royalty methodology and are amortized on a straight-line basis over their assigned estimated useful lives.

We believe that the estimated intangible asset values represent the fair value at the date of acquisition and do not exceed the amount a third party would pay for the assets. These fair value measurements are based on significant unobservable inputs, including management estimates and assumptions and, accordingly, are classified as Level 3 within the fair value hierarchy prescribed by FASB ASC Topic 820, *Fair Value Measurements and Disclosures*.

Goodwill was established due primarily to synergies expected to be gained from leveraging our existing operations as well as revenue and cash flow projections associated with future technologies and has been allocated to our reportable segments based on the relative expected benefit. Based on preliminary estimates, the goodwill recorded related to our 2018 acquisitions is not deductible for tax purposes. The goodwill recorded related to our 2017 acquisitions is not deductible for tax purposes. Of the goodwill recorded related to our 2016 acquisitions, \$116 million is deductible for tax purposes. Refer to *Note C - Goodwill and Other Intangible Assets* for more information related to goodwill allocated to our reportable segments.

Contingent Consideration

Changes in the fair value of our contingent consideration liability were as follows:

(in millions)

Balance as of December 31, 2016	\$ 204
Amounts recorded related to current year acquisitions	94
Contingent consideration expense (benefit)	(80)
Contingent consideration payments	(48)
Balance as of December 31, 2017	\$ 169
Amounts recorded related to current year acquisitions	248
Purchase price adjustments related to prior year acquisitions	(22)
Contingent consideration expense (benefit)	(21)
Contingent consideration payments	(28)
Balance as of December 31, 2018	\$ 347

As of December 31, 2018, the maximum amount of future contingent consideration (undiscounted) that we could be required to pay was approximately \$873 million. The maximum amount of future contingent consideration (undiscounted) decreased approximately \$447 million compared to the amount as of December 31, 2017 due primarily to the expiration of certain contingent consideration arrangements in 2018.

The recurring Level 3 fair value measurements of our contingent consideration liabilities include the following significant unobservable inputs:

Contingent Consideration Liabilities	Fair Value as of December 31, 2018	Valuation Technique	Unobservable Input	Range
R&D, Regulatory and Commercialization-based Milestones	\$189 million	Discounted Cash Flow	Discount Rate	3% - 4%
			Probability of Payment	17% - 100%
			Projected Year of Payment	2019 - 2022
Revenue-based Payments	\$158 million	Discounted Cash Flow	Discount Rate	11% - 15%
			Probability of Payment	60% - 100%
			Projected Year of Payment	2019 - 2026

Projected contingent payment amounts related to some of our R&D, commercialization-based and revenue-based milestones are discounted back to the current period using a Discounted Cash Flow model. Projected revenues are based on our most recent internal operational budgets and strategic plans. Increases or decreases in projected revenues, probabilities of payment, discount rates or the time until payment may result in materially different fair value measurements.

Strategic Investments

The aggregate carrying amounts of our strategic investments were comprised of the following categories:

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Equity method investments	\$ 303	\$ 209
Measurement alternative investments	94	81
Publicly-held securities	—	15
Notes receivable	26	47
	\$ 424	\$ 353

These investments are classified as *Other long-term assets* within our accompanying consolidated balance sheets, in accordance with U.S. GAAP and our accounting policies.

As of December 31, 2018, the cost of our aggregated equity method investments exceeded our share of the underlying equity in net assets by approximately \$334 million, which represents amortizable intangible assets, IPR&D, deferred tax liabilities and goodwill.

As of December 31, 2017, the cost of our aggregated equity method investments exceeded our share of the underlying equity in net assets by approximately \$212 million, which represents amortizable intangible assets, IPR&D, deferred tax liabilities and goodwill.

NOTE C – GOODWILL AND OTHER INTANGIBLE ASSETS

The gross carrying amount of goodwill and other intangible assets and the related accumulated amortization for intangible assets subject to amortization and accumulated write-offs of goodwill are as follows:

<i>(in millions)</i>	As of December 31, 2018		As of December 31, 2017	
	Gross Carrying Amount	Accumulated Amortization/Write-offs	Gross Carrying Amount	Accumulated Amortization/Write-offs
Amortizable intangible assets				
Technology-related	\$ 10,197	\$ (5,266)	\$ 9,386	\$ (4,880)
Patents	520	(393)	517	(379)
Other intangible assets	1,666	(958)	1,633	(838)
	\$ 12,383	\$ (6,617)	\$ 11,536	\$ (6,097)
Indefinite-lived intangible assets				
Goodwill	\$ 17,811	\$ (9,900)	\$ 16,898	\$ (9,900)
IPR&D	486	—	278	—
Technology-related	120	—	120	—
	\$ 18,417	\$ (9,900)	\$ 17,295	\$ (9,900)

In the third quarter of 2018, we performed our annual impairment test of all IPR&D projects and our indefinite-lived core technology assets and determined that the assets were not impaired. In addition, we verified the classification as indefinite-lived assets continues to be appropriate.

Intangible asset impairment charges were immaterial in 2018, 2017 and 2016.

Effective January 1, 2018, we reclassified our Neuromodulation operating segment and associated goodwill balance from our MedSurg reportable segment to our Rhythm and Neuro reportable segment as discussed in *Note A – Significant Accounting Policies*. This change did not impact our total goodwill carrying value. The following represents our goodwill balance by global reportable segment:

<i>(in millions)</i>	MedSurg	Rhythm and Neuro	Cardiovascular	Total
Balance as of December 31, 2016	\$ 2,875	\$ 290	\$ 3,513	\$ 6,678
Impact of foreign currency fluctuations and other changes in carry amount	2	1	9	12
Goodwill acquired	—	126	182	308
Balance as of December 31, 2017	\$ 2,877	\$ 417	\$ 3,704	\$ 6,998
Impact of reportable segment revisions	(1,379)	1,379	—	—
Impact of foreign currency fluctuations and other changes in carry amount	(3)	(22)	(3)	(29)
Goodwill acquired	568	150	224	942
Balance as of December 31, 2018	\$ 2,063	\$ 1,924	\$ 3,925	\$ 7,911

We did not have any goodwill impairments in 2018, 2017 or 2016.

Estimated *Amortization expense* for each of the five succeeding fiscal years based upon our amortizable intangible asset portfolio as of December 31, 2018 is as follows (in millions):

Fiscal Year	
2019	\$ 639
2020	635
2021	599
2022	571
2023	551

NOTE D – HEDGING ACTIVITIES AND FAIR VALUE MEASUREMENTS

Derivative Instruments and Hedging Activities

We address market risk from changes in foreign currency exchange rates and interest rates through risk management programs which include the use of derivative financial instruments. We operate these programs pursuant to documented corporate risk management policies and do not enter into derivative transactions for speculative purposes. Our derivative instruments do not subject our earnings to material risk, as the gains or losses on these derivatives generally offset losses or gains recognized on the hedged item.

We manage concentration of counterparty credit risk by limiting acceptable counterparties to major financial institutions with investment grade credit ratings, limiting the amount of credit exposure to individual counterparties and by actively monitoring counterparty credit ratings and the amount of individual credit exposure. We also employ master netting arrangements that limit the risk of counterparty non-payment on a particular settlement date to the net gain that would have otherwise been received from the counterparty. Although not completely eliminated, we do not consider the risk of counterparty default to be significant as a result of these protections. Further, none of our derivative instruments are subject to collateral or other security arrangements, nor do they contain provisions that are dependent on our credit ratings from any credit rating agency.

Currency Derivative Instruments

Risk Management Strategy

Our risk from changes in currency exchange rates consists primarily of monetary assets and liabilities, forecast intercompany and third-party transactions and net investments in certain subsidiaries. We manage currency exchange rate risk at a consolidated level to reduce the cost of hedging by taking advantage of offsetting transactions. We employ derivative instruments, primarily forward currency contracts, to reduce the risk to our earnings and cash flows associated with changes in currency exchange rates.

The success of our currency risk management program depends, in part, on forecast transactions denominated primarily in British pound sterling, Euro and Japanese yen. We may experience unanticipated currency exchange gains or losses to the extent the actual activity is different than forecast. In addition, changes in currency exchange rates related to any unhedged transactions may impact our earnings and cash flows.

Derivative Designations and Hedging Relationships

Certain of our currency derivative instruments are designated as cash flow hedges under FASB ASC Topic 815, *Derivatives and Hedging*, and are intended to protect the U.S. dollar value of forecasted transactions. The gain or loss on a derivative instrument designated as a cash flow hedge is recorded in the *Net change in derivative financial instruments* component of *Other comprehensive income (loss), net of tax (OCI)* on our consolidated statements of comprehensive income (loss) until the underlying third-party transaction occurs. When the underlying third-party transaction occurs, we recognize the gain or loss in earnings within the *Cost of products sold* caption of our consolidated statements of operations. In the event the hedging relationship is no longer effective, or if the hedged forecast transaction becomes no longer probable of occurring, we reclassify the gains or losses within *AOCI* to earnings at that time.

We also designate certain currency forward contracts as net investment hedges to hedge a portion of our net investments in certain of our entities with functional currencies denominated in the Euro, Swiss franc, and Japanese yen. We have elected to use the spot method to assess effectiveness for our derivatives that are designated as net investment hedges. Under the spot method, the change in fair value attributable to changes in the spot rate is recorded in the *Foreign currency translation adjustment (CTA)* component of *OCI*. We have elected to exclude the spot-forward difference from the assessment of hedge effectiveness and are amortizing this amount separately, as calculated at the date of designation, on a straight-line basis over the term of the currency forward contracts. Amortization of the spot-forward difference is then reclassified from *AOCI* to current period earnings as a reduction to *Interest expense* on our consolidated statements of operations.

We also use forward currency contracts that are not part of designated hedging relationships under FASB ASC Topic 815 as a part of our strategy to manage our exposure to currency exchange rate risk related to monetary assets and liabilities and related forecast transactions. These non-designated currency forward contracts have an original time to maturity consistent with the hedged currency transaction exposures, generally less than one year, and are marked-to-market with changes in fair value recorded to earnings within the *Other, net* caption of our consolidated statements of operations.

Certain of our non-designated forward currency contracts outstanding as of December 31, 2018, relate to hedging a portion of the purchase price of the proposed BTG Acquisition (\$2.550 billion notional value as of December 31, 2018). During the first quarter of 2019, we entered into additional non-designated forward currency contracts, after which our combined notional value is £3.311 billion, which represents the full purchase price for the proposed BTG Acquisition.

Interest Rate Derivative Instruments

Risk Management Strategy

Our interest rate risk relates primarily to U.S. dollar borrowings partially offset by U.S. dollar cash investments. We use interest rate derivative instruments to manage our earnings and cash flow exposure to changes in interest rates. Under these agreements we and the counterparty, at specified intervals, exchange the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. We designate these derivative instruments either as fair value or cash flow hedges in accordance with FASB ASC Topic 815.

Derivative Designations and Hedging Relationships

Certain of our interest rate derivative instruments are designated as cash flow hedges and are intended to manage our earnings and cash flow exposure to changes in the benchmark interest rate in connection with the forecasted issuance of fixed-rate debt. During the fourth quarter of 2018, we entered into interest rate derivative contracts, designated as cash flow hedges, having a notional amount of \$1.000 billion to hedge interest rate risk. We record the changes in the fair value of the derivatives within *OCI* until the underlying hedged transaction occurs, at which time we recognize the gain or loss within *Interest expense* over the same period that the hedged items affect earnings, so long as the hedge relationship remains effective. If we determine the hedging relationship is no longer effective, or if the hedged forecast transaction becomes no longer probable of occurring, we reclassify the amount of gains or losses from *AOCI* to earnings at that time. Prior to the adoption of ASC Update No. 2017-12, *Derivatives and Hedging* (Topic 815), the ineffective portion, if any, was recognized in earnings in the period in which the hedging relationship exhibited ineffectiveness.

We previously terminated interest rate derivative instruments that were designated as cash flow hedges and are reclassifying the amortization of the gains or losses from *AOCI* into earnings as a component of *Interest expense* over the same period that the hedged items affect earnings, so long as the hedge relationship remains effective. The balance of the deferred gains on our terminated cash flow hedges within *AOCI* was immaterial as of December 31, 2018 and December 31, 2017 . We recognized immaterial gains in *Interest expense* relating to the amortization of the terminated cash flow hedges in the current and prior periods.

We had no interest rate derivative instruments designated as fair value hedges outstanding as of December 31, 2018 and December 31, 2017 . We previously terminated interest rate derivative instruments that were designated as fair value hedges and are recognizing the amortization of the gains or losses originally recorded within the *Long-term debt* caption on our consolidated balance sheets into earnings as a component of *Interest expense* over the same period that the discount or premium associated with the hedged items affect earnings. In the event that we designate outstanding interest rate derivative instruments as fair value hedges, we record the changes in the fair values of interest rate derivatives designated as fair value hedges and of the underlying hedged debt instruments in *Interest expense* , which generally offset. The balance of the deferred gains on our terminated fair value hedges within *Long-term debt* was immaterial as of December 31, 2018 and December 31, 2017 . We recognized immaterial gains in *Interest expense* relating to the amortization of the terminated fair value hedges in the current and prior periods.

The following table presents the contractual amounts of our derivative instruments outstanding:

<i>(in millions)</i>	FASB ASC Topic 815 Designation	As of	
		December 31, 2018	December 31, 2017
Forward currency contracts	Cash flow hedge	\$ 3,962	\$ 3,252
Forward currency contracts	Net investment hedge	1,483	—
Forward currency contracts	Non-designated	5,880	2,671
Interest rate derivative contracts	Cash flow hedge	1,000	—
Total Notional Outstanding		\$ 12,326	\$ 5,923

The remaining time to maturity as of December 31, 2018 is within 60 months for all designated forward currency contracts and generally less than one year for all non-designated forward currency contracts.

The following presents the effect of our derivative instruments designated as cash flow and net investment hedges under FASB ASC Topic 815 on our accompanying consolidated statements of operations. Refer to *Note P – Changes in Other Comprehensive Income* for the total amounts relating to derivative instruments presented within the consolidated statements of comprehensive income (loss).

Effect of Hedging Relationships on Accumulated Other Comprehensive Income

Amount Recognized in OCI on Derivative			Consolidated Statements of Operations (1)		Amount Reclassified from AOCI into Earnings			
Pre-Tax Gain (Loss)	Tax Benefit (Expense)	Gain (Loss) Net of Tax	Location of Amount Reclassified	Total Amount of Line Item Presented	Pre-Tax (Gain) Loss	Tax (Benefit) Expense	(Gain) Loss Net of Tax	
Year Ended December 31, 2018								
Forward currency contracts								
Cash flow hedges \$	167 \$	(38) \$	130	Cost of products sold	\$ 2,813	\$ 19	\$ (4)	15
Net investment hedges (2)	56	(13)	43	Interest expense	241	(27)	6	(21)
Interest rate derivative contracts								
Cash flow hedges	(44)	10	(34)	Interest expense	241	(1)	—	(1)
Year Ended December 31, 2017								
Forward currency contracts								
Cash flow hedges \$	(101) \$	37 \$	(65)	Cost of products sold	\$ 2,593	\$ (64)	23 \$	(41)
Interest rate derivative contracts								
Cash flow hedges	—	—	—	Interest expense	229	(1)	—	(1)
Year Ended December 31, 2016								
Forward currency contracts								
Cash flow hedges \$	65 \$	(23) \$	40	Cost of products sold	\$ 2,424	\$ (133)	48 \$	(84)
Interest rate derivative contracts								
Cash flow hedges	—	—	—	Interest expense	233	(1)	—	(1)

- (1) In all periods presented in the table above, the pre-tax (gain) loss amounts reclassified from *AOCI* to earnings represent the effect of the hedging relationships on earnings. All other amounts included in earnings related to hedging relationships were immaterial.
- (2) For our outstanding net investment hedges, the net gain or loss reclassified from *AOCI* to earnings as a reduction of *Interest expense* represents the straight-line amortization of the excluded component as calculated at the date of designation. This initial value of the excluded component has been excluded from the assessment of effectiveness in accordance with FASB ASC Topic 815. In the current period, we did not recognize any gains or losses on the components included in the assessment of hedge effectiveness in *AOCI* or earnings.

As of December 31, 2018, pre-tax net gains or losses for our derivative instruments designated, or previously designated, as cash flow and net investment hedges under FASB ASC Topic 815 that may be reclassified from *AOCI* to earnings within the next twelve months are presented below (in millions):

Designated Derivative Instrument	FASB ASC Topic 815 Designation	Location on Consolidated Statements of Operations	Amount of Pre-Tax Gain (Loss) that may be Reclassified to Earnings
Forward currency contracts	Cash flow hedge	Cost of products sold	56
Forward currency contracts	Net investment hedge	Interest expense	41
Interest rate derivative contracts	Cash flow hedge	Interest expense	(43)

Net gains and losses on currency hedge contracts not designated as hedging instruments offset by net gains and losses from currency transaction exposures are presented below:

(in millions)	Location on Consolidated Statements of Operations	Year Ended December 31,		
		2018	2017	2016
Net gain (loss) on currency hedge contracts	Other, net	\$ 41	\$ (25)	\$ (20)
Net gain (loss) on currency transaction exposures	Other, net	(30)	10	7
Net currency exchange gain (loss)		\$ 11	\$ (15)	\$ (13)

Fair Value Measurements

FASB ASC Topic 815 requires all derivative instruments to be recognized at their fair values as either assets or liabilities on the balance sheet. We determine the fair value of our derivative instruments using the framework prescribed by FASB ASC Topic 820, *Fair Value Measurements and Disclosures*, and considering the estimated amount we would receive or pay to transfer these instruments at the reporting date with respect to current currency exchange rates, interest rates, the creditworthiness of the counterparty for unrealized gain positions and our own creditworthiness for unrealized loss positions. In certain instances, we may utilize financial models to measure fair value of our derivative instruments. In doing so, we use inputs that include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, other observable inputs for the asset or liability and inputs derived principally from, or corroborated by, observable market data by correlation or other means. The following are the balances of our derivative assets and liabilities:

(in millions)	Location on Consolidated Balance Sheets (1)	As of	
		December 31, 2018	December 31, 2017
Derivative Assets:			
<u>Designated Derivative Instruments</u>			
Forward currency contracts	Other current assets	\$ 55	\$ 7
Forward currency contracts	Other long-term assets	183	57
		<u>237</u>	<u>64</u>
<u>Non-Designated Derivative Instruments</u>			
Forward currency contracts	Other current assets	67	18
Total Derivative Assets		\$ 304	\$ 82
Derivative Liabilities:			
<u>Designated Derivative Instruments</u>			
Forward currency contracts	Other current liabilities	\$ 2	\$ 37
Forward currency contracts	Other long-term liabilities	3	33
Interest rate contracts	Other current liabilities	44	—
		<u>49</u>	<u>69</u>
<u>Non-Designated Derivative Instruments</u>			
Forward currency contracts	Other current liabilities	31	21
Total Derivative Liabilities		\$ 80	\$ 90

(1) We classify derivative assets and liabilities as current when the settlement date of the derivative contract is one year or less.

