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

Form 10-K

(Mark One)

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

For the year ended December 31, 2016

or

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

Commission file number: 001-37599

LivaNova PLC

(Exact name of registrant as specified in its charter)

England and Wales	**98-1268150**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

20 Eastbourne Terrace
London, United Kingdom
W2 6LG
(Address of principal executive offices)
(Zip Code)
Registrant's telephone number, including area code:
44 (0) 20 3325 0660

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

Title of Each Class of Stock	Name of Each Exchange on Which Registered
Ordinary Shares — £1.00 par value per share	The NASDAQ Stock Market LLC

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ? No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Annual Report on 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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

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

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 voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2016, the last business day of the most recently completed second fiscal quarter, based upon the last sales price reported for such dates on the NASDAQ Global Market was approximately $1.3 billion. For purposes of this disclosure, ordinary shares held by persons who hold more than 5% of the outstanding ordinary shares and shares held by executive officers and directors of the registrant have been excluded as such persons may be deemed to be affiliates.

As of February 24, 2016, 48,178,155 ordinary shares were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement of LivaNova PLC for the 2017 Annual Meeting of Stockholders, which will be filed within 120 days of December 31, 2016, are incorporated by reference into Part III of this Report on Form 10-K.

LIVANOVA PLC

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In this Annual Report on Form 10-K, "LivaNova," "the Company," "we," "us" and "our" refer to LivaNova PLC and its consolidated subsidiaries.

This report contains references to proprietary intellectual property, including among others:

- Trademarks for our VNS therapy systems, the VNS Therapy® System, the VITARIA®™ System and our proprietary Pulse generators products: Model 102 (Pulse™), Model 102R (Pulse Duo™), Model 103 (Demipulse®), Model 104 (Demipulse Duo®), Model 105 (AspireHC®) and the Model 106 (AspireSR®).
- Trademarks for our Oxygenators product systems: Inspire™, Heartlink™ and Connect™.
- Trademarks for our line of surgical tissue and mechanical valve replacements and repair products: Mitroflow™, Crown PRT™, Solo Smart™, Perceval™, Top Hat™, Reduced Series Aortic Valves™, Carbomedics Carbo-Seal™, Carbo-Seal Valsalva™, Carbomedics Standard™, Orbis™ and Optiform™, and Mitral valve repair products: Memo 3D™, Memo 3D ReChord™, AnnuloFlo™ and AnnuloFlex™.
- Trademarks for our implantable cardiac pacemakers and associated services: REPLY 200™, ESPRIT™, KORA 100™, KORA 250™, SafeR™, the REPLY CRT-P™, the **rem**edé® System.
- Trademarks for our Implantable Cardioverter Defibrillators and associated technologies: the INTENSIA™, PLATINIUM™, and PARADYM® product families.
- Trademarks for our cardiac resynchronization therapy devices, technologies services: SonR®, SonRtip™, SonR CRT™, the INTENSIA™, PARADYM RF™, PARADYM 2™ and PLATINIUM™ product families and the Respond CRT™ clinical trial.
- Trademarks for heart failure treatment product: Equilia®™.
- Trademarks for our bradycardia leads: BEFLEX™ (active fixation) and XFINE™ (passive fixation).

These trademarks and tradenames are the property of LivaNova or the property of our consolidated subsidiaries and are protected under applicable intellectual property laws. Solely for convenience, our trademarks and tradenames referred to in this Annual Report on Form 10-K may appear without the ® or ™ symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights to these trademarks and tradenames.

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K, other than purely historical information, are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements include, but are not limited to, statements about the benefits of the business combination of Sorin and Cyberonics, LivaNova's plans, objectives, strategies, financial performance and outlook, trends, the amount and timing of future cash distributions, prospects or future events and involve known and unknown risks that are difficult to predict. As a result, our actual financial results, performance, achievements or prospects may differ materially from those expressed or implied by these forward-looking statements. In some cases, you can identify forward-looking statements by the use of words such as "may," "could," "seek," "guidance," "predict," "potential," "likely," "believe," "will," "should," "expect," "anticipate," "estimate," "plan," "intend," "forecast," "foresee" or variations of these terms and similar expressions, or the negative of these terms or similar expressions. Such forward-looking statements are necessarily based on estimates and assumptions that, while considered reasonable by LivaNova and its management based on their knowledge and understanding of the business and industry, are inherently uncertain. These statements are not guarantees of future performance, and stockholders should not place undue reliance on forward-looking statements. There are a number of risks, uncertainties and other important factors, many of which are beyond our control, that could cause our actual results to differ materially from the forward-looking statements contained in this Annual Report on Form 10-K. Such risks, uncertainties and other important factors include, among others: the risks, uncertainties and factors set forth in the "Risk Factors" section of this Annual Report on Form 10-K, the Registration Statement on Form S-4, previous or future Quarterly Reports on Form 10-Q and Annual or Transitional Reports on Form 10-K as well as other documents that have been or will be filed with the SEC by LivaNova; business and financial risks inherent to the industries in which LivaNova operates; our ability to hire and retain key personnel; our ability to attract new customers and retain existing customers in the manner anticipated; the reliance on and integration of information technology systems; changes in legislation or governmental regulations affecting LivaNova; changes relating to competitive factors in the industries in which LivaNova operates; international, national or local economic, social or political conditions that could adversely affect LivaNova, its partners or its customers; conditions in the credit markets; risks associated with assumptions made in connection with critical accounting estimates and legal proceedings; our organizational and governance structure; risks that the businesses of legacy Cyberonics and Sorin (together, the "combined companies") will not be integrated successfully or that the combined companies will not realize estimated cost savings, value of certain tax assets, synergies and growth, or that such benefits may take longer to realize than expected; the inability of LivaNova to meet expectations regarding the timing, completion and accounting of tax treatments; risks relating to unanticipated costs of integration, including operating costs, customer loss or business disruption being greater than expected; reductions in customer spending, a slowdown in customer payments and changes in customer demand for products and services; LivaNova's international operations, which are subject to the risks of currency fluctuations and foreign exchange controls; and the potential of international unrest, economic downturn or effects of currencies, tax assessments, tax adjustments, anticipated tax rates, raw material costs or availability, benefit or retirement plan costs or other regulatory compliance costs.

These factors are not necessarily all of the important factors that could cause our actual financial results, performance, achievements or prospects to differ materially from those expressed in or implied by any of our forward-looking statements. Other unknown or unpredictable factors also could harm our results. All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements set forth above. Forward-looking statements speak only as of the date they are made, and we do not undertake or assume any obligation to update publicly any of these forward-looking statements to reflect actual results, new information or future events, changes in assumptions or changes in other factors affecting forward-looking statements, except to the extent required by applicable laws. If we update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

The following discussion and analysis should be read in conjunction with and are qualified in their entirety by reference to the discussions included in Item 1A. Risk Factors, Item 7. Management's Discussion & Analysis of Financial Condition and Results of Operations and elsewhere in this Annual Report on Form 10-K.

PART I

Item 1. *Business*

Background

LivaNova PLC and its subsidiaries (collectively, the "Company", "LivaNova", "we" or "our") was organized under the laws of England and Wales on February 20, 2015 for the purpose of facilitating the business combination of Cyberonics, Inc., a Delaware corporation ("Cyberonics") and Sorin S.p.A., a joint stock company organized under the laws of Italy ("Sorin"). As a result of the business combination, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin. This business combination became effective on October 19, 2015, at which time LivaNova's ordinary shares were listed for trading on the NASDAQ Global Market ("NASDAQ") and on the London Stock Exchange (the "LSE") as a standard listing under the trading symbol "LIVN." On February 23, 2017, we announced our voluntary cancellation of our standard listing of ordinary shares with the London Stock Exchange due to the low volume of our ordinary share trading on the London Stock Exchange. Trading will cease at the close of business on April 4, 2017. LivaNova PLC is headquartered in London, United Kingdom ("U.K.").

Description of the Business

We are a global medical device company focused on the development and delivery of important therapeutic solutions for the benefit of patients, healthcare professionals and healthcare systems throughout the world. Working closely with medical professionals throughout the world in the field of Cardiac Surgery, Neuromodulation and Cardiac Rhythm Management, we design, develop, manufacture and sell innovative therapeutic solutions that are consistent with our mission to improve our patients' quality of life, increase the skills and capabilities of healthcare professionals and minimize healthcare costs.

Description of the Mergers

On October 19, 2015, pursuant to the terms of a definitive Transaction Agreement entered into by LivaNova, Cyberonics, Sorin and Cypher Merger Sub (the "Merger Sub"), dated March 23, 2015, (the "Merger Agreement") Sorin merged with and into LivaNova, with LivaNova continuing as the surviving company, immediately followed by the merger of Merger Sub with and into Cyberonics, with Cyberonics continuing as the surviving company and as a wholly owned subsidiary of LivaNova (the "Mergers"). Upon the consummation of the Mergers, the historical financial statements of Cyberonics became the Company's historical financial statements. Accordingly, the historical financial statements of Cyberonics are included in the comparative prior periods.

The issuance of LivaNova ordinary shares in connection with the Mergers was registered under the Securities Act of 1933, as amended (the "Securities Act"), pursuant to the Registration Statement on Form S-4 (File No. 333-203510), as amended, filed with the United States Securities and Exchange Commission (the "SEC") by LivaNova and declared effective on August 19, 2015. Further, pursuant to Rule 12g-3(a) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), LivaNova is deemed to be a "successor" issuer to Cyberonics. As such, the ordinary shares of LivaNova are deemed to be registered under Section 12(b) of the Exchange Act, and LivaNova is subject to the informational requirements of the Exchange Act and the rules and regulations promulgated thereunder.

Business Franchises

Upon completion of the Mergers, in October 2015, we reorganized our reporting structure and aligned our underlying divisions and businesses. LivaNova was then comprised of three principal Business Units: Cardiac Surgery, Neuromodulation and Cardiac Rhythm Management, corresponding to three main therapeutic areas. The historic Cyberonics operations were included under the Neuromodulation Business Unit, and the historical Sorin businesses were included under the Cardiac Surgery and Cardiac Rhythm Management Business Units. Corporate activities included corporate business development and New Ventures. New Ventures was focused on new growth platforms and identification of other opportunities for expansion. The New Ventures group was created with contributions from both Cyberonics and Sorin.

In July 2016, we announced an organizational re-design that, in addition to our existing corporate support functions, included the addition of a Chief Operating Officer ("COO"). Damien McDonald joined the Company in October 2016 as the COO and was responsible for driving innovative product development, commercialization and geographic expansion across the global organization with a focus on margin expansion and profitable growth. In executing the new organizational model, we created new regional leadership positions in the United States ("U.S."), Europe, and the rest of world to support our three Business Franchises, (formerly Business Units) corresponding to the three main therapeutic areas: Neuromodulation, Cardiac

Surgery and Cardiac Rhythm Management. The New Ventures group continues unchanged. Our three reportable segments correspond to our Business Franchises.

For further information regarding the Mergers, our business segments, historical financial information and our methodology for the presentation of financial results, please refer to the consolidated financial statements and accompanying notes beginning on page F-1 of this Annual Report on Form 10-K.

Cardiac Surgery Business Franchise

LivaNova's Cardiac Surgery ("CS") Business Franchise is engaged in the development, production and sale of cardiovascular surgery products, including oxygenators, heart-lung machines, perfusion tubing systems, cannulae and accessories, and systems for autotransfusion and autologous blood washing, as well as implantable prostheses for the replacement or repair of heart valves.

Cardiopulmonary Products

During conventional coronary artery bypass graft procedures and heart valve surgery, the patient's heart is temporarily stopped, or arrested. The patient is placed on an extracorporeal circulatory support system that temporarily functions as the patient's heart and lungs and provides blood flow to the body. Our products include systems to enable cardiopulmonary bypass, including heart-lung machines, oxygenators, perfusion tubing sets, cannulae and accessories, as well as related equipment and disposables for autotransfusion and autologous blood washing for neonatal, pediatric and adult patients. Our primary cardiopulmonary products include:

Heart-lung machines. The heart-lung machine ("HLM") product group includes heart-lung machines, heater coolers, related cardiac surgery equipment and maintenance services.

Oxygenators and perfusion tubing systems. The oxygenators product group, which includes oxygenators and other disposable devices for extracorporeal circulation, the new Inspire™, Heartlink™ and Connect™ system. The Inspire range of products, comprised of 12 models, will enable perfusionists to replace the existing oxygenator lines with more advanced systems capable of delivering better performance and greater flexibility. The total modularity of this new range of products will also help reduce production time and costs, providing perfusionists with a more customized approach to further benefit patients.

Connect™. Connect™ is our innovative and intuitive perfusion charting system. Focused on real time and retrospective calculations and trending tools, Connect™ assists perfusionists with data management during and after cardiopulmonary bypass. Inspire™, Heartlink™ and Connect™ products can all be integrated with our HLM machines to deliver a unique perfusion solution combining hardware components, disposable devices and data management systems.

Autotransfusion systems. One of the key elements for a complete blood management strategy is autotransfusion, which involves the collection, processing and reinfusion of the patient's own blood that is lost at the surgical site during the peri-operative period.

Cannulae. Our cannulae product family, which is part of the oxygenator product group, are perfusion tubing sets used to connect the extracorporeal circulation to the heart of the patient during cardiac surgery.

Heart Valves and Repair Products

We offer a comprehensive line of products to treat a variety of heart valve disorders, including a complete line of surgical tissue and mechanical valve replacements and repair products for damaged or diseased heart valves. Our heart valves and repair product offerings include:

Tissue heart valves. Our tissue valves include the Mitroflow™ aortic pericardial tissue valve with phospholipid reduction treatment ("PRT") which is designed to mitigate valve calcification, and the Crown PRT™ and Solo Smart™ aortic pericardial tissue valves. Crown PRT™ is the latest advancement in stented aortic bioprosthesis technology, featuring surgeon-friendly design, PRT technology, and state-of-the-art hemodynamic and durability performance. Crown PRT™ enables intuitive intraoperative handling through a short rinse time, enhanced ease of implant through visible markers and improved radiographic visualization through dedicated X-ray markers. Our Solo Smart™ aortic pericardial tissue valve is an innovative, completely biological aortic heart valve with no synthetic material and a removable stent. Solo Smart™ provides the ease of implantation of a stented valve with the hemodynamic performance of a stentless valve.

Self-anchoring tissue heart valves. Perceval™ is LivaNova's sutureless bioprosthetic device designed to replace a diseased native valve or a malfunctioning prosthetic aortic valve using either traditional or minimally invasive heart surgery

techniques. Perceval™ incorporates a unique technology that allows 100% sutureless positioning and anchoring at the implantation site. This, in turn, offers the potential benefit of reducing the time the patient spends in cardiopulmonary bypass.

Mechanical heart valves. Our wide range of mechanical valve offerings includes the Carbomedics Standard™, Top Hat™ and Reduced Series Aortic Valves™, as well as the Carbomedics Carbo-Seal™ and Carbo-Seal Valsalva™ aortic prostheses. We also offer the Carbomedics Standard™, Orbis™ and Optiform™ mechanical mitral valves.

Heart valve repair products. Mitral valve repair is a well-established solution for patients suffering from a leaky mitral valve, or mitral regurgitation. LivaNova offers a wide range of mitral valve repair products, including the Memo 3D™ and Memo 3D ReChord™, AnnuloFlo™ and AnnuloFlex™.

Neuromodulation Business Franchise

Our Neuromodulation Business Franchise designs, develops and markets neuromodulation-based medical devices for the treatment of epilepsy and depression.

VNS Therapy System

Our seminal neuromodulation product, the VNS Therapy® System, is an implantable device authorized for the treatment of drug-resistant epilepsy and treatment-resistant depression ("TRD"). The VNS Therapy System consists of: an implantable pulse generator and connective lead that work to stimulate the vagus nerve; surgical equipment to assist with the implant procedure; equipment and instruction manuals enabling a treating physician to set parameters for a patient's pulse generator; and magnets to manually suspend or induce nerve stimulation. The VNS Therapy pulse generator and lead are surgically implanted in a subcutaneous pocket in the upper left chest area, generally during an out-patient procedure; the lead (which does not need to be removed to replace a generator battery) is connected to the pulse generator and tunneled under the skin to the vagus nerve in the lower left side of the patient's neck.

VNS for the treatment of epilepsy. Globally, there are several broad types of treatment available to persons with epilepsy: multiple seizure medications, various forms of the ketogenic diet, vagus nerve stimulation, resective brain surgery, trigeminal nerve stimulation, responsive intracranial neurostimulation and deep brain stimulation. Seizure medications typically serve as a first-line treatment and are prescribed for virtually all patients diagnosed with epilepsy. After two seizure medications fail to deliver seizure control, the epilepsy is defined as drug-resistant, at which point, adjunctive non-drug options are considered, including VNS therapy, brain surgery and a ketogenic diet.

In the U.S., our VNS Therapy System was the first medical device treatment approved by the U.S. Food and Drug Administration (the "FDA") in 1997 for refractory drug resistant epilepsy in adults and adolescents over 12 years of age and is indicated for use as an adjunctive therapy in reducing the frequency of seizures. Other worldwide regulatory bodies have also approved the VNS Therapy System for the treatment of epilepsy, many without age restrictions or seizure-type limitations. Patients with epilepsy can also use a small, handheld magnet provided with our VNS Therapy System to activate or inhibit stimulation manually. We sell a number of VNS product models for the treatment of epilepsy, including our Model 102 (Pulse™), Model 102R (Pulse Duo™), Model 103 (Demipulse®), Model 104 (Demipulse Duo®), Model 105 (AspireHC®) and Model 106 (AspireSR®) pulse generators. To date, an estimated 100,000 patients have been treated with VNS Therapy System for epilepsy.

Our Aspire SR® generator provides the benefits of VNS Therapy, with an additional feature: automatic stimulation in response to detection of changes in heart rate potentially indicative of a seizure. The AspireSR® generator is capable of delivering additional stimulation automatically by responding to a patient's relative heart-rate changes that exceed certain variable thresholds, which are adjustable. Heart-rate changes accompany seizure activity in certain patients. The thresholds are programmed by the patient's physician and can be adjusted to suit the patient's level of physical activity or for other reasons.

In May 2007, the Centers for Medicare and Medicaid Services ("CMS") issued a national determination of non-coverage within the United States with respect to reimbursement of the VNS Therapy System for patients with TRD, significantly limiting access to this therapeutic option for most patients. As the result of lack of access following this determination, we have not engaged in active commercial efforts with respect to TRD in any of our markets, however, in the future we intend to re-engage in limited commercial efforts in certain international markets. As a result of new clinical evidence, including the completion of a post-approval dosing study and other studies that have resulted in more than five recent publications in peer-reviewed journals, we submitted a formal request to CMS for reconsideration of VNS therapy for TRD. CMS declined our request for reconsideration in May 2013. In October 2013, two Medicare beneficiaries appealed the lack of coverage by Medicare through the Departmental Appeals Board ("DAB") of the Department of Health and Human Services. In January 2015, DAB concluded that the record relating to the non-coverage conclusion by CMS is complete and adequately supports the non-coverage determination.

Cardiac Rhythm Management Business Franchise

The Cardiac Rhythm Management ("CRM") Business Franchise develops, manufactures and markets products for the diagnosis, treatment, and management of heart rhythm disorders and heart failure. These products include implantable devices, leads and delivery systems and information systems for the management of patients with CRM devices.

Cardiac Rhythm Management Products

The following are the principal products offered by the CRM Business Franchise:

Implantable Cardiac Pacemakers. A pacemaker is a battery-powered device implanted in the chest that delivers electrical impulses to treat bradycardia, a condition of abnormally slow heart rhythms or unsteady heart rhythms that cause symptoms such as dizziness, fainting, fatigue and shortness of breath. Our pacemakers include the REPLY™ and ESPRIT™ models, which have received both FDA clearance and CE mark certification, and the KORA 100™ model which has received CE mark certification. In 2015, we launched in Europe KORA 250™ pacemakers. LivaNova's latest generation of pacemaker systems is compatible with 1.5 Tesla MRI machines.

Implantable Cardioverter Defibrillators. Implantable Cardioverter Defibrillators ("ICDs") continually monitor the heart and deliver therapy when an abnormal heart rhythm such as tachyarrhythmia, or rapid heart rhythm, occurs and leads to sudden cardiac arrest. Our latest generation ICD is the PLATINIUM™, which has CE mark certification and which features industry leading battery longevity, advanced shock reduction technology and a contoured shape with thin, smooth edges that better fits inside the body. Other ICDs include the PARADYM™ 2 family of ICDs. PLATINIUM was approved in Europe in the second quarter of 2015, in Japan in the fourth quarter of 2015, and in the U.S. in the third quarter of 2016.