Recurring Fair Value Measurements

On a recurring basis, we measure certain financial assets and financial liabilities at fair value based upon quoted market prices. Where quoted market prices or other observable inputs are not available, we apply valuation techniques to estimate fair value. FASB ASC Topic 820 establishes a three-level valuation hierarchy for disclosure of fair value measurements. The category of a financial asset or a financial liability within the valuation hierarchy is based upon the lowest level of input that is significant to the measurement of fair value. The three levels of the hierarchy are defined as follows:

- Level 1 – Inputs to the valuation methodology are quoted market prices for identical assets or liabilities.
- Level 2 – Inputs to the valuation methodology are other observable inputs, including quoted market prices for similar assets or liabilities and market-corroborated inputs.
- Level 3 – Inputs to the valuation methodology are unobservable inputs based on management’s best estimate of inputs market participants would use in pricing the asset or liability at the measurement date, including assumptions about risk.

Assets and liabilities measured at fair value on a recurring basis consist of the following:

(in millions)	As of							
	December 31, 2018				December 31, 2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets								
Money market and government funds	\$ 13	\$ —	\$ —	\$ 13	\$ 21	\$ —	\$ —	\$ 21
Publicly-held securities	—	—	—	—	15	—	—	15
Derivative Instruments	—	304	—	304	—	82	—	82
	\$ 14	\$ 304	\$ —	\$ 318	\$ 36	\$ 82	\$ —	\$ 118
Liabilities								
Derivative Instruments	\$ —	\$ 80	\$ —	\$ 80	\$ —	\$ 90	\$ —	\$ 90
Contingent consideration liability	—	—	347	347	—	—	169	169
	\$ —	\$ 80	\$ 347	\$ 427	\$ —	\$ 90	\$ 169	\$ 259

Our investments in money market and government funds are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices. These investments are classified as *Cash and cash equivalents* within our accompanying consolidated balance sheets, in accordance with U.S. GAAP and our accounting policies. In addition to \$13 million invested in money market and government funds as of December 31, 2018, we had \$133 million in interest bearing and non-interest-bearing bank accounts. In addition to \$21 million invested in money market and government funds as of December 31, 2017, we had \$167 million in interest bearing and non-interest bearing bank accounts.

Our recurring fair value measurements using Level 3 inputs relate solely to our contingent consideration liability. Refer to *Note B – Acquisitions and Strategic Investments* for a discussion of the changes in the fair value of our contingent consideration liability.

Non-Recurring Fair Value Measurements

We hold certain assets and liabilities that are measured at fair value on a non-recurring basis in periods after initial recognition. The fair value of a measurement alternative investment is not estimated if there are no identified events or changes in circumstances that may have a significant adverse effect on the fair value of the investment. Refer to *Note B – Acquisitions and Strategic Investments* for a discussion of our strategic investments.

Refer to *Note C - Goodwill and Other Intangible Assets* for a discussion of the fair values.

The fair value of our outstanding debt obligations was \$7.239 billion as of December 31, 2018 and \$5.945 billion as of December 31, 2017. We determined fair value by using quoted market prices for our publicly registered senior notes, classified as Level 1 within the fair value hierarchy, amortized cost for commercial paper and face value for term loans and credit facility borrowings outstanding. Refer to *Note E – Borrowings and Credit Arrangements* for a discussion of our debt obligations.

NOTE E – BORROWINGS AND CREDIT ARRANGEMENTS

We had total debt of \$7.056 billion as of December 31, 2018 and \$5.616 billion as of December 31, 2017 . The debt maturity schedule for our long-term debt obligations is presented below:

<i>(in millions, except interest rates)</i>	Issuance Date	Maturity Date	As of December 31,		Semi-annual Coupon Rate
			2018	2017	
January 2020 Notes	December 2009	January 2020	\$ 850	\$ 850	6.000%
May 2020 Notes	May 2015	May 2020	600	600	2.850%
May 2022 Notes	May 2015	May 2022	500	500	3.375%
October 2023 Notes	August 2013	October 2023	450	450	4.125%
May 2025 Notes	May 2015	May 2025	750	750	3.850%
March 2028 Notes	February 2018	March 2028	1,000	—	4.000%
November 2035 Notes (1)	November 2005	November 2035	350	350	7.000%
January 2040 Notes	December 2009	January 2040	300	300	7.375%
Unamortized Debt Issuance Discount and Deferred Financing Costs		2020 - 2040	(29)	(24)	
Unamortized Gain on Fair Value Hedges		2020-2025	26	38	
Capital Lease Obligation		Various	6	1	
Long-term debt			\$ 4,803	\$ 3,815	

Note: The table above does not include unamortized amounts related to interest rate contracts designated as cash flow hedges.

(1) Corporate credit rating improvements may result in a decrease in the adjusted interest rate on our November 2035 Notes to the extent that our lowest credit rating is above BBB- or Baa3. The interest rates on our November 2035 Notes will be permanently reinstated to the issuance rate if the lowest credit ratings assigned to these senior notes is either A- or A3 or higher.

Revolving Credit Facility

On December 19, 2018, we entered into a \$2.750 billion revolving credit facility (the 2018 Facility) with a global syndicate of commercial banks and terminated our previous \$2.250 billion revolving credit facility (the 2017 Facility), which was scheduled to mature in August 2022. The 2018 Facility will mature on December 19, 2023 with one-year extension options subject to certain conditions. Eurodollar and multicurrency loans bear interest at the Eurocurrency Rate determined for the interest period plus the applicable margin, based on our corporate credit ratings (1.02 percent as of December 31, 2018). ABR loans bear interest at ABR plus the applicable margin of up to 0.40 percent , based on our corporate credit ratings. Under the credit agreement for the 2018 Facility (the 2018 Credit Agreement), we are required to pay a facility fee (0.11 percent as of December 31, 2018) based on our credit ratings and the total amount of revolving credit commitment, regardless of usage of the 2018 Facility. This facility provides backing for the commercial paper program described below. There were no amounts borrowed under our current or prior revolving credit facilities as of December 31, 2018 or December 31, 2017 .

Bridge Facility

On November 20, 2018, we entered into the Bridge Facility in aggregate principal amount of £3.315 billion for the purpose of financing the proposed BTG Acquisition. The Bridge Facility is comprised of a £3.115 billion debt bridge facility , borrowings under which mature 364 days from the date of the first borrowing under the Bridge Facility, and a £200 million cash bridge facility , borrowings under which mature 90 days from the date of the first borrowing under the Bridge Facility. Borrowings are available in British pound sterling or U.S. dollar and bear interest at the LIBOR for borrowings in British pound sterling or U.S. dollar, as applicable, or the base rate for borrowings in U.S. dollars, in each case plus an applicable margin based on our public debt ratings. The Bridge Facility also provides for customary ticking fees based on our public debt ratings and duration fees. The Bridge Facility requires that we maintain certain financial covenants, as described within *Debt Covenants* below. The Bridge Facility contains customary events of default, which may result in the acceleration of any outstanding commitments and also contains customary United Kingdom (U.K.) certain funds provisions. There were no amounts borrowed under the Bridge Facility as of December 31, 2018 . In December 2018, in connection with our new term loans and currency hedging activities, we reduced the debt bridge

facility by an aggregate amount of £1.569 billion to a remaining available amount of £1.546 billion . Refer to *Note B – Acquisitions and Strategic Investments* for a discussion of our currency hedging activities.

Term Loans

On December 19, 2018, we entered into the First Amendment to our \$1.000 billion Term Loan Credit Agreement (August 2019 Term Loan), which was originally entered into August 20, 2018, which matures on August 19, 2019 and is presented within *Current debt obligations* in the accompanying consolidated balance sheets . Borrowings under the August 2019 Term Loan bear interest at an annual rate of LIBOR plus 0.65 percent . The August 2019 Term Loan requires that we comply with certain covenants, including financial covenants as described within *Debt Covenants* below. As of December 31, 2018 , we had \$1.000 billion outstanding under our August 2019 Term Loan. We used the proceeds from the August 2019 Term Loan to repay a portion of our outstanding commercial paper.

On December 19, 2018, we entered into a \$2.000 billion senior unsecured delayed-draw term loan facility consisting of a \$1.000 billion two-year delayed draw term loan credit facility maturing in two years from the date of the closing of the proposed BTG Acquisition (Two-Year Delayed Draw Term Loan) and a \$1.000 billion three-year delayed draw term loan credit facility maturing in three years from the date of the closing of the proposed BTG Acquisition (Three-Year Delayed Draw Term Loan). Borrowings are available in U.S. dollars and bear interest at LIBOR or a base rate in each case plus an applicable margin based on our public debt ratings. We are required to pay customary ticking fees on the average daily unused commitments based on our public debt ratings. The facilities contain customary representations and covenants, as described within *Debt Covenants* below. The facilities contain customary events of default, which may result in the acceleration of any outstanding commitments, and also contains customary U.K. certain funds provisions. Any proceeds from the facilities will be available to refinance in part the commitments outstanding under the Bridge Facility, described above, to finance the proposed BTG Acquisition. As of December 31, 2018 , we had no amounts borrowed under the Two-Year Delayed Draw Term Loan or the Three-Year Delayed Draw Term Loan.

Debt Covenants

As of and through December 31, 2018 , we were in compliance with all the required covenants related to our debt obligations.

All existing credit arrangements described above require that we maintain certain financial covenants, as follows:

	Covenant Requirement as of December 31, 2018	Actual as of December 31, 2018
Maximum leverage ratio (1)	3.75 times	2.56 times

(1) Ratio of total debt to consolidated EBITDA, as defined by the agreements, for the preceding four consecutive fiscal quarters.

Our covenants require that we maintain a maximum leverage ratio of 3.75 times , provided, however, that for the two consecutive fiscal quarters ended immediately following the consummation of a Qualified Acquisition, as defined by each agreement below, the maximum leverage ratio shall be 4.75 times , and then subject to a step-down for each succeeding fiscal quarter end to 4.5 times , 4.25 times , 4.00 times and then back to 3.75 times for each fiscal quarter end thereafter. Our covenants provide for an exclusion from the calculation of consolidated EBITDA, as defined by the agreements, through maturity, of any non-cash charges and up to \$500 million in restructuring charges and restructuring-related expenses related to our current or future restructuring plans. As of December 31, 2018 , we had \$350 million of the restructuring charge exclusion remaining. In addition, any cash litigation payments (net of any cash litigation receipts), as defined by the agreements, are excluded from the calculation of consolidated EBITDA, as defined by the agreements, provided that the sum of any excluded net cash litigation payments do not exceed \$2.624 billion in the aggregate. As of December 31, 2018 , we had approximately \$1.191 billion of the legal exclusion remaining.

A Qualified Acquisition, as defined by the 2018 Credit Agreement and August 2019 Term Loan, includes but is not limited to the proposed BTG Acquisition. A Qualified Acquisition, as defined by the Bridge Facility, Two-Year Delayed Draw Term Loan and Three-Year Delayed Draw Term Loan, is limited to the proposed BTG Acquisition and any other transaction permitted under the Bridge Facility and consummated on or after the Closing date, as defined by the Bridge Facility.

Any inability to maintain compliance with these covenants could require us to seek to renegotiate the terms of our credit facility or seek waivers from compliance with these covenants, both of which could result in additional borrowing costs. Further, there can be no assurance that our lenders would agree to such new terms or grant such waivers on terms acceptable to us. In this case, all credit facility commitments would terminate, and any amounts borrowed under the facility would become immediately due and payable. Furthermore, any termination of our credit facility may negatively impact the credit ratings assigned to our commercial paper program which may impact our ability to refinance any then outstanding commercial paper as it becomes due and payable .

Commercial Paper

	As of December 31,			
	2018		2017	
Commercial paper outstanding (in millions)	\$	1,248	\$	1,197
Maximum borrowing capacity (in millions)		2,750		2,250
Borrowing capacity available (in millions)		1,502		1,053
Weighted average maturity (in days)		27		38
Weighted average yield		3.04%		1.85%

Outstanding commercial paper directly reduces borrowing capacity and is backed by the 2018 Facility.

Senior Notes

We had senior notes outstanding of \$4.800 billion as of December 31, 2018 and \$4.400 billion as of December 31, 2017 .

In February 2018, we completed an offering of \$1.000 billion in aggregate principal amount of 4.000% senior notes, due March 2028. We used a portion of the net proceeds from the offering to repay the \$600 million plus accrued interest of our 2.650% senior notes due in October 2018, which were classified as short-term debt as of December 31, 2017. The remaining proceeds were used to repay a portion of our outstanding commercial paper.

Our senior notes were issued in public offerings, are redeemable prior to maturity and are not subject to sinking fund requirements. Our senior notes are unsecured, unsubordinated obligations and rank on parity with each other. These notes are effectively junior to borrowings under our credit and security facility, to the extent if borrowed by our subsidiaries and to liabilities of our subsidiaries (see *Other Arrangements* below).

Our \$4.450 billion of senior notes issued in 2009, 2013, 2015 and 2018 contain a change-in-control provision, which provides that each holder of the senior notes may require us to repurchase all or a portion of the notes at a price equal to 101 percent of the aggregate repurchased principal, plus accrued and unpaid interest, if a rating event, as defined in the indenture, occurs as a result of a change-in-control, as defined in the indenture. Any other credit rating changes may impact our borrowing cost, but do not require us to repay any borrowings.

Other Arrangements

On December 19, 2018 and effective on December 20, 2018, we terminated our \$400 million credit and security facility secured by our U.S. trade receivables. We had no amounts outstanding under this facility as of December 31, 2017 .

We have accounts receivable factoring programs in certain European countries and with commercial banks in Japan which include promissory notes discounting programs. We account for our factoring programs as sales under FASB ASC Topic 860, *Transfers and Servicing* . We have no retained interest in the transferred receivables, other than collection and administration, and once sold, the accounts receivable are no longer available to satisfy creditors in the event of bankruptcy. Amounts de-recognized for accounts and notes receivable, which are excluded from *Trade accounts receivable, net* in the accompanying consolidated balance sheets , are aggregated by contract denominated currency below (in millions):

Factoring Arrangements	As of December 31, 2018			As of December 31, 2017		
	Capacity (1)	Amount De-recognized	Weighted Average Interest Rate	Capacity (1)	Amount De-recognized	Weighted Average Interest Rate
Euro denominated	\$ 474	\$ 165	2.7%	\$ 456	\$ 171	1.8%
Yen denominated (2)	273	195	0.9%	195	157	1.3%

(1) The capacities are translated from local currency to U.S. dollar using the spot rates on the last business day of each period.

(2) The factoring arrangements denominated in Japanese yen consist of two arrangements, one with a maximum capacity of 22.000 billion yen, which has been discontinued in the second quarter of 2018, and a new arrangement with a maximum capacity of 30.000 billion yen entered into in March 2018.

NOTE F – LEASES AND OTHER PURCHASE OBLIGATIONS

Rent expense amounted to \$92 million in 2018 , \$88 million in 2017 and \$80 million in 2016 .

Future minimum rental commitments as of December 31, 2018 under all noncancellable lease agreements, including capital leases, were as follows:

(in millions)

2019	\$	73
2020		61
2021		47
2022		39
2023		31
Thereafter		111
	\$	362

Future minimum purchase obligations as of December 31, 2018 , were as follows:

(in millions)

2019	\$	362
2020		23
2021		12
2022		3
2023		2
Thereafter		7
	\$	409

NOTE G – RESTRUCTURING-RELATED ACTIVITIES

2019 Restructuring Plan

On November 15, 2018, the Board of Directors approved, and we committed to a new global restructuring program (the 2019 Restructuring Plan). The 2019 Restructuring Plan is intended to support our effort to improve operating performance and meet anticipated market demands by ensuring that we are appropriately structured and resourced to deliver sustainable value to patients and customers. Key activities under the 2019 Restructuring Plan include supply chain network optimization intended to maximize our global manufacturing and distribution network capacity and building functional capabilities that support business growth. These activities are expected to be initiated in 2019, with the majority of activity expected to be complete by the end of 2021.

The following table provides a summary of our estimates of total pre-tax charges associated with the 2019 Restructuring Plan by major type of cost:

Type of Cost	Total Estimated Amount Expected to be Incurred
Restructuring charges:	
Termination benefits	\$75 million to \$100 million
Other (1)	\$25 million to \$50 million
Restructuring-related expenses:	
Other (2)	\$100 million to \$150 million
	\$200 million to \$300 million

(1) Consists primarily of consultant fees and costs associated with contractual cancellations.

(2) Comprised of other costs directly related to the restructuring program, including program management, accelerated depreciation, fixed asset write-offs, and costs to transfer product lines among facilities.

Approximately \$180 million to \$280 million of these charges are expected to result in cash outlays.

2016 Restructuring Plan

On June 6, 2016, our Board of Directors approved, and we committed to a restructuring initiative (the 2016 Restructuring Plan). The 2016 Restructuring Plan is intended to develop global commercialization, technology and manufacturing capabilities in key growth markets, build on our Plant Network Optimization (PNO) strategy which is intended to simplify our manufacturing plant structure by transferring certain production lines among facilities and expand operational efficiencies in support of our operating income margin goals. Key activities under the 2016 Restructuring Plan include strengthening global infrastructure through evolving global real estate assets and workplaces, developing global commercial and technical competencies, enhancing manufacturing and distribution expertise in certain regions and continuing implementation of our PNO strategy. These activities were initiated in the second quarter of 2016 and the majority of the costs associated with this Plan were completed by the end of 2018. We revised the original estimate for the costs and savings associated with the program in the first quarter of 2018, as approved by the Board of Directors.

The following table provides a summary of our estimates of total pre-tax charges associated with the 2016 Restructuring Plan by major type of cost:

Type of cost	Total Estimated Amount Expected to be Incurred
Restructuring charges:	
Termination benefits	\$80 million to \$90 million
Other (1)	\$25 million to \$50 million
Restructuring-related expenses:	
Other (2)	\$170 million to \$185 million
	\$275 million to \$325 million

(1) Consists primarily of consulting fees and costs associated with contract cancellations.

(2) Comprised of other costs directly related to the 2016 Restructuring Plan, including program management, accelerated depreciation, fixed asset write-offs and costs to transfer product lines among facilities.

Approximately \$250 million to \$300 million of these charges are estimated to result in cash outlays.

The following presents the restructuring and restructuring-related charges (credits) by major type and line item within our accompanying consolidated statements of operations (in millions):

Year Ended December 31, 2018	Termination Benefits	Transfer Costs	Other	Total
Restructuring charges	\$ 32	\$ —	\$ 4	\$ 36
Restructuring-related expenses:				
Cost of products sold	—	47	—	47
Selling, general and administrative expenses	—	—	12	12
	—	47	12	59
	\$ 32	\$ 47	\$ 16	\$ 96

Year Ended December 31, 2017	Termination Benefits	Transfer Costs	Other	Total
Restructuring charges	\$ 25	\$ —	\$ 12	\$ 37
Restructuring-related expenses:				
Cost of products sold	—	45	—	45
Selling, general and administrative expenses	—	—	13	13
	—	45	13	58
	\$ 25	\$ 45	\$ 25	\$ 95

Year Ended December 31, 2016	Termination Benefits	Transfer Costs	Other	Total
Restructuring charges	\$ 19	\$ —	\$ 9	\$ 28
Restructuring-related expenses:				
Cost of products sold	—	34	—	34
Selling, general and administrative expenses	—	—	16	16
	—	34	16	50
	<u>\$ 19</u>	<u>\$ 34</u>	<u>\$ 25</u>	<u>\$ 78</u>

Expenses in 2016 include costs associated with the 2016 Restructuring Plan and expenses associated with other substantially completed plans.

The following table presents cumulative restructuring and restructuring-related charges incurred as of December 31, 2018, related to our 2016 Restructuring Plan by major type:

<i>(in millions)</i>	2016 Restructuring Plan
Termination benefits	\$ 81
Other (1)	20
Total restructuring charges	100
Transfer costs	107
Other (2)	28
Restructuring-related charges	136
	<u>\$ 236</u>

(1) Consists primarily of consulting fees and costs associated with contract cancellations.

(2) Comprised of other costs directly related to our Restructuring Plans, including program management, accelerated depreciation, fixed asset write-offs and costs to transfer product lines among facilities.

Cash payments associated with our 2016 Restructuring Plan were made using cash generated from operations and are comprised of the following:

<i>(in millions)</i>	2016 Restructuring Plan
Year Ended December 31, 2018	
Termination benefits	\$ 32
Transfer costs	47
Other	20
	<u>\$ 100</u>

NOTE H – SUPPLEMENTAL BALANCE SHEET INFORMATION

Components of selected captions in our accompanying consolidated balance sheets are as follows:

Trade accounts receivable, net

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Accounts receivable	\$ 1,676	\$ 1,645
Allowance for doubtful accounts	(68)	(68)
Allowance for sales returns (1)	—	(30)
	<u>\$ 1,608</u>	<u>\$ 1,548</u>

(1) Due to the adoption of FASB ASC Topic 606 effective January 1, 2018, the allowance for sales returns has been prospectively reclassified from *Trade accounts receivable, net* to *Other current liabilities* within the consolidated balance sheets. Prior period balances remain unchanged.

The following is a rollforward of our allowance for doubtful accounts:

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Beginning balance	\$ 68	\$ 73	\$ 75
Net charges to expenses	19	14	9
Utilization of allowances	(19)	(18)	(11)
Ending balance	\$ 68	\$ 68	\$ 73

Inventories

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Finished goods	\$ 760	\$ 685
Work-in-process	100	110
Raw materials	306	284
	\$ 1,166	\$ 1,078

Property, plant and equipment, net

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Land	\$ 97	\$ 102
Buildings and improvements	1,100	1,120
Equipment, furniture and fixtures	3,224	3,183
Capital in progress	319	219
	4,740	4,625
Less: accumulated depreciation	2,958	2,928
	\$ 1,782	\$ 1,697

Depreciation expense was \$296 million in 2018 , \$279 million in 2017 and \$270 million in 2016 .

Accrued expenses

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Legal reserves	\$ 712	\$ 1,176
Payroll and related liabilities	630	591
Accrued contingent consideration	138	36
Other	767	653
	\$ 2,246	\$ 2,456

Other long-term liabilities

<i>(in millions)</i>	As of	
	December 31, 2018	December 31, 2017
Accrued income taxes	\$ 739	\$ 1,275
Legal reserves	217	436
Accrued contingent consideration	209	133
Other	717	525
	\$ 1,882	\$ 2,370

NOTE I – INCOME TAXES

Our *Income (loss) before income taxes* consisted of the following:

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Domestic	\$ 35	\$ (408)	\$ (1,019)
Foreign	1,387	1,341	1,196
	<u>\$ 1,422</u>	<u>\$ 933</u>	<u>\$ 177</u>

The related benefit for income taxes consisted of the following:

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Current			
Federal	\$ (221)	\$ 320	\$ 31
State	(27)	9	6
Foreign	160	255	136
	<u>(87)</u>	<u>584</u>	<u>173</u>
Deferred			
Federal	(124)	272	(337)
State	4	1	(14)
Foreign	(42)	(28)	8
	<u>(162)</u>	<u>244</u>	<u>(343)</u>
	<u>\$ (249)</u>	<u>\$ 828</u>	<u>\$ (170)</u>

The reconciliation of income taxes at the federal statutory rate to the actual benefit for income taxes is as follows:

	Year Ended December 31,		
	2018	2017	2016
		(reclassified) ⁽¹⁾	(reclassified) ⁽¹⁾
U.S. federal statutory income tax rate	21.0 %	35.0 %	35.0 %
State income taxes, net of federal benefit	0.4 %	(1.0)%	(2.1)%
Domestic taxes on foreign earnings	0.5 %	0.4 %	0.5 %
Effect of foreign taxes	(8.3)%	(38.9)%	(142.1)%
Acquisition-related	2.1 %	(1.7)%	11.3 %
Research credit	(2.6)%	(2.6)%	(15.5)%
Valuation allowance	(5.2)%	(4.1)%	(42.2)%
Compensation-related	(1.0)%	(2.5)%	6.4 %
Non-deductible expenses	0.3 %	2.2 %	6.6 %
Uncertain tax positions	(22.0)%	10.7 %	49.5 %
TCJA net impact	(4.7)%	91.4 %	— %
Other, net	1.8 %	(0.2)%	(3.5)%
	<u>(17.5)%</u>	<u>88.8 %</u>	<u>(95.9)%</u>

(1) Due to the inclusion of new tax provisions in 2018 created by the TJCA, we have reclassified select items in prior years to align with the new categories established in 2018, domestic taxes on foreign earnings and uncertain tax positions.

Significant components of our deferred tax assets and liabilities are as follows:

<i>(in millions)</i>	As of December 31,	
	2018	2017
Deferred Tax Assets:		
Inventory costs and related reserves	\$ 18	\$ 29
Tax benefit of net operating loss and credits	450	478
Reserves and accruals	258	179
Restructuring-related charges	12	12
Litigation and product liability reserves	221	383
Investment write-down	28	32
Compensation related	106	104
Federal benefit of uncertain tax positions	10	163
Other	37	48
	1,140	1,428
Less: valuation allowance	(344)	(465)
	796	963
Deferred Tax Liabilities:		
Property, plant and equipment	25	33
Unrealized gains and losses on derivative financial instruments	44	5
Intangible assets	968	1,028
	1,037	1,066
Net Deferred Tax Assets / (Liabilities)	(241)	(103)
Prepaid on intercompany profit	161	66
Net Deferred Tax Assets / (Liabilities) and Prepaid on Intercompany Profit	\$ (80)	\$ (37)

Our deferred tax assets, deferred tax liabilities and prepaid on intercompany profit, are included in the following locations within our accompanying consolidated balance sheets (in millions):

Component	Location on Consolidated Balance Sheets	As of December 31,	
		2018	2017
Prepaid on intercompany profit	Prepaid income taxes	\$ 161	\$ 66
Non-current deferred tax asset	Other long-term assets	87	88
Deferred Tax Assets and Prepaid on Intercompany Profit		249	154
Non-current deferred tax liability	Deferred income taxes	328	191
Deferred Tax Liabilities		328	191
Net Deferred Tax Assets (Liabilities) and Prepaid on Intercompany Profit		\$ (80)	\$ (37)

As of December 31, 2018, we had U.S. federal and state tax net operating loss carryforwards and tax credits, the tax effect of which was \$416 million. As of December 31, 2017, we had U.S. federal and state tax net operating loss carryforwards and tax credits, the tax effect of which was \$338 million. In addition, we had foreign tax net operating loss carryforwards and tax credits, the tax effect of which was \$42 million as of December 31, 2018, as compared to \$149 million as of December 31, 2017. These tax attributes will expire periodically beginning in 2019.

After consideration of all positive and negative evidence, we believe that it is more likely than not that a portion of our deferred tax assets will not be realized. As a result, we established a valuation allowance of \$344 million as of December 31, 2018 and \$465 million as of December 31, 2017, representing a decrease of \$121 million. The decrease in the valuation allowance as of December 31, 2018, as compared to December 31, 2017, is primarily attributable to the release of valuation allowances against expiring net operation losses and utilization of deferred tax assets. The income tax impact of the unrealized gain or loss component of other comprehensive income and stockholders' equity was a charge of \$37 million in 2018, a benefit of \$63 million in 2017 and a charge of \$9 million in 2016.

We obtain tax incentives through Free Trade Zone Regime offered in Costa Rica which allows 100.0 percent exemption from income tax in the first eight years of operations and 50.0 percent exemption in the following four years. This tax incentive resulted in income tax savings of \$146 million for 2018, \$127 million for 2017 and \$123 million for 2016. The tax incentive for 100.0 percent exemption from income tax is expected to expire in 2023. The impact on per share earnings was \$0.10 for 2018 and \$0.09 for both 2017 and 2016. Additionally, we benefit from tax incentives in Puerto Rico. The income tax savings from Puerto Rico were immaterial for 2018, 2017 and 2016.

As of December 31, 2018, we had \$427 million of gross unrecognized tax benefits, of which a net \$332 million, if recognized, would affect our effective tax rate. As of December 31, 2017, we had \$1.238 billion of gross unrecognized tax benefits, of which a net \$1.150 billion, if recognized, would affect our effective tax rate. As of December 31, 2016, we had \$1.095 billion of gross unrecognized tax benefits, of which a net \$1.006 billion, if recognized, would affect our effective tax rate. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Beginning Balance	\$ 1,238	\$ 1,095	\$ 1,056
Additions based on positions related to the current year	79	134	47
Additions based on positions related to prior years	4	16	14
Reductions for tax positions of prior years	(433)	(3)	(17)
Settlements with taxing authorities	(459)	(2)	(3)
Statute of limitation expirations	(3)	(2)	(2)
Ending Balance	\$ 427	\$ 1,238	\$ 1,095

We are subject to U.S. Federal income tax as well as income tax of multiple state and foreign jurisdictions. We have concluded all U.S. federal income tax matters through 2013, with the exception of select issues in 2011 and substantially all material state and local income tax matters through 2010. We have concluded all foreign income tax matters through 2013, with the exception of issues for Italy, which have concluded through 2002.

During 2010 and 2011, we received Notices of Deficiency from the Internal Revenue Service (IRS) reflecting proposed audit adjustments for Guidant Corporation (Guidant) for its 2001 through 2006 tax years and our 2006 and 2007 tax years. The total incremental tax liability asserted by the IRS for the applicable periods was \$1.162 billion plus interest. The primary issue in dispute for all years was the transfer pricing associated with the technology license agreements between domestic and foreign subsidiaries of Guidant. In addition, the IRS proposed adjustments in connection with the financial terms of our Transaction Agreement with Abbott Laboratories pertaining to the sale of Guidant's vascular intervention business to Abbott Laboratories in April 2006. During 2014, we received a Revenue Agent Report (RAR) from the IRS reflecting significant proposed audit adjustments to our 2008, 2009 and 2010 tax years based upon the same transfer pricing methodologies that the IRS applied to our 2001 through 2007 tax years.

We contested in U.S. Tax Court the proposed adjustments from the IRS for Guidant for its 2001 through 2006 tax years and our 2006 and 2007 tax years related to its audit of our transfer pricing methodologies. During 2016, we entered a Stipulation of Settled Issues with the IRS intended to resolve all of the aforementioned transfer pricing issues, as well as issues related to our 2006 transaction with Abbott Laboratories. This stipulation was contingent upon the IRS Office of Appeals applying the same basis of settlement to all transfer pricing issues for the 2008 through 2010 tax years.

In the second quarter of 2018, a decision was entered by the U.S. Tax Court resolving all disputes related to the transfer pricing issues for Guidant for its 2001 through 2006 tax years and our 2006 and 2007 tax years as well as the tax issues related to our 2006 transaction with Abbott Laboratories. Additionally, we resolved all issues with the IRS Office of Appeals for our 2008 through 2010 tax years, including the transfer pricing issue and other unrelated issues. The final settlement calculation included certain elections made in these relevant years and resulted in a final net tax payment of \$303 million plus \$307 million of estimated interest, which was remitted in the second quarter of 2018. Due to the final settlement of these disputes, we recorded a net tax benefit of \$250 million in 2018.

In the fourth quarter of 2018, we received a RAR from the IRS for our 2011 through 2013 tax years. The RAR reflected transfer pricing adjustments consistent with the basis of settlement for all transfer pricing issues agreed to in the Stipulation of Settled Issues. We remitted \$93 million to the IRS in the fourth quarter of 2018 reflecting the net balance of tax and interest due for these years after consideration of amounts owed to us by the IRS. Due to the resolution of these tax years, we recorded a net tax benefit of \$90 million.

We recognize interest and penalties related to income taxes as a component of income tax expense. We had \$11 million accrued for gross interest and penalties as of December 31, 2018 and \$655 million as of December 31, 2017. The decrease in gross interest and penalties of \$643 million was recognized in our consolidated statements of operations and is primarily related to reaching settlements with the taxing authorities. We recognized net tax benefit related to interest and penalties of \$498 million in 2018, as compared to a net tax expense of \$154 million in 2017 and \$46 million in 2016. The decrease in our net tax expense related to interest and penalties as of December 31, 2018, as compared to December 31, 2017, is related to reaching settlements with the taxing authorities.

It is reasonably possible that within the next 12 months we will resolve transactional- related issues with foreign and state taxing authorities, in which case we could record a reduction in our balance of unrecognized tax benefits of up to approximately \$11 million.

There are a number of key provisions under the TCJA, which was enacted on December 22, 2017, that impact us. The final impact of the TCJA, as described below, differs from the estimates reported at December 31, 2017 due to, among other things, additional guidance issued by the U.S. Department of the Treasury, changes in interpretations and assumptions made by us, and actions that we may take as a result. The key changes from the TCJA that are reported as of December 31, 2018 are the impact due to the reduced U.S. Federal corporate tax rate from 35.0 percent to 21.0 percent and a one-time transition tax on certain foreign earnings on which U.S. income tax is deferred. As a result of finalizing the impact of the TCJA, we recognized a tax benefit of \$67 million in 2018. We recognized a total TCJA related tax expense of \$793 million as of December 31, 2018 as compared to the provisional estimate of \$861 million recognized as of December 31, 2017.

We are required to record deferred tax assets and liabilities based on the enacted tax rates at which they are expected to reverse in the future. Therefore, any U.S. related deferred taxes were re-measured from 35.0 percent down to 21.0 percent based on the recorded balances. The analysis included an assessment on the deductibility of certain amounts for which deferred tax assets may have been recorded. As of December 31, 2017, we recorded an estimate related to the re-measurement of our deferred tax balances, which was a benefit of approximately \$99 million. In 2018, we finalized our calculations and did not adjust our estimate as recorded.

We are required to calculate a one-time transition tax based on our total post-1986 foreign subsidiaries' earnings and profits (E&P) that we previously deferred from U.S. income taxes. As a result of settling our various tax audits, the revised amount of transition tax is approximately \$856 million as of December 31, 2018 as compared to the preliminary amount recorded of approximately \$1.044 billion as of December 31, 2017. We anticipate offsetting this liability against existing tax attributes reducing the required payment to approximately \$499 million, which will be remitted over an eight-year period. We remitted the first estimated installment payment in the second quarter of 2018, with the balance remaining of \$429 million as of December 31, 2018. In addition, we have provided for tax expense of \$18 million on U.S. state income taxes on all U.S. dollar-denominated E&P accumulated through December 31, 2017, which constitutes the preponderance of our foreign subsidiaries' accumulated E&P through December 31, 2017. We intend to indefinitely reinvest any remaining foreign earnings as of December 31, 2017 as well as current earnings in foreign operations for which income taxes have not already been provided at December 31, 2018. Determining the amount of unrecognized deferred tax liability related to any remaining undistributed foreign earnings and additional outside basis difference in these entities is not practicable.

We are subject to a territorial tax system under the TCJA, in which we are required to provide for tax on Global Intangible Low Taxed Income (GILTI) earned by certain foreign subsidiaries. We have established an accounting policy election to provide for the tax expense related to GILTI in the year the tax is incurred as a period expense.

NOTE J – COMMITMENTS AND CONTINGENCIES

The medical device market in which we primarily participate is largely technology driven. As a result, intellectual property rights, particularly patents and trade secrets, play a significant role in product development and differentiation. Over the years, there has been litigation initiated against us by others, including our competitors, claiming that our current or former product offerings infringe patents owned or licensed by them. Intellectual property litigation is inherently complex and unpredictable. In addition, competing parties frequently file multiple suits to leverage patent portfolios across product lines, technologies and geographies and to balance risk and exposure between the parties. In some cases, several competitors are parties in the same proceeding, or in a series of related proceedings, or litigate multiple features of a single class of devices. These forces frequently drive settlement not only for individual cases, but also for a series of pending and potentially related and unrelated cases. Although monetary and injunctive relief is typically sought, remedies and restitution are generally not determined until the conclusion of the trial court proceedings and can be modified on appeal. Accordingly, the outcomes of individual cases are difficult to time, predict or quantify and are often dependent upon the outcomes of other cases in other geographies.

During recent years, we successfully negotiated closure of several long-standing legal matters and have received favorable rulings in several other matters; however, there continues to be outstanding intellectual property litigation. Adverse outcomes in one or more of these matters could have a material adverse effect on our ability to sell certain products and on our operating margins, financial position, results of operations and/or liquidity.

In the normal course of business, product liability, securities and commercial claims are asserted against us. Similar claims may be asserted against us in the future related to events not known to management at the present time. We maintain an insurance policy providing limited coverage against securities claims and we are substantially self-insured with respect to product liability claims and fully self-insured with respect to intellectual property infringement claims. The absence of significant third-party insurance coverage increases our potential exposure to unanticipated claims or adverse decisions. Product liability claims, securities and commercial litigation and other legal proceedings in the future, regardless of their outcome, could have a material adverse effect on our financial position, results of operations and/or liquidity.

In addition, like other companies in the medical device industry, we are subject to extensive regulation by national, state and local government agencies in the U.S. and other countries in which we operate. From time to time we are the subject of qui tam actions and governmental investigations often involving regulatory, marketing and other business practices. These qui tam actions and governmental investigations could result in the commencement of civil and criminal proceedings, substantial fines, penalties and administrative remedies and have a material adverse effect on our financial position, results of operations and/or liquidity.

In accordance with FASB ASC Topic 450, *Contingencies*, we accrue anticipated costs of settlement, damages, losses for product liability claims and, under certain conditions, costs of defense, based on historical experience or to the extent specific losses are probable and estimable. Otherwise, we expense these costs as incurred. If the estimate of a probable loss is a range and no amount within the range is more likely, we accrue the minimum amount of the range.

Our accrual for legal matters that are probable and estimable was \$929 million as of December 31, 2018 and \$1.612 billion as of December 31, 2017 and includes certain estimated costs of settlement, damages and defense. The decrease in our legal accrual was primarily due to settlement payments authorized in 2018 associated with product liability cases or claims related to transvaginal surgical mesh products. A portion of our legal accrual is funded and included in our restricted cash and restricted cash equivalent balances in *Other current assets* of \$655 million as of December 31, 2018 and \$803 million as of December 31, 2017, as discussed in *Note A – Significant Accounting Policies*. We recorded litigation-related net charges in the amount of \$103 million in 2018, \$285 million in 2017 and \$804 million in 2016. We continue to assess certain litigation and claims to determine the amounts, if any, that management believes will be paid as a result of such claims and litigation and, therefore, additional losses may be accrued and paid in the future, which could materially adversely impact our operating results, cash flows and/or our ability to comply with our debt covenants.