Implantable Cardiac Resynchronization Therapy Devices. Implantable Cardiac Resynchronization Therapy devices ("CRT-Ds") treat heart failure patients by altering the abnormal electrical sequence of cardiac contractions by sending tiny electrical impulses to the lower chambers of the heart to help them beat in a more synchronized fashion. Our latest generations of CRT-Ds use the SonR™ technology that provides heart failure patients with automatic and frequent hemodynamic CRT optimization both at rest and exercise using a unique hemodynamic sensor embedded in the SonRtip™ atrial sensing/pacing lead. SonR™ technology is found in INTENSIA™, PARADYM RF™, PARADYM 2™ and the most recent PLATINIUM™ families of CRT-Ds. We have FDA approval for PLATINIUM™ CRT-D since the third quarter of 2016 and the PARADYM RF™ SonR CRT-D is under clinical investigation in the U.S.

Patient Management Tools. Our Smartview system enables remote monitoring of patients with certain Sorin ICDs and CRT-Ds, by enabling transmission of data from the patient's ICD or CRT-D to their healthcare provider using a portable monitor that is connected to the patient's telephone line.

Cardiac Rhythm Management Developments

In November 2015, we launched the PLATINIUM implantable cardiac defibrillator ("ICD") in Europe. In September 2016, we announced the launch in the U.S. During 2015, we continued the development of our IS4 PLATINIUM CRTD with SonR dedicated to the use of quadripolar left ventricular catheters with IS-4 compatibilities. This product was launched in Europe in December 2016. The development of new ranges of leads for defibrillation and left ventricular stimulation also enjoyed significant progress with the completion of the pre-qualification phase.

In June 2015, we announced the European launch of a full body MRI conditional pacemaker, the KORA 250. The KORA 250 is equipped with our proprietary Automatic MRI mode. In addition, the device is designed to proactively manage comorbidities, including a pacing mode that manages all types of atrioventricular block ("AV"), referred to as "SafeR", and the ability to monitor patients for severe sleep apnea using Sleep Apnea Monitoring ("SAM"). In the first quarter 2016, the KORA 250 was approved and launched in Japan.

In June 2013, following FDA approval to initiate a clinical trial under an Investigational Device Exemption ("IDE"), the first patients were enrolled in the United States in the Respond CRT clinical trial (cardiac resynchronization therapy). The purpose of this trial is to assess the safety and effectiveness of the SonR CRT™ system in patients affected by advanced heart failure. In October 2014, Sorin announced having completed enrollment in the Respond CRT™ clinical trial, enrolling 1,039 patients in the study. In May 2016, we announced results from the Respond CRT™ clinical trial, showing that a 35% risk reduction in heart failure hospitalization was associated with SonR. In August 2016, we announced the results from the 18-month follow-up period that confirm significant long-term risk reduction in heart failure hospitalization.

During 2014, we executed a joint venture with MicroPort Scientific Corporation to enter China's CRM market, and in the same year also completed the acquisition of Oscor Inc.'s CRM leads business, including a manufacturing facility in the Dominican Republic. In particular, the joint venture agreement with MicroPort Scientific Corporation to market and develop CRM devices in China will enable LivaNova to establish a local presence in China and accelerate its penetration of the rapidly growing Chinese market. The joint venture is based in Shanghai and became operational in the first half of 2014. MicroPort owns 51% of the joint venture, and LivaNova owns the remaining 49%.

Research and Development

The markets in which LivaNova participates are subject to rapid technological advances. Product improvement and innovation are necessary to maintain market leadership. Our research and development efforts are directed toward maintaining or achieving technological leadership in each of the markets LivaNova serves to help ensure that patients using our devices and therapies receive the most advanced and effective treatment possible. We remain committed to developing technological enhancements and new uses for existing products and less invasive and new technologies for new and emerging markets to address unmet patient needs. That commitment leads us to initiate and participate in many clinical trials each fiscal year as the demand for clinical and economic evidence remains high. We also expect our development activities to help reduce patient care costs and the length of hospital stays in the future.

Approximately 16% of our employees work in research and development. Our research and development activities include improving existing products and therapies, expanding their uses and applications and developing new products. We continue to focus on optimizing innovation and continue to assess LivaNova's research and development programs based on their ability to deliver economic value to the customer.

During the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014, we spent $122.5 million, $51.4 million, $42.2 million and $45.2 million on research and development, respectively.

Corporate Activities and New Ventures

Corporate activities include shared services for finance, legal, human resources and information technology, corporate business development and New Ventures.

The New Ventures group was created to evaluate growth opportunities and new potential areas of investment for the Company to expand our product portfolio to meet emerging patient needs. In particular, New Ventures focuses on innovative technologies to treat three main pathologies: heart failure, sleep apnea and mitral valve regurgitation, areas of unmet clinical need where there is no optimal therapeutic solution for the majority of patients. New Ventures partners with public and private institutions and medical startups to develop future therapeutic solutions in these areas.

Acquisitions and Investments

Our strategy of providing a broad range of therapies requires a wide variety of technologies, products and capabilities. The rapid pace of technological development in the medical industry and the specialized expertise required in different areas of medicine make it difficult for one company alone to develop a broad portfolio of technological solutions. In addition to internally generated growth through research and development efforts, LivaNova has historically relied, and expects to continue to rely, upon acquisitions, investments and alliances to provide access to new technologies in both new and existing markets.

LivaNova expects to further its strategic objectives and strengthen its existing businesses by making future acquisitions or investments in areas that it believes it can acquire or stimulate the development of new technologies and products. Mergers and acquisitions of medical technology companies are inherently risky and no assurance can be given that any of our previous or future acquisitions will be successful or will not materially adversely affect our consolidated operations, financial condition and/or cash flows.

Patents and Licenses

We rely on a combination of patents, trademarks, copyrights, trade secrets, and non-disclosure and non-competition agreements to protect our intellectual property. We generally file patent applications in the U.S. and countries where patent protection for our technology is appropriate and available. As of December 31, 2016, we held more than 2,100 issued patents worldwide, with approximately 640 patent applications pending that cover various aspects of our technology. U.S. patents typically have a 20-year term from the application date and patent protection outside the United States varies by country. In addition, we hold exclusive and non-exclusive licenses to a variety of third-party technologies covered by patents and patent applications. There can be no assurance that pending patent applications will result in the issuance of patents, that patents issued to or licensed by us will not be challenged or circumvented by competitors, or that these patents will be found to be valid or sufficiently broad to protect our technology or to provide us with a competitive advantage. We have also obtained certain trademarks and trade names for our products, and maintain certain details about our processes, products and strategies as trade secrets. In the aggregate, these intellectual property assets and licenses are considered to be of material importance to our business segments and operations. We regularly review third-party patents and patent applications in an effort to protect our intellectual property and avoid disputes over proprietary rights.

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 can be no assurance that these agreements will not be breached, that we will have adequate remedies for any breach, that others will not independently develop equivalent proprietary information or that third parties will not otherwise gain access to our trade secrets and proprietary knowledge.

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. Adverse determinations in any patent litigation could subject us to significant liabilities to third parties, require us to seek licenses from third parties, and, if licenses are not available, prevent us from manufacturing, selling or using certain of our products, which could have a material adverse effect on our business. 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. Patent litigation can be costly and time-consuming, and there can be no assurance that our litigation expenses will not be significant in the future or that the outcome of litigation will be favorable to us. 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.

For additional information, please refer to Item 1A. Risk Factors of this Annual Report on Form 10-K, under the section entitled "*Risk Factors Relating to LivaNova's Business-We are substantially dependent on patent and other proprietary rights and failing to protect such rights or to be successful in litigation related to our rights or the rights of others may result in our payment of significant monetary damages and/or royalty payments, negatively impact our ability to sell current or future products, or prohibit us from enforcing its patent and other proprietary rights against others*."

Markets and Distribution Methods

The three largest markets for our medical devices are Europe, the United States and Japan. Emerging markets are an area of increasing focus and opportunity. We sell most of our medical devices through direct sales representatives in the United States and a combination of direct sales representatives and independent distributors in markets outside the United States.

Our marketing and sales strategy is focused on rapid, cost-effective delivery of high-quality products to a diverse group of customers worldwide - including physicians, perfusionists, neurologists, neurosurgeons, hospitals and other medical institutions and healthcare providers. To achieve this objective, we maintain a highly knowledgeable and dedicated sales staff that is able to foster strong relationships with physicians, perfusionists, hospitals and other customers. We maintain excellent working relationships with professionals in the medical industry, which provides us with a detailed understanding of therapeutic and diagnostic developments, trends and emerging opportunities enabling us to respond quickly to the changing needs of providers and patients. We actively participate in medical meetings and conduct comprehensive training and educational activities in an effort to enhance our presence in the medical community, and believe that these activities also contribute to healthcare professional expertise.

Due to the emphasis on cost-effectiveness in healthcare delivery, the current trend among hospitals and other medical device customers is to consolidate into larger purchasing groups in order to enhance purchasing power. As a result, customer transactions have become increasingly complex. Enhanced purchasing power may also lead to pressure on pricing and an increase in the use of preferred vendors. Our customer base continues to evolve to reflect such economic changes across the geographic markets we serve.

Customers, Competition and Industry

We compete in the medical device market in over 5,000 hospitals in more than 100 countries. This market is characterized by rapid change resulting from technological advances and scientific discoveries. Our competitors, across our product portfolio, range from large manufacturers with multiple business lines to small manufacturers offering a limited selection of specialized products. In addition, we face competition from providers of alternative medical therapies.

Product problems, physician advisories, safety alerts and publications about our products can cause major shifts in industry market share, reflecting the importance of product quality, product efficacy and quality systems in the medical device industry. In addition, because of developments in managed care, economically motivated customers, consolidation among healthcare providers, increased competition, and declining reimbursement rates, we may be increasingly required to compete on the basis of price. In order to continue to compete effectively, we must continue to create or acquire advanced technology, incorporate this technology into proprietary products, obtain regulatory approvals in a timely manner, maintain high-quality manufacturing processes and successfully market these products.

Cardiac Surgery

The primary medical professionals who use our Cardiopulmonary products are perfusionists and cardiac surgeons. All Cardiopulmonary products are sold in a competitive market where pricing can be a relevant factor. Our competitors include Terumo Medical Corporation, Maquet Medical Systems, Medtronic Global, Haemonetics Corporation, Edwards Lifesciences and St. Jude Medical (now Abbott), although not all competitors are present in all product lines.

Neuromodulation

The primary medical professionals who use Neuromodulation products are neurologists, neurosurgeons and ENT surgeons, although customers are hospitals and healthcare systems, and in some cases, government health departments. Primary medical device competitors in the Neuromodulation product group are NeuroPace, Inc. and Medtronic Global.

Cardiac Rhythm Management

The primary medical specialists who use our CRM products include electrophysiologists, implanting cardiologists, heart failure specialists and cardiac surgeons. All CRM products are sold in a competitive market where features offered and pricing can be significant competitive factors. Primary competitors in the CRM business are Medtronic Global, St. Jude Medical (now Abbott), Boston Scientific and Biotronik.

Production, Quality Systems and Raw Materials

We manufacture a majority of our products at 11 manufacturing facilities located in Italy, France, Germany, the United States, Canada, Brazil, Australia and the Dominican Republic. During the fourth quarter of 2016, we initiated a plan to exit the Costa Rica manufacturing operation and we expect to complete the exit plan in the first half of 2017. In addition, we are building a manufacturing facility in Suzhou (China). We purchase raw materials and many of the components used in our manufacturing facilities from numerous suppliers in various countries. For quality assurance, sole source availability or cost effectiveness purposes, we may procure certain components and raw materials from a sole supplier. We work closely with our suppliers to ensure continuity of supply while maintaining high quality and reliability.

The quality systems we utilize in the design, production, warehousing and distribution of our products are designed to ensure that our products are safe and effective. Some of the governmental agencies and quality system regulations with which we are required to comply are as follows:

- The FDA's Quality System Regulation ("QSR") under section 520 of the federal Food, Drug and Cosmetic Act ("FDCA") and its implementing regulations at 21 C.F.R. Part 820.
- The International Standards Organization - ("ISO") EN ISO 13485:2012, Medical devices - Quality management systems.
- The Independent certification bodies, DEKRA, LNE/G-MED and TUV SUD act as our notified bodies to ensure that our manufacturing quality systems comply with ISO 13485:2003.
- The European Council Directives 93/42/EEC and 90/385/EEC, ISO 13485, which relates to medical devices and active implantable medical devices.

In addition, we utilize environmental management systems and safety programs to protect the environment and our employees. Some of the regulations and governmental agencies with which we comply are as follows:

- The U.S. Environmental Protection Agency ("EPA")
- The Occupational Health and Safety Assessment System ("OSHAS")
- The European Union Registration, Evaluation, Authorization and Restriction of Chemicals ("REACH")
- Italian regulations under the Integrated Environmental Authorization acts
- ISO 14001 certification

Government Regulation and Other Considerations

Our medical devices are subject to regulation by numerous government agencies, including the FDA and similar agencies outside the United States. To varying degrees, each of these agencies require LivaNova to comply with laws and regulations governing the research, development, testing, manufacturing, labeling, pre-market clearance or approval, marketing, distribution, advertising, promotion, record keeping, reporting, tracking, and importing and exporting of its medical devices. Our business is also affected by patient privacy and security laws, cost containment initiatives, and environmental health and safety laws and regulations worldwide. The primary laws and regulations that affect our business are described below.

The laws applicable to LivaNova are subject to change and evolving interpretations. If a governmental authority were to conclude that we are not in compliance with applicable laws and regulations, LivaNova and its officers and employees could be subject to severe criminal and civil penalties, including substantial fines and damages, and exclusion from participation as a supplier of product to beneficiaries covered by government programs, among other potential enforcement actions.

United States

Each medical device LivaNova seeks to commercially distribute in the United States must first receive 510(k) clearance or pre-market approval from the FDA, unless specifically exempted by the agency. Under the FDA, medical devices are classified into one of three classes - Class I, Class II or Class III - depending on the degree of risk associated with each medical device and the extent of control needed to ensure safety and effectiveness. Devices deemed to pose lower risk are categorized as either Class I or II, which requires the manufacturer to submit to the FDA a 510(k) pre-market notification requesting clearance of the device for commercial distribution in the United States. Some low-risk devices are exempted from this requirement. Devices deemed by the FDA to pose the greatest risk, such as life sustaining, life-supporting or implantable devices, or devices deemed not substantially equivalent to a previously 510(k)-cleared device, are categorized as Class III, requiring approval of a pre-market approval ("PMA") application.

510(k) Clearance Process

To obtain 510(k) clearance, LivaNova must submit a pre-market notification to the FDA demonstrating that the proposed device is substantially equivalent to a previously-cleared 510(k) device, a device that was in commercial distribution before May 28, 1976 for which the FDA has not yet called for the submission of approval PMA application, or a device that has been reclassified from Class III to either Class II or I. In rare cases, Class III devices may be cleared through the 510(k) process. The FDA's 510(k) clearance process usually takes three to twelve months from the date the application is submitted and filed with the FDA, but may take significantly longer and clearance is never assured. Although many 510(k) pre-market notifications are cleared without clinical data, in some cases, the FDA requires significant clinical data to support substantial equivalence. In reviewing a pre-market notification submission, the FDA may request additional information, including clinical data, which may significantly prolong the review process.

After a device receives 510(k) clearance, any subsequent modification of the device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, will require a new 510(k) clearance or could require a PMA. The FDA requires each manufacturer to make this determination initially, but the FDA may review any such decision and may disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA may require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or approval of a PMA is obtained. In addition, the FDA is currently evaluating the 510(k) process and may make substantial changes to industry requirements, including which devices are eligible for 510(k) clearance, the ability to rescind previously granted 510(k)s and additional requirements that may significantly impact the process.

Pre-market Approval Process

A PMA application must be submitted if the medical device is in Class III (although the FDA has the discretion to continue to allow certain pre-amendment Class III devices to use the 510(k) process) or cannot be cleared through the 510(k) process. A PMA application must be supported by, among other things, extensive technical, pre-clinical and clinical trials, and manufacturing and labeling data to demonstrate to the FDA's satisfaction the safety and effectiveness of the device.

After a PMA application is submitted and filed, the FDA begins an in-depth review of the submitted information, which typically takes between one and three years, but may take significantly longer. During this review period, the FDA may request additional information or clarification of information already provided. Also during the review period, an advisory panel of experts from outside the FDA will usually be convened to review and evaluate the application and provide recommendations to the FDA as to the approvability of the device. In addition, the FDA will conduct a pre-approval inspection of the manufacturing facility to ensure compliance with the QSR, which imposes elaborate design development, testing, control, documentation and other quality assurance procedures in the design and manufacturing process. The FDA may approve a PMA application with post-approval conditions intended to ensure the safety and effectiveness of the device including, among other things, restrictions on labeling, promotion, sale, and distribution and collection of long-term follow-up data from patients in the clinical study that supported approval. Failure to comply with the conditions of approval can result in materially adverse enforcement action, including, among other things, the loss or withdrawal of the approval. New PMA applications or supplements are required for significant modifications to the design of a device, indications, labeling of the product and manufacturing process. PMA supplements often require submission of the same type of information as an original PMA application, except that the supplement is limited to information needed to support any changes from the device covered by the original PMA application, and may not require as extensive clinical data, the convening of an advisory panel or pre-approval inspections.

Clinical Studies

One or more clinical trials may be required to support a 510(k) application and are almost always required to support a PMA application. Clinical trials of unapproved or uncleared medical devices or devices being studied for uses for which they are not approved or cleared (investigational devices) must be conducted in compliance with FDA requirements. If human clinical trials of a device are required and the device presents a significant risk, the sponsor of the trial must file an investigational device exemption, or IDE, application prior to commencing human clinical trials. The IDE application must be supported by data, typically including the results of animal and/or laboratory testing. If the IDE application is approved by the FDA and one or more institutional review boards (“IRBs”), human clinical trials may begin at a specific number of institutional investigational sites with the specific number of patients approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the trial by one or more IRBs without separate approval from the FDA. During the trial, the sponsor must comply with the FDA’s IDE requirements including, for example, investigator selection, monitoring of the clinical trial sites, adverse event reporting and recordkeeping. The investigators must obtain patient informed consent, follow the investigational plan and trial protocol, control the disposition of investigational devices and comply with reporting and recordkeeping requirements. LivaNova, the FDA and the IRB at each institution at which a clinical trial is being conducted may suspend a clinical trial at any time for various reasons, including a belief that the subjects are being exposed to an unacceptable risk.

Continuing Regulation

After a device is cleared or approved for marketing in the United States, numerous and pervasive regulatory requirements continue to apply, and LivaNova will continue to be subject to periodic inspections by the FDA to determine its compliance with these requirements, as will its suppliers, contract manufacturers and contract testing laboratories. These requirements include, among others:

- the QSR, which governs, among other things, how manufacturers design, test, manufacture, modify, label, exercise quality control over and document manufacturing and quality issues regarding their products;
- Establishment Registration, which requires establishments involved in the production and distribution of medical devices, intended for commercial distribution in the United States, to register with the FDA;
- Medical Device Listing, which requires manufacturers to list the devices they have in commercial distribution with the FDA;
- Labeling and claims regulations, which require that all advertising and promotion of devices be truthful, not misleading and fairly balanced and provide adequate directions for use, and that all claims be substantiated;
- Prohibition of marketing devices for off-label uses, including requirements relating to dissemination of articles and information and responding to unsolicited requests for off-label information;
- Medical Device Reporting ("MDR") regulations, which requires reporting to the FDA if a device may have caused or contributed to a death or serious injury, or if a device has malfunctioned and would be likely to cause or contribute to a death or serious injury if the malfunction were to recur;
- Reporting and record keeping for certain corrections or removals initiated by a manufacturer to reduce a risk to health posed by a device or to remedy a violation of the FDCA caused by the device that may present a risk to health;
- Statutory and regulatory requirements for Unique Device Identifiers ("UDIs") on devices and submission of certain information about each device to the FDA's Global Unique Device Identification Database ("GUDID"); and
- In some cases, ongoing monitoring and tracking of a device's performance and periodic reporting to the FDA of such performance results.

The FDA enforces these requirements by inspection and market surveillance. The FDA periodically inspects our manufacturing facilities, which potentially includes our suppliers. If the FDA observes conditions that may constitute violations, we must correct the conditions or satisfactorily demonstrate the absence of the violations. The FDA also has the authority to request repair, replacement or refund of the cost of any device manufactured or distributed by us. We continue to expend resources to maintain compliance with our obligations under the FDA's regulations. Failure to comply with applicable regulatory requirements may result in enforcement action by the FDA, which may include one or more of the following sanctions:

- untitled letters or warning letters;
- fines, injunctions and civil penalties;
- mandatory recall or seizure of our products;
- administrative detention or banning of our products;
- operating restrictions, partial suspension or total shutdown of production;
- refusing our request for 510(k) clearance or pre-market approval of new product versions;
- revocation of 510(k) clearance or pre-market approvals previously granted; and
- criminal prosecution and penalties.