In management's opinion, we are not currently involved in any legal proceedings other than those specifically identified below, which, individually or in the aggregate, could have a material adverse effect on our financial condition, operations and/or cash flows. Unless included in our legal accrual or otherwise indicated below, a range of loss associated with any individual material legal proceeding cannot be estimated.

Patent Litigation

On November 29, 2016 Nevro Corp. (Nevro) filed a patent infringement action against us and one of our subsidiaries, Boston Scientific Neuromodulation Corporation, in the U.S. District Court for the Northern District of California alleging that six U.S. patents (Alataris) owned by Nevro are infringed by our spinal cord stimulation systems. On June 29, 2017, Nevro amended the complaint to add an additional patent (Fang). We deny the plaintiff's allegations and intend to defend ourselves vigorously. On July 24, 2018, summary judgment was entered in favor of the Company and on July 31, 2018, we received final judgment and dismissal of the action. On July 31, 2018, Nevro filed an appeal.

On December 9, 2016, the Company and Boston Scientific Neuromodulation Corporation filed a patent infringement action against Nevro in U.S. District Court for the District of Delaware alleging that ten U.S. patents owned by Boston Scientific Neuromodulation Corporation are infringed by Nevro's Senza™ Spinal Cord Stimulation System.

On March 10, 2017, Imran Niazi filed a patent infringement action against us in the U.S. District Court for the Western District of Wisconsin alleging that a U.S. patent owned by him is infringed by our Acuity™ Lead Delivery System. On June 30, 2017, we filed a motion to dismiss for improper venue and on November 7, 2017 the Wisconsin Court granted the motion to dismiss. On November 13, 2017 Niazi refiled the same action in the U.S. District of Minnesota.

On November 20, 2017, The Board of Regents, University of Texas System (UT) and TissueGen. Inc., served a lawsuit against us in the Western District of Texas. The complaint against us alleges patent infringement of two U.S. patents owned by UT, relating to “Drug Releasing Biodegradable Fiber Implant” and “Drug Releasing Biodegradable Fiber for Delivery of Therapeutics,” and affects the manufacture, use and sale of our Synergy™ Stent System. On March 12, 2018, the court dismissed the action and transferred it to the United States District Court for the District of Delaware. UT has appealed the decision.

On April 21, 2018, the Company and Boston Scientific Neuromodulation Corporation filed a patent infringement, theft of trade secrets and tortious interference with a contract action against Nevro in U.S. District Court for the District of Delaware, and amended the complaint on July 18, 2018, alleging that nine U.S. patents owned by Boston Scientific Neuromodulation Corporation are infringed by Nevro’s Senza™ I and Senza™ II Spinal Cord Stimulation Systems.

Product Liability Litigation

No individual lawsuits remain pending in state court jurisdictions against Guidant alleging personal injuries associated with defibrillators or pacemakers involved in certain 2005 and 2006 product communications. Further, we are aware of approximately six Guidant product liability lawsuits pending in international jurisdictions associated with defibrillators or pacemakers, including devices involved in the 2005 and 2006 product communications. Four of these suits are pending in Canada involving certain models of Guidant pacemakers, three of which are stayed pending the outcome of one lead class action. On May 8, 2009, the Justice of Ontario Court certified a class of persons in whom pacemakers were implanted in Canada and a class of family members with derivative claims. In each case, these matters generally seek monetary damages from us. This class action has been inactive since 2011. On March 24, 2014, the Ontario Superior Court approved a \$3 million settlement of a class action involving certain models of Guidant defibrillators. We believe Guidant has satisfied its obligations pursuant to the settlement agreement.

As of February 5, 2019, approximately 53,000 product liability cases or claims related to transvaginal surgical mesh products designed to treat stress urinary incontinence and pelvic organ prolapse have been asserted against us. The pending cases are in various federal and state courts in the U.S. and include eight putative class actions. There were also fewer than 25 cases in Canada, inclusive of one certified and three putative class actions and fewer than 25 claims in the United Kingdom. Generally, the plaintiffs allege personal injury associated with use of our transvaginal surgical mesh products. The plaintiffs assert design and manufacturing claims, failure to warn, breach of warranty, fraud, violations of state consumer protection laws and loss of consortium claims. Over 3,100 of the cases have been specially assigned to one judge in state court in Massachusetts. On February 7, 2012, the Judicial Panel on Multi-District Litigation (MDL) established MDL-2326 in the U.S. District Court for the Southern District of West Virginia and transferred the federal court transvaginal surgical mesh cases to MDL-2326 for coordinated pretrial proceedings. During the fourth quarter of 2013, we received written discovery requests from certain state attorneys general offices regarding our transvaginal surgical mesh products. We have responded to those requests. As of February 5, 2019, we have entered into master settlement agreements in principle or are in the final stages of entering one with certain plaintiffs' counsel to resolve an aggregate of approximately 50,000 cases and claims. These master settlement agreements provide that the settlement and distribution of settlement funds to participating claimants are conditional upon, among other things, achieving minimum required claimant participation thresholds. Of the approximately 50,000 cases and claims, approximately 35,500 have met the conditions of the settlement and are final. All settlement agreements were entered into solely by way of compromise and without any admission or concession by us of any liability or wrongdoing.

On or about January 12, 2016, Teresa L. Stevens filed a claim against us and three other defendants asserting for herself and on behalf of a putative class of similarly situated women, that she was harmed by a vaginal mesh implant that she alleges contained a counterfeit or adulterated resin product that we imported from China. The complaint was filed in the U.S. District Court for the Southern District of West Virginia, before the same Court that is hearing the mesh MDL. The complaint, which alleges Racketeer Influenced and Corrupt Organizations Act (RICO) violations, fraud, misrepresentation, deceptive trade practices and unjust enrichment, seeks both equitable relief and damages under state and federal law. On January 26, 2016, the Court issued an order staying the case and directing the plaintiff to submit information to allow the FDA to issue a determination with respect to her allegations. In addition, we are in contact with the U.S. Attorney’s Office for the Southern District of West Virginia and are responding voluntarily to their requests in connection with that office’s review of the allegations concerning the use of mesh resin in the complaint. We deny the plaintiff’s allegations and intend to defend ourselves vigorously.

On February 27, 2017, Carolyn Turner filed a complaint against us and five other defendants asserting for herself and on behalf of a putative class of similarly situated women, that she was harmed by a vaginal mesh implant that she alleges contained a counterfeit or adulterated resin product that we imported from China. The complaint was filed in the U.S. District Court for the Middle District of Florida, Orlando Division and alleges violations of the RICO, negligence, strict liability, breach of an express or implied warranty, intentional and negligent misrepresentation, fraud and unjust enrichment. Ms. Turner served this complaint against us on April 7, 2017. As of April 27, 2017, this case has been stayed, pending resolution of the transfer petition to the mesh multidistrict litigation. We deny the plaintiff’s allegations and intend to defend ourselves vigorously.

We have established a product liability accrual for known and estimated future cases and claims asserted against us as well as with respect to the actions that have resulted in verdicts against us and the costs of defense thereof associated with our transvaginal surgical mesh products. While we believe that our accrual associated with this matter is adequate, changes to this accrual may be required in the future as additional information becomes available. While we continue to engage in discussions with plaintiffs' counsel regarding potential resolution of pending cases and claims and intend to vigorously contest the cases and claims asserted against us, that do not settle, the final resolution of the cases and claims is uncertain and could have a material impact on our results of operations, financial condition and/or liquidity. Initial trials involving our transvaginal surgical mesh products have resulted in both favorable and unfavorable judgments for us. We do not believe that the judgment in any one trial is representative of potential outcomes of all cases or claims related to our transvaginal surgical mesh products.

Governmental Investigations and Qui Tam Matters

On August 3, 2012, we were served with a qui tam complaint that had previously been filed under seal against Boston Scientific Neuromodulation Corporation in the U.S. District Court for the District of New Jersey on March 2, 2011. On August 8, 2012, we learned that the federal government had previously declined to intervene in this matter. The relators' complaint, now unsealed, alleges that Boston Scientific Neuromodulation Corporation violated the federal and various states' false claims acts through submission of fraudulent bills for implanted devices, under-reporting of certain adverse events and promotion of off-label uses. On September 10, 2012, the relators filed an amended complaint revising and restating certain of the claims in the original complaint. Our motion to dismiss, filed subsequently, was denied on May 31, 2013 and on June 28, 2013, we answered the amended complaint and brought certain counterclaims arising from relators' unauthorized removal of documents from the business during their employments, which the relators moved to dismiss on July 22, 2013. The Court denied relators' motion to dismiss the counterclaims on September 4, 2014. Following the completion of fact and expert discovery, we filed a motion for summary judgment against all claims on January 27, 2017, relators filed their own motion for summary judgment against our counterclaims that same date and the parties await the Court's rulings on the motions. On December 15, 2017, the Court denied both motions for summary judgment. The case is set for trial beginning May 6, 2019.

On May 5, 2014, we were served with a subpoena from the U.S. Department of Health and Human Services, Office of the Inspector General. The subpoena seeks information relating to the launch of the Cognis™ and Teligen™ line of devices in 2008, the performance of those devices from 2007 to 2009 and the operation of the Physician Guided Learning Program. We are cooperating with this request. On May 6, 2016, a qui tam lawsuit in this matter was unsealed in the U.S. District Court for the District of Minnesota. At the same time, we learned that the U.S. government and the State of California had earlier declined to intervene in that lawsuit on April 15, 2016. The complaint was served on us on July 21, 2016. On October 7, 2016, the plaintiff/relator served an amended complaint that dropped the allegations relating to the Physician Guided Learning Program. We filed a motion to dismiss the amended complaint on December 7, 2016 and the court heard our motion to dismiss on April 5, 2017. On August 29, 2017, the Court granted the motion to dismiss, without prejudice and on September 19, 2017, the relator filed a Second Amended Complaint. We filed a motion to dismiss the Second Amended Complaint on October 10, 2017 and the Court denied that motion on December 13, 2017. On July 31, 2018, relator filed a motion seeking leave to file a Third Amended Complaint. The Court denied the motion on October 30, 2018.

On February 23, 2015, a judge for the Court of Modena (Italy) ordered a trial for Boston Scientific SpA and three of its employees, as well as numerous other defendants charged in criminal proceedings. The charges arise from allegations that the defendants made improper donations to certain health care providers and other employees of the Hospital of Modena in order to induce them to conduct unauthorized clinical trials, as well as related government fraud in relation to the financing of such clinical trials. A trial began on February 24, 2016 and is ongoing. On November 10, 2017, the Court issued a ruling that convicted one Boston Scientific employee but acquitted two others, and levied a fine of €245 thousand against us and imposed joint and several civil damages of €620 thousand on all defendants. We continue to deny these allegations, timely appealed the decision on May 10, 2018 and intend to continue to defend ourselves vigorously.

On December 1, 2015, the Brazilian governmental entity known as CADE (the Administrative Council of Economic Defense), served a search warrant on the offices of our Brazilian subsidiary, as well as on the Brazilian offices of several other major medical device makers who do business in Brazil, in furtherance of an investigation into alleged anti-competitive activity with respect to certain tender offers for government contracts. On June 20, 2017, CADE, through the publication of a "technical note," announced that it was launching a formal administrative proceeding against Boston Scientific's Brazilian subsidiary, Boston Scientific do Brasil Ltda., as well as against the Brazilian operations of Medtronic, Biotronik and St. Jude Medical, two Brazilian associations, ABIMED and AMBIMO and 29 individuals for alleged anti-competitive behavior. We deny the allegations and intend to defend ourselves vigorously.

On December 14, 2016, we learned that the Associacao Brasileira de Medicina de Grupo d/b/a ABRAMGE filed a complaint against us, Arthrex and Zimmer Biomet Holdings, in the U.S. District Court for the District of Delaware. This complaint, which ABRAMGE never served against us, alleges that the defendants or their agents paid kickbacks to health care providers in order to increase sales and prices and are liable under a variety of common law theories. On February 6, 2017, ABRAMGE filed and served an amended complaint on us and the other defendants. The amended complaint does not contain any material changes in the allegations against us. Subsequently, on March 2, 2017, ABRAMGE filed a motion to consolidate this lawsuit with two other similar suits that it had brought against Stryker and Abbott Laboratories, in a multidistrict litigation proceeding. On April 13, 2017, we filed a motion to dismiss the amended complaint, as well as a separate opposition to the multidistrict litigation motion and on May 31, 2017, the Joint Panel on Multi-District Litigation denied ABRAMGE's motion for the multidistrict litigation. On September 1, 2017, ABRAMGE filed a motion for leave to file a Second Amended Complaint, while our motion to dismiss the Amended Complaint remained pending. On September 15, 2017, we filed an opposition to the motion seeking leave to amend. Both our motion to dismiss and the motion seeking leave to amend remain pending. On November 8, 2018, the Court granted ABRAMGE's motion for leave to file a Second Amended Complaint, while also granting us leave to renew our motion to dismiss. We filed our motion to dismiss the Second Amended Complaint on January 18, 2019.

Other Proceedings

On May 16, 2018, Arthur Rosenthal et al., filed a plenary summons against Boston Scientific Corporation and Boston Scientific Limited with the High Court of Ireland alleging that payments are due pursuant a transaction agreement regarding Labcoat Limited.

On September 12, 2018, Channel Medsystems, Inc. (Channel) filed a complaint in Delaware Chancery Court against us for alleged breach of a \$275 million purchase agreement. Channel alleges that we breached the agreement by terminating it. We have answered the complaint, denied the claims by Channel and have counterclaimed to recover part of our investment in Channel, alleging fraud in the inducement. The court has set a trial date of April 15, 2019.

Refer to *Note I - Income Taxes* for information regarding our tax litigation.

Proposed Acquisition

Refer to *Note B - Acquisitions and Strategic Investments* and *Note E - Borrowings and Credit Arrangements* for information regarding the proposed BTG Acquisition.

Matters Concluded Since December 31, 2017

On October 28, 2016, the Regents of the University of California filed a patent infringement action against us in the U.S. District Court for the Northern District of California alleging that two U.S. patents (Lesh) owned by the Regents of the University of California are infringed by certain of our catheters and other devices used to treat atrial fibrillation. The Company and the Regents settled the matter, and the case was dismissed on June 20, 2018.

On May 19, 2005, G. David Jang, M.D. filed suit against us alleging breach of contract relating to certain patent rights covering stent technology. The suit was filed in the U.S. District Court for the Central District of California seeking monetary damages and rescission of contract. After a Markman ruling relating to the Jang patent rights, Dr. Jang stipulated to the dismissal of certain claims alleged in the complaint with a right to appeal and the parties subsequently agreed to settle the other claims. In May 2007, Dr. Jang filed an appeal with respect to the remaining patent claims and in July 2008, the Court of Appeals vacated the District Court's consent judgment and remanded the case back to the District Court for further clarification. In August 2011, the District Court entered a stipulated judgment that we did not infringe the Jang patent. Dr. Jang filed an appeal on September 21, 2011 and on August 22, 2012, the Court of Appeals vacated the District Court's judgment and remanded the case to the District Court for further proceedings. On July 8, 2015, a jury found that our Express™ Stent family did not literally infringe a Jang patent, but that the stents infringed under the doctrine of equivalents. The court reserved judgment until the conclusion of further proceedings related to the doctrine of equivalents finding. On September 29, 2015, the court ruled that our Express Stent family did not infringe under the doctrine of equivalents and, on October 30, 2015, the court entered judgment in our favor. On November 25, 2015, Dr. Jang filed a motion for judgment as a matter of law on literal infringement and/or for a new trial. On February 3, 2016, the court denied Dr. Jang's motion for a new trial and judgment as a matter of law. Dr. Jang filed a notice of appeal. On September 29, 2017, the U.S. Court of Appeals for the Federal Circuit affirmed the judgment that our Express Stent did not infringe the Jang patents and we did not owe Dr. Jang any payments. On October 30, 2017, Jang filed a petition for rehearing and on December 21, 2017 the rehearing was denied. On March 21, 2018, Jang filed a petition for United States Supreme Court review and, on October 1, 2018, the Supreme Court denied his petition.

On January 15, 2019, we announced that we reached an agreement with Edwards Lifesciences Corporation (Edwards) to settle all outstanding patent disputes between us and Edwards in all venues around the world. All pending cases or appeals in courts and patent offices between the two companies will be dismissed, and the parties will not litigate patent disputes related to current portfolios of transcatheter aortic valves, certain mitral valve repair devices, and left atrial appendage closure devices. Any injunctions currently in place will be lifted. Under the terms of the agreement, Edwards made a one-time payment to us of \$180 million. No further royalties will be owed by either party under the agreement. All other terms remain confidential. The previously disclosed matters that have been resolved as a result of this settlement include:

- On October 30, 2015, a subsidiary of Boston Scientific filed suit against Edwards Lifesciences Corporation and Edwards Lifesciences Services GmbH in Düsseldorf District Court in Germany for patent infringement. We allege that Edwards' SAPIEN 3™ Heart Valve infringes our patent related to adaptive sealing technology. On February 25, 2016, we extended the action to allege infringement of a second patent related to adaptive sealing technology. The trial began on February 7, 2017. On March 9, 2017, the court found that Edwards infringed both patents and Edwards appealed.
- On November 9, 2015, Edwards Lifesciences, LLC filed an invalidity claim against one of our subsidiaries, Sadra Medical, Inc. (Sadra), in the High Court of Justice, Chancery Division Patents Court in the United Kingdom, alleging that a European patent owned by Sadra relating to a repositionable heart valve is invalid. On January 15, 2016, we filed our defense and counterclaim for a declaration that our European patent is valid and infringed by Edwards. On February 25, 2016, we amended our counterclaim to allege infringement of a second patent related to adaptive sealing technology. A trial was held from January 18 to January 27, 2017. On March 3, 2017, the court found one of our patents valid and infringed and some claims of the second patent invalid and the remaining claims not infringed. Both parties have filed an appeal. On March 28, 2018, the Court of Appeals affirmed the decision of the High Court.
- On November 23, 2015, Edwards Lifesciences PVT, Inc. filed a patent infringement action against us and one of our subsidiaries, Boston Scientific Medizintechnik GmbH, in the District Court of Düsseldorf, Germany alleging a European patent (Spenser '672) owned by Edwards is infringed by our Lotus™ Valve System. The trial began on February 7, 2017. On March 9, 2017, the court found that we did not infringe the Spenser '672 patent. Edwards filed an appeal.
- On November 23, 2015, Edwards Lifesciences Corporation filed a patent infringement action against us and Boston Scientific Medizintechnik GmbH in the District Court of Düsseldorf, Germany alleging an European patent (Bourang) owned by Edwards is infringed by our Lotus Valve System. The trial began on February 7, 2017. On March 28, 2017, the European Patent Office revoked the Bourang patent and on April 3, 2017, the court suspended the infringement action pending Edwards' appeal of the revocation of the patent at the European Patent Office.
- On April 19, 2016, a subsidiary of Boston Scientific filed suit against Edwards Lifesciences Corporation (Edwards) in the U.S. District Court for the District of Delaware for patent infringement. We allege that Edwards' SAPIEN 3 Valve infringes a patent related to adaptive sealing technology. On June 9, 2016, Edwards filed a counterclaim alleging that our Lotus Valve System infringes three patents owned by Edwards. On October 12, 2016, Edwards filed a petition for inter partes review of our patent with the U.S. Patent and Trademark Office (USPTO), Patent Trial and Appeal Board. On March 29, 2017, the USPTO granted the inter partes review request. On April 18, 2017, Edwards filed a second petition for inter partes review of our patent with the USPTO. On March 23, 2018, the USPTO found our patent invalid. The Company filed an appeal before the United States Court of Appeals for the Federal Circuit on May 24, 2018.
- On April 19, 2016, a subsidiary of Boston Scientific filed suit against Edwards Lifesciences Corporation in the U.S. District Court for the Central District of California for patent infringement. We allege that Edwards' aortic valve delivery systems infringe eight of our catheter related patents. On October 13, 2016, Edwards filed a petition for inter partes review of one asserted patent with the USPTO, Patent Trial and Appeal Board. On April 21, 2017, the USPTO denied the petition. On April 19 and 20, 2017, Edwards filed multiple inter partes review petitions against the patents in suit. On September 8, 2017, the court granted a stay of the action pending an inter partes review of the patents in suit.
- On April 26, 2016, Edwards Lifesciences PVT, Inc. filed a patent infringement action against us and one of our subsidiaries, Boston Scientific Medizintechnik GmbH, in the District Court of Düsseldorf, Germany alleging a European patent (Spenser '550) owned by Edwards is infringed by our Lotus Transcatheter Heart Valve System. The trial began on February 7, 2017. On March 9, 2017, the court found that we infringed the Spenser '550 patent. The Company filed an appeal. The appeal hearing is scheduled for May 17, 2018. On April 13, 2018, the '550 patent was revoked by the European Patent Office.