Other than the U.S.

Outside the United States, LivaNova is subject to government regulation in the countries in which it operates. Although many of the regulations applicable to our products in these countries are similar to those of the FDA, these regulations vary significantly from country to country and with respect to the nature of the particular medical device. The time required to obtain foreign approvals to market our products may be longer or shorter than the time required in the United States, and requirements for such approvals may differ from FDA requirements.

In the European Economic Area (which is composed of the 28 Member States of the European Union ("EU") plus Norway, Liechtenstein and Iceland), a single regulatory approval process exists, and conformity with the legal requirements is represented by the CE mark. To obtain CE mark certification, defined products must meet minimum standards of performance, safety and quality (i.e., the essential requirements) set out in the EU Medical Devices Directives (Council Directive 93/42/EEC on Medical Devices and Council Directive 90/385/EEC on Active Implantable Medical Devices). To demonstrate compliance with the essential requirements, we must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. Except for low-risk medical devices, where the manufacturer can issue an EC Declaration of Conformity based on a self-assessment of the conformity of its products with the essential requirements of the EU Medical Devices Directives, a conformity assessment procedure requires the intervention of an organization accredited by a Member State of the EEA to conduct conformity assessments, or a Notified Body. Depending on the relevant conformity assessment procedure, the Notified Body would typically audit and examine the technical file and the quality system for the manufacture, design and final inspection of our devices. Following successful completion of a conformity assessment procedure, the Notified Body issues a certificate that entitles the manufacturer to affix the CE mark to its medical devices after having prepared and signed a related EC Declaration of Conformity. Manufacturers with CE marked devices are subject to regular inspections by Notified Bodies to monitor continued compliance with the applicable directives and essential requirements.

As a general rule, demonstration of conformity of medical devices and their manufacturers with the essential requirements must be based, among other things, on the evaluation of clinical data supporting the safety and performance of the products during normal conditions of use. Specifically, a manufacturer must demonstrate that the device achieves its intended performance during normal conditions of use, that the known and foreseeable risks, and any adverse events, are minimized and acceptable when weighed against the benefits of its intended performance, and that any claims made about the performance and safety of the device (e.g., product labeling and instructions for use) are supported by suitable evidence.

In the EEA, clinical trials for medical devices usually require the approval of an Ethics Committee and approval by or notification to the national competent authorities. Both regulators and Ethics Committees also typically require the submission of adverse event reports during a study and may request a copy of the final study report.

In September 2012, the European Commission published proposals for the revision of the EU regulatory framework for medical devices. The proposal would replace the Medical Devices Directive and the Active Implantable Medical Devices Directive with a new regulation (the Medical Devices Regulation). Unlike the Directives that must be implemented into national laws, the Regulation would be directly applicable in all EEA Member States and so is intended to eliminate current national differences in regulation of medical devices.

In October 2013, the European Parliament approved a package of reforms to the European Commission's proposals. Under the revised proposals, only designated "special notified bodies" would be entitled to conduct conformity assessments of high-risk devices, such as active implantable devices. These special notified bodies will need to notify the European Commission when they receive an application for a conformity assessment for a new high-risk device. The European Commission will then forward the notification and the accompanying documents on the device to the Medical Devices Coordination Group ("MDCG"), (a new, yet to be created, body chaired by the European Commission, and representatives of Member States) for an opinion. These new procedures may result in the re-assessment of our existing medical devices, or a longer or more burdensome assessment of our new products. In May 2016, a political agreement was reached and the tentatively agreed upon text was published in June 2016.

Once the legislative process is complete, the Medical Devices Regulation is expected to enter into force sometime in 2017 and become applicable three years thereafter. In its current form it would, among other things, also impose additional reporting requirements on manufacturers of high risk medical devices, impose an obligation on manufacturers to appoint a "qualified person" responsible for regulatory compliance, and provide for more strict clinical evidence requirements.

The national competent authorities of the EEA countries, generally in the form of their ministries or departments of health, oversee the clinical research for medical devices and are responsible for market surveillance of products once they are placed on the market. We are required to report device failures and injuries potentially related to product use to these authorities in a timely manner. Various penalties exist for non-compliance with the laws setting forth the medical device directives.

To be sold in Japan, most medical devices must undergo thorough safety examinations and demonstrate medical efficacy before they are granted approval, or "shonin." The Japanese government, through the Ministry of Health, Labour and Welfare ("MHLW"), regulates medical devices under the Pharmaceutical Affairs Law ("PAL"). Oversight for medical devices is conducted with participation by the Pharmaceutical and Medical Devices Agency ("PMDA"), a quasi-government organization performing many of the review functions for MHLW. Penalties for a company's noncompliance with PAL could be severe, including revocation or suspension of a company's business license and criminal sanctions. MHLW and PMDA also assess the quality management systems of the manufacturer and the product conformity to the requirements of the PAL. LivaNova is subject to inspection for compliance by these agencies.

Many countries in which we operate (outside of the EU, United States, or Japan) have their own regulatory requirements for medical devices. Most countries outside of the EU, United States or Japan 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. Because export control and economic sanctions laws and regulations are complex and constantly changing, we cannot ensure that laws and regulations may not be enacted, amended, enforced or interpreted in a manner materially impacting our ability to sell or distribute our products.

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. Several countries that did not have regulatory requirements for medical devices have established such requirements in recent years and other countries have expanded, or plan to expand, existing regulations. Certain regulators are requiring local clinical data in addition to global clinical data. While harmonization of global regulations has been pursued, requirements continue to differ significantly among countries. We expect that 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. We cannot ensure that any new medical devices it develops will be approved in a timely or cost-effective manner, or approved at all.

Promotional Restrictions

Both before and after a product is commercially released, LivaNova has ongoing responsibilities under various laws and regulations governing medical devices. In addition to FDA regulatory requirements, the FDA and other U.S. regulatory bodies (including the Federal Trade Commission, the Office of the Inspector General of the Department of Health and Human Services, the Department of Justice and various state Attorneys General) monitor the manner in which we promote and advertise our products. Although physicians are permitted to use their medical judgment to employ medical devices for indications other than those cleared or approved by the FDA, we are prohibited from promoting products for such "off-label" uses and can only market its products for cleared or approved uses.

Governmental Trade Regulations

The sale and shipment of our products and services across international borders, as well as the purchase of components and products from international sources, subjects LivaNova to extensive governmental trade regulations. A variety of laws and regulations apply to the sale, shipment and provision of goods, services and technology across international borders. Many countries control the export and re-export of goods, technology and services for reasons including public health, national security, regional stability, antiterrorism policies and other reasons. Some governments may also impose economic sanctions against certain countries, persons or entities. In certain circumstances, approval from governmental authorities may be required before goods, technology or services are exported or re-exported to certain destinations, to certain end-users and for certain end-uses. Because LivaNova is subject to extensive regulations in the countries in which it operates, we are subject to the risk that laws and regulations could change in a way that would expose us to additional costs, penalties or liabilities. These laws and regulations govern, among other things, our import and export activities.

In addition to our need to comply with such regulations in connection with our direct export activities, we also sell and provide goods, technology and services to agents, representatives and distributors who may export such items to customers and end-users. If these third parties violate applicable export control and economic sanctions laws and regulations when engaging in transactions involving our products, we may be subject to varying degrees of liability dependent upon our participation in the transaction. The activities of these third parties may cause disruption or delays in the distribution and sales of our products, or result in restrictions being placed upon our international distribution and sales of products, which may materially impact LivaNova's business activities.

Patient Privacy and Security Laws

Various laws worldwide protect the confidentiality of certain patient health information, including patient medical records, and restrict the use and disclosure of patient health information by healthcare providers. Privacy standards in Europe and Asia are becoming increasingly strict, enforcement action and financial penalties related to privacy in the EU are growing, and new laws and restrictions are being passed. The management of cross-border transfers of information among and outside of EU member countries is becoming more complex, which may complicate our clinical research activities, as well as product offerings that involve transmission or use of clinical data. We will continue our efforts to comply with those requirements and to adapt our business processes to those standards.

In the United States, the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), as amended by the Health Information Technology and Clinical Health Act ("HITECH") and their respective implementing regulations, including the final omnibus rule published on January 25, 2013, imposes specified requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to "business associates," defined as independent contractors or agents of covered entities that create, receive, maintain or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys new general authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways, thus complicating compliance efforts. LivaNova potentially operates as a business associate to covered entities in a limited number of instances. In those cases, the patient data that we receive may include protected health information, as defined under HIPAA. Enforcement actions can be costly and interrupt regular operations of our business. Nonetheless, these requirements affect a limited subset of our business. While LivaNova has not been named in any such suits, if a substantial breach or loss of data from our records were to occur, LivaNova could become a target of such litigation.

Cost Containment Initiatives

Government and private sector initiatives to limit the growth of healthcare costs, including price regulation, competitive pricing, bidding and tender mechanics, coverage and payment policies, comparative effectiveness of therapies, technology assessments, and managed-care arrangements, are continuing in many countries where LivaNova does business. These changes are causing the marketplace to put increased emphasis on the delivery of more cost-effective medical devices and therapies. Government programs, private healthcare insurance and managed-care plans have attempted to control costs by limiting the extent of coverage or amount of reimbursement available for particular procedures or treatments, tying reimbursement to outcomes, shifting to population health management, and other mechanisms designed to constrain utilization and contain costs. Hospitals, which purchase implants, are also seeking to reduce costs through a variety of mechanisms, including, for example, creating centralized purchasing functions that set pricing and in some cases limit the number of vendors that can participate in the purchasing program. Hospitals are also aligning their interests with physicians' through employment and other arrangements, such as gainsharing, whereby a hospital agrees with physicians to share certain realized cost savings resulting from the physicians' collective change in practice patterns, such as standardization of devices where medically appropriate, and participation in affordable care organizations. Such alignment has created increasing levels of price sensitivity among customers for our products.

Some third-party payers must also approve coverage and set reimbursement levels for new or innovative devices or therapies before they will reimburse healthcare providers who use the medical devices or therapies. Even though a new medical device may be cleared for commercial distribution, we may find limited demand for the device until coverage and sufficient reimbursement levels have been obtained from governmental and private third-party payers. In addition, some private third-party payers require that certain procedures or the use of certain products be authorized in advance as a condition of coverage.

In the United States, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "Affordable Care Act"), for example, has the potential to substantially change healthcare financing and delivery by both governmental and private insurers, and significantly impact the pharmaceutical and medical device industries. The Affordable Care Act imposed, among other things, a new federal excise tax on the sale of certain medical devices, which due to subsequent legislative amendments, has been suspended from January 1, 2016 to December 31, 2017, and, absent further legislative action, will be reinstated starting January 1, 2018. In addition, the Affordable Care Act provided incentives to programs that increase the federal government's comparative effectiveness research. The Affordable Care Act also implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. On August 2, 2011, President Obama signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals on spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction of several government programs. These included reductions to Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013, and, due to subsequent legislative amendments, will stay in effect through 2025 unless additional congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals.

International examples of cost containment initiatives and healthcare reforms in markets significant to our business include Japan, where the government reviews reimbursement rate benchmarks every two years. Such reviews may significantly reduce reimbursement for procedures using our medical devices or result in the denial of coverage for those procedures. As a result of our manufacturing efficiencies, cost controls and other cost-savings initiatives, we believe we are well-positioned to respond to changes resulting from this worldwide trend toward cost-containment; however, uncertainty remains as to the nature of any future legislation or other reforms, making it difficult for LivaNova to predict the potential impact of cost-containment trends on future operating results.

Applicability of Anti-Corruption Laws and Regulations

Our worldwide business is subject to the U.S. Foreign Corrupt Practices Act of 1977 (the "FCPA"), the United Kingdom Bribery Act of 2010 (the "U.K. Bribery Act") and other anti-corruption laws and regulations applicable in the jurisdictions where it operates.

Health Care Fraud and Abuse Laws

LivaNova is also subject to U.S. federal and state government healthcare regulation and enforcement and government regulations in non-U.S. countries in which it conducts its business. These laws include, without limitation, U.S. federal and state anti-kickback, fraud and abuse, false claims and physician sunshine laws and regulations and are further described in this Annual Report on Form 10-K, Item 1A, under the heading *"Risk Factors - Our failure to comply with rules relating to healthcare fraud and abuse, false claims, and privacy and security laws may subject us to penalties and adversely impact our reputation and business operations."*

The Anti-Kickback Statute is subject to evolving interpretations. In the past, the U.S. government has enforced the Anti-Kickback Statute to reach large settlements with healthcare companies based on sham consulting and other financial arrangements with physicians. The majority of states in the U.S. also have anti-kickback laws which establish similar prohibitions, and in some cases may apply to items or services reimbursed by any third-party payor, including commercial insurers.

Additionally, violations of the False Claims Act can result in very significant monetary penalties and treble damages. The federal government is using the False Claims Act, and the accompanying threat of significant financial liability, in its investigation and prosecution of device and biotechnology companies throughout the country, for example, in connection with the promotion of products for unapproved uses and other sales and marketing practices. The government has obtained multi-million and multi-billion dollar settlements under the False Claims Act in addition to individual criminal convictions under applicable criminal statutes. Given the significant size of actual and potential settlements, it is expected that the government will continue to devote substantial resources to investigating healthcare providers' and manufacturers' compliance with applicable fraud and abuse laws.

HIPAA includes federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors; knowingly and willfully embezzling or stealing from a healthcare benefit program; willfully obstructing a criminal investigation of a healthcare offense; and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

In addition, the FCPA can be used to prosecute companies in the United States for arrangements with physicians, or other parties outside the United States, if the physician or party is a government official of another country and the arrangement violates the law of that country. There are similar laws and regulations applicable to LivaNova outside the United States, all of which are subject to evolving interpretations.

There has also been a recent trend of increased federal and state regulation of payments made to physicians and other healthcare providers. The Affordable Care Act, among other things, imposes new reporting requirements on certain device manufacturers for payments made by them to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Failure to submit required information may result in civil monetary penalties of up to an aggregate of $150,000 per year (or up to an aggregate of $1 million per year for “knowing failures”), for all payments, transfers of value, or ownership or investment interests that are not timely, accurately and completely reported in an annual submission. Device manufacturers must submit reports to the government by the 90th day of each calendar year. Certain states also mandate implementation of compliance programs, impose restrictions on device manufacturer marketing practices and/or require the tracking and reporting of gifts, compensation and other remuneration to physicians.

The shifting commercial compliance environment and the need to build and maintain robust systems to comply with different compliance and/or reporting requirements in multiple jurisdictions increase the possibility that a healthcare company may violate one or more of the requirements. If our operations are found to be in violation of any of such laws or any other governmental regulations that apply to it, it may be subject to penalties, including, without limitation, civil and criminal penalties, damages, fines, the curtailment or restructuring of its operations, exclusion from participation in federal and state healthcare programs and imprisonment, any of which could adversely affect its ability to operate its business and its financial results.

Environmental Health and Safety Laws

LivaNova is also subject to various environmental health and safety laws and regulations worldwide. Like other medical device companies, our manufacturing and other operations involve the use and transportation of substances regulated under environmental health and safety laws including those related to the transportation of hazardous materials. To the best of our knowledge at this time, LivaNova does not expect that compliance with environmental protection laws will have a material impact on its consolidated results of operations, financial position or cash flows.

Working Capital Practices

Our goal is to carry sufficient levels of inventory to ensure adequate supply of raw materials from suppliers and meet the product delivery needs of our customers. To meet the operational demands of our customers, we also provide payment terms to customers in the normal course of business and rights to return product under warranty.

Employees

As of December 31, 2016, LivaNova employed more than 4,500 employees worldwide. Our employees are vital to our success, and we are engaged in an ongoing effort to identify, hire, manage and maintain the talent necessary to meet our business objectives. We believe that we have thus far been successful in attracting and retaining qualified personnel in a highly-competitive labor market due, in large part, to our competitive compensation and benefits and our rewarding work environment, fostering employee professional training and development and providing employees with opportunities to contribute to LivaNova’s continued growth and success.

Seasonality

For all product segments, the number of medical procedures incorporating our product sales is generally lower during the summer months due to summer vacation schedules. This is particularly relevant to European countries.

Website and Availability of Public Filings with the SEC

Our website address is *www.livanova.com.* We make available free of charge on or through our website our Proxy Statements on Schedule 14A, Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, and reports relating to beneficial ownership of our securities filed or furnished pursuant to Section 16 of the Exchange Act, as soon as reasonably practicable after electronically filing such material with the SEC. Our website also contains the charters for each standing committee of our Board of Directors and our Code of Business Conduct and Ethics.

Materials we file with the SEC may be read and copied at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1‑800‑SEC‑0330. The SEC also maintains a website at *www.sec.gov* that contains reports, proxy and information statements, and other information regarding our company, filed electronically with the SEC.

We may from time to time provide important disclosures to investors by posting them in the Investor Relations section of our website, as allowed by SEC rules. Information on our website is not incorporated into this Annual Report on Form 10-K.

Item 1A: *Risk Factors*

Our annual and quarterly operating results may fluctuate in the future, which may cause our share price to decline.

Our net sales, expenses and operating results may vary significantly from year to year and quarter to quarter for several reasons, including, without limitation:

- The ability of our sales force to effectively market and promote our products, and the extent to which those products gain market acceptance;
- the existence and timing of any approvals, changes, or non-coverage determinations for reimbursement by third-party payors;
- the rate and size of expenditures incurred on our clinical, manufacturing, sales, marketing and product development efforts;
- our ability to obtain and retain personnel;
- the availability of key components, materials and contract services, which depends on our ability to forecast sales, among other things;
- investigations of our business and business-related activities by regulatory or other governmental authorities;
- variations in timing and quantity of product orders;
- temporary manufacturing interruptions or disruptions;
- the timing and success of new product and new market introductions, as well as delays in obtaining domestic or foreign regulatory approvals for such introductions;
- increased competition, patent expirations or new technologies or treatments;
- product recalls or safety alerts;
- litigation, including product liability, patent, employment, securities class action, stockholder derivative, general commercial and other lawsuits;
- continued volatility in the global market and worldwide economic conditions, in particular the implementation of Brexit will likely cause increased economic volatility;
- changes in tax laws, including changes due to Brexit, or exposure to additional income tax liabilities;
- the financial health of our customers and their ability to purchase our products in the current economic environment; and
- other unusual or non-operating expenses, such as expenses related to mergers or acquisitions, may cause operating result variations.

As a result of any of these factors, our consolidated results of operations may fluctuate significantly, which may in turn cause our share price to fluctuate.

Global healthcare policy changes, including U.S. healthcare reform legislation, may have a material adverse effect on LivaNova.

In response to perceived increases in healthcare costs, there have been and continue to be proposals by governments, regulators and third-party payers to control these costs. The adoption of some or all of these proposals could have a material adverse effect on our financial position and results of operations. These proposals have resulted in efforts to reform the U.S. healthcare system which may lead to pricing restrictions, limits on the amounts of reimbursement available for our products and could limit the acceptance and availability of our products.

In the United States, the federal government enacted legislation, including the Affordable Care Act to overhaul the nation's healthcare system. While one goal of healthcare reform is to expand coverage to more individuals, it also involves increased government price controls, additional regulatory mandates and other measures designed to constrain medical costs. Among other things, the Affordable Care Act:

- imposes an annual excise tax of 2.3% on any entity that manufactures or imports medical devices offered for sale in the United States. Due to subsequent legislative amendments, the excise tax has been suspended from January 1, 2016 to December 31, 2017, and, absent further legislative action, will be reinstated starting January 1, 2018; and
- implements payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models.

In addition, other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. On August 2, 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and, due to subsequent legislative amendments to the statute, will remain in effect through 2025 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals. We cannot predict what healthcare programs and regulations will be ultimately implemented at the federal or state level, or the effect of any future legislation or regulation. However, any changes that lower reimbursement for our products or reduce medical procedure volumes could adversely affect our business and results of operations.

The Affordable Care Act also focuses on a number of Medicare provisions aimed at decreasing costs. It is uncertain at this point what unintended consequences these provisions will have on patient access to new technologies. The Medicare provisions include value-based payment programs, increased funding of comparative effectiveness research, reduced hospital payments for avoidable readmissions and hospital-acquired conditions, and pilot programs to evaluate alternative payment methodologies that promote care coordination (such as bundled physician and hospital payments). Additionally, the law includes a reduction in the annual rate of inflation for hospitals that began in 2011 and the establishment of an independent payment advisory board to recommend ways of reducing the rate of growth in Medicare spending beginning in 2014. We cannot predict what healthcare programs and regulations will be implemented at the global level or the U.S. federal or state level, or the effect of any future legislation or regulation. However, any changes that lower reimbursement for our products or reduce medical procedure volumes could adversely affect our business and results of operations.

The Italian Parliament introduced new rules for entities that supply goods and services to the Italian National Healthcare System. The new healthcare law is expected to impact the business and financial reporting of companies operating in the medical technology sector that sell medical devices in Italy. A key provision of the law is a 'payback' measure, requiring companies selling medical devices in Italy to make payments to the Italian state if medical device expenditures exceed regional maximum ceilings. Companies are required to make payments equal to a percentage of expenditures exceeding maximum regional caps. There is still considerable uncertainty about how the law will operate and what the exact timeline is for finalization. Our current assessment of the Italian Medical Device Payback involves significant judgment regarding the expected scope and actual implementation terms of the measure as the latter have not been clarified to date by Italian authorities. We account for the estimated cost of the Medical Device Payback as a deduction from revenue.

Outside of the United States, reimbursement systems vary significantly by country. Many foreign markets have government-managed healthcare systems that govern reimbursement for medical devices and procedures. Additionally, some foreign reimbursement systems provide for limited payments in a given period and therefore result in extended payment periods. If adequate levels of reimbursement from third‑party payors outside of the United States are not obtained, international sales of our products may decline.

In addition, in the United States, certain state governments and the federal government have enacted legislation aimed at increasing transparency of LivaNova's interactions with healthcare providers, for example, federal "sunshine" requirements imposed by the Affordable Care Act on certain manufacturers of devices for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program regarding any "transfer of value" made or distributed to physicians and teaching hospitals ("U.S. Sunshine Act"). Failure to submit required information may result in civil monetary penalties of up to an aggregate of $150,000 per year (or up to an aggregate of $1 million per year for "knowing failures"), for all payments, transfers of value or ownership or investment interests that are not timely, accurately, and completely reported in an annual submission. Manufacturers must submit reports by the 90th day of each calendar year.

Similar laws exist outside the United States, such as in France, which adopted the "Physician Payments Sunshine Act" in 2011 ("The French Sunshine Act"). The French Sunshine Act requires companies to publicly disclose agreements with, and certain

benefits provided to, certain French healthcare professionals. Other countries are in the process of, or considering enacting laws or regulations comparable to those implemented in the United States and France. Any failure to comply with these legal and regulatory requirements could impact our business. In addition, we may continue to devote substantial additional time and financial resources to further develop and implement 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 costs, exposure to litigation, and other adverse effects to our operations.

The success and continuing development of our products depend upon maintaining strong relationships with physicians and healthcare professionals.

If we fail to maintain our working relationships with physicians, our products may not be developed and marketed in line with the needs and expectations of the professionals who use and support our products. Physicians assist us as researchers, marketing consultants, product consultants, inventors and public speakers, and we rely on these professionals to provide us with considerable knowledge and experience. If we are unable to maintain these strong relationships, the development and marketing of our products could suffer, which could have a material adverse effect on our consolidated financial condition and results of operations.

We may be unable to obtain and maintain adequate third-party reimbursement on our products, which could have a significant negative impact on our future operating results.

Our ability to commercialize our products is dependent, in large part, on whether third-party payors, including private healthcare insurers, managed care plans, governmental programs and others agree to cover the costs and services associated with our products and related procedures in the United States and internationally.

Our products are purchased principally by healthcare providers that typically bill various third-party payors, such as governmental programs (e.g., Medicare and Medicaid in the United States) and private insurance plans for the healthcare services provided to their patients. The ability of customers to obtain appropriate reimbursement for their services and the products they provide from government and third-party payors is critical to the success of medical technology companies. The availability of adequate reimbursement affects which procedures customers perform, the products customers purchase and the prices customers are willing to pay. Reimbursement varies from country to country and can significantly impact the acceptance of new technology. After 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 payors. In addition, periodic changes to reimbursement methodologies could have an adverse impact on our business.

Patient confidentiality and federal and state privacy and security laws and regulations in the United States and around the world may adversely impact our selling model.

U.S. HIPAA establishes federal rules protecting the privacy and security of personal health information. The privacy and security rules address the use and disclosure of individual healthcare information and the rights of patients to understand and control how such information is used and disclosed. HIPAA provides both criminal and civil fines and penalties for covered entities or business associates that fail to comply. If we fail to comply with the applicable regulations, we could suffer civil penalties up to or exceeding $50,000 per violation, with a maximum of $1.5 million for multiple violations of an identical requirement during a calendar year and criminal penalties with fines up to $250,000 and potential imprisonment.

In addition to HIPAA, virtually every state has enacted one or more laws to safeguard privacy, and these laws vary significantly from state to state and change frequently. Because the operation of our business involves the collection and use of substantial amounts of "protected health information," we endeavor to conduct our business as a "covered entity" under HIPAA, and consistent with state privacy laws, we obtain HIPAA-compliant patient authorizations where required to support our use and disclosure of patient information. We also sometimes act as a "business associate" for a covered entity. Regardless, the Office for Civil Rights of the Department of Health and Human Services or another government enforcement agency may determine that our business model or operations are not in compliance with HIPAA or other related state laws, which could subject us to penalties, severely limit our ability to market and sell our products under our existing business model and harm our business growth and consolidated financial position.

Our information technology systems may be vulnerable to hacker intrusion, malicious viruses and other cybercrime attacks, which may harm our business and expose the company to liability.

Our operations depend to a great extent on the reliability and security of our information technology systems. These systems, both software and hardware, are subject to damage and interruption caused by human error, problems relating to the telecommunications network, software failure, natural disasters, sabotage, viruses and similar events. Any interruption in our systems could have a negative effect on the quality of products and services offered and, as a result, on customer demand and therefore volume of sales.

Our product sales are subject to regulatory clearance or approval and our business is subject to extensive regulatory requirements. If we fail to maintain regulatory clearances and approvals, or are unable to obtain, or experience significant delays in obtaining, such clearances or approvals for future products or product enhancements, our ability to commercially distribute and market these products could suffer.

LivaNova's medical device products and operations are subject to extensive regulation by the FDA and various other federal, state and foreign government authorities. Government regulation of medical devices is meant to assure their safety and effectiveness and includes regulation of, among other things:

- design, development and manufacturing;
- testing, labeling, packaging, content and language of instructions for use and storage;
- clinical trials;
- product safety;
- pre-market clearance and approval;
- marketing, sales and distribution (including making product claims);
- advertising and promotion;
- product modifications;
- recordkeeping procedures;
- reimbursement;
- reports of corrections, removals, enhancements, recalls and field corrective actions;
- post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to death or serious injury;
- complying with federal law and regulations requiring Unique Device Identifiers on devices and also requiring the submission of certain information about each device to the FDA's Global Unique Device Identification Database; and
- product import and export laws.

Before a new medical device, or a new use of, or claim for, an existing medical device can be marketed in the United States, the FDA must first grant either premarket clearance under Section 510(k) of the Federal Food, Drug and Cosmetic Act or approval of a premarket approval ("PMA") application unless an exemption applies. In the 510(k) clearance process, the FDA must determine that the proposed device is "substantially equivalent" to a device legally on the market, known as a "predicate" device. To establish substantial equivalence, the applicant must demonstrate that: (i) the device has the same intended use; (ii) the device has the same technological characteristics; and (iii) to the extent the technological characteristics are different, that they do not raise different questions of safety and effectiveness. Clinical data is sometimes required to support substantial equivalence, though the 510(k) pathway generally requires less data and a shorter review period than a PMA. The PMA pathway requires an applicant to demonstrate reasonable assurance of safety and effectiveness of the device for its intended use based, in part, on extensive data including, but not limited to, technical, preclinical, clinical trial, manufacturing and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices.

The 510(k) and PMA processes can be expensive, lengthy and sometimes unpredictable. The processes also entail significant user fees, unless exempt. The FDA's 510(k) clearance process usually takes from six to 18 months, but may take longer if more data is needed. The PMA pathway is much more costly and uncertain than the 510(k) clearance process and it generally takes from one to five years, or even longer, from the time the application is filed with the FDA until an approval is obtained. The process of obtaining regulatory clearances or approvals to market a medical device can be costly and time-consuming, and we may not be able to obtain these clearances or approvals on a timely basis, if at all.

Modifications to our marketed products may require new clearances or approvals, and may require LivaNova to cease marketing or recall the modified products until required clearances or approvals are obtained.

An element of our strategy is to continue to upgrade our products, add new features and expand clearance or approval of our current products to new indications. In the United States, any modification to a PMA-approved device generally requires additional approval by the FDA. Similarly, any modification to a 510(k)-cleared device that could significantly affect its safety or efficacy, or that would constitute a major change in its intended use, technology, materials, packaging and certain manufacturing processes, may require a new 510(k) clearance or, possibly, PMA approval. The FDA requires every manufacturer to make the determination regarding the need for a new 510(k) clearance or PMA approval in the first instance; but the FDA may (and often does) review the manufacturer's decision, and, where the FDA does not agree, may retroactively require the manufacturer to submit a 510(k) or PMA, and may require recall of the affected device until clearance or approval is obtained. LivaNova and its subsidiaries have made modifications to our products in the past and may make additional modifications in the future that we believe do not or will not require additional clearances or approvals. No assurance can be given that the FDA would agree with any of our decisions not to seek 510(k) clearance or PMA approval.

If the FDA requires us to cease marketing and recall a modified device until it obtains a new 510(k) clearance or PMA approval, our business, financial condition, operating results and future growth prospects could be materially adversely affected. Any recall or FDA requirement that we seek additional approvals or clearances could result in significant delays, fines, increased costs associated with modification of a product, loss of revenue and potential operating restrictions imposed by the FDA.

Furthermore, the FDA's ongoing review of the 510(k) clearance process may make it more difficult for us to make modifications to our previously cleared products, either by imposing more strict requirements on when a new 510(k) notification for a modification to a previously cleared product must be submitted, or applying more onerous review criteria to such submissions.

Outside of the United States, our medical devices must comply with the laws and regulations of the foreign countries in which they are marketed, and compliance may be costly and time-consuming. Failure to obtain and maintain regulatory approvals in jurisdictions outside the United States will prevent LivaNova from marketing our products in such jurisdictions.

LivaNova currently markets, and intends to continue to market, our products outside the United States. To market and sell products in countries outside the United States, we must seek and obtain regulatory approvals, certifications or registrations and comply with the laws and regulations of those countries. These laws and regulations, including the requirements for approvals, certifications or registrations and the time required for regulatory review, vary from country to country. Obtaining and maintaining foreign regulatory approvals, certifications or registrations are expensive, and we cannot be certain that we will receive regulatory approvals, certifications or registrations in any foreign country in which we plan to market our products. The regulatory approval process outside the United States may include all of the risks associated with obtaining FDA clearance or approval in addition to other risks.

In order for LivaNova to market its products in the Member States of the EEA, our devices are required to comply with the essential requirements of the EU Medical Devices Directives (Council Directive 93/42/EEC of 14 June 1993 concerning medical devices, as amended, and Council Directive 90/385/EEC of 20 June 2009 relating to active implantable medical devices, as amended). Compliance with these requirements entitles LivaNova to affix the CE conformity mark to our medical devices, without which they cannot be commercialized in the EEA. In order to demonstrate compliance with the essential requirements and obtain the right to affix the CE conformity mark, an applicant must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. Except for low risk medical devices where the manufacturer can issue an EC Declaration of Conformity based on a self-assessment of the conformity of its products with the essential requirements of the Medical Devices Directives, a conformity assessment procedure requires the intervention of a Notified Body, which is an organization accredited by a Member State of the EEA, to conduct conformity assessments. The Notified Body would typically audit and examine the quality system for the manufacture, design and final inspection of the device a certification demonstrating compliance with the applicable directives and essential requirements. Based on this certification, we can draw up an EC Declaration of Conformity, which allows us to affix the CE mark to our products.

In September 2012, the European Commission published proposals for the revision of the EU regulatory framework for medical devices. The proposal would replace the Medical Devices Directive with a new regulation (the "Medical Devices Regulation"). Unlike the Directives that must be implemented into national laws, the Medical Devices Regulation would be directly applicable in all EEA Member States and so is intended to eliminate current national differences in regulation of medical

devices. In October 2013, the European Parliament approved a package of reforms to the European Commission's proposals. Under the revised proposals, only designated "special notified bodies" would be entitled to conduct conformity assessments of high-risk devices. These special notified bodies will need to notify the European Commission when they receive an application for a conformity assessment for a new high-risk device. The European Commission will then forward the notification and the accompanying documents on the device to the MDCG for an opinion. These new procedures may result in the re-assessment of our existing medical devices, or a longer or more burdensome assessment of our new products. In May 2016, a political agreement was reached, and the tentatively agreed upon text was published in June 2016.

Once the legislative process is complete, the Medical Devices Regulation is expected to enter into force in 2017 and become applicable three years thereafter. In its current form it would, among other things, also impose additional reporting requirements on manufacturers of high risk medical devices, impose an obligation on manufacturers to appoint a "qualified person" responsible for regulatory compliance, and provide for more strict clinical evidence requirements. These new rules and procedures may result in increased regulatory oversight of our devices and this may, in turn, increase the costs, time and requirements that need to be met in order to maintain or place such devices on the EEA market.

If LivaNova's marketed medical devices are defective or otherwise pose safety risks, the FDA and similar foreign governmental authorities could require their recall, or we may initiate a recall of our products voluntarily.

The FDA and similar foreign governmental authorities may require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture or in the event that a product poses an unacceptable risk to health. Manufacturers, on their own initiative, may recall a product if any material deficiency in a device is found. We have initiated voluntary product recalls in the past.

A government-mandated or voluntary recall by us or one of our sales agencies could occur as a result of an unacceptable risk to health, component failures, manufacturing errors, design or labeling defects or other deficiencies and issues. Recalls of any of our products would divert managerial and financial resources and have an adverse effect on its financial condition and operating results. Any recall could impair our ability to produce our products in a cost-effective and timely manner in order to meet our customers' demands. We also may be required to bear other costs or take other actions that may have a negative impact on our future revenue and the ability to generate profits. We may initiate voluntary actions to withdraw or remove or repair our products in the future that we determine do not require notification of the FDA as a recall. If the FDA disagrees with our determinations, it could require us to report those actions as recalls. In addition, the FDA could take enforcement action for failing to report the recalls when they were conducted.

In addition, depending on the corrective action we take to redress a product's deficiencies or defects, the FDA may require, or we may decide, that we will need to obtain new approvals or clearances for the device before we may market or distribute the corrected device. Seeking such approvals or clearances may delay our ability to replace the recalled devices in a timely manner. Moreover, if we do not adequately address problems associated with our devices, we may face additional regulatory enforcement action, including FDA warning letters, product seizure, injunctions, administrative penalties, or civil or criminal fines.

In the EEA, our European operations must comply with the EU Medical Device Vigilance System, the purpose of which is to improve the protection of health and safety of patients, users and others by reducing the likelihood of reoccurrence of incidents related to the use of a medical device. Under this system, incidents must be reported to the Competent Authorities of the Member States of the EEA. An incident is defined as any malfunction or deterioration in the characteristics and/or performance of a device, as well as any inadequacy in labeling or instructions that may, directly or indirectly, lead or have led to death or serious health deterioration of a patient. Incidents are evaluated by the EEA Competent Authorities to whom they have been reported, and where appropriate, information is disseminated between them in the form of National Competent Authority Reports ("NCARs"). The Medical Device Vigilance System is further intended to facilitate a direct, early and harmonized implementation of Field Safety Corrective Actions ("FSCAs"), across the Member States of the EEA where the device is in use. An FSCA is an action taken by a manufacturer to reduce a risk of death or serious deterioration in the state of health associated with the use of a medical device that is already placed on the market. An FSCA may include the recall, modification, exchange, destruction or retrofitting of the device. FSCAs must be communicated by the manufacturer or its legal representative to its customers and/or to the end users of the device through Field Safety Notices.

A future recall announcement in the United States, EEA or elsewhere could harm our reputation with customers and negatively affect our revenue.

If our products cause or contribute to a death or a serious injury, or malfunction in certain ways, we will be subject to medical device reporting regulations, which can result in voluntary corrective actions or agency enforcement actions.

Under the FDA MDR regulations, we are required to report to the FDA any incident in which our products have or may have caused or contributed to a death or serious injury or in which our product malfunctioned and, if the malfunction were to recur, would likely cause or contribute to death or serious injury. If we fail to report these events to the FDA within the required timeframes, or at all, the FDA could take enforcement action against us. Any adverse event involving our products could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection, mandatory recall or other enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending against any potential lawsuits, will require the dedication of our time and capital, distract management from operating the business, and may harm our reputation and financial results.

Regulatory action or concern over Bovine Spongiform Encephalopathy ("BSE") may limit our ability to market products containing bovine material.

Certain of our products, including our Perceval, Crown PRT, Solo Smart and Mitroflow tissue valves, are manufactured using bovine tissue. Concerns relating to the potential transmission of BSE, commonly known as "mad cow disease," from cows to humans may result in reduced acceptance of products containing bovine materials. Some medical device regulatory agencies have considered and are considering whether to continue to permit the sale of medical devices that incorporate certain animal material. While we are not aware of any reported cases of transmission of BSE through medical products, the suspension or revocation of authority to manufacture, market or distribute products containing bovine material, or the imposition of a regulatory requirement that we procure material for these products from alternate sources, could result in lost market opportunities, harm the continued commercialization and distribution of such products and impose additional costs on us. We have not experienced any significant adverse impact on our sales as a result of concerns regarding BSE, but no assurance can be given that such an impact may not occur in the future.

Our manufacturing operations require us to comply with the FDA's and other governmental authorities' laws and regulations regarding the manufacture and production of medical devices, which is costly and could subject us to enforcement action.

LivaNova and certain of its third-party manufacturers are required to comply with the FDA's current Good Manufacturing Practice ("GMP") requirements, as embodied in the QSR which covers the design, testing, production, control, quality assurance, labeling, packaging, sterilization, storage and shipping of medical device products in the United States. LivaNova and certain of its suppliers also are subject to the regulations of foreign jurisdictions regarding the manufacturing process for products marketed outside of the United States. The FDA enforces the QSR through periodic announced (routine) and unannounced (for cause or directed) inspections of manufacturing facilities, during which the FDA may issue Forms FDA-483 listing inspectional observations which, if not addressed to the FDA's satisfaction, can result in further enforcement action. Similar inspections are carried out in the EEA by Notified Bodies and EEA Competent Authorities. The failure by LivaNova or one of our suppliers to comply with applicable statutes and regulations administered by the FDA and other regulatory bodies, or the failure to timely and adequately respond to any adverse inspectional observations or product safety issues could result in:

- untitled letters, warning letters, fines, injunctions or consent decrees;
- customer notifications or repair, replacement, refund, recall, detention or seizure of products;
- operating restrictions or partial suspension or total shutdown of production;
- refusal to grant or delay in granting 510(k) clearance or PMA approval of new products or modified products;
- withdrawing 510(k) clearances or PMA approvals that have already been granted;
- refusal to grant export approval for our products; or
- civil penalties or criminal prosecution.

Any of these actions could impair our ability to produce our products in a cost-effective and timely manner in order to meet customers' demands. We also may be required to bear other costs or take other actions that may have a negative impact on our future revenue and ability to generate profits. Furthermore, our key component suppliers may not currently be or may not continue to be in compliance with all applicable regulatory requirements, which could result in failure to produce products on a timely basis and in the required quantities, if at all.

LivaNova is subject to substantial post-market government regulation and any adverse regulatory action may materially adversely affect our financial condition and business operations.

Our medical devices remain subject to regulation by numerous government agencies following clearance or approval, including the global device regulatory bodies. To varying degrees, each of these agencies requires us to comply with laws and regulations governing manufacturing, labeling, marketing, distribution, reporting, importing and exporting of our medical devices. In recent years, the FDA in particular has significantly increased its oversight of companies subject to its regulations, including medical device companies, by hiring new investigators and stepping up inspections of manufacturing facilities. The FDA has recently also significantly increased the number of warning letters issued to companies.

Device manufacturers are permitted to promote products solely for the uses and indications set forth in the approved product labeling. A number of enforcement actions have been taken against manufacturers that promote products for "off-label" uses, including actions alleging that federal healthcare program reimbursement of products promoted for "off-label" uses are false and fraudulent claims to the government. The failure to comply with "off-label" promotion restrictions can result in significant administrative obligations and costs, and potential penalties from, and/or agreements with, the federal government.