- On October 27, 2016, Edwards Lifesciences PVT, Inc. filed a patent infringement action against us and one of our subsidiaries, Boston Scientific, LTD, in the Federal Court of Canada alleging that three Canadian patents (Spenser) owned by Edwards are infringed by our Lotus Transcatheter Heart Valve System.
- On December 22, 2016, Edwards Lifesciences PVT, Inc. and Edwards Lifesciences SA (AG) filed a plenary summons against Boston Scientific Limited and Boston Scientific Group Public Company in the High Court of Ireland alleging that a European patent (Spenser) owned by Edwards is infringed by our Lotus Valve System. On April 13, 2018, the '550 patent was revoked by the European Patent Office.
- On August 1, 2018, the Company filed a patent infringement action on the merits in Dusseldorf, Germany against Edwards Lifesciences Corporation and Edwards Lifesciences GmbH (collectively Edwards) alleging that the Sapien 3™ device and Sapien 3 Ultra device infringed a patent owned by the Company.
- On August 3, 2018, the Company filed a preliminary injunction request in Dusseldorf, Germany against Edwards Lifesciences Corporation and Edwards Lifesciences GmbH (collectively Edwards) alleging that the Sapien 3 Ultra infringed a patent owned by the Company. On October 23, 2018, the court found that the Sapien 3 Ultra infringed the patent. Edwards had the right to appeal.
- On August 22, 2018, Edwards Lifesciences LLC filed a patent infringement action against Boston Scientific Corporation, in the U. S. District Court of Delaware, alleging that two U.S. patents (Schweich) owned by them are infringed by our Watchman™ Left Atrial Appendage Closure Device, Watchman Delivery System and Watchman Access System.

NOTE K – STOCKHOLDERS' EQUITY

Preferred Stock

We are authorized to issue 50 million shares of preferred stock in one or more series and to fix the powers, designations, preferences and relative participating, option or other rights thereof, including dividend rights, conversion rights, voting rights, redemption terms, liquidation preferences and the number of shares constituting any series, without any further vote or action by our stockholders. As of December 31, 2018 and 2017, we had no shares of preferred stock issued or outstanding.

Common Stock

We are authorized to issue 2.000 billion shares of common stock, \$0.01 par value per share. Holders of common stock are entitled to one vote per share. Holders of common stock are entitled to receive dividends, if and when declared by our Board of Directors and to share ratably in our assets legally available for distribution to our stockholders in the event of liquidation. Holders of common stock have no preemptive, subscription, redemption, or conversion rights. The holders of common stock do not have cumulative voting rights. The holders of a majority of the shares of common stock can elect all of the directors and can control our management and affairs.

On January 25, 2013, our Board of Directors approved a stock repurchase program authorizing the repurchase of up to \$1.000 billion of our common stock. Repurchased shares are available for reissuance under our equity incentive plans and for general corporate purposes, including acquisitions. We did not repurchase any shares of our common stock during 2018, 2017 or 2016. As of December 31, 2018, we had remaining \$535 million authorized under our 2013 share repurchase program. There were approximately 248 million shares in treasury as of December 31, 2018 and December 31, 2017.

NOTE L – STOCK INCENTIVE AND OWNERSHIP PLANS

Employee and Director Stock Incentive Plans

In 2011, our Board of Directors and stockholders approved our 2011 Long-Term Incentive Plan (the 2011 LTIP), authorizing for issuance up to 146 million shares of our common stock. The 2011 LTIP covers officers, directors, employees and consultants and provides for the grant of restricted or unrestricted common stock, deferred stock units (DSU), options to acquire our common stock, stock appreciation rights, performance awards (market-based and performance-based DSUs) and other stock and non-stock awards. Shares reserved under our current and former stock incentive plans totaled approximately 132 million as of December 31, 2018. The Executive Compensation and Human Resources Committee (the Committee) of the Board of Directors, consisting of independent, non-employee directors may authorize the issuance of common stock and cash awards under the 2011 LTIP in recognition of the achievement of long-term performance objectives established by the Committee.

Non-qualified options issued to employees are generally granted with an exercise price equal to the market price of our stock on the grant date, vest over a four - year service period and have a ten -year contractual life. In the case of qualified options, if the recipient owns more than ten percent of the voting power of all classes of stock, the option granted will be at an exercise price of 110 percent of the fair market value of our common stock on the date of grant and will expire over a period not to exceed five years. Non-vested stock awards, including restricted stock awards and DSUs, issued to employees are generally granted with an exercise price of zero and typically vest in five equal annual installments. These awards represent our commitment to issue shares to recipients after the vesting period. Upon each vesting date, such awards are no longer subject to risk of forfeiture and we issue shares of our common stock to the recipient.

The following presents the impact of stock-based compensation on our consolidated statements of operations :

<i>(in millions, except per share data)</i>	Year Ended December 31,		
	2018	2017	2016
Cost of products sold	\$ 7	\$ 7	\$ 6
Selling, general and administrative expenses	109	98	90
Research and development expenses	24	23	20
	140	127	116
Income tax (benefit) expense	(21)	(32)	(29)
	\$ 119	\$ 96	\$ 87
Net impact per common share - basic	\$ 0.09	\$ 0.07	\$ 0.06
Net impact per common share - assuming dilution	\$ 0.08	\$ 0.07	\$ 0.06

Stock Options

We use the Black-Scholes option-pricing model to calculate the grant-date fair value of stock options granted to employees under our stock incentive plans. We calculated the fair value for options granted using the following estimated weighted-average assumptions:

	Year Ended December 31,		
	2018	2017	2016
Options granted <i>(in thousands)</i>	3,491	4,439	4,186
Weighted-average exercise price	\$ 27.26	\$ 24.70	\$ 17.46
Weighted-average grant-date fair value	\$ 8.55	\$ 7.16	\$ 5.60
Black-Scholes Assumptions			
Expected volatility	26%	25%	30%
Expected term <i>(in years, weighted)</i>	6.0	6.1	6.0
Risk-free interest rate	2.61% - 3.01%	2.03% - 2.21%	1.14% - 2.08%

Expected Volatility

We use our historical volatility and implied volatility as a basis to estimate expected volatility in our valuation of stock options.

Expected Term

We estimate the expected term of options using historical exercise and forfeiture data. We believe that this historical data provides the best estimate of the expected term of new option grants.

Risk-Free Interest Rate

We use yield rates on U.S. Treasury securities for a period approximating the expected term of the award to estimate the risk-free interest rate in our grant-date fair value assessment.

Expected Dividend Yield

We have not historically paid cash dividends to our stockholders and currently do not intend to pay cash dividends. Therefore, we have assumed an expected dividend yield of zero in our grant-date fair value assessment.

Information related to stock options under stock incentive plans are as follows:

	Stock Options <i>(in thousands)</i>	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life <i>(in years)</i>	Aggregate Intrinsic Value <i>(in millions)</i>
Outstanding as of December 31, 2015	31,089	\$ 11		
Granted	4,186	17		
Exercised	(6,612)	12		
Cancelled/forfeited	(2,019)	21		
Outstanding as of December 31, 2016	26,644	\$ 11		
Granted	4,439	25		
Exercised	(3,922)	10		
Cancelled/forfeited	(445)	17		
Outstanding as of December 31, 2017	26,716	\$ 13		
Granted	3,491	27		
Exercised	(4,385)	11		
Cancelled/forfeited	(519)	22		
Outstanding as of December 31, 2018	25,304	\$ 16	5.5	\$ 499
Exercisable as of December 31, 2018	16,535	\$ 11	4.1	\$ 396
Expected to vest as of December 31, 2018	8,319	23	8.2	99
Total vested and expected to vest as of December 31, 2018	24,854	\$ 15	5.4	\$ 495

The total intrinsic value of stock options exercised was \$90 million in 2018 and \$64 million in both 2017 and 2016 .

Non-Vested Stock

We value restricted stock awards and DSUs based on the closing trading value of our shares on the date of grant. Information related to non-vested stock awards is as follows:

	Non-Vested Stock Award Units <i>(in thousands)</i>	Weighted Average Grant-Date Fair Value
Balance as of December 31, 2015	23,764	\$ 11
Granted	6,132	17
Vested (1)	(10,045)	10
Forfeited	(1,054)	13
Balance as of December 31, 2016	18,797	\$ 14
Granted	4,798	24
Vested (1)	(7,663)	11
Forfeited	(683)	17
Balance as of December 31, 2017	15,250	\$ 18
Granted	4,375	28
Vested (1)	(6,194)	16
Forfeited	(748)	22
Balance as of December 31, 2018	12,683	\$ 22

(1) The number of restricted stock units vested includes shares withheld on behalf of employees to satisfy statutory tax withholding requirements.

The total vesting date fair value of stock award units that vested was approximately \$170 million in 2018, \$190 million in 2017 and \$179 million in 2016.

Market-based DSU Awards

During 2018, 2017 and 2016, we granted market-based DSU awards to certain members of our senior management team. The number of shares ultimately issued to the recipient is based on the total shareholder return (TSR) of our common stock as compared to the TSR of the common stock of the other companies in the S&P 500 Health Care Index over a three-year performance period. The number of DSUs ultimately granted under this program range from 0 percent to 200 percent of the target number of performance-based DSUs awarded to the participant as determined by achievement of the performance criteria of the program. In addition, award recipients must remain employed by us throughout the three-year performance period to attain the full amount of the market-based DSUs that satisfied the market performance criteria.

We determined the fair value of the market-based DSU awards to be approximately \$7 million for 2018, \$8 million for 2017 and \$6 million for 2016. We determined these fair values based on Monte Carlo simulations as of the date of grant, utilizing the following assumptions:

	2018 Awards	2017 Awards	2016 Awards
Stock price on date of grant	\$ 27.09	\$ 24.55	\$ 17.26
Measurement period <i>(in years)</i>	2.9	2.8	2.9
Risk-free rate	2.36%	1.45%	0.90%

We recognize the expense on these awards in our consolidated statements of operations on a straight-line basis over the three-year measurement period.

Free Cash Flow Performance-based DSU Awards

During 2018, 2017 and 2016, we granted free cash flow performance-based DSU awards to certain members of our senior management team. The attainment of these performance-based DSUs is based on our adjusted free cash flow (AFCF) measured against our internal annual financial plan performance for AFCF. AFCF is measured over a one-year performance period beginning January 1st of each year and ending December 31st. The number of DSUs ultimately granted under this program range from 0 percent to 150 percent of the target number of performance-based DSUs awarded to the participant as determined by achievement of the performance criteria of the program. In addition, award recipients must remain employed by us throughout a three-year service period (inclusive of the one-year performance period) to attain the full amount of the performance-based DSUs that satisfied the performance criteria.

The following table presents our assumptions used in determining the fair value of our AFCF awards currently expected to vest as of December 31, 2018:

	2018 AFCF	2017 AFCF	2016 AFCF
Fair value, net of forfeitures to date <i>(in millions)</i>	\$ 11	\$ 6	\$ 7
Achievement of target payout	118%	98%	114%
Year-end stock price used in determining fair value	\$ 35.34	\$ 24.79	\$ 21.63

We recognize the expense on these awards in our consolidated statements of operations over the vesting period which is three years after the date of grant.

Expense Attribution

We recognize compensation expense for our stock incentive plan using a straight-line method over the substantive vesting period. Most of our stock awards provide for immediate vesting upon death or disability of the participant. In addition, our stock grants to employees provide for accelerated vesting of our stock-based awards, other than performance-based and market-based awards, upon retirement. In accordance with the terms of our stock grants, for employees who will become retirement eligible prior to the vest date we expense stock-based awards, other than performance-based and market-based awards, over the greater of one year or the period between grant date and retirement-eligibility. The performance-based and market-based awards discussed above do not contain provisions that would accelerate the full vesting of the awards upon retirement-eligibility.

We recognize stock-based compensation expense for the value of the portion of awards that are ultimately expected to vest. FASB ASC Topic 718, *Compensation – Stock Compensation* allows forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term “forfeitures” is distinct from “cancellations” or “expirations” and represents only the unvested portion of the surrendered stock-based award. We have applied, based on an analysis of our historical forfeitures, a weighted-average annual forfeiture rate of approximately six percent to all unvested stock-based awards as of December 31, 2018, which represents the portion that we expect will be forfeited each year over the vesting period. We re-evaluate this analysis annually or more frequently if there are significant changes in circumstances and adjust the forfeiture rate as necessary. Ultimately, we will only recognize expense for those shares that vest.

Unrecognized Compensation Cost

We expect to recognize the following future expense for awards outstanding as of December 31, 2018:

	Unrecognized Compensation Cost <i>(in millions)</i> (1)	Weighted Average Remaining Vesting Period <i>(in years)</i>
Stock options	\$ 32	
Non-vested stock awards	151	
	\$ 183	1.4

(1) Amounts presented represent compensation cost, net of estimated forfeitures.

Employee Stock Purchase Plans

Our global employee stock purchase plan provides for the granting of options to purchase up to 50 million shares of our common stock to all eligible employees. Under the global employee stock purchase plan, we grant each eligible employee, at the beginning of each six-month offering period, an option to purchase shares of our common stock equal to not more than ten percent of the employee's eligible compensation or the statutory limit under the U.S. Internal Revenue Code. Such options may be exercised only to the extent of accumulated payroll deductions at the end of the offering period, at a purchase price equal to 85 percent of the fair market value of our common stock at the beginning or end of each offering period, whichever is less. As of December 31, 2018, there were approximately 10 million shares available for future issuance under the employee stock purchase plan.

Information related to shares issued or to be issued in connection with the employee stock purchase plan based on employee contributions and the range of purchase prices is as follows:

	Year Ended December 31,		
	2018	2017	2016
Shares issued or to be issued <i>(in thousands)</i>	2,452	2,491	2,337
Range of purchase prices	\$21.49 - \$27.91	\$18.60 - \$21.07	\$15.29 - \$18.39
Expense recognized <i>(in millions)</i>	\$ 17	\$ 13	\$ 11

We use the Black-Scholes option-pricing model to calculate the grant-date fair value of shares issued under the employee stock purchase plan. We recognize expense related to shares purchased through the employee stock purchase plan ratably over the offering period.

NOTE M – WEIGHTED AVERAGE SHARES OUTSTANDING

<i>(in millions)</i>	Year Ended December 31,		
	2018	2017	2016
Weighted average shares outstanding - basic	1,381.0	1,370.1	1,357.6
Net effect of common stock equivalents	20.4	22.6	19.6
Weighted average shares outstanding - assuming dilution	1,401.4	1,392.7	1,377.2

The impact of stock options outstanding with exercise prices greater than the average fair market value of our common stock was immaterial for all periods presented.

NOTE N – SEGMENT REPORTING

We have three reportable segments comprised of MedSurg, Rhythm and Neuro, and Cardiovascular, which represent an aggregation of our operating segments.

Each of our reportable segments generates revenues from the sale of medical devices. We measure and evaluate our reportable segments based on segment net sales and operating income, excluding intersegment profits. In 2017, we updated our presentation of segment net sales and operating income to include the impact of foreign currency fluctuations, since our chief operating decision maker (CODM) reviews operating results both including and excluding the impact of foreign currency fluctuations, and the following presentation more closely aligns to our consolidated financial statements. We exclude from segment operating income certain corporate-related expenses and certain transactions or adjustments that our CODM considers to be non-operational, such as amounts related to amortization expense, intangible asset impairment charges, acquisition-related items, restructuring and restructuring-related items and litigation-related items. Although we exclude these amounts from segment operating income, they are included in reported *Income (loss) before income taxes* on the consolidated statements of operations and are included in the reconciliation below.

Effective January 1, 2018, following organizational changes to align the structure of our business with our focus on active implantable devices, we revised our reportable segments, in accordance with FASB ASC Topic 280, *Segment Reporting*. The revision reflects a reclassification of our Neuromodulation business from our MedSurg segment to our newly created Rhythm and Neuro segment. We have revised prior year amounts to conform to the current year's presentation (as denoted with an asterisk (*) throughout). There was no revision to operating segments or reporting units as a result of the organizational change.

A reconciliation of the totals reported for the reportable segments to the applicable line items in our accompanying consolidated statements of operations is as follows (in millions, except percentages):

	Year Ended December 31,		
	2018	2017	2016
Net sales			
MedSurg*	\$ 3,007	\$ 2,742	\$ 2,445
Rhythm and Neuro*	3,041	2,808	2,649
Cardiovascular	3,777	3,500	3,292
	\$ 9,823	\$ 9,048	\$ 8,386

	Year Ended December 31,		
	2018	2017	2016
Depreciation expense			
MedSurg*	\$ 72	\$ 68	\$ 60
Rhythm and Neuro*	91	91	91
Cardiovascular	133	120	118
	\$ 296	\$ 279	\$ 270

	Year Ended December 31,		
	2018	2017	2016
Income (loss) before income taxes			
MedSurg*	\$ 1,102	\$ 984	\$ 852
Rhythm and Neuro*	655	537	402
Cardiovascular	1,117	988	946
Operating income allocated to reportable segments	2,875	2,509	2,200
Corporate expenses, including hedging activities	(372)	(252)	(179)
Intangible asset impairment charges, acquisition-related, restructuring- and restructuring-related and litigation-related net (charges) credits	(398)	(407)	(1,029)
Amortization expense	(599)	(565)	(545)
Operating income (loss)	1,506	1,285	447
Other expense, net	(85)	(353)	(270)
	\$ 1,422	\$ 933	\$ 177

	Year Ended December 31,		
	2018	2017	2016
Operating income as a percentage of segment net sales			
MedSurg*	36.7%	35.9%	34.9%
Rhythm and Neuro*	21.5%	19.1%	15.2%
Cardiovascular	29.6%	28.2%	28.7%

	As of December 31,	
	2018	2017
Total assets		
MedSurg*	\$ 1,846	\$ 1,871
Rhythm and Neuro*	1,696	1,607
Cardiovascular	1,954	1,824
Total assets allocated to reportable segments	5,497	5,302
Goodwill	7,911	6,998
Other intangible assets, net	6,372	5,837
All other corporate assets	1,219	905
	\$ 20,999	\$ 19,042

Long-lived assets	As of December 31,		
	2018	2017	2016
U.S.	\$ 1,061	\$ 1,065	\$ 1,082
Ireland	242	210	181
Other countries	478	422	367
Property, plant and equipment, net	1,782	1,697	1,630
Goodwill	7,911	6,998	6,678
Other intangible assets, net	6,372	5,837	5,883
	\$ 16,064	\$ 14,531	\$ 14,191

NOTE O – REVENUE

We generate revenue primarily from the sale of single-use medical devices and present revenue net of sales taxes in our consolidated statements of operations. The following tables disaggregate our revenue from contracts with customers by business and geographic region (in millions):

Businesses	Year Ended December 31,		
	2018	2017	2016
Endoscopy			
U.S.	\$ 980	\$ 894	\$ 770
International	781	724	670
Worldwide	1,762	1,619	1,440
Urology and Pelvic Health			
U.S.	864	785	711
International	381	339	294
Worldwide	1,245	1,124	1,005
Cardiac Rhythm Management			
U.S.	1,159	1,135	1,110
International	792	760	740
Worldwide	1,951	1,895	1,850
Electrophysiology			
U.S.	150	136	129
International	161	142	114
Worldwide	311	278	243
Neuromodulation			
U.S.	624	517	474
International	155	118	82
Worldwide	779	635	556
Interventional Cardiology			
U.S.	1,154	1,122	1,013
International	1,436	1,297	1,268
Worldwide	2,590	2,419	2,281
Peripheral Interventions			
U.S.	608	575	552
International	579	506	459
Worldwide	1,187	1,081	1,011
Total Company			
U.S.	5,538	5,162	4,759
International	4,286	3,885	3,627
Net Sales	\$ 9,823	\$ 9,048	\$ 8,386

Geographic Regions	Year Ended December 31,		
	2018	2017	2016
U.S.	\$ 5,538	\$ 5,162	\$ 4,759
EMEA (Europe, Middle East and Africa)	2,176	1,940	1,802
APAC (Asia-Pacific)	1,727	1,587	1,492
LACA (Latin America and Canada)	383	358	333
	\$ 9,823	\$ 9,048	\$ 8,386

Emerging Markets (1)	\$ 1,072	\$ 909	\$ 793
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(1) Emerging Markets is defined as certain countries that we believe have strong growth potential based on their economic conditions, healthcare sectors and our global capabilities. Currently, we include 20 countries in our definition of Emerging Markets.

Contract liabilities are classified within *Other current liabilities* and *Other long-term liabilities* on our accompanying consolidated balance sheets. Our deferred revenue balance was \$373 million as of December 31, 2018 and \$411 million as of January 1, 2018. Our contractual liabilities are primarily composed of deferred revenue related to the LATITUDE Patient Management System. Revenue is recognized over the average service period which is based on device and patient longevity. We recognized revenue of \$117 million in 2018 that was included in the above January 1, 2018 contract liability balance. We have elected not to disclose the transaction price allocated to unsatisfied performance obligations when the original expected contract duration is one year or less. In addition, we have not identified material unfulfilled performance obligations for which revenue is not currently deferred. Refer to *Note A – Significant Accounting Policies* for additional information on our accounting policies relating to revenue recognition.

NOTE P – CHANGES IN OTHER COMPREHENSIVE INCOME

The following table provides the reclassifications out of *Other comprehensive income, net of tax* :

(in millions)	Foreign Currency Translation Adjustments	Net Change in Derivative Financial Instruments	Net Change in Available-for-Sale Securities	Net Change in Defined Benefit Pensions and Other Items	Total
Balance as of December 31, 2017	\$ (32)	\$ 1	\$ (1)	\$ (27)	\$ (59)
Other comprehensive income (loss) before reclassifications	—	96	—	(2)	94
(Income) loss amounts reclassified from accumulated other comprehensive income	(21)	14	1	4	(3)
Total other comprehensive income (loss)	(21)	110	—	2	91
Balance as of December 31, 2018	\$ (53)	\$ 111	\$ —	\$ (25)	\$ 33

(in millions)	Foreign Currency Translation Adjustments	Net Change in Derivative Financial Instruments	Net Change in Available-for-Sale Securities	Net Change in Defined Benefit Pensions and Other Items	Total
Balance as of December 31, 2016	\$ (79)	\$ 107	\$ (6)	\$ (21)	\$ 1
Other comprehensive income (loss) before reclassifications	48	(65)	(10)	(8)	(35)
(Income) loss amounts reclassified from accumulated other comprehensive income	—	(42)	15	2	(25)
Total other comprehensive income (loss)	48	(106)	5	(6)	(59)
Balance as of December 31, 2017	\$ (32)	\$ 1	\$ (1)	\$ (27)	\$ (59)

Refer to *Note D – Hedging Activities and Fair Value Measurements* for further detail on the reclassifications related to derivatives.

We adopted Update No. 2016-01 in the first quarter of 2018, and as a result of adopting the standard, we recorded a cumulative effect adjustment to retained earnings for unrealized gains and losses for available-for-sale securities previously recorded to *Accumulated other comprehensive income (loss), net of tax*.

The gains and losses on defined benefit and pension items before reclassifications and gains and losses on defined benefit and pension items reclassified from *Accumulated other comprehensive income (loss), net of tax* were reduced by immaterial income tax impacts in 2018 and in 2017.

NOTE Q – NEW ACCOUNTING PRONOUNCEMENTS

Periodically, new accounting pronouncements are issued by the FASB or other standard setting bodies. Recently issued standards typically do not require adoption until a future effective date. Prior to their effective date, we evaluate the pronouncements to determine the potential effects of adoption on our consolidated financial statements.

Standards to be Implemented

ASC Update No. 2016-02

In February 2016, the FASB issued ASC Update No. 2016-02, *Leases* (Topic 842). The purpose of Update No. 2016-02 is to increase the transparency and comparability among organizations by recognizing lease assets and liabilities on the balance sheet, including those previously classified as operating leases under current U.S. GAAP, and disclosing key information about leasing arrangements. Topic 842, as amended, is effective for public entities for annual periods beginning after December 15, 2018, including interim periods within those annual periods.

We currently plan to adopt the standard using the transition method provided by ASC Update No. 2018-11, *Leases (Topic 842): Targeted Improvements*. Under this method, we will initially apply the new leasing rules on January 1, 2019, rather than at the earliest comparative period presented in the financial statements. Prior periods presented will be in accordance with the existing lease guidance.

Upon transition, we plan to apply the package of practical expedients permitted under Topic 842 transition guidance to our entire lease portfolio at January 1, 2019. As a result, we are not required to reassess (i) whether any expired or existing contracts are or contain leases, (ii) the classification of any expired or existing leases, and (iii) initial direct costs for any existing leases. Furthermore, we will be electing not to separate lease and non-lease components for the majority of our leases. Instead, for these applicable classes of underlying assets, we will account for each separate lease component and the non-lease components associated with that lease component, as a single lease component.

As a result of adopting Topic 842, we expect to recognize additional right-of-use assets and corresponding liabilities for our existing lease portfolio on our consolidated balance sheets of approximately \$300 million, with no material impact to our consolidated statements of operations or consolidated statements of cash flows. For the first quarter of 2019, we will provide additional disclosures in the notes to our consolidated statements of operations regarding our leasing portfolio, including key judgements and assumptions and the discount rate used in calculating our right-of-use assets and corresponding liabilities. Please refer to *Note F - Leases and Other Purchase Obligations* for information regarding our lease portfolio as of December 31, 2018 as accounted for under ASC Topic 840, *Leases*.

To ensure we meet the reporting and disclosure requirements of Topic 842, we implemented in 2018 a new lease administration and lease accounting system that will track all our material leasing arrangements. In addition, in the first quarter of 2019, we designed new internal controls to ensure the completeness and accuracy of the transition adjustment and financial reporting under Topic 842. We also established monitoring controls to ensure we have appropriate mechanisms in place to identify material leases timely, particularly contracts that may contain embedded lease features.

ASC Update No. 2016-13

In June 2016, the FASB issued ASC Update No. 2016-13, *Financial Instruments – Credit Losses* (Topic 326) : *Measurement of Credit Losses on Financial Instruments*. The purpose of Update No. 2016-13 is to replace the current incurred loss impairment methodology for financial assets measured at amortized cost with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information, including forecasted information, to develop credit loss estimates. Update No. 2016-13 is effective for annual periods beginning after December 15, 2019, including interim periods

within those annual periods. Early adoption is permitted for annual periods beginning after December 15, 2018. We are in the process of determining the effect that the adoption will have on our financial position and results of operations.

ASC Update No. 2018-15

In August 2018, the FASB issued ASC Update No. 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*. The purpose of Update No. 2018-15 is to align 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 (and hosting arrangements that include an internal-use software license). Update No. 2018-15 is effective for annual periods beginning after December 15, 2019, including interim periods within those annual periods. Early adoption is permitted, including adoption in any interim period. We are in the process of determining the effect that the adoption will have on our financial position and results of operations.

No other new accounting pronouncements, issued or effective, during the period had, or is expected to have, a material impact on our consolidated financial statements.

NOTE R - EMPLOYEE RETIREMENT PLANS

Following our 2006 acquisition of Guidant, we sponsored the Guidant Supplemental Retirement Plan, a frozen, non-qualified defined benefit plan for certain former officers and employees of Guidant. The Guidant Supplemental Retirement Plan was partially funded through a Rabbi Trust that contains segregated company assets within restricted cash used to pay the benefit obligations related to the plan.

We also maintain an Executive Retirement Plan, a defined benefit plan covering executive officers and division presidents. Participants may retire with unreduced benefits once retirement conditions have been satisfied. In addition, we maintain retirement plans covering certain international employees.

We use a December 31 measurement date for these plans and record the underfunded portion as a liability within non-current liabilities, with the current portion within accrued expenses, on the consolidated balance sheets, recognizing changes in the funded status through *OCI*. The outstanding obligation is as follows:

	As of December 31, 2018			
<i>(in millions)</i>	Accumulated Benefit Obligation (ABO)	Projected Benefit Obligation (PBO)	Fair value of Plan Assets	Underfunded PBO Recognized
Executive Retirement Plan	\$ 17	\$ 20	\$ —	\$ 20
Guidant Supplemental Retirement Plan (frozen)	30	30	—	30
International Retirement Plans	166	182	107	75
	213	\$ 232	\$ 107	\$ 125

	As of December 31, 2017			
<i>(in millions)</i>	Accumulated Benefit Obligation (ABO)	Projected Benefit Obligation (PBO)	Fair value of Plan Assets	Underfunded PBO Recognized
Executive Retirement Plan	\$ 18	\$ 21	\$ —	\$ 21
Guidant Supplemental Retirement Plan (frozen)	33	33	—	33
International Retirement Plans	138	153	87	66
	\$ 189	\$ 207	\$ 87	\$ 120

A rollforward of the changes in the PBO for our funded retirement plans is as follows:

<i>(in millions)</i>	Year Ended December 31,	
	2018	2017
Beginning obligations	\$ 207	\$ 152
Acquired and established plans (1)	23	33
Service costs	14	13
Interest costs	4	4
Actuarial (gain) loss	(1)	2
Plan amendments and assumption changes	(2)	(1)
Benefits paid	(10)	(8)
Impact of foreign currency fluctuations	(3)	11
Ending obligation	\$ 232	\$ 207

(1) Plans obtained through acquisition and other increases in connection with our international operations.

The critical assumptions associated with our employee retirement plans as of December 31, 2018 and are as follows:

	Discount Rate	Expected Return on Plan Assets	Rate of Compensation Increase
Executive Retirement Plan	4.00%	N/A	3.00%
Guidant Supplemental Retirement Plan (frozen)	4.25%	N/A	N/A
International Retirement Plans	0.50% - 2.34%	1.90% - 4.10%	1.50% - 6.78%

The critical assumptions associated with our employee retirement plans as of December 31, 2017 are as follows:

	Discount Rate	Expected Return on Plan Assets	Rate of Compensation Increase
Executive Retirement Plan	3.25%	N/A	3.00%
Guidant Supplemental Retirement Plan (frozen)	3.50%	N/A	N/A
International Retirement Plans	0.50% - 2.25%	2.50% - 4.10%	1.50% - 6.78%

We base our discount rate on the rates of return available on high-quality bonds with maturities approximating the expected period over which benefits will be paid. The rate of compensation increase is based on historical and expected rate increases. We base our rate of expected return on plan assets on historical experience, our investment guidelines and expectations for long-term rates of return. Our international pension plan assets are invested in a variety of securities, primarily equity securities and government bonds. These securities are considered Level 1 and Level 2 investments.

A rollforward of the changes in the fair value of plan assets for our funded retirement plans is as follows:

<i>(in millions)</i>	Year Ended December 31,	
	2018	2017
Beginning fair value	\$ 87	\$ 54
Acquired and established plans (1)	16	19
Actual return on plan assets	(2)	6
Employer contributions	14	10
Participant contributions	2	1
Benefits paid	(10)	(8)
Impact of foreign currency fluctuations	—	4
Ending fair value	\$ 107	\$ 87

(1) Plans obtained through acquisition and other increases in connection with our international operations.

We also sponsor a voluntary 401(k) Retirement Savings Plan for eligible employees. We match 200 percent of employee elective deferrals for the first two percent of employee eligible compensation and 50 percent of employee elective deferrals greater than

two percent, but not exceeding six percent, of employee eligible compensation. Total expense for our matching contributions to the plan was \$87 million in 2018 , \$79 million in 2017 and \$72 million in 2016 .

QUARTERLY RESULTS OF OPERATIONS*(in millions, except per share data)**(unaudited)*

	Three Months Ended			
	Mar 31,	June 30,	Sept 30,	Dec 31,
2018				
Net sales	\$ 2,379	\$ 2,490	\$ 2,393	\$ 2,561
Gross profit	1,707	1,751	1,720	1,832
Operating income (loss)	407	392	388	319
Net income (loss)	298	555	432	386
Net income (loss) per common share - basic	\$ 0.22	\$ 0.40	\$ 0.31	\$ 0.28
Net income (loss) per common share - assuming dilution	\$ 0.21	\$ 0.40	\$ 0.31	\$ 0.27
2017				
Net sales	\$ 2,160	\$ 2,257	\$ 2,222	\$ 2,408
Gross profit	1,510	1,625	1,585	1,735
Operating income (loss)	364	225	377	319
Net income (loss)	290	146	283	(615)
Net income (loss) per common share - basic	\$ 0.21	\$ 0.11	\$ 0.21	\$ (0.45)
Net income (loss) per common share - assuming dilution	\$ 0.21	\$ 0.11	\$ 0.20	\$ (0.45)

Our reported results for 2018 included amortization expense, intangible asset impairment charges, acquisition-related net charges, restructuring and restructuring-related net charges, litigation-related net charges, certain investment impairment charges and certain discrete tax items (after tax) of: \$157 million in the first quarter, \$13 million in the second quarter, \$53 million in the third quarter and \$166 million in the fourth quarter. These after-tax net charges consisted primarily of: \$328 million credit related to certain discrete tax items and \$520 million of amortization expense.

Our reported results for 2017 included amortization expense, intangible asset impairment charges, acquisition-related net charges, restructuring and restructuring-related net charges, litigation-related net charges, investment impairment charges and certain discrete tax items (after tax) of: \$107 million in the first quarter, \$298 million in the second quarter, \$149 million in the third quarter and \$1.095 billion in the fourth quarter. These after-tax net charges consisted primarily of: \$861 million related to the estimated one-time net income tax charge related to the enactment of the TCJA in December 2017, \$492 million of amortization expense and \$172 million of litigation-related net charges.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer (CEO) and Executive Vice President and Chief Financial Officer (CFO), evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2018 pursuant to Rule 13a-15(b) of the Securities Exchange Act of 1934, as amended. Disclosure controls and procedures are designed to ensure that material information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and ensure that such material information is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosure. Based on their evaluation, our CEO and CFO concluded that as of December 31, 2018, our disclosure controls and procedures were effective.

Management's Annual Report on Internal Control over Financial Reporting

Management's annual report on our internal control over financial reporting is contained in Item 7 of this Annual Report.

Report of Independent Registered Public Accounting Firm on Internal Control over Financial Reporting

The report of Ernst & Young LLP on our internal control over financial reporting is contained in Item 7 of this Annual Report.

Changes in Internal Control over Financial Reporting

During the quarter ended December 31, 2018, 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.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is set forth in our Proxy Statement for the 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of December 31, 2018 and is incorporated into this Annual Report by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is set forth in our Proxy Statement for the 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of December 31, 2018 and is incorporated into this Annual Report by reference.

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

The information required by this Item is set forth in our Proxy Statement for the 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of December 31, 2018 and is incorporated into this Annual Report by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by this Item is set forth in our Proxy Statement for the 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of December 31, 2018 and is incorporated into this Annual Report by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item is set forth in our Proxy Statement for the 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of December 31, 2018 and is incorporated into this Annual Report by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a)(1) Financial Statements.

The response to this portion of Item 15 is set forth under Item 8.

(a)(2) Financial Statement Schedules.

The response to this portion of Item 15 (Schedule II) follows the signature page to this report. All other financial statement schedules are not required under the related instructions or are inapplicable and therefore have been omitted.