We use many distributors, agents and independent sales representatives in certain territories and thus rely upon their compliance with applicable laws and regulations, such as the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Statute ("Anti-Kickback Statute"), the U.S. False Claims Act ("False Claims Act"), the U.S. Sunshine Act , similar laws under countries located outside the United States and other applicable federal, state or applicable international laws. If a global regulatory body were to conclude that we are not in compliance with applicable laws or regulations, or that any of our medical devices are ineffective or pose an unreasonable health risk, it could ban such medical devices, detain or seize adulterated or misbranded medical devices, order a recall, repair, replacement, or refund of such devices, refuse to grant pending pre-market approval applications or require certificates of foreign governments for exports, and/or require us to notify healthcare professionals and others that the devices present unreasonable risks of substantial harm to the public health. The global device regulatory bodies may also impose operating restrictions on a company-wide basis, enjoin and/or restrain certain conduct resulting in violations of applicable law pertaining to medical devices, and assess civil or criminal penalties against, or recommend prosecution of, our officers, employees, or our company itself. Any adverse regulatory action, depending on its magnitude, may restrict us from effectively marketing and selling its products.

LivaNova is also subject to various environmental laws and regulations worldwide. Our operations involve the use of substances regulated under environmental laws, primarily those used in manufacturing and sterilization processes. We cannot guarantee that compliance with environmental protection laws and regulations will not have a material impact on our consolidated earnings, financial condition, and/or cash flows.

Finally, any governmental law or regulation imposed in the future may have a material adverse effect on us. From time to time, legislation is drafted and introduced that could significantly change the statutory provisions governing the clearance or approval, manufacture and marketing of medical devices. In addition, global regulatory bodies' regulations and guidance can be revised or reinterpreted in ways that may significantly affect our business and products. It is impossible to predict whether legislative changes will be enacted or regulations, guidance or interpretations changed, and what the impact of such changes, if any, may be.

Quality problems with our processes, goods, and services could harm our reputation for producing high-quality products and erode our competitive advantage, sales, and market share.

Quality is extremely important to us and our customers due to the serious and costly consequences of product failure. Our quality certifications are critical to the marketing success of our goods and services. If we fail to meet these standards, our reputation could be damaged, we could lose customers, and our revenue and results of operations could decline. Aside from specific customer standards, our success depends generally on our ability to manufacture to exact tolerances precision-engineered components, subassemblies, and finished devices from multiple materials. If our components fail to meet these standards or fail to adapt to evolving standards, our reputation as a manufacturer of high-quality components will be harmed, our competitive advantage could be damaged, and we could lose customers and market share.

Product liability claims could adversely impact our consolidated financial condition and our earnings and impair our reputation.

Our business exposes us to potential product liability risks that are inherent in the design, manufacture and marketing of medical devices. In addition, many of the medical devices we manufacture and sell are designed to be implanted in the human body for long periods of time. Component failures, manufacturing defects, design flaws or inadequate disclosure of product-related risks or product-related information with respect to these or other products we manufacture or sell could result in an unsafe condition or injury to, or death of, a patient. The occurrence of such an event could result in product liability claims or a recall of, or safety alert relating to, one or more of our products. We have elected to self-insure with respect to a portion of our product liability risks and hold global insurance policies in amounts we believe are adequate to cover future losses. Product liability claims or product recalls in the future, regardless of their ultimate outcome, could have a material adverse effect on our business and reputation and on our ability to attract and retain customers for our products.

LivaNova is subject to lawsuits.

LivaNova is or has been a defendant in a number of lawsuits for, among other things, alleged products liability and suits alleging patent infringement, and could be subject to additional lawsuits in the future. Given the uncertain nature of litigation generally, we are not able in all cases to estimate the amount or range of loss that could result from an unfavorable outcome of the litigation (including tax litigation) to which we are a party. Any such future losses, individually or in the aggregate, could have a material adverse effect on our results of operations and cash flows.

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. 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.

For a description of our material pending legal and regulatory proceedings and settlements, refer to "Note 17. Commitments and Contingencies - Litigation and Regulatory Proceedings" in our consolidated financial statements included in this Annual Report on Form 10-K.

Laws and/or collective bargaining agreements relating to employees may impact LivaNova's flexibility to redefine and/or strategically reposition our activities.

In many of the countries where we operate, employees are covered by various laws and/or collective bargaining agreements that endow them, through their local or national representatives, with the right to be consulted in relation to specific issues, including the downsizing or closing of departments and staff reductions. The laws and/or collective bargaining agreements that are applicable to these agreements could have an impact on our flexibility, as they apply to programs to redefine and/or strategically reposition our activities. Our ability to implement staff downsizing programs or even temporary interruptions of employment relationships is predicated on the approval of government entities and the consent of labor unions. Union-organized work stoppages by employees could have a negative impact on our business.

Our failure to comply with rules relating to healthcare fraud and abuse, false claims and privacy and security laws may subject us to penalties and adversely impact our reputation and business operations.

Our devices and therapies are subject to regulation regarding quality and cost by various governmental agencies worldwide responsible for coverage, reimbursement and regulation of healthcare goods and services. In the United States, for example, federal government healthcare laws apply when a customer submits a claim for an item or service that is reimbursable under a U.S. federal government-funded healthcare program, such as Medicare or Medicaid. The principal U.S. federal laws implicated include:

- the Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs, such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of the Anti-Kickback Statute or specific intent to violate it to have committed a violation; in addition, the government may assert that a claim including items or services resulting from a violation of the Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- federal civil and criminal false claims laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid or other federal third-party payors that are false or fraudulent. Actions under the False Claims Act can be brought by the Attorney General or as qui-tam actions by private individuals in the name of the government. Such private individuals, commonly known as "whistleblowers," may share in any amounts paid by the entity to the government in fines or settlement. When an entity is determined to have violated the False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties for each separate false claim;
- the federal Civil Monetary Penalties Law, which prohibits, among other things, offering or transferring remuneration to a federal healthcare beneficiary that a person knows or should know is likely to influence the beneficiary's decision to order or receive items or services reimbursable by the government from a particular provider or supplier;
- federal criminal laws that prohibit executing a scheme to defraud any federal healthcare benefit program or making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information. This is the same significant risk further described in the Annual Report Form 10-K, Item 1A, under the heading *"Risk Factors: Patient Confidentiality and federal and state privacy and security laws and regulations in the United States may adversely impact our selling model"*;
- the U.S. Sunshine Act, which requires manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the Centers for Medicare & Medicaid Services ("CMS") information related to payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, and requires applicable manufacturers and group purchasing organizations to report annually to the government ownership and investment interests held by the physicians described above and their immediate family members and payments or other "transfers of value" to such physician owners. Manufacturers are required to submit reports to CMS by the 90th day of each calendar year;
- the FCPA, which prohibits corporations and individuals from paying, offering to pay or authorizing the payment of anything of value to any foreign government official, government staff member, political party or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in an official capacity;
- the U.K. Bribery Act, which prohibits both domestic and international bribery, as well as bribery across both public and private sectors; and bribery provisions contained in the German Criminal Code, which, pursuant to draft legislation being prepared by the German government, may make the corruption and corruptibility of physicians in private practice and other healthcare professionals a criminal offense; and
- analogous state and foreign law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers; state laws that require device companies to comply with the industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require device manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

The risk of LivaNova being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available under such laws, it is possible that some of our business activities, including our relationships with surgeons and other healthcare providers, some of whom recommend, purchase and/or prescribe our devices, group purchasing organizations and our independent sales agents and distributors, could be subject to challenge under one or more of such laws. LivaNova is also exposed to the risk that our

employees, independent contractors, principal investigators, consultants, vendors, independent sales agents and distributors may engage in fraudulent or other illegal activity. While we have policies and procedures in place prohibiting such activity, misconduct by these parties could include, among other infractions or violations, intentional, reckless and/or negligent conduct or unauthorized activity that violates FDA regulations, including those laws that require the reporting of true, complete and accurate information to the FDA, manufacturing standards, federal and state healthcare fraud and abuse laws and regulations, laws that require the true, complete and accurate reporting of financial information or data or other commercial or regulatory laws or requirements. It is not always possible to identify and deter misconduct by our employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting LivaNova from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations.

There are similar laws and regulations applicable to LivaNova outside the United States, all of which are subject to evolving interpretations. Global enforcement of anti-corruption laws, including but not limited to the UK Bribery Act, The Brazil Clean Companies Act, and continued enforcement in the Europe, Middle East and Asia Pacific has increased substantially in recent years, with more frequent voluntary self-disclosures by companies, aggressive investigations and enforcement proceedings by governmental agencies, and assessment of significant fines and penalties against companies and individuals. Our operations create the risk of unauthorized payments or offers of payments by one of our employees, consultants, sales agents, or distributors because these parties are not always subject to our control. It is our policy to implement safeguards to discourage these practices. However, our existing safeguards and any future improvements may prove to be less than effective, and our employees, consultants, sales agents, or distributors may engage in conduct for which we might be held responsible. Any alleged or actual violations of these regulations may subject us to government scrutiny, severe criminal or civil sanctions and other liabilities, including exclusion from government contracting or government healthcare programs, and could negatively affect our business, reputation, operating results, and financial condition. In addition, a governmental authority may seek to hold us liable for successor liability violations committed by any companies in which we invest or that we acquire.

If a governmental authority were to conclude that we are not in compliance with applicable laws and regulations, we and our officers and employees could also be subject to exclusion from participation as a supplier of product to beneficiaries. If we are excluded from participation based on such an interpretation it could adversely affect our reputation and business operations. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business.

Our insurance policies may not be adequate to cover future losses.

Our insurance policies (including general and products liability) provide insurance in such amounts and against such risks we have reasonably determined to be prudent in accordance with industry practices or as is required by law or regulation. Although, based on historical loss trends, we believe that our insurance coverage will be adequate to cover future losses, we cannot guarantee that this will remain true. Historical trends may not be indicative of future losses, and losses from unanticipated claims could have a material adverse impact on our consolidated earnings, financial condition, and/or cash flows.

We are substantially dependent on patent and other proprietary rights and failing to protect such rights or to be successful in litigation related to our rights or the rights of others may result in our payment of significant monetary damages and/or royalty payments, negatively impact our ability to sell current or future products, or prohibit us from enforcing its patent and other proprietary rights against others.

We operate in an industry characterized by extensive patent litigation. 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.

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 proceedings. Accordingly, the outcomes of individual cases are difficult to time, predict or quantify.

Third parties have asserted, and may in the future assert, that our current and former product offerings infringe patents owned or licensed by them. We have similarly asserted, and may in the future assert, 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.

We also rely on a combination of patents, trade secrets, and non-disclosure and non-competition agreements to protect our proprietary intellectual property, and we will continue to do so. While we intend to defend against any threats to our intellectual property, these patents, trade secrets, or other agreements may not adequately protect our intellectual property. Further, pending patent applications may not result in patents being issued to us. Patents issued to or licensed by us in the past or in the future may be challenged or circumvented by competitors and such patents may be found invalid, unenforceable or insufficiently broad to protect our technology and may limit our competitive advantage. Third parties could obtain patents that may require us to negotiate licenses to conduct our business, and the required licenses may not be available on reasonable terms or at all. We also rely on non-disclosure and non-competition agreements with certain employees, consultants, and other parties to protect, in part, trade secrets and other proprietary rights. We cannot be certain that these agreements will not be breached, that we will have adequate remedies for any breach, that others will not independently develop substantially equivalent proprietary information, or that third parties will not otherwise gain access to our trade secrets or proprietary knowledge.

In addition, the laws of certain countries in which we market our products are not uniform and may not protect our intellectual property rights equally. If we are unable to protect our intellectual property in particular 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, 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 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.

Our research and development efforts rely upon investments and investment collaborations, and we cannot guarantee that any previous or future investments or investment collaborations will be successful.

Our strategy to provide a broad range of therapies to restore patients to fuller, healthier lives requires a wide variety of technologies, products, and capabilities. The rapid pace of technological development in the medical industry and the specialized expertise required in different areas of medicine make it difficult for one company alone to develop a broad portfolio of technological solutions. As a result, we also rely upon investments and investment collaborations to provide us access to new technologies both in areas served by our existing or legacy businesses as well as in new areas.

We expect to make future investments where we believe that we can stimulate the development of, or acquire new technologies and products to further our strategic objectives and strengthen our existing businesses. Investments and investment collaborations in and with medical technology companies are inherently risky, and we cannot guarantee that any of our previous or future investments or investment collaborations will be successful or will not materially adversely affect our consolidated earnings, financial condition and/or cash flows.

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

As a part of the regulatory process of obtaining marketing clearance or approval for new products and modifications to or new indications for existing products, we conduct and participate in numerous clinical trials with a variety of study designs, patient populations, and trial endpoints. Unfavorable or inconsistent clinical data from existing or future clinical trials conducted by LivaNova, by our competitors, or by third parties, or the market's or global regulatory bodies' perception of this clinical data, may adversely impact our ability to obtain product clearances or approvals, our position in, and share of, the markets in which we participate, and our business, financial condition, and results of operations. Success in pre-clinical testing and early clinical trials does not always ensure that later clinical trials will be successful, and we cannot be sure that later trials will replicate the results of prior trials and studies. Clinical studies must also be conducted in compliance with Good Clinical Practice ("GCP") requirements administered by the FDA and other foreign regulatory authorities, and global regulatory bodies may undertake

enforcement action against us based on a failure to adhere to these requirements. Any delay or termination of our clinical trials will delay the filing of product submissions and, ultimately, our ability to commercialize new products or product modifications. It is also possible that patients enrolled in clinical trials will experience adverse side effects that are not currently part of the product's profile, which could inhibit further marketing and development of such products.

Consolidation in the healthcare industry could have an adverse effect on our revenue and results of operations.

Many healthcare industry companies, including medical device companies, are consolidating to create new companies with greater market power. As the healthcare industry consolidates, competition to provide goods and services to industry participants will become more intense. These industry participants may try to use their market power to negotiate price concessions or reductions for medical devices that incorporate components we produce. Increasing pricing pressures as a result of industry consolidation could have an adverse effect on our revenue, results of operations, financial position and cash flows.

The global medical device industry is highly competitive and LivaNova may be unable to compete effectively.

In the product lines in which we compete, we face a mixture of competitors ranging from large manufacturers with multiple business lines to small manufacturers that offer a limited selection of specialized products. Development by other companies of new or improved products, processes, or technologies, as discussed above, may make our products or proposed products less competitive. In addition, we face competition from providers of alternative medical therapies such as pharmaceutical companies. We face increasing competition for our indication specific patents for certain products. Competitive factors include:

- product quality, reliability and performance;
- product technology;
- breadth of product lines and product services;
- ability to identify new market trends;
- customer support;
- price;
- capacity to recruit engineers, scientists and other qualified employees; and
- reimbursement approval from governmental payors and private healthcare insurance providers.

Shifts in industry market share can occur in connection with product issues, physician advisories, safety alerts, and publications about our products reflecting the importance of product quality, product efficacy, and quality systems in the medical device industry. In the current environment of managed care, consolidation among healthcare providers, increased competition, and declining reimbursement rates, we are increasingly required to compete on the basis of price. In order to continue to compete effectively, we must continue to create, invest in, or acquire advanced technology, incorporate this technology into our proprietary products, obtain regulatory approvals in a timely manner, and manufacture and successfully market our products. Additionally, we may experience design, manufacturing, marketing or other difficulties that could delay or prevent our development, introduction or marketing of new products or new versions of our existing products. As a result of such difficulties and delays, our development expenses may increase and, as a consequence, our results of operations could suffer.

Risks related to the reduction or interruption in supply and an inability to develop alternative sources for supply may adversely affect our manufacturing operations and related product sales.

LivaNova maintains manufacturing operations in 8 countries located throughout the world and purchases many of the components and raw materials used in manufacturing these products from numerous suppliers in various countries. Any problem affecting a supplier (whether due to external or internal causes) could have a negative impact on LivaNova.

In a few limited cases, specific components and raw materials are purchased from primary or main suppliers (or in some cases, a single supplier) for reasons related to quality assurance, cost-effectiveness ratio and availability. While we work closely with our suppliers to ensure supply continuity, we cannot guarantee that our efforts will always be successful. Moreover, due to strict standards and regulations governing the manufacture and marketing of our products, we may not be able to quickly locate new supply sources in response to a supply reduction or interruption, with negative effects on its ability to manufacture its products effectively and in a timely fashion.

We manufacture our products at production facilities in Italy, France, Germany, the United States, Canada, Brazil, Australia and the Dominican Republic, all of which are exposed to the risk of production stoppages caused by exceptional or accidental events (fires, shutdowns of access roads, etc.) or natural calamities (floods, earthquakes, etc.). Even though we have implemented what we believe to be appropriate preventive actions and insurance coverage, the possibility that the occurrence of events of exceptional severity or duration could have an impact on our performance cannot be excluded.

Natural disasters, war, acts of terrorism and other events could adversely affect our future revenue and operating income.

Natural disasters (including pandemics), war, terrorism, labor disruptions and international conflicts, and actions taken by governmental entities or by our customers or suppliers in response to such events, could cause significant economic disruption and political and social instability in the areas in which we operate. These events could result in decreased demand for our products, adversely affect our manufacturing and distribution capabilities, or increase the costs for or cause interruptions in the supply of materials from our suppliers.

We are subject to the risks of international economic and political conditions.

Our international operations are subject to risks that are inherent in conducting business overseas and under foreign laws, regulations and customs. These risks include possible nationalization, exit from the European Union, expropriation, importation limitations, violations of U.S. or local laws, including, but not limited to, the U.S. FCPA, pricing restrictions, and other restrictive governmental actions. Any significant changes in the competitive, political, legal, regulatory, reimbursement or economic environment where we conduct international operations may have a material impact on our business and our consolidated financial condition or results of operations.

Since 2008, the global economy has been impacted by the sequential effects of an ongoing global financial crisis, and there can be no assurance that there will not be further deterioration in the global economy. Customers and vendors may experience financial difficulties or be unable to borrow money to fund their operations, which may adversely impact their ability to purchase our products or to pay for our products on a timely basis, if at all. As with our customers and vendors, these economic conditions make it more difficult for us to accurately forecast and plan future business activities. In addition, a significant amount of our trade receivables are either with third party intermediaries marketing, selling and distributing our products or with national healthcare systems in many countries, and repayment of these receivables is dependent upon the financial stability of the economies of those countries.

In light of these global economic fluctuations, we continue to monitor the creditworthiness of all of our customers worldwide. Failure to receive payment of all or a significant portion of receivables could adversely affect results of operations and cash flows. Deterioration in the creditworthiness of the Eurozone countries, the withdrawal of one or more member countries from the EU or the failure of the euro as a common European currency could adversely affect our revenue, financial condition or results of operations.

We intend to continue to pursue growth opportunities in sales worldwide, including in emerging markets outside Europe and the United States, which could expose us to greater risks associated with sales and operations in these regions. Emerging economies have less mature product regulatory systems and can have more volatile financial markets. Our profitability and operations are, and will continue to be, subject to a number of risks and potential costs, including:

- local product preferences and product requirements;
- longer-term receivables than are typical in the EU or the United States;
- fluctuations in foreign currency exchange rates;
- less intellectual property protection in some countries outside the EU or the United States;
- trade protection measures and import and export licensing requirements;
- workforce instability;
- political and economic instability;
- Same significant risk further described in the Annual Report Form 10-K, Item 1A, under the heading *"Risk Factors*: *Our failure to comply with rules relating to healthcare fraud and abuse, false claims and privacy and security laws may subject us to penalties and adversely impact our reputation and business operations.***"**

LivaNova is exposed to foreign currency exchange risk.

We transact business in numerous countries around the world and expect that a significant portion of our business will continue to take place in international markets. Consolidated financial statements are prepared in our functional currency, while the financial statements of each of our subsidiaries are prepared in the functional currency of that entity.

Accordingly, fluctuations in the exchange rate of the functional currencies of our foreign currency entities against the functional currency of LivaNova will impact our results of operations and financial condition. As such, it is expected that our revenue and earnings will continue to be exposed to the risks that may arise from fluctuations in foreign currency exchange rates, which could have a material adverse effect on our business, results of operation or financial condition. Although we may elect to hedge certain foreign currency exposure, we cannot be certain that the hedging activity will eliminate our currency risk.

We are exposed to significant risks in relation to compliance with anti-corruption laws and regulations and economic sanctions programs.

LivaNova does business on a worldwide basis, which requires us to comply with the laws and regulations of various jurisdictions. Our international operations are subject to anti-corruption laws and regulations, such as the FCPA, the U.K. Bribery Act and economic sanctions programs, including those administered by the United Nations, the EU and the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC") and regulations set forth under the Comprehensive Iran Accountability Divestment Act.

As a result of doing business in foreign countries, we are exposed to a risk of violating anti-corruption laws and sanctions regulations applicable in those countries where we, our partners or agents operate. Some of the international locations in which we operate, often in emerging markets, lack a developed legal system and have high levels of corruption. Violations of anti-corruption laws and sanctions regulations are punishable by civil penalties, including fines, denial of export privileges, injunctions, asset seizures, debarment from government contracts (and termination of existing contracts) and revocations or restrictions of licenses, as well as criminal fines and imprisonment. In addition, any major violations could have a significant impact on our reputation and consequently on our ability to win future business.