(a)(3) Exhibits (* documents filed or furnished with this report, ** certain schedules and exhibits omitted pursuant to Item 601(b)(2) of Regulation S-K. We agree to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request, # compensatory plans or arrangements)

EXHIBIT NO.	TITLE
2.1	<u>Purchase Agreement among American Medical Systems Holdings, Inc., Endo Health Solutions Inc. and the Company, dated as of March 2, 2015 (incorporated by reference to Exhibit 2.1, Quarterly Report on Form 10-Q for the quarter ended March 30, 2015, File No. 1-11083).</u>**
3.1	<u>Restated By-laws of the Company (incorporated herein by reference to Exhibit 3.1, Current Report on Form 8-K dated September 19, 2011, File No. 1-11083)</u>
3.2	<u>Third Restated Certificate of Incorporation (incorporated herein by reference to Exhibit 3.2, Annual Report on Form 10-K for the year ended December 31, 2007, File No. 1-11083).</u>
4.1	Specimen Certificate for shares of the Company's Common Stock (incorporated herein by reference to Exhibit 4.1, Registration No. 33-46980).
4.2	Description of Capital Stock contained in <u>Exhibits 3.1</u> and <u>3.2</u> .
4.3	<u>Indenture dated as of June 25, 2004, between the Company and JPMorgan Chase Bank, as Trustee (incorporated herein by reference to Exhibit 4.1, Current Report on Form 8-K dated June 25, 2004, File No. 1-11083).</u>
4.4	<u>Indenture dated as of November 18, 2004, between the Company and J.P. Morgan Trust Company, National Association, as Trustee (incorporated herein by reference to Exhibit 4.1, Current Report on Form 8-K dated November 18, 2004, File No. 1-11083).</u>
4.5	<u>First Supplemental Indenture dated as of April 21, 2006 (incorporated herein by reference to Exhibit 99.4, Current Report on Form 8-K dated April 21, 2006, File No. 1-11083).</u>
4.6	<u>Second Supplemental Indenture dated as of April 21, 2006 (incorporated herein by reference to Exhibit 99.6, Current Report on Form 8-K dated April 21, 2006, File No. 1-11083).</u>
4.7	<u>Form of Global Security for the 5.125% Notes due 2017 in the aggregate principal amount of \$250,000,000 (incorporated herein by reference to Exhibit 4.3, Current Report on Form 8-K dated November 18, 2004, File No. 1-11083).</u>

- 4.8 [Form of Global Security for the 6.25% Notes due 2035 in the aggregate principal amount of \\$350,000,000, and form of Notice to holders thereof \(incorporated herein by reference to Exhibit 4.2, Current Report on Form 8-K dated November 17, 2005 and Exhibit 99.7, Current Report on Form 8-K dated April 21, 2006, File No. 1-11083\).](#)
- 4.9 [Indenture dated as of June 1, 2006, between the Company and JPMorgan Chase Bank, N.A., as Trustee \(incorporated herein by reference to Exhibit 4.1, Current Report on Form 8-K dated June 9, 2006, File No. 1-11083\).](#)
- 4.10 [6.000% Senior Note due January 15, 2020 in the aggregate principal amount of \\$850,000,000 \(incorporated herein by reference to Exhibit 4.3, Current Report on Form 8-K dated December 10, 2009, File No. 1-11083\).](#)
- 4.11 [7.375% Senior Note due January 15, 2040 in the aggregate principal amount of \\$300,000,000 \(incorporated herein by reference to Exhibit 4.4, Current Report on Form 8-K dated December 10, 2009, File No. 1-11083\).](#)
- 4.12 [2.650% Senior Note due October 1, 2018 in the aggregate principal amount of \\$500,000,000 \(incorporated herein by reference to Exhibit 4.2, Current Report on Form 8-K dated August 8, 2013, File No. 1-11083\).](#)
- 4.13 [4.125% Senior Note Due October 1, 2023 in the aggregate principle amount of \\$450,000,000 \(incorporated herein by reference to Exhibit 4.3, Current Report on Form 8-K dated August 8, 2013, File No. 1-11083\).](#)
- 4.14 [2.850% Senior Notes due 2020 \(incorporated herein by reference to Exhibit 4.2, Current Report on Form 8-K dated May 12, 2015, File No. 1-11083\).](#)
- 4.15 [3.375% Senior Notes due 2022 \(incorporated herein by reference to Exhibit 4.3, Current Report on Form 8-K dated May 12, 2015, File No. 1-11083\).](#)
- 4.16 [3.850% Senior Notes due 2025 \(incorporated herein by reference to Exhibit 4.4, Current Report on Form 8-K dated May 12, 2015, File No. 1-11083\).](#)
- 4.17 [Indenture dated as of May 29, 2013, between the Company and U.S. Bank Association, as Trustee \(incorporated herein by reference to Exhibit 4.1, Registration Statement on Form S-3 \(File No 333-188918\) filed on May 29, 2013\).](#)
- 4.18 [4.000% Senior Notes Due 2028 \(incorporated herein by reference to Exhibit 4.2, Current Report on Form 8-K dated February 26, 2018, File No. 1-11083\).](#)
- 10.1 [Form of Omnibus Amendment dated as of December 21, 2006, among the Company, Boston Scientific Funding Corporation, Variable Funding Capital Company LLC, Victory Receivables Corporation and The Bank of Tokyo-Mitsubishi UFJ, Ltd., New York Branch \(Amendment No. 1 to Receivables Sale Agreement and Amendment No. 9 to Credit and Security Agreement\) \(incorporated herein by reference to Exhibit 10.2, Annual Report on 10-K for the year ended December 31, 2006, File No. 1-11083\).](#)
- 10.2 [Form of Amended and Restated Receivables Sale Agreement dated as of November 7, 2007 between the Company and each of its Direct or Indirect Wholly-Owned Subsidiaries that Hereafter Becomes a Seller Hereunder, as the Sellers, and Boston Scientific Funding LLC, as the Buyer \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated November 7, 2007, File No. 1-11083\).](#)
- 10.3 [Credit Agreement dated as of April 18, 2012, by and among the Company, the several lenders parties thereto, and Bank of America, N.A., as Syndication Agent, and JPMorgan Chase Bank, N.A., as Administrative Agent \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated April 18, 2012, File No. 1-11083\).](#)

- 10.4 [Credit Agreement dated as of April 10, 2015, by and among Boston Scientific Corporation, the several lenders parties thereto, Bank of America, N.A., as Syndication Agent and JPMorgan Chase Bank, N.A., as Administrative Agent \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated April 14, 2015, File No. 1-11083\).](#)
- 10.5 [First Amendment, dated as of October 23, 2015, to the Credit Agreement, dated as of April 10, 2015, among Boston Scientific Corporation, the several lenders party thereto, Bank of America, N.A., as Syndication Agent, and JPMorgan Chase Bank, N.A., as Administrative Agent \(incorporated by reference to Exhibit 10.5, Annual Report on Form 10-K for the year ended December 31, 2015, File No. 1-11083\).*](#)
- 10.6 [License Agreement among Angiotech Pharmaceuticals, Inc., Cook Incorporated and the Company dated July 9, 1997, and related Agreement dated December 13, 1999 \(incorporated herein by reference to Exhibit 10.6, Annual Report on Form 10-K for the year ended December 31, 2002, File No. 1-11083\).](#)
- 10.7 [Amendment between Angiotech Pharmaceuticals, Inc. and the Company dated November 23, 2004 modifying July 9, 1997 License Agreement among Angiotech Pharmaceuticals, Inc., Cook Incorporated and the Company \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated November 23, 2004, File No. 1-11083\).](#)
- 10.8 Transaction Agreement, dated as of January 8, 2006, as amended, between the Company and Abbott Laboratories (incorporated herein by reference to [Exhibit 10.47](#), [Exhibit 10.48](#), [Exhibit 10.49](#) and [Exhibit 10.50](#), Annual Report on Form 10-K for year ended December 31, 2005 and [Exhibit 10.1](#), Current Report on Form 8-K dated April 7, 2006, File No. 1-11083).
- 10.9 [Settlement Agreement among Johnson & Johnson, Guidant LLC and the Company, dated as of February 13, 2015 \(incorporated by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended March 30, 2015, File No. 1-11083\).](#)
- 10.10 [Form of Non-Qualified Stock Option Agreement \(Non-Employee Directors\) \(incorporated herein by reference to Exhibit 10.5, Current Report on Form 8-K dated December 10, 2004, File No. 1-11083\).#](#)
- 10.11 [Form of Restricted Stock Award Agreement \(Non-Employee Directors\) \(incorporated herein by reference to Exhibit 10.6, Current Report on Form 8-K dated December 10, 2004, File No. 1-11083\).#](#)
- 10.12 [Form of Restricted Stock Award Agreement \(Non-Employee Directors\) under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, File No. 1-11083\).#](#)
- 10.13 Form of Boston Scientific Corporation Excess Benefit Plan, as amended (incorporated herein by reference to [Exhibit 10.1](#), Current Report on Form 8-K dated June 29, 2005 and [Exhibit 10.4](#), Current Report on Form 8-K dated December 16, 2008, File No. 1-11083).#
- 10.14 [Form of Trust under the Boston Scientific Corporation Excess Benefit Plan \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated June 29, 2005, File No. 1-11083\).#](#)
- 10.15 [Boston Scientific Corporation Deferred Bonus Plan \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated May 11, 2010, File No. 1-11083\).#](#)
- 10.16 [Boston Scientific Corporation 401\(k\) Retirement Savings Plan, Amended and Restated, effective as of January 1, 2011 \(incorporated herein by reference to Exhibit 10.39, Annual Report on Form 10-K for year ended December 31, 2010, File No. 1-11083\).#](#)
- 10.17 [Amendment to Boston Scientific Corporation 401\(k\) Retirement Savings Plan, Amended and Restated, effective as of January 1, 2011 \(incorporated herein by reference to Exhibit 10.44, Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-11083\).#](#)

- 10.18 [Form of Second Amendment of Boston Scientific Corporation 401\(k\) Retirement Savings Plan, Amended and Restated \(incorporated herein by reference to Exhibit 10.2, Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, File No. 1-11083\).#](#)
- 10.19 [Form of Third Amendment of the Boston Scientific Corporation 401\(k\) Retirement Savings Plan, Amended and Restated \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended September 30, 2012, File No. 1-11083\).#](#)
- 10.20 Boston Scientific Corporation 2000 Long-Term Incentive Plan, as amended (incorporated herein by reference to [Exhibit 10.20](#), Annual Report on Form 10-K for the year ended December 31, 1999, [Exhibit 10.18](#), Annual Report on Form 10-K for the year ended December 31, 2001, [Exhibit 10.1](#), Current Report on Form 8-K dated December 22, 2004, [Exhibit 10.3](#), Current Report on Form 8-K dated May 9, 2005, and [Exhibit 10.3](#), Current Report on Form 8-K dated December 16, 2008, File No. 1-11083).#
- 10.21 [Boston Scientific Corporation 2003 Long-Term Incentive Plan, as Amended and Restated, Effective June 1, 2008 \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended March 31, 2008, File No. 1-11083\).#](#)
- 10.22 [Boston Scientific Corporation 2011 Long-Term Incentive Plan, as amended \(incorporated herein by reference to Exhibit 10.49, Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-11083\).#](#)
- 10.23 [Form of Non-Qualified Stock Option Agreement \(vesting over three years\) \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated December 10, 2004, File No. 1-11083\).#](#)
- 10.24 [Form of Non-Qualified Stock Option Agreement \(vesting over four years\) \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated December 10, 2004, File No. 1-11083\).#](#)
- 10.25 [Form of Non-Qualified Stock Option Agreement \(vesting over two years\) \(incorporated herein by reference to Exhibit 10.20, Annual Report on Form 10-K for the year ended December 31, 2007, File No. 1-11083\).#](#)
- 10.26 [Form of Non-Qualified Stock Option Agreement dated July 1, 2005 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated July 1, 2005, File No. 1-11083\).#](#)
- 10.27 [Form of Stock Option Agreement \(with one year service requirement for vesting upon Retirement\) \(incorporated herein by reference to Exhibit 10.6, Quarterly Report on Form 10-Q dated September 30, 2010, File No. 1-11083\).#](#)
- 10.28 [Form of Restricted Stock Award Agreement \(Non-Employee Directors\) under the 2003 and 2011 Long-Term Incentive Plans \(incorporated herein by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended June 30, 2011, File No. 1-11083\).#](#)
- 10.29 [Form of Non-Qualified Stock Option Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.5, Quarterly Report on Form 10-Q for the quarter ended June 30, 2011, File No. 1-11083\).#](#)
- 10.30 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Total Shareholder Return\) \(incorporated herein by reference to Exhibit 10.70, Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-11083\).#](#)
- 10.31 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Free Cash Flow\) \(incorporated herein by reference to Exhibit 10.71, Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-11083\).#](#)

- 10.32 [Form of Deferred Stock Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Special\) \(incorporated herein by reference to Exhibit 10.72, Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-11083\).#](#)
- 10.33 [Form of Change in Control Agreement between the Company and certain Executive Officers \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K dated December 15, 2009, File No. 1-11083\).#](#)
- 10.34 [Form of Offer Letter between the Company and Timothy A. Pratt dated April 9, 2008 \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended March 31, 2010, File No. 1-11083\).#](#)
- 10.35 [Form of Offer Letter dated September 6, 2011 between the Company and Michael F. Mahoney, as supplemented September 13, 2011 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated September 19, 2011, File No. 1-11083\).#](#)
- 10.36 [Form of Amendment, dated February 14, 2012, to Offer Letter dated September 6, 2011 between the Company and Michael F. Mahoney, as supplemented September 13, 2011 \(incorporated herein by reference to Exhibit 10.100, Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-11083\).#](#)
- 10.37 [Form of Offer Letter by and between the Company and Joseph M. Fitzgerald dated February 27, 2014 \(incorporated by reference to Exhibit 10.2, Quarterly Report on Form 10-Q for the quarter ended March 30, 2015, File No. 1-11083\). #](#)
- 10.38 [Form of Offer Letter by and between the Company and Kevin J. Ballinger dated December 14, 2012 \(incorporated by reference to Exhibit 10.3, Quarterly Report on Form 10-Q for the quarter ended March 30, 2015, File No. 1-11083\).#](#)
- 10.39 [The Boston Scientific Deferred Compensation Option Program \(incorporated herein by reference to Exhibit 4.1, Registration No. 333-98755\).#](#)
- 10.40 [Boston Scientific Corporation Domestic Relocation Policy Tier 5 Executive Officer Homeowner, effective January 2007 \(incorporated herein by reference to Exhibit 10.118, Annual Report on Form 10-K for the year ended December 31, 2012, File No. 1-11083\).#](#)
- 10.41 [Form of Letter to Key Management Personnel re: Change in Control Agreement \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated February 28, 2013, File No. 1-11083\).](#)
- 10.42 [Form of Offer Letter by and between the Company and Daniel J. Brennan, dated October 22, 2013 \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated October 24, 2013 File No. 1-11083\). #](#)
- 10.43 [Boston Scientific Corporation Total Shareholder Return Performance Share Program, Performance Period January 1, 2014 - December 31, 2016 \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated October 22, 2013 File No. 1-11083\).#](#)
- 10.44 [Boston Scientific Corporation Free Cash Flow Performance Share Program, Performance Period January 1, 2014 - December 31, 2014 \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K dated October 22, 2013 File No. 1-11083\).#](#)
- 10.45 [Form of 2011 Long-Term Incentive Plan Global Deferred Stock Unit Award Agreement \(incorporated herein by reference to Exhibit 10.3, Quarterly Report on Form 10-Q for the quarter ended June 30, 2013 File No. 1-11083\).#](#)

- 10.46 [Form of 2011 Long-Term Incentive Plan Global Non-Qualified Stock Option Agreement \(incorporated herein by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended June 30, 2013 File No. 1-11083\).#](#)
- 10.47 [Boston Scientific Corporation U.S. Severance Plan for Exempt Employees, as amended and restated, effective August 1, 2013 \(incorporated herein by reference to Exhibit 10.6, Quarterly Report on Form 10-Q for the quarter ended June 30, 2013 File No. 1-11083\).#](#)
- 10.48 [Boston Scientific Corporation Non-Employee Director Deferred Compensation Plan, as amended and restated, effective January 1, 2009 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated October 28, 2008, File No. 1-11083\).#](#)
- 10.49 [Boston Scientific Corporation Non-Employee Director Deferred Compensation Plan, as amended and restated, effective January 1, 2014 \(incorporated herein by reference to Exhibit 10.6, Quarterly Report on Form 10-Q for the quarter ended September 30, 2013 File No. 1-11083\).#](#)
- 10.50 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(2014 Total Shareholder Return\) incorporated herein by reference to Exhibit 10.99, Annual Report on Form 10-K for the year ended December 31, 2013 File No. 1-11083\).#](#)
- 10.51 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(2014 Free Cash Flow\) incorporated herein by reference to Exhibit 10.100, Annual Report on Form 10-K for the year ended December 31, 2013 File No. 1-11083\).#](#)
- 10.52 [Boston Scientific Corporation 2006 Global Employee Stock Ownership Plan, as amended and restated, effective July 1, 2014 \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, File No. 1-11083\).#](#)
- 10.53 [Boston Scientific Corporation 2015 Annual Bonus Plan, effective as of January 1, 2015 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated October 28, 2014, File No. 1-11083\).#](#)
- 10.54 [Boston Scientific Corporation 2015 Total Shareholder Return Performance Share Program \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated October 28, 2014, File No. 1-11083\).#](#)
- 10.55 [Boston Scientific Corporation 2015 Free Cash Flow Performance Share Program \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K dated October 28, 2014, File No. 1-11083\).#](#)
- 10.56 [Boston Scientific Corporation Executive Retirement Plan, as amended and restated effective August 1, 2016 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated July 25, 2016, File No. 1-11083\).#](#)
- 10.57 [Form of Non-Qualified Stock Option Agreement under the 2011 Long-Term Incentive Plan \(Non-Employee Directors\) \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, File No. 1-11083\).#](#)
- 10.58 [Form of Restricted Stock Award Agreement under the 2011 Long-Term Incentive Plan \(Non-Employee Directors\) \(incorporated herein by reference to Exhibit 10.2, Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, File No. 1-11083\).#](#)
- 10.59 [Form of Deferred Stock Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Non-Employee Directors\) \(incorporated herein by reference to Exhibit 10.3, Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, File No. 1-11083\).#](#)

- 10.60 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Total Shareholder Return\) \(incorporated herein by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, File No. 1-11083\). #](#)
- 10.61 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Free Cash Flow\) \(incorporated herein by reference to Exhibit 10.5, Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, File No. 1-11083\). #](#)
- 10.62 [First Amendment to Boston Scientific Corporation Deferred Bonus Plan, effective January 1, 2015 \(incorporated herein by reference to Exhibit 10.6, Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, File No. 1-11083\). #](#)
- 10.63 [Boston Scientific Corporation 2016 Annual Bonus Plan, effective as of January 1, 2016 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed October 5, 2015, File No. 001-11083\).#](#)
- 10.64 [Boston Scientific Corporation 2016 Total Shareholder Return Performance Share Program \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K filed October 5, 2015, File No. 001-11083\)#](#)
- 10.65 [Boston Scientific Corporation 2016 Free Cash Flow Performance Share Program \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K filed October 5, 2015, File No. 001-11083\)#](#)
- 10.66 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Total Shareholder Return\) \(incorporated by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, File No. 1-11083\). #](#)
- 10.67 [Form of Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Free Cash Flow\) \(incorporated by reference to Exhibit 10.5, Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, File No. 1-11083\). #](#)
- 10.68 [Form of Offer Letter by and between the Company and Edward Mackey dated December 24, 2014 \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, File No. 1-11083\). #](#)
- 10.69 [Form of Global Non-Qualified Stock Option Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.2, Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, File No. 1-11083\). #](#)
- 10.70 [Form of Global Deferred Stock Unit Award Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.3, Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, File No. 1-11083\). #](#)
- 10.71 [Form of 2016 Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Total Shareholder Return\) \(incorporated herein by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, File No. 1-11083\). #](#)
- 10.72 [Form of 2016 Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Free Cash Flow\) \(incorporated herein by reference to Exhibit 10.5, Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, File No. 1-11083\). #](#)
- 10.73 [Boston Scientific Corporation 2017 Annual Bonus Plan, effective as of January 1, 2017 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed November 22, 2016, File No. 001-11083\). #](#)
- 10.74 [Boston Scientific Corporation 2017 Total Shareholder Return Performance Share Program \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K filed November 22, 2016, File No. 001-11083\). #](#)