While we believe we have a strong culture of compliance and adequate systems of control, we will seek to continuously improve our systems of internal controls and to remedy any weaknesses identified. There can be no assurance, however, that the policies and procedures will be followed at all times or effectively detect and prevent violations of the applicable laws by one or more of our employees, consultants, agents or partners and, as a result, we may be subject to penalties and material adverse consequences on our business, financial condition or results of operations.

In many of the international markets in which we do business, including certain parts of Europe, Asia and Latin America, we sell our products through distributors who may misrepresent our products.

Selling our products through distributors, particularly in public tenders, may expose us to a higher degree of risk. Our agents and distributors are independent contractor third parties retained by us to sell our products in different markets. If they misrepresent our products, do not provide appropriate service and delivery, or commit a violation of local or U.S. law, our reputation could be harmed, and we could be subject to fines, sanctions or both.

Risks related to access to financial resources.

The credit lines provided by our lenders are governed by clauses, commitments and covenants. The failure to comply with these provisions can constitute a failure to perform a contractual obligation, which authorizes the lender banks to demand the immediate repayment of the facilities, making it difficult to obtain alternative resources.

Changes in our financial position are the result of a number of factors, specifically including the achievement of budgeted objectives and the trends shaping general economic conditions, and the financial markets and the industry within which we operate. We expect to generate the resources needed to repay maturing indebtedness and fund scheduled investments from the cash flow produced by our operations, our available liquidity, the renewal or refinancing of bank borrowings and possibly, access to the capital markets. Even under current market conditions, we expect that our operations will generate adequate financial resources. Nevertheless, given the volatility in current financial markets, the possibility that problems in the banking and monetary markets could hinder the normal handling of financial transactions cannot be excluded.

Certain of our debt instruments will require us to comply with certain affirmative covenants and specified financial covenants and ratios.

Certain restrictions in our debt instruments could affect our ability to operate and may limit our ability to react to market conditions or to take advantage of potential business opportunities as they arise. For example, such restrictions could adversely affect our ability to finance our operations, make strategic acquisitions, investments or alliances, restructure our organization or finance capital needs. Additionally, our ability to comply with these covenants and restrictions may be affected by events beyond our control such as prevailing economic, financial, regulatory and industry conditions. If any of these restrictions or covenants is breached, we could be in default under one or more of our debt instruments, which, if not cured or waived, could result in acceleration of the indebtedness under such agreements and cross defaults under its other debt instruments. Any such actions could result in the enforcement of our lenders' security interests and/or force us into bankruptcy or liquidation, which could have a material adverse effect on our financial condition and results of operations.

As an English public limited company, certain capital structure decisions will require shareholder approval which may limit LivaNova's flexibility to manage its capital structure.

LivaNova is a public limited company incorporated under the laws of England and Wales. English law provides that a board of directors may only allot shares (or rights to subscribe for or convertible into shares) with the prior authorization of shareholders, such authorization being up to the aggregate nominal amount of shares and for a maximum period of five years, each as specified in the articles of association or relevant shareholder resolution. This authorization would need to be renewed by LivaNova's shareholders prior to or upon its expiration (i.e., at least every five years). The LivaNova articles of association authorize the allotment of additional shares for a period of five years from the date of the adoption of the LivaNova articles up to an aggregate nominal amount of 9,764,463 ordinary shares, representing 20% of the number of shares in the capital of LivaNova as of October 19, 2015, the date of the adoption of the LivaNova articles, which authorization will need to be renewed upon expiration but may be sought more frequently for additional five-year terms (or any shorter period) and/or may be sought to allot a larger number of shares than specified in the existing authorization.

English law also generally provides shareholders with pre-emptive rights when new shares are issued for cash; however, it is possible for the LivaNova articles, or shareholders in general meeting, to exclude or dis-apply preemptive rights. Such an exclusion or dis-application of preemptive rights may be for a maximum period of up to five years from the date of adoption of the LivaNova articles, if the exclusion is contained in the LivaNova articles, or from the date of the shareholder resolution, if the exclusion is by shareholder resolution; in either case, this exclusion would need to be renewed by LivaNova's shareholders prior to or upon its expiration (i.e., at least every five years). The LivaNova articles exclude preemptive rights in relation to an allotment of shares for cash pursuant to the authority referred to above for a period of five years following the date of the adoption of the LivaNova articles, which exclusion will need to be renewed upon expiration (i.e., at least every five years) to remain effective, but may be sought more frequently for additional five-year terms (or any shorter period) and/or may be sought to apply a larger number of shares than specified in the existing, dis-application authority.

English law also generally prohibits a public company from repurchasing its own shares without the prior approval of shareholders by ordinary resolution, being a resolution passed by a simple majority of votes cast, and other formalities. Such approval may be valid for a maximum period of up to five years.

LivaNova's inability to integrate recently acquired businesses or to successfully complete future acquisitions could limit our future growth or otherwise be disruptive to our ongoing business.

From time to time, we expect to pursue acquisitions in support of our strategic goals. In connection with any such acquisitions, we face significant challenges in managing and integrating any expanded or combined operations, including acquired assets, operations and personnel. There can be no assurance that acquisition opportunities will be available on acceptable terms or at all, or that we will be able to obtain necessary financing or regulatory approvals to complete potential acquisitions. Our success in implementing this strategy will depend to some degree upon the ability of management to identify, complete and successfully integrate commercially viable acquisitions. Acquisition transactions may disrupt our ongoing business and distract management from other responsibilities.

The success of any acquisition, investment or alliance may be affected by a number of factors, including our ability to properly assess and value the potential business opportunity or to successfully integrate any businesses we may acquire into our existing business. The integration of the operations of acquired businesses requires significant efforts, including the coordination of information technologies, research and development, sales and marketing, operations, manufacturing and finance. These efforts

result in additional expenses and involve significant amounts of management's time that cannot then be dedicated to other projects. Failure to successfully manage and coordinate the growth of the combined company could also have an adverse impact on our business. In addition, we cannot be certain that our investments, alliances and acquired businesses will become profitable or remain so. If our investments, alliances or acquisitions are not successful, we may record unexpected impairment charges.

We have and will continue to incur certain transaction and merger-related costs in connection with the Mergers.

We have incurred and expect to incur a number of non-recurring direct and indirect costs associated with the Mergers. These costs and expenses include fees paid to financial, legal and accounting advisors, filing fees, printing expenses and other related charges as well as ongoing expenses related to facilities and systems consolidation costs, severance payments and other potential employment-related costs, including payments remaining to be made to certain Sorin and Cyberonics executives. In the year ended December 31, 2016, we incurred $20.5 million in merger and integration expenses. In the transitional period, April 25, 2015 to December 31, 2015, we incurred $55.8 million in merger and integration expenses. We expect additional expenses in the future for the integration of the two merged businesses. Integration expenses related to systems integration, organization structure integration, finance, synergy and tax planning, transitioning of accounting methodologies, certain re-branding efforts, and restructuring efforts related to our intent to leverage economies of scale, eliminate overlapping corporate expenses and streamline distributions, logistics and office functions in order to reduce overall costs. While we assumed a certain level of expenses in connection with the terms of the Transaction Agreement, there are many factors beyond our control, including unanticipated costs that could affect the total amount or the timing of these expenses. Although we expect that the benefits of the Mergers will offset the transaction expenses and implementation costs over time, this net benefit may not be achieved in the near term or at all.

We may incur goodwill impairments for goodwill recorded at the Mergers.

During the year ended December 31, 2016, we recorded a pre-tax, non-cash loss on impairment of our Cardiac Rhythm Management reporting unit goodwill of $18.3 million, which was included in the consolidated statement of net loss. Refer to "Note 8. Goodwill and Intangible Assets" in our consolidated financial statements for additional information on goodwill impairment and goodwill which could be at risk of future impairment. As of December 31, 2016, the carrying value of our goodwill totaled $691.7 million which represented 29.5% of our total assets.

We test goodwill for impairment on an annual basis or when events or changes in circumstances indicate that a potential impairment exists. The goodwill impairment test requires us to identify reporting units, perform a qualitative assessment of the likelihood that a reporting unit's carrying value exceeds its estimated fair value, and in certain circumstances estimate each reporting unit's fair value as of the testing date. Our calculation of the fair value of our reporting units is based on estimates of future discounted cash flows, which reflect management's judgments and assumptions regarding the appropriate risk-adjusted discount rate, as well as future operating performance and our business outlook, including expected sales, operating costs, capital requirements, growth rates and terminal values for each of our reporting units. If the aggregate fair value of our reporting units exceeds our market capitalization, we evaluate the reasonableness of the implied control premium.

The estimates used to determine the fair value of our reporting units reflect management's best estimates of inputs and assumptions that a market participant would use. Future declines in any one of our reporting units' operating performance or our anticipated business outlook may reduce the estimated fair value of a reporting unit and result in an impairment of goodwill. Factors that could have a negative impact on the fair value of our reporting units include, but are not limited to:

- The ability of our sales force to effectively market and promote our products, and the extent to which those products gain market acceptance;
- the existence and timing of any approvals, changes, or non-coverage determinations for reimbursement by third-party payors;
- the rate and size of expenditures incurred on our clinical, manufacturing, sales, marketing and product development efforts;
- our ability to obtain and retain personnel;

- the availability of key components, materials and contract services, which depends on our ability to forecast sales, among other things;
- investigations of our business and business-related activities by regulatory or other governmental authorities;
- variations in timing and quantity of product orders;
- temporary manufacturing interruptions or disruptions;
- the timing and success of new product and new market introductions, as well as delays in obtaining domestic or foreign regulatory approvals for such introductions;
- increased competition, patent expirations or new technologies or treatments;
- product recalls or safety alerts;
- litigation, including product liability, patent, employment, securities class action, stockholder derivative, general commercial and other lawsuits;
- the financial health of our customers, and their ability to purchase our products in the current economic environment; and
- other unusual or non-operating expenses, such as expenses related to mergers or acquisitions, may cause operating result variations;
- increases in the market-participant risk-adjusted WACC;
- declines in anticipated growth rates.

Adverse changes in one or more of these factors could result in a goodwill impairment in future periods.

Once LivaNova's shares are delisted from the London Stock Exchange, the City Code on Takeovers and Mergers will no longer apply to LivaNova and LivaNova will therefore not have the benefit of the protections that that Code affords.

On February 23, 2017, LivaNova announced that it has made applications (i) to the UK Financial Conduct Authority (the "FCA") for the cancellation of the standard listing of LivaNova's ordinary shares of £1 per share (the "Shares") on the Official List of the UK Listing Authority and (ii) to the London Stock Exchange plc (the "LSE") to cancel the admission to trading of the Shares on the main market of the LSE (the "Main Market") (together, the "Cancellation"). In connection with the Cancellation, LivaNova has also decided to terminate its UK domestic depositary interest ("DI") facility.

Following the Cancellation, as LivaNova will remain a public limited company incorporated in England and Wales but its securities will not be admitted to trading on a regulated market in the United Kingdom (or the Channel Islands or the Isle of Man), the City Code on Takeovers and Mergers (the "Code") will only apply to LivaNova if it is considered by the Panel on Takeovers and Mergers (the "Panel") to have its place of central management and control in the United Kingdom (or the Channel Islands or the Isle of Man). This is known as the "residency test". The way in which the test for central management and control is applied for the purposes of the Code may be different from the way in which it is applied by the United Kingdom tax authorities, HM Revenue & Customs ("HMRC"). Under the Code, the Panel will look to where the majority of the directors of LivaNova are themselves resident, amongst other factors, for the purposes of determining where LivaNova has its place of central management and control. Accordingly, following the Cancellation, the Panel has confirmed to LivaNova that the Code will not apply to LivaNova and LivaNova will therefore not have the benefit of the protections the Code affords, including, but not limited to, the requirement that a person who acquires an interest in Shares carrying 30% or more of the voting rights in LivaNova must make a cash offer to all other shareholders at the highest price paid in the 12 months before the offer was announced.

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

LivaNova is subject to income taxes as well as non-income based taxes, in the United States, the EU and various jurisdictions. We are also subject to ongoing tax audits in various other foreign jurisdictions. Tax authorities may disagree with certain positions we have taken and assess additional taxes. We believe that our accruals reflect the probable outcome of known contingencies. However, there can be no assurance that we will accurately predict the outcomes of ongoing audits, and the actual outcomes of these audits could have a material impact on our consolidated net income or financial condition. Changes in tax laws or tax rulings could materially impact our effective tax rate or results of operations.

The IRS may not agree with the conclusion that LivaNova should be treated as a foreign corporation for U.S. federal tax purposes, and LivaNova may be required to pay substantial U.S. federal income taxes.

LivaNova believes that under current law, it is treated as a foreign corporation for U.S. federal tax purposes because it is a U.K. incorporated entity. Although LivaNova is incorporated in the U.K., the IRS may assert that it should be treated as a U.S. corporation (and, therefore, a U.S. tax resident) for U.S. federal tax purposes pursuant to Section 7874 of the Code. For U.S. federal tax purposes, a corporation is considered a tax resident in the jurisdiction of its organization or incorporation, except as provided under Section 7874. Subject to the discussion of Section 7874 below, because LivaNova is a U.K. incorporated entity, it would be classified as a foreign corporation (and, therefore, a non-U.S. tax resident) under these rules. Section 7874 provides an exception under which a foreign incorporated entity may, in certain circumstances, be treated as a U.S. corporation for U.S. federal tax purposes.

For LivaNova to be treated as a foreign corporation for U.S. federal tax purposes under Section 7874, in connection with the Mergers completed on October 19, 2015, either (i) the former stockholders of Cyberonics must own (within the meaning of Section 7874) less than 80% (by both vote and value) of LivaNova ordinary shares by reason of holding shares of Cyberonics common stock, or (ii) LivaNova must have substantial business activities in the U.K. after the Mergers (taking into account the activities of LivaNova's expanded affiliated group). For purposes of Section 7874, "expanded affiliated group" ("EAG") means a foreign corporation and all subsidiaries in which the foreign corporation, directly or indirectly, owns more than 50% of the shares by vote and value. LivaNova does not expect to have substantial business activities in the U.K. within the meaning of these rules.

LivaNova believes that because the former stockholders of Cyberonics own (within the meaning of Section 7874) less than 80% (by both vote and value) of LivaNova ordinary shares by reason of holding shares of Cyberonics common stock, the test set forth above to treat LivaNova as a foreign corporation was satisfied in connection with the Mergers completed on October 19, 2015. However, the IRS may disagree with the calculation of the percentage of the LivaNova ordinary shares deemed held by former holders of Cyberonics common stock by reason of being former holders of Cyberonics common stock due to the calculation provisions laid out under Section 7874 and accompanying guidance (the "Section 7874 Percentage"). The rules relating to calculating the Section 7874 Percentage are new and subject to uncertainty, and thus it cannot be assured that the IRS will agree that the ownership requirements to treat LivaNova as a foreign corporation were met. In addition, there have been legislative proposals to expand the scope of U.S. corporate tax residence, including by potentially causing LivaNova to be treated as a U.S. corporation if the management and control of LivaNova and its affiliates were determined to be located primarily in the United States. There have also been recent IRS publications expanding the application of Section 7874 and there could be prospective or retroactive changes to Section 7874 or the U.S. Treasury Regulations promulgated thereunder that could result in LivaNova being treated as a U.S. corporation.

The IRS may not agree with the conclusion that Section 7874 does not limit Cyberonics' and its U.S. affiliates' ability to utilize their U.S. tax attributes and does not impose an excise tax on gain recognized by certain individuals.

If the Section 7874 Percentage is calculated to be at least 60% but less than 80%, Section 7874 imposes a minimum level of tax on any "inversion gain" of a U.S. corporation (and any U.S. person related to the U.S. corporation) after the acquisition. Inversion gain is defined as (i) the income or gain recognized by reason of the transfer of property to a foreign related person during the 10-year period following the Cyberonics merger, and (ii) any income received or accrued during such period by reason of a license of any property by the U.S. corporation to a foreign related person. The effect of this provision is to deny the use of certain U.S. tax attributes (including net operating losses and certain tax credits) to offset U.S. tax liability, if any, attributable to such inversion gain. In addition, the IRS and the U.S. Treasury Department have issued guidance that has further limited benefits of certain post-combination transactions for combinations resulting in a Section 7874 Percentage of at least 60% but less than 80%, and have announced the intention to issue future guidance that could potentially limit benefits of interest deductions from intercompany debt or other deductions deemed to inappropriately "strip" U.S. source earnings.

Additionally, if the Section 7874 Percentage is calculated to be at least 60% but less than 80%, Section 7874 and rules related thereto would impose an excise tax under Section 4985 of the Code ("Section 4985 Excise Tax") on the gain recognized by certain "disqualified individuals" (including officers and directors of Cyberonics) on certain Cyberonics stock-based compensation held thereby at a rate equal to 15%. If the Section 4985 Excise Tax is applicable, the compensation committee of the Cyberonics board has determined that it is appropriate to provide such individuals with a payment with respect to the excise tax, so that, on a net after-tax basis, they would be in the same position as if no such excise tax had been applied.

LivaNova believes the Section 7874 Percentage following the combination of Cyberonics and Sorin was less than 60%. As a result, LivaNova believes that (i) Cyberonics and its U.S. affiliates will be able to utilize their U.S. tax attributes to offset their U.S. tax liability, if any, resulting from certain subsequent specified taxable transactions, and (ii) "disqualified individuals" will not be subject to the Section 4985 Excise Tax. However, the rules relating to calculating the Section 7874 Percentage are new and subject to uncertainty, and thus it cannot be assured that the IRS will agree that the Section 7874 Percentage following the combination of Cyberonics and Sorin was less than 60%.

LivaNova's status as a foreign corporation for U.S. federal income tax purposes could be affected by a change in law.

LivaNova believes that under current law, it is treated as a foreign corporation for U.S. federal tax purposes because it is a U.K. incorporated entity. However, changes to the inversion rules in Section 7874 of the Code or the U.S. Treasury Regulations promulgated thereunder could adversely affect our status as a foreign corporation for U.S. federal tax purposes, and any such changes could have prospective or retroactive application to LivaNova and its respective stockholders, shareholders and affiliates. In addition, recent legislative proposals and IRS guidance have aimed to expand the scope of U.S. corporate tax residence, including by reducing the Section 7874 Percentage threshold at or above which LivaNova would be treated as a U.S. corporation or by determining LivaNova's U.S. corporate tax residence based on the location of the management and control of LivaNova and its affiliates. Any such changes to Section 7874 or other such legislation, if passed, could have a significant adverse effect on LivaNova's financial results.

Future changes to U.S. and foreign tax laws could adversely affect LivaNova.

The U.S. Congress, the U.K. Government, the Organisation for Economic Co-operation and Development and other government agencies in jurisdictions where LivaNova and its affiliates do business have had an extended focus on issues related to the taxation of multinational corporations. One example is in the area of "base erosion and profit shifting," where payments are made between affiliates from a jurisdiction with high tax rates to a jurisdiction with lower tax rates. Additionally, recent legislative, treaty and regulatory proposals in the United States would impose certain earnings stripping limitations, among others, on LivaNova and its affiliates including if at least 60% of the LivaNova ordinary shares (by vote or value) are considered to be held by former holders of Cyberonics common stock by reason of their holding Cyberonics common stock for purposes of Section 7874. In addition, other recent legislative proposals would treat LivaNova as a U.S. corporation if the management and control of LivaNova and its affiliates were determined to be located primarily in the United States and/or would reduce the Section 7874 Percentage threshold at or above which LivaNova would be treated as a U.S. corporation. Furthermore, the 2016 U.S. Model Income Tax Convention recently released by the U.S. Treasury Department would reduce potential tax benefits with respect to LivaNova and its affiliates if the Section 7874 Percentage were calculated to be at least 60% but less than 80% by imposing full withholding taxes on payments pursuant to certain financing structures, distributions from U.S. subsidiaries and payments pursuant to certain licensing arrangements. Lastly, the Trump Administration has included as part of its agenda a potential reform of U.S. tax laws. In addition, the "Tax Reform Blueprint" published by the House of Representatives includes a framework of various issues that may affect our future tax position including, but not limited to, a reduction in the corporate tax rate, elimination of the interest deduction and border adjustability. The content of any final legislation, the timing for enactment, and the reporting periods that would be impacted cannot be determined at this time. Thus, the tax laws in the United States, the U.K. and other countries in which LivaNova and its affiliates do business could change on a prospective or retroactive basis, and any such changes could adversely affect LivaNova.

LivaNova may not qualify for benefits under the tax treaty entered into between the U.K. and the United States.

LivaNova believes that it operates in a manner such that it is eligible for benefits under the tax treaty entered into between the U.K. and the United States. However, LivaNova's ability to qualify for such benefits will depend upon the requirements contained in such treaty.

The failure by LivaNova or its subsidiaries to qualify for benefits under the tax treaty entered into between the U.K. and the United States could result in adverse tax consequences to LivaNova and its subsidiaries.

The 2016 U.S. Model Income Tax Convention recently released by the U.S. Treasury Department would reduce potential tax benefits with respect to LivaNova and its affiliates if the Section 7874 Percentage is calculated to be at least 60% but less than 80% by imposing full withholding taxes on payments pursuant to certain financing structures, distributions from U.S. subsidiaries and payments pursuant to certain licensing arrangements. If the proposed treaty is enacted with applicability to LivaNova or its affiliates, it would result in material reductions in the benefit of qualifying for a treaty. See also the section entitled "*Future changes to U.S. and foreign tax laws could adversely affect LivaNova.*"

LivaNova believes that it operates so as to be treated exclusively as a resident of the U.K. for tax purposes, but the relevant tax authorities may treat it as also being a resident of another jurisdiction for tax purposes.

LivaNova is a company incorporated in the U.K. Current U.K. law provides that LivaNova will be regarded as being a U.K. resident for tax purposes from incorporation and shall remain so unless (a) it is concurrently resident in another jurisdiction (applying the tax residence rules of that jurisdiction) that has a double tax treaty with the U.K. and (b) there is a tiebreaker provision in that tax treaty which allocates exclusive residence to that other jurisdiction.

Based upon LivaNova's management and organizational structure, LivaNova believes that it should be regarded as resident exclusively in the U.K. from its incorporation for tax purposes. However, because this analysis is highly factual and may depend on future changes in LivaNova's management and organizational structure, there can be no assurance regarding the final determination of LivaNova's tax residence. Should LivaNova be treated as resident in a country or jurisdiction other than the U.K., it could be subject to taxation in that country or jurisdiction on its worldwide income and may be required to comply with a number of material and formal tax obligations, including withholding tax and/or reporting obligations provided under the relevant tax law, which could result in additional costs and expenses for LivaNova, as well as its shareholders, lenders and/or bondholders.

The effective tax rate that will apply to LivaNova is uncertain and may vary from expectations.

No assurances can be given as to what LivaNova's worldwide effective corporate tax rate will be because of, among other things, uncertainty regarding the tax policies of the jurisdictions where it operates. LivaNova's actual effective tax rate may vary from our expectations and that variance may be material. Additionally, tax laws or their implementation and applicable tax authority practices could change in the future.

Transfers of LivaNova ordinary shares may be subject to U.K. stamp duty or U.K. stamp duty reserve tax ("SDRT").

U.K. stamp duty and/or SDRT are imposed in the U.K. on certain transfers of or agreements to transfer chargeable securities (which include shares in companies incorporated in the U.K.) at a rate of 0.5% of the consideration paid for the transfer. Certain issues or transfers of shares to depositaries or into clearance services, as discussed below, are charged at a higher rate of 1.5%.

Transfers of shares or agreements to transfer shares held in book entry form through the Depository Trust & Clearing Corporation ("DTC") should not be subject to U.K. stamp duty or SDRT in the U.K. A transfer of title in the shares or an agreement to transfer the shares from within the DTC system out of DTC and any subsequent transfers or agreements to transfer that occur entirely outside the DTC system, including repurchase by LivaNova, will generally be subject to U.K. stamp duty or SDRT at a rate of 0.5% of any consideration, which is payable by the transferee of the shares. Any such duty must be paid (and the relevant transfer document stamped by Her Majesty's Revenue & Customs ("HMRC")) before the transfer can be registered in the books of LivaNova. If such shares are redeposited into the DTC system, the redeposit will attract U.K. stamp duty or SDRT at the higher 1.5% rate.

LivaNova has put in place arrangements to require that shares held in certificated form cannot be transferred into the DTC system until the transferor of the shares has first delivered the shares to a depository specified by LivaNova so that U.K. stamp duty or SDRT may be collected in connection with the initial delivery to the depository. Any such shares will be evidenced by a receipt issued by the depository. Before the transfer can be registered in the books of LivaNova, the transferor will also be required to put the depository in funds to settle the applicable U.K. stamp duty or SDRT, which will be charged at a rate of 1.5% of the value of the shares.

In HMRC's most recent guidance published on July 23, 2014, in response to the decisions in certain recent cases, HMRC has confirmed that it will no longer seek to apply the 1.5% U.K. stamp duty or SDRT charge when new shares of companies incorporated in the U.K. are first issued to a clearance service (or its nominee) or depositary (or its nominee or agent) anywhere in the world or are transferred to such an entity anywhere in the world as an integral part of an issue of share capital.

Accordingly, it is not currently expected that U.K. stamp duty and/or SDRT would be imposed under current U.K. tax law and HMRC practice on a future issue of shares by LivaNova. However, it is possible that the U.K. government may change the relevant law in response to the cases referenced above, and that this may have a material effect on the cost of share issues by LivaNova and potentially on the cost of dealing in LivaNova shares. If LivaNova ordinary shares are not eligible for deposit and clearing within the facilities of DTC, then transactions in its securities may be disrupted.

The facilities of DTC are a widely-used mechanism that allow for rapid electronic transfers of securities between the participants in the DTC system, which include many large banks and brokerage firms. LivaNova ordinary shares are at present, subject to certain conditions, generally eligible for deposit and clearing within the DTC system. However, DTC generally has discretion to cease to act as a depository and clearing agency for LivaNova ordinary shares. If DTC determines at any time that LivaNova ordinary shares are not eligible for continued deposit and clearance within its facilities, then LivaNova believes that its ordinary shares would not be eligible for continued listing on a U.S. securities exchange and trading in LivaNova ordinary shares would be disrupted. While LivaNova would pursue alternative arrangements to preserve the listing and maintain trading, any such disruption could have a material adverse effect on the trading price of LivaNova ordinary shares.

LivaNova has also put in place certain depositary arrangements to give holders of LivaNova ordinary shares the option to settle and pay for interests in LivaNova ordinary shares through CREST. CREST is the system for the electronic settlement of trades in securities operated by Euroclear UK & Ireland Limited. CREST allows securities to be transferred from one CREST account to another without the need to use share certificates or written instruments of transfer. Under the current depositary arrangements put in place by LivaNova, settlement of LivaNova ordinary shares in CREST takes place through domestic depositary interests ("DDIs") issued by Computershare Investor Services PLC acting as depositary. The underlying LivaNova ordinary shares remain in the DTC system in the participant account of a Computershare affiliate and Computershare Investor Services PLC issues the DDIs representing such LivaNova ordinary shares that settle through CREST on a one-for-one basis. LivaNova ordinary shares themselves are not enabled for direct settlement through CREST. Transfers of DDIs representing underlying LivaNova ordinary shares through CREST are generally liable to SDRT, rather than U.K. stamp duty, at the 0.5% rate. CREST is required to collect SDRT on relevant transactions settled within the CREST system. LivaNova has received confirmation from HMRC that the issue and deposit into CREST, and any subsequent cancellation, of DDIs representing underlying LivaNova ordinary shares should not give rise to any liability to U.K. stamp duty or SDRT**.**

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

Our principal executive office is located in the U. K. and is leased by us. Our three Business Franchises, (formerly Business Units) corresponding to our three main therapeutic areas: Cardiac Rhythm Management, Neuromodulation and Cardiac Surgery have headquarters located in France, United States and Italy, respectively. The location in France is leased by us and the locations in Italy and United States are owned by us. Manufacturing and research facilities are located in Brazil, Canada, Dominican Republic, France, Germany, Italy, Australia, China and the United States. Total facilities are approximately 1.7 million square feet of which manufacturing and research facilities represent approximately 1.5 million square feet. Approximately 20 percent of the manufacturing facilities are located within the United States and approximately 70 percent of are owned by us and the balance is leased.

We also maintain 21 primary administrative offices in 15 countries. Most of these locations are leased. We are using substantially all of our currently available productive space to develop, manufacture, and market our products. Our facilities are in good operating condition, suitable for their respective uses, and adequate for current needs. We currently are evaluating our properties for additional cost savings and efficiencies, due to the Mergers.

Item 3. *Legal Proceedings*

For a description of our material pending legal and regulatory proceedings and settlements, refer to "Note 18. Commitments and Contingencies – *Litigation and Regulatory Proceedings*" in our consolidated financial statements included in this Annual Report on Form 10-K.

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*

Our ordinary shares are quoted on the NASDAQ Global Market and on the Main Market of the London Stock Exchange (as a standard listing) under the symbol "LIVN." On February 23, 2017, we announced our voluntary cancellation of our standard listing of ordinary shares with the London Stock Exchange due to the low volume of our ordinary share trading on the London Stock Exchange. Trading will cease at the close of business on April 4, 2017. Prior to the Mergers, our common stock was quoted on the NASDAQ Global Market under the symbol "CYBX." Immediately following the consummation of the Mergers, on October 19, 2015, we delisted "CYBX" and commenced trading our ordinary shares under "LIVN." The share prices shown in the table below prior to the Mergers have not been restated, since the "CYBX" shares were exchanged one for one for "LIVN" shares in accordance with the Merger Agreement.

The high and low sale prices for our common shares, par value $0.01 per share, for the period April 26, 2014 to October 18, 2015 and our ordinary shares, par value €1.00, during the period October 19, 2015 to December 31, 2016 are set forth below. Price data reflect actual transactions on the NASDAQ Global Market, but do not reflect mark-ups, mark-downs or commissions.

	High	Low
Fiscal Year Ended April 24, 2015		
First Quarter - April 26, 2014 to July 25, 2014	$ 64.08	$ 55.27
Second Quarter - July 26, 2014 to October 24, 2014	62.68	49.23
Third Quarter - October 25, 2014 to January 23, 2015	59.29	48.19
Fourth Quarter - January 24, 2015 to April 24, 2015	76.48	54.46
Transitional Period April 25, 2015 to December 31, 2015		
First Quarter - April 25, 2015 to July 24, 2015	$ 69.88	$ 56.15
Transitional Quarter - July 25, 2015 to October 18, 2015	71.20	57.90
Transitional Period - October 19, 2015 to December 31, 2015	77.00	53.13
Year Ended December 31, 2016		
First Quarter	$ 60.49	$ 51.28
Second Quarter	55.24	46.79
Third Quarter	63.21	49.27
Fourth Quarter	60.99	40.84

As of February 24, 2017, according to data provided by our transfer agent, there were 21 stockholders of record.

Recent Sales of Unregistered Securities

During the past fiscal year, we did not issue any securities that were not registered under the Securities Act.

Dividend Policy

We have not declared or paid any cash dividends. We intend to retain future earnings primarily to fund the development and growth of our business and therefore do not anticipate paying cash dividends within the foreseeable future. Any future payment of dividends will be determined by our Board of Directors and will depend on our consolidated financial position and results of operations and other factors deemed relevant by our Board of Directors.

Issuer Purchases of Securities

The table below presents purchases of equity securities by us and our affiliated purchasers during the quarterly period ended December 31, 2016:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share (2)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (3)	Approximate Dollar Value of Shares that May Yet Be Purchased Under Plans or Programs
October 1 - October 31, 2016	161,000	$ 57.96	161,000	$ 127,813,000
November 1 - November 30, 2016	282,527	$ 44.37	282,527	$ 115,284,000
December 1 - December 31, 2016	433,487	$ 45.32	336,952	$ 100,013,000
Fourth Quarter Total	877,014	$ 51.04	780,479	

(1) Includes (i) shares purchased as part of a publicly announced repurchase plan, and (ii) shares repurchased by an affiliated employee benefit trust on the open market.

(2) Shares are purchased at market price.

(3) On August 1, 2016, the Board of Directors of LivaNova approved the authorization of a share repurchase program of up to $150 million (the "Share Repurchase Program".) The Share Repurchase Program authorizes the Company to repurchase up to $30 million of the Company's ordinary shares from September 1, 2016 through December 31, 2016 and up to a total of $150 million (inclusive of the foregoing $30 million) between September 1, 2016 and December 31, 2018. On November 15, 2016, the Board of Directors approved an amendment (the "Amended Share Repurchase Program") to the Share Repurchase Program. The Amended Share Repurchase Program authorized the Company to repurchase up to $50 million of the Company's ordinary shares through December 31, 2016 (instead of the originally authorized $30 million.) The Share Repurchase Program and the subsequent Amended Share Repurchase Program are both in accordance with an authority approved by the Company's shareholders at its annual general meeting on June 15, 2016. Purchases of the ordinary shares under both programs were carried out on NASDAQ. Ordinary shares repurchased by the Company through the Amended Share Repurchase Program were then canceled.

Item 6. *Selected Financial Data*

The following table summarizes certain selected financial data and is qualified by reference to, and should be read in conjunction with the consolidated financial statements and related notes and with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" included in this Annual Report on Form 10-K. The selected financial data and the related notes for the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015 and for the fiscal years ended April 24, 2015 and April 25, 2014 are derived from audited consolidated financial statements that are included in this Annual Report on Form 10-K. LivaNova, as the successor company to Cyberonics, is reporting the results for Cyberonics and its consolidated subsidiaries for the period April 25, 2015 to December 31, 2015 and the consolidated results of LivaNova, which includes the results of Sorin and its subsidiaries, for the period October 19, 2015 to December 31, 2015. The selected financial data and the related notes for the fiscal years ended April 26, 2013 and April 27, 2012 are derived from audited consolidated financial statements that are not included in this Annual Report on Form 10-K.

Consolidated Statements of Operations Data

(In thousands, except per share data)	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014	Fiscal Year Ended April 26, 2013	Fiscal Year Ended April 27, 2012
Net sales	$ 1,213,925	$ 415,707	$ 291,558	$ 282,014	$ 254,320	$ 218,503
Cost of sales	471,986	143,843	27,311	27,355	21,907	19,657
Product remediation	37,534	—	—	—	—	—
Gross profit	704,405	271,864	264,247	254,659	232,413	198,846
Operating expenses:						
Selling, general and administrative	469,234	169,180	123,619	120,642	112,515	102,569
Research and development	122,454	51,420	42,245	45,220	41,552	35,335
Merger and integration expenses	20,537	55,787	8,692	—	—	—
Restructuring expenses	55,943	11,323	—	—	—	—
Amortization of intangibles	45,511	9,734	1,039	1,342		
Goodwill impairment	18,348	—	—	—	—	—
Litigation settlement	—	—	—	7,443	—	—
Total operating expenses	732,027	297,444	175,595	174,647	154,067	137,904
(Loss) income from operations	(27,622)	(25,580)	88,652	80,012	78,346	60,942
Interest (expense) income, net	(8,918)	(1,117)	163	162	(35)	30
Impairment of investment	—	(5,062)	—	—	(4,059)	—
Gain on warrants' liability	—	—	—	—	1,326	—
Other expense, net	3,491	(7,522)	479	(295)	(303)	(550)
Income (loss) before income taxes	(33,049)	(39,281)	89,294	79,879	75,275	60,422
Income tax (benefit) expense [(2)]	7,128	(12,976)	31,446	24,989	28,917	24,344
Losses from equity method investments	(22,612)	(3,308)	—	—	—	—
Net income (loss)	$ (62,789)	$ (29,613)	$ 57,848	$ 54,890	$ 46,358	$ 36,078
Basic income (loss) per share	$ (1.29)	$ (0.90)	$ 2.19	$ 2.02	$ 1.68	$ 1.30
Diluted income (loss) per share	$ (1.29)	$ (0.90)	$ 2.17	$ 2.00	$ 1.66	$ 1.28
Shares used in computing basic income (loss) per share	48,860	32,741	26,391	27,143	27,604	27,827
Shares used in computing diluted income (loss) per share	48,860	32,741	26,626	27,466	28,009	28,307
Consolidated Balance Sheet Data (at year end):						
Cash, cash equivalent and short-term investments	$ 39,789	$ 119,610	$ 151,207	$ 128,328	$ 135,709	$ 96,654
Working capital	303,262	314,293	209,272	190,532	178,333	138,066
Total assets	2,342,631	2,558,739	315,944	294,191	264,043	211,908
Long-term debt, net of current portion	75,215	91,791	—	—	—	—
Retained earnings (deficit)	(14,575)	48,214	77,827	19,979	(34,911)	(81,268)
Stockholders' equity	$ 1,706,909	$ 1,811,462	$ 276,574	$ 259,100	$ 229,568	$ 183,469

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

You should read the following discussion and analysis together with Part I of this Annual Report on Form 10-K, including the matters set forth in "Cautionary Statement About Forward-Looking Statements," "Item 1A. Risk Factors" and our consolidated financial statements and the related notes included elsewhere in this Annual Report on Form 10-K as of and for the year ended December 31, 2016 and as of and for the transitional period April 25, 2015 to December 31, 2015 and for each of the fiscal years ended April 24, 2015 and April 25, 2014.

Background and the Mergers

LivaNova PLC and its subsidiaries (collectively, the "Company", "LivaNova", "we" or "our") was organized under the laws of England and Wales on February 20, 2015 for the purpose of facilitating the business combination of Cyberonics, Inc., a Delaware corporation ("Cyberonics") and Sorin S.p.A., a joint stock company organized under the laws of Italy ("Sorin"). As a result of the business combination, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin. This business combination became effective on October 19, 2015, at which time LivaNova's ordinary shares were listed for trading on the NASDAQ Global Market ("NASDAQ") and on the London Stock Exchange (the "LSE") as a standard listing under the trading symbol "LIVN." Upon the consummation of the Mergers, the historical financial statements of Cyberonics became the Company's historical financial statements. Accordingly, the historical financial statements of Cyberonics are included in the comparative prior periods. For further information regarding the acquisition, refer to "Item 1. Business" and "Note 3. Business Combinations" to the consolidated financial statements included in this Annual Report on Form 10-K. On February 23, 2017, we announced our voluntary cancellation of our standard listing of ordinary shares with the London Stock Exchange due to the low volume of our ordinary share trading on the London Stock Exchange. Trading will cease at the close of business on April 4, 2017.

Description of the Business

LivaNova is a public limited company incorporated under the laws of England and Wales and is headquartered in London, United Kingdom ("U.K."). LivaNova is a global medical device company focused on the development and delivery of important therapeutic solutions for the benefit of patients, healthcare professionals and healthcare systems throughout the world. Working closely with medical professionals in the fields of Cardiac Surgery, Neuromodulation and Cardiac Rhythm Management, we design, develop, manufacture and sell innovative therapeutic solutions that are consistent with our mission to improve our patients' quality of life, increase the skills and capabilities of healthcare professionals and minimize healthcare costs.

Business Franchises

Upon completion of the Mergers, in October 2015, we reorganized our reporting structure and aligned our segments and the underlying divisions and businesses. LivaNova was then comprised of three principal Business Units: Cardiac Surgery, Neuromodulation and Cardiac Rhythm Management, corresponding to three main therapeutic areas. The historic Cyberonics operations were included under the Neuromodulation Business Unit, and the historical Sorin businesses were included under the Cardiac Surgery and Cardiac Rhythm Management Business Units. Corporate activities included corporate business development and New Ventures. New Ventures is focused on new growth platforms and identification of other opportunities for expansion. The New Ventures group was created with contributions from both Cyberonics and Sorin.

In July 2016, we announced an organizational re-design that, in addition to our existing corporate support functions, included the addition of a Chief Operating Officer ("COO"). Damien McDonald joined the Company in October 2016 as COO and was responsible for driving innovative product development, commercialization and geographic expansion across the global organization with a focus on margin expansion and profitable growth. In executing the new organizational model, we created new regional leadership positions in the U.S., Europe and the rest of world to support our three Business Franchises, (formerly Business Units): Neuromodulation, Cardiac Surgery and Cardiac Rhythm Management. Our three reportable segments correspond to our Business Franchises.

We believe a regional focus will allow a number of tangible benefits, namely the ability to share resources, faster decision-making, improved market access capabilities and greater focus on the needs of physicians, hospitals and patients. Our new operating structure and the introduction of new talent into the leadership team will facilitate an evolution of our goals and decision making processes in the near to immediate term; accordingly, we will continue to monitor the way we manage, evaluate and internally report our business activities and the corresponding impact this could have on our segment reporting.

On November 2, 2016, we announced André-Michel Ballester's resignation and Damien McDonald's appointment as the Chief Executive Officer and as a member of the Board of Directors of LivaNova PLC, effective on December 31, 2016 and January 1, 2017, respectively.

Cardiac Surgery Business Franchise

The Cardiac Surgery segment develops, manufactures and markets disposable implantable prostheses to treat a variety of heart valve disorders, including a complete line of surgical tissue and mechanical valve replacements and repair products, systems to enable extracorporeal circulation during cardiopulmonary bypass surgery (including heart-lung machines, oxygenators, perfusion tubing systems, cannulae and accessories), as well as related equipment and disposables for autotransfusion and autologous blood washing for neonatal, pediatric and adult patients.