- 10.75 [Boston Scientific Corporation 2017 Free Cash Flow Performance Share Program \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K filed November 22, 2016, File No. 001-11083\). #](#)
- 10.76 [Credit Agreement dated as of August 4, 2017 by and among Boston Scientific Corporation, the several lenders party thereto, Bank of America, N.A. and Wells Fargo Bank, National Association, as Syndication Agents and JPMorgan Chase Bank, N.A., as Administrative Agent \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed on August 7, 2017, File No. 1-11083\).](#)
- 10.77 [Boston Scientific Corporation 2018 Annual Bonus Plan, effective as of January 1, 2018 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed November 17, 2017, File No. 001-11083\).](#)
- 10.78 [Boston Scientific Corporation 2018 Total Shareholder Return Performance Share Program \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K filed November 17, 2017 File No. 1-11083\).](#)
- 10.79 [Boston Scientific Corporation 2018 Free Cash Flow Performance Share Program \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K filed November 17, 2017, File No. 001-11083\). #](#)
- 10.80 [Form of Global Non-Qualified Stock Option Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, File No. 1-11083\).#](#)
- 10.81 [Form of Global Deferred Stock Unit Award Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.2, Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, File No. 1-11083\).#](#)
- 10.82 [Form of 2017 Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Total Shareholder Return\) \(incorporated herein by reference to Exhibit 10.3, Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, File No. 1-11083\).#](#)
- 10.83 [Form of 2017 Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Free Cash Flow\) \(incorporated herein by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, File No. 1-11083\).#](#)
- 10.84 [Second Amended and Restated Credit and Security Agreement, dated as of February 7, 2017, by and among Boston Scientific Funding LLC, Boston Scientific Corporation, Wells Fargo Bank, National Association and Sumitomo Mitsui Banking Corporation, New York Branch, as Lenders, Wells Fargo Bank, National Association and SMBC Nikko Securities America, Inc., as Co-Agents, and Wells Fargo Bank, National Association, as Administrative Agent \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated February 10, 2017, File No. 1-11083\).](#)
- 10.85 [Second Amended and Restated Receivables Sale Agreement, dated as of February 7, 2017, by and among Boston Scientific Corporation, each of its direct or indirect wholly-owned subsidiaries that become a seller thereunder and Boston Scientific Funding LLC \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated February 10, 2017, File No. 1-11083\).](#)
- 10.86 [Form of Global Non-Qualified Stock Option Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.1, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\).#](#)
- 10.87 [Form of Global Deferred Stock Unit Award Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.2, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\).#](#)

- 10.88 [Form of 2018 Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Total Shareholder Return\) \(incorporated herein by reference to Exhibit 10.3, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\).#](#)
- 10.89 [Form of 2018 Performance Share Unit Award Agreement under the 2011 Long-Term Incentive Plan \(Free Cash Flow\) \(incorporated herein by reference to Exhibit 10.4, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\).#](#)
- 10.90 [Form of Acquisition-Related Non-Qualified Stock Option Award Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.5, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\). #](#)
- 10.91 [Form of Acquisition-Related Deferred Stock Unit Award Agreement under the 2011 Long-Term Incentive Plan \(incorporated herein by reference to Exhibit 10.6, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\). #](#)
- 10.92 [Form of Restricted Stock Award Agreement for Non-Employee Directors under the 2011 Long-Term Incentive Plan incorporated herein by reference to Exhibit 10.7, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\). #](#)
- 10.93 [Form of Deferred Stock Unit Award Agreement for Non-Employee Directors under the 2011 Long-Term Incentive Plan incorporated herein by reference to Exhibit 10.8, Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11083\). #](#)
- 10.94 [Form of Non-Qualified Stock Option Award Agreement for Non-Employee Directors under the 2011 Long-Term Incentive Plan# \(incorporated herein by reference to Exhibit 10.9, Current Report on Form 10-Q quarter ended March 31, 2018, File No. 1-11083\). #](#)
- 10.95 [Boston Scientific Corporation 2019 Annual Bonus Plan, effective as of January 1, 2019 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed November 19, 2018, File No. 001-11083\).#](#)
- 10.96 [Boston Scientific Corporation 2019 Total Shareholder Return Performance Share Program \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K filed November 19, 2018 File No. 1-11083\).#](#)
- 10.97 [Boston Scientific Corporation 2019 Free Cash Flow Performance Share Program \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K filed November 19, 2018, File No. 1-11083\).#](#)
- 10.98 [Credit Agreement dated as of August 20, 2018, by and among Boston Scientific Corporation, the several lenders parties thereto, Bank of America, N.A., MUFG Bank, LTD., and Sumitomo Mitsui Banking Corporation, as Syndication Agents, and Wells Fargo Bank, N.A., as Administrative Agent \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed August 21, 2018, File No. 1-11083.\)](#)
- 10.99 [BTG plc Acquisition Rule 2.7 Announcement, dated November 20, 2018. \(incorporated herein by reference to Exhibit 2.1, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)
- 10.100 [BTG plc Cooperation Agreement, dated November 20, 2018. \(incorporated herein by reference to Exhibit 2.2, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)
- 10.101 [BTG plc Shareholder Undertaking of Invesco Asset Management Limited, dated November 20, 2018 \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)
- 10.102 [BTG plc Shareholder Undertaking of Novo Holdings A/S, dated November 20, 2018 \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)

- 10.103 [BTG plc Shareholder Undertaking of Woodford Asset Management Limited, dated November 20, 2018 \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)
- 10.104 [BTG plc Form of Director Undertaking \(incorporated herein by reference to Exhibit 10.4, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)
- 10.105 [Bridge Credit Agreement, dated as of November 20, 2018 by and among Boston Scientific Corporation, the lenders party thereto and Barclays Bank PLC, as administrative agent, bookrunner and lead arranger \(incorporated herein by reference to Exhibit 10.5, Current Report on Form 8-K filed November 23, 2018, File No. 1-11083\).](#)
- 10.106 [Credit Agreement, dated as of December 19, 2018, by and among Boston Scientific Corporation, the lenders party thereto and Wells Fargo Bank, National Association, as administrative agent and Bank of America, N.A. as syndication agent \(incorporated herein by reference to Exhibit 10.1, Current Report on Form 8-K dated December 21, 2018, File No. 1-11083\).](#)
- 10.107 [First Amendment to Credit Agreement, dated as of December 19, 2018, among Boston Scientific Corporation, the lenders party thereto and Wells Fargo Bank, National Association as administrative agent \(incorporated herein by reference to Exhibit 10.2, Current Report on Form 8-K dated December 21, 2018, File No. 1-11083\).](#)
- 10.108 [Term Loan Credit Agreement, dated as of December 19, 2018, among Boston Scientific Corporation, the lenders party thereto and Barclays Bank PLC, as administrative agent, Bank of America, N.A., Wells Fargo Bank, National Association and JPMorgan Chase Bank, N.A., as syndication agents \(incorporated herein by reference to Exhibit 10.3, Current Report on Form 8-K dated December 21, 2018, File No. 1-11083\).](#)
- 21* [List of the Boston Scientific's subsidiaries as of January 31, 2019.](#)
- 23* [Consent of Independent Registered Public Accounting Firm, Ernst & Young LLP.](#)
- 31.1* [Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 31.2* [Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 32.1* [Certification of Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 32.2* [Certification of Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101* Interactive Data Files Pursuant to Rule 405 of Regulation S-T: (i) the Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016; (ii) the Consolidated Statements of Comprehensive Income (Loss) as of December 31, 2018, 2017 and 2016; (iii) the Consolidated Balance Sheets as of December 31, 2018 and 2017; (iv) the Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017 and 2016; (v) the Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016; (vi) the notes to the Consolidated Financial Statements; and (vii) Schedule II - Valuation and Qualifying Accounts

SIGNATURES

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

Dated: February 19, 2019

Boston Scientific Corporation

By: /s/ Daniel J. Brennan

Daniel J. Brennan
Executive Vice President and Chief Financial Officer
(duly authorized officer and principal financial and 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 dates indicated.

Dated: February 19, 2019

By: /s/ Daniel J. Brennan

Daniel J. Brennan
Executive Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Dated: February 19, 2019

By: /s/ Nelda J. Connors

Nelda J. Connors
Director

Dated: February 19, 2019

By: /s/ Charles J. Dockendorff

Charles J. Dockendorff
Director

Dated: February 19, 2019

By: /s/ Yoshiaki Fujimori

Yoshiaki Fujimori
Director

Dated: February 19, 2019

By: /s/ Donna A. James

Donna A. James
Director

Dated: February 19, 2019

By: /s/ Edward J. Ludwig

Edward J. Ludwig
Director

Dated: February 19, 2019

By: /s/ Stephen P. MacMillan

Stephen P. MacMillan
Director

Dated: February 19, 2019

By: /s/ Michael F. Mahoney

Michael F. Mahoney
Director, Chairman of the Board,
President and Chief Executive Officer
(Principal Executive Officer)

Dated: February 19, 2019

By: /s/ David J. Roux

David J. Roux
Director

Dated: February 19, 2019

By: /s/ John E. Sununu

John E. Sununu
Director

Dated: February 19, 2019

By: /s/ Ellen M. Zane

Ellen M. Zane
Director

Schedule II
VALUATION AND QUALIFYING ACCOUNTS
(in millions)

Description	Balance at Beginning of Year	Charges to Costs and Expenses (a)	Deductions to Allowances for Uncollectible Accounts (b)	Charges to (Deductions from) Other Accounts (c)	Balance at End of Year
Year Ended December 31, 2018:					
Allowances for uncollectible accounts (d)	\$ 98	19	(19)	(30)	\$ 68
Year Ended December 31, 2017:					
Allowances for uncollectible accounts and sales returns and allowances	\$ 119	14	(18)	(17)	\$ 98
Year Ended December 31, 2016:					
Allowances for uncollectible accounts and sales returns and allowances	\$ 119	9	(11)	2	\$ 119

(a) Represents allowances for uncollectible accounts established through selling, general and administrative expenses.

(b) Represents actual write-offs of uncollectible accounts.

(c) Represents net change in allowances for sales returns, recorded as contra-revenue.

(d) Due to the adoption of FASB ASC Topic 606 effective January 1, 2018, the allowance for sales returns has been prospectively reclassified from *Trade accounts receivable, net* to *Other current liabilities* within the consolidated balance sheets and is not included in the ending balance for 2018 above. Prior period balances remain unchanged.

List of worldwide subsidiaries of Boston Scientific as of January 31, 2019**Structure of ownership and control:**

Boston Scientific wholly owns or has a majority interest in all of the below mentioned entities.

Acurate Industria e Comercio Ltda. (Brazil)

American Medical Systems Europe B.V. (The Netherlands)

Apama Medical, Inc. (Delaware)

Augmenix K.K. (Japan)

Augmenix UK Limited (England)

Augmenix, Inc. (Delaware)

Boston Scientific (Malaysia) Sdn. Bhd. (Malaysia)

Boston Scientific (South Africa) Proprietary Limited (South Africa)

Boston Scientific (Thailand) Ltd. (Thailand)

Boston Scientific (UK) Limited (England)

Boston Scientific AG (Switzerland)

Boston Scientific Argentina S.A. (Argentina)

Boston Scientific Asia Pacific Pte. Ltd. (Singapore)

Boston Scientific Benelux NV (Belgium)

Boston Scientific Canada Limited (Canada)

Boston Scientific Ceska republika s.r.o. (Czech Republic)

Boston Scientific Clonmel Limited, in liquidation (Ireland)

Boston Scientific Colombia Limitada (Colombia)

Boston Scientific Comercial de Costa Rica BSCR, S.R.L. (Costa Rica)

Boston Scientific Cork Limited, in liquidation (Ireland)

Boston Scientific de Costa Rica S.R.L. (Costa Rica)

Boston Scientific de Mexico, S.A. de C.V. (Mexico)

Boston Scientific del Caribe, Inc. (Puerto Rico)

Boston Scientific do Brasil Ltda. (Brazil)
Boston Scientific Far East B.V. (The Netherlands)
Boston Scientific Funding LLC (Delaware)
Boston Scientific Gesellschaft m.b.H. (Austria)
Boston Scientific Group plc (Ireland)
Boston Scientific Hellas S.A. (Greece)
Boston Scientific Hong Kong Limited (Hong Kong)
Boston Scientific Iberica, S.A. (Spain)
Boston Scientific India Private Limited (India)
Boston Scientific International B.V. (The Netherlands)
Boston Scientific International Finance Limited (Ireland)
Boston Scientific International S.A. (France)
Boston Scientific Ireland Limited, in liquidation (Ireland)
Boston Scientific Israel Limited (Israel)
Boston Scientific Japan K.K. (Japan)
Boston Scientific Korea Co., Ltd. (Korea)
Boston Scientific Lebanon SAL (Lebanon)
Boston Scientific Limited (England)
Boston Scientific Limited (Ireland)
Boston Scientific Ltd./Boston Scientifique Ltee. (Canada)
Boston Scientific Medical Device (Malaysia) Sdn. Bhd. (Malaysia)
Boston Scientific Medical Device Limited (Ireland)
Boston Scientific Medizintechnik GmbH (Germany)
Boston Scientific Middle East FZ-LLC (UAE)
Boston Scientific Middle East SAL (Offshore) (Lebanon)
Boston Scientific Nederland B.V. (The Netherlands)
Boston Scientific Neuromodulation Corporation (Delaware)
Boston Scientific New Zealand Limited (New Zealand)

Boston Scientific Nordic AB (Sweden)

Boston Scientific Philippines, Inc. (Philippines)

Boston Scientific Polska Sp. z o.o. (Poland)

Boston Scientific Portugal - Dispositivos Medicos, Lda (Portugal)

Boston Scientific Pty Ltd (Australia)

Boston Scientific S.A.S. (France)

Boston Scientific S.p.A. (Italy)

Boston Scientific Scimed, Inc. (Minnesota)

Boston Scientific Services Private Limited (India)

Boston Scientific Technology & Engineering Services Private Limited (India)

Boston Scientific TIP Gerecleri Limited Sirketi (Turkey)

Boston Scientific Uruguay S.A. (Uruguay)

Bravo Bidco Limited (England)

BSC International Medical Trading (Shanghai) Co., Ltd. (China)

BSC Medical Device Technology (Shanghai) Co., Ltd. (China)

Cardiac Pacemakers, Inc. (Minnesota)

CeloNova BioSciences Germany GmbH, in liquidation (Germany)

Claret Medical, Inc. (Delaware)

Cosman Medical, LLC (Massachusetts)

Crown Merger Corp. (Delaware)

Cryterion Medical, Inc. (Delaware)

Cryterion Medical Ireland, Limited (Ireland)

Electron Acquisition Corporation (Delaware)

EMcision International Inc. (Canada)

EMcision Limited (England)

EndoChoice GmbH, in liquidation (Germany)

EndoChoice Holdings, Inc. (Delaware)

EndoChoice, Inc. (Delaware)

EndoChoice Innovation Center Ltd. (Israel)
EndoChoice Israel Ltd. (Israel)
EP Technologies, Inc. (Delaware)
Guidant Delaware Holding Corporation (Delaware)
Guidant Europe NV (Belgium)
Guidant Puerto Rico B.V. (The Netherlands)
Hong Kong Medtech Trading Limited (Hong Kong)
nVision Medical Corporation (Delaware)
NXT Merger Corp. (Delaware)
NxThera, Inc. (Delaware)
PT Boston Scientific Indonesia (Indonesia)
RMI Acquisition Corp. (California)
Robert S. Smith, M.D., Inc. (Georgia)
Sadra Medical, Inc. (Delaware)
Securus Medical Group, Inc. (Delaware)
SNS Merger Corp (Delaware)
StarMedTec GmbH, in liquidation (Germany)
Stream Enterprises LLC (Delaware)
Symetis SA (Switzerland)
Target Therapeutics, Inc. (Delaware)
Veniti, Inc. (Delaware)
9357-1867 Quebec Inc. (Canada)

Consent of Independent Registered Public Accounting Firm

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

- (1) Registration Statement (Form S-3 Nos. 333-223095, 333-76346, 333-61994, and 333-64991) of Boston Scientific Corporation,
- (2) Registration Statement (Form S-4 Nos. 333-22581 and 333-131608) of Boston Scientific Corporation, and
- (3) Registration Statement (Form S-8 Nos. 333-25033, 333-25037, 333-36636, 333-61056, 333-61060, 333-76380, 333-98755, 333-111047, 333-131608, 333-133569, 333-134932, 333-151280, 333-174620, 333-174622, 333-188905, and 333-196672) pertaining to the Employees' Savings Plan of Boston Scientific Corporation;

of our reports dated February 19, 2019 , with respect to the consolidated financial statements and schedule of Boston Scientific Corporation and the effectiveness of internal control over financial reporting of Boston Scientific Corporation included in this Annual Report (Form 10-K) of Boston Scientific Corporation for the year ended December 31, 2018 .

/s/ Ernst & Young LLP
Boston, Massachusetts
February 19, 2019

CERTIFICATIONS

I, Michael F. Mahoney, certify that:

- 1 I have reviewed this Annual Report on Form 10-K of Boston Scientific Corporation;
- 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: February 19, 2019

/s/ Michael F. Mahoney

Michael F. Mahoney

Chief Executive Officer

CERTIFICATIONS

I, Daniel J. Brennan, certify that:

- 1 I have reviewed this Annual Report on Form 10-K of Boston Scientific Corporation;
- 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: February 19, 2019

/s/ Daniel J. Brennan

Daniel J. Brennan

Executive Vice President and Chief Financial Officer

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

In connection with the Annual Report on Form 10-K of Boston Scientific Corporation (the "Company") for the period ending December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned Chief Executive Officer of the Company hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that based on his knowledge:

- (1) the Report fully complies with the requirements of Section 13 (a) or 15 (d) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Boston Scientific Corporation.

By: /s/ Michael F. Mahoney
Michael F. Mahoney
Chief Executive Officer

February 19, 2019

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

In connection with the Annual Report on Form 10-K of Boston Scientific Corporation (the “Company”) for the period ending December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned Chief Financial Officer of the Company hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that based on his knowledge:

- (1) the Report fully complies with the requirements of Section 13 (a) or 15 (d) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Boston Scientific Corporation.

By: /s/ Daniel J. Brennan

Daniel J. Brennan

Executive Vice President and Chief Financial Officer

February 19, 2019