Research and Development updates

On October 5, 2015, we announced the initiation of PERSIST-AVR, the first international, prospective post-market randomized multi-center trial evaluating the Perceval sutureless aortic valve compared to standard sutured bioprostheses in patients with aortic valve disease. The trial is expected to enroll 1,234 patients within a two-year enrollment period and patients will be followed until five years post procedure. In January 2017, the independent study, "Aortic Valve Replacement With Sutureless Perceval Bioprosthesis: Single-Center Experience With 617 Implants," was presented to The Society of Thoracic Surgeons. The study found that AVR procedures conducted with Perceval resulted in low mortality and excellent hemodynamic performance for patients.

Cardiopulmonary product updates

FDA Warning Letter. In December 2015, we received an FDA Warning Letter (the "Warning Letter") alleging certain violations of FDA regulations applicable to medical device manufacturing at our Munich, Germany and Arvada, Colorado facilities. On October 13, 2016 the Centers for Disease Control and Prevention ("CDC") and FDA separately released safety notifications regarding the 3T Heater Cooler devices in response to which the Company issued a Field Safety Notice Update for U.S. users of 3T Heater Cooler devices to proactively and voluntarily contact facilities to facilitate implementation of the CDC and FDA recommendations.

At December 31, 2016, the Company recognized a liability for a product remediation plan related to its 3T Heater Cooler device. The remediation plan developed by the Company consists primarily of a modification of the 3T design to include internal sealing and addition of a vacuum system to new and existing devices. These changes are intended to address regulatory actions and further reduce the risk of possible dispersion of aerosols from the 3T Heater Cooler device in the operating room. The deployment of this solution for commercially distributed devices will occur upon final validation and verification of the design changes and approval or clearance by regulatory authorities worldwide, including FDA clearance in the U.S. and CE Mark in Europe. Based on the device classification and magnitude of the design change, we estimate that the Company can self-certify the effectiveness of the change in order to apply the CE Mark in Europe. As part of this plan, the Company also intends to perform a no-charge deep disinfection service for 3T users who have reported confirmed M. chimaera mycobacterium contamination. Although the deep disinfection service is not yet available in the U.S., it is currently offered in many countries around the world and will be expanded to additional geographies as regulatory approvals are received. Finally, in the fourth quarter of 2016 the Company initiated a program to provide existing 3T users with a new loaner 3T device at no charge pending regulatory approval and implementation of the vacuum system addition and deep disinfection service worldwide. This loaner program began in the U.S. and is being progressively made available on a global basis, prioritizing and allocating devices to 3T users based on pre-established criteria. It is estimated that by the end of 2018, a majority of the 3T devices in use globally will be upgraded and returned to operation. In addition to $4.0 million of costs incurred during the twelve month period ended December 31, 2016, the Company also recognized a $33.5 million liability at December 31, 2016 to provide for the remaining execution of the plan including finalization and implementation of the design change, deep disinfection services and the provision of loaner 3T Heater Cooler devices. It is reasonably possible that our estimate of the remediation liability could materially change in future periods due to the various significant assumptions involved such as customer behavior, market reaction and the timing of approvals or clearance by regulatory authorities worldwide. Refer to "Note 11. Product Remediation Liability" in our consolidated financial statements included in this Annual Report on Form 10-K for additional information.

For further information, please refer to "Note 18. Commitments and Contingencies" in our consolidated financial statements included in this Annual Report on Form 10-K. At this stage, no liability has been recognized with respect to any lawsuits involving the Company related to the 3T Heater Cooler.

Heart Valve product updates

In January 2016, we announced FDA approval of the Perceval sutureless valve. Perceval is the only sutureless biological aortic replacement valve on the market today with a unique self-anchoring frame that enables the surgeon to replace the diseased valve without suturing it into place. While we have been selling Perceval in other parts of the world, we began commercial distribution of the device in the United States with the first implant announced on March 8, 2016. To date, the

Perceval valve has been implanted in more than 20,000 patients in over 310 hospitals worldwide. In addition, in early February 2016, we announced that we had received FDA approval of CROWN PRT valve for the treatment of aortic valve disease. The CROWN PRT is a stented aortic bioprosthesis technology and features a surgeon-friendly design, with optimized hemodynamics with patented PRT, designed to enhance valve durability. We anticipate launching CROWN PRT in the U.S. later this year.

Neuromodulation Business Franchise

The Neuromodulation segment designs, develops and markets neuromodulation therapy for the treatment of drug-resistant epilepsy and treatment resistant depression. Through this segment, we market our proprietary implantable VNS Therapy® Systems that deliver vagus nerve stimulation therapy for the treatment of epilepsy and depression.

Costa Rica Manufacturing plant closure

In October 2016, management initiated a plan to exit the Costa Rica manufacturing operations and transfer those activities to Houston, Texas. We recorded an impairment of the building and equipment of $5.7 million, which is included in Restructuring expenses in the consolidated statement of net income (loss). In addition, the carrying value of $4.5 million for the land and building after impairment was reclassified as Assets Held for Sale and were included in Other Current Assets in the consolidated balance sheet as of December 31, 2016.

Research and Development updates

Our epilepsy product development efforts are directed toward improving the VNS Therapy System, improving its efficacy, and developing new products that provide additional features and functionality. We are conducting ongoing product development activities to enhance the VNS Therapy System pulse generator, lead and programming software and to introduce new products. We support studies for our product development efforts and to build clinical evidence for the VNS Therapy System. We will be required to obtain appropriate U.S. and international regulatory approvals, and clinical studies may be a prerequisite to regulatory approvals for some products. Our research and development ("R&D") efforts will require significant funding to complete and may not be successful. Even if successful, additional clinical studies may be needed to achieve regulatory approval and to commercialize any or all new or improved products.

Several development projects were either terminated or halted during the transitional period April 25, 2015 to December 31, 2015, including the planned development of a wirelessly enabled generator, and an external device planned to be used to warn or notify patients of impending or actual seizures. During 2016, we made the decision to focus our efforts on projects we believe have a strong likelihood of meeting both patient and physician needs in the near term.

Product updates

In June 2015, the FDA approved AspireSR® for commercialization in the United States. Growth of VNS Therapy products has been strong during the period following this approval. Acceptance of the new product, as evidenced by the proportion of generators sold, has been high, and pricing obtained for the product has been at a premium due to the unique nature of the device.

Investing updates

Over several years we invested in Cerbomed GmbH ("Cerbomed"), a privately held, European development-stage company developing a transcutaneous vagus nerve stimulation (t-VNS) device for several indications, including the treatment of drug-resistant epilepsy. Cerbomed received Conformité Européenne ("CE") Mark approval for its device for the treatment of epilepsy and depression in March 2010, and has completed a clinical study in Germany to study outcomes in the treatment of refractory epilepsy. During the transitional period April 25, 2015 to December 31, 2015, we determined that our investment in Cerbomed was fully impaired and we recorded a loss of $5.1 million.

Cardiac Rhythm Management Business Franchise

The CRM segment develops, manufactures and markets implantable devices, monitoring systems and accessories, for the diagnosis, treatment and management of heart rhythm disorders and heart failure. We offer implantable cardiac defibrillators and pacemakers, as well as systems for cardiac resynchronization treatment ("CRT"), patient management and cardiac arrhythmia assessment.

Research and Development updates

In October 2014, we announced that we reached the target enrollment for RESPOND CRT, a clinical trial under an Investigational Device Exemption ("IDE") protocol. The purpose of this trial is to assess the safety and effectiveness of the SonR CRT system (described below) in patients affected by advanced heart failure. RESPOND CRT is an ongoing multi-center, prospective, randomized, two-arm, double-blind trial, with more than 1,000 patients in the United States and other countries. During 2015, we also continued the development of implantable defibrillators dedicated to the use of quadripolar left ventricular leads with IS-4 compatibilities.

Product updates

In November 2015, we introduced a high voltage product line with the launch of the PLATINIUM family, a new range of implantable cardiac defibrillators ("ICDs") and CRT-Ds that offers service lives under standard functioning conditions of over 14 years for the single-chamber ICD model, over 13 years for the dual-chamber ICD model and over ten years for the CRT-D devices. PLATINIUM devices also feature an arrhythmia discrimination algorithm ("Parad+"), a pacing mode, which preserves natural heart conduction ("SafeR") and a hemodynamic sensor that automatically optimizes CRT settings ("SonR"). In January 2016, we announced that we received regulatory approval to market the KORA 250™ in Japan. The KORA 250 is a full body MRI conditional pacemaker and is equipped with our proprietary Automatic MRI mode. In addition, the device is designed to proactively manage comorbidities, including SafeR and the ability to monitor patients for severe sleep apnea using Sleep Apnea Monitoring ("SAM").

Corporate Activities and New Ventures

Corporate activities include shared services for finance, legal, human resources and information technology, corporate business development and New Ventures. New Ventures is focused on new growth platforms and identification of other opportunities for expansion.

Heart failure

New Ventures is currently focused on the development and clinical testing of the VITARIA®™ System for treating heart failure through vagus nerve stimulation.

The Company received CE Mark approval of the VITARIA®™ System in February 2015 for patients who have moderate to severe heart failure (New York Heart Association Class II/III) with left ventricular dysfunction (ejection fraction < 40%) and who remain symptomatic despite stable, optimal heart failure drug therapy. The VITARIA®™ System provides a specific method of VNS called autonomic regulation therapy ("ART"), and it includes the same elements as the VNS Therapy System - pulse generator, lead, programming wand and software, programming computer, tunneling tool and accessory pack - without the patient kit with magnets. We conducted a pilot study, ANTHEM-HF, outside the United States, which concluded during 2014. The study results support the safety and efficacy of ART delivered by the VITARIA®™ System. We submitted the results to our European Notified Body, DEKRA, and on February 20, 2015, we received CE Mark approval. The VITARIA®™ System is not available in the U.S. During 2014, we also initiated a second pilot study, ANTHEM-HFpEF, to study ART in patients experiencing symptomatic heart failure with preserved ejection fraction. This pilot study is currently underway outside the United States.

Sleep Apnea

In October 2014, Sorin invested $20.0 million in Respicardia, a U.S.-based developer of implantable therapies designed to improve Respiratory Rhythm Management and cardiovascular health. Respicardia's remedé System is an implantable device system designed to restore a more natural breathing pattern during sleep in patients with central sleep apnea (CSA) by transvenously stimulating the phrenic nerve. The remedé System received CE Mark certification in 2010 and is currently available in certain countries in Europe. Results from a randomized, controlled pivotal trial were reported at the European Society of Cardiology - Heart Failure meeting in May 2016. Investigators reported that patients in the treatment group were significantly more likely to have a reduction in AHI of ≥50% between baseline and 6 months ($p<0.001$) compared to patients in the control group. This result was matched by significant improvements in other apnea-related parameters and quality of life measures. The device was well-tolerated, with 91% of patients free from serious adverse events associated with implantation. In September 2016, Respicardia applied for U.S. FDA market approval and in September 2016 we elected not to exercise our option to purchase the outstanding shares of Respicardia as the investment no longer met our objective for substantial ongoing involvement taken into consideration with our overall portfolio management program. As a result, we recorded an impairment of $9.2 million equal to the amount of the carrying value of the option. In addition, we terminated our exclusive distribution agreement with Respicardia in November 2016.

We have also invested $12.0 million in ImThera Medical, Inc. ("ImThera"), a privately held, emerging-growth, company developing an implantable neurostimulation device system for the treatment of obstructive sleep apnea. In November 2014, ImThera announced that the FDA approved an IDE for their targeted hypoglossal neurostimulation pivotal clinical study and patient enrollment is proceeding.

Mitral valve regurgitation

Mitral regurgitation occurs when the heart's mitral valve does not close tightly, which allows blood to flow backwards in the heart. This reduces the amount of blood that flows to the rest of the body, making the patient feel tired or out of breath. Treatment depends on the nature and the severity of mitral regurgitation. In certain cases, heart surgery may be needed to repair or replace the valve. Left untreated, severe mitral valve regurgitation can cause heart failure or heart rhythm problems (arrhythmias). We are invested in three mitral valve startups. Cardiosolutions Inc., a startup headquartered in the U.S. in which we have held an interest since 2012, is developing an innovative Spacer technology for treating mitral regurgitation. In addition, Highlife S.A.S. ("Highlife"), headquartered in France, and Caisson Interventional LLC ("Caisson"), headquartered in the U.S., are two companies focused on developing devices for treating mitral regurgitation through percutaneous replacement of the native mitral valve. Although both companies are focused on mitral valve replacement, their devices differ significantly in both the delivery system (transapical versus transfemoral) and the anchoring system. In 2016, both Caisson and Highlife completed their first human implants in feasibility clinical studies. We invested $8.5 million in Caisson and $5.3 million in Highlife in 2016 to fund product development and clinical studies.

For additional information, please refer to our "Consolidated Statement of Income (Loss)" in our consolidated financial statements, along with accompanying notes, included in this Annual Report on Form 10-K.

Results of Operations

The merger of Cyberonics and Sorin was considered a business combination using the acquisition method of accounting, with Cyberonics considered the acquirer of Sorin. As a result, at the merger date of October 19, 2015 Sorin's assets and liabilities were combined at their estimated fair values. In addition, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin and the "successor" company to Cyberonics for accounting and Exchange Act reporting purposes.

Understanding Our Financial Information

In this Report on Form 10-K, LivaNova, as the successor company to Cyberonics, is reporting (in accordance with generally accepted accounting principles in the United States) the results for:

- LivaNova and its consolidated subsidiaries for the year ended December 31, 2016.
- A transitional period, April 25, 2015 to December 31, 2015, filed on Form 10-K/T. This transitional report is the result of the change from Cyberonics' fiscal year ending the last Friday in April before the Mergers to a calendar year ending December 31st after the Mergers. The transitional period included the business activities of Cyberonics and its consolidated subsidiaries for the period April 25, 2015 to October 18, 2015, and the consolidated results of the combined businesses of LivaNova (Cyberonics and Sorin) for the period October 19, 2015 to December 31, 2015.
- LivaNova is also reporting the historical results of Cyberonics and its consolidated subsidiaries for the fiscal years ended April 24, 2015 and April 25, 2014.

The transitional period impacts the comparability of the current year ended December 31, 2016. In order to compare revenues, cost of sales and expenses for the year ended December 31, 2016 to a prior period, we have provided an unaudited equivalent prior period of January 24, 2015 to December 31, 2015. The unaudited equivalent prior period included the transitional period April 25, 2015 to December 31, 2015, as described above and the unaudited Cyberonics fourth quarter data from the fiscal year ended April 24, 2015, or January 24, 2015 to April 24, 2015. The equivalent prior period has 17 fewer working days than the year ended December 31, 2016.

In addition, amortization expense of $9.7 million, $1.0 million and $1.3 million for the transitional period April 25, 2015 to December 31, 2015, and the prior fiscal years ended April 24, 2015 and April 25, 2014, respectively, was reclassified on the consolidated statements of income (loss) in order to conform with presentation for the year ended December 31, 2016. Amortization was reclassified from Cost of sales, selling, general and administrative and research and development and reported separately on the consolidated statements of income (loss).

The following table summarizes our consolidated results of operations for the year ended December 31, 2016, the equivalent prior period ended December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014 (in thousands):

	Year Ended December 31, 2016	Equivalent Prior Period January 24, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
		(Unaudited)		
Net sales	$ 1,213,925	$ 489,779	$ 291,558	$ 282,014
Cost of sales	471,986	151,438	27,311	27,355
Product remediation	37,534	—	—	—
Gross profit	704,405	338,341	264,247	254,659
Operating expenses:				
Selling, general and administrative	469,234	198,870	123,619	120,642
Research and development	122,454	62,109	42,245	45,220
Merger and integration expenses	20,537	64,479	8,692	—
Restructuring expenses	55,943	11,323	—	—
Amortization of intangibles	45,511	10,419	1,039	1,342
Goodwill impairment	18,348	—	—	—
Litigation settlement	—	—	—	7,443
Total operating expenses	732,027	347,200	175,595	174,647
(Loss) income from operations	(27,622)	(8,859)	88,652	80,012
Interest income	1,698	354	184	182
Interest expense	(10,616)	(1,502)	(21)	(20)
Impairment of investment	—	(5,062)	—	—
Foreign exchange and other - gain (loss)	3,491	(7,634)	479	(295)
(Loss) income before income taxes	(33,049)	(22,703)	89,294	79,879
Income tax expense (benefit)	7,128	(6,626)	31,446	24,989
Losses from equity method investments	(22,612)	(3,308)	—	—
Net (loss) income	$ (62,789)	$ (19,385)	$ 57,848	$ 54,890

Net Sales

The table below illustrates net sales by operating segment for the current year, the equivalent prior period and the fiscal years ended April 24, 2015 and April 25, 2014 (in thousands):

	Year Ended December 31, 2016	Equivalent Prior Period January 24, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
		(Unaudited)		
Cardiac Surgery	$ 611,715	$ 147,635	$ —	$ —
Neuromodulation	351,406	288,833	291,558	282,014
Cardiac Rhythm Management	249,067	52,470	—	—
Corporate Activities and New Ventures	1,737	841	—	—
Total	$ 1,213,925	$ 489,779	$ 291,558	$ 282,014

Net sales for the year ended December 31, 2016 include sales for Sorin for the full year whereas for the equivalent prior period January 24, 2015 to December 31, 2015, Sorin's sales were included from October 19, 2015 (acquisition date) through December 31, 2015. Net sales attributable to Sorin during this period were $200.1 million. Neuromodulation net sales for the year ended December 31, 2016 as compared to the equivalent prior period January 24, 2015 to December 31, 2015 increased $62.6 million, or 21.7% due primarily to pricing increases in the U.S. and to a full year of sales compared to the equivalent period January 24, 2015 to December 31, 2015, which had 17 fewer working days.

The table below illustrates net sales by market geography for the year ended December 31, 2016 as compared to the equivalent prior period (in thousands):

	Year Ended December 31, 2016			
	Cardiac Surgery	Neuromodulation	Cardiac Rhythm Management	New Ventures and Corporate
United States	$ 182,105	$ 298,454	$ 9,947	$ —
Europe [1]	172,772	31,942	197,220	131
Rest of World	256,838	21,010	41,900	1,606
Total	$ 611,715	$ 351,406	$ 249,067	$ 1,737

	Equivalent Prior Period January 24, 2015 to December 31, 2015 - (Unaudited)			
	Cardiac Surgery	Neuromodulation	Cardiac Rhythm Management	New Ventures and Corporate
United States	$ 48,960	$ 240,138	$ 2,537	$ —
Europe [1]	40,272	30,219	43,188	242
Rest of World	58,403	18,476	6,745	599
Total	$ 147,635	$ 288,833	$ 52,470	$ 841

	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
	Neuromodulation	Neuromodulation
United States	$ 235,712	$ 226,923
Europe [1]	41,484	38,293
Rest of World	14,362	16,798
Total	$ 291,558	$ 282,014

(1) Includes those countries in Europe where LivaNova has a direct sales presence. Countries where sales are made through distributors are included in Rest of World.

Cost of Sales and Expenses

The table below illustrates our cost of sales and major expenses as a percentage of net sales:

	Year Ended December 31, 2016	Equivalent Prior Period January 24, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
		(Unaudited)		
Cost of sales	38.9 %	30.9 %	9.4%	9.7 %
Product remediation	3.1 %	— %	—%	— %
Gross profit	58.0 %	69.1 %	90.6%	90.3 %
Selling, general and administrative	38.7 %	40.6 %	42.4%	42.8 %
Research and development	10.1 %	12.7 %	14.5%	16.0 %
Merger and integration expenses	1.7 %	13.2 %	3.0%	— %
Restructuring expenses	4.6 %	2.3 %	—%	— %
Amortization of intangibles	3.7 %	2.1 %	0.4%	0.5 %
Goodwill impairment	1.5 %	— %	—%	— %
Litigation settlement	— %	— %	—%	2.6 %
Total operating expenses	60.3 %	70.9 %	60.2%	61.9 %

Cost of Sales

Cost of sales consisted primarily of direct labor, allocated manufacturing overhead, the acquisition cost of raw materials and components and the U.S. medical device excise tax ("MDET"). The MDET began January 1, 2013 and has been suspended for the period January 1, 2016 to December 31, 2017. This tax decreased to 0.0% from 0.8% as a percent of sales for the year ended December 31, 2016 as compared to the equivalent prior period ended December 31, 2015. The MDET as a percent of sales in the fiscal years ended April 24, 2015 and April 25, 2014 was 1.3% and 1.2%, respectively.

Cost of sales as a percentage of net sales was 38.9% for the year ended December 31, 2016; an increase of 8.0% as compared to the equivalent period ended December 31, 2015. This increase was primarily due to the inclusion of Sorin's business activities for the full year and the amortization of inventory written-up in the Mergers, which accounted for 2.9% of the increase.

Cost of sales as a percentage of net sales was 30.9% for the equivalent period ended December 31, 2015, as compared to 9.4% for the fiscal year ended April 24, 2015. This increase was primarily due to the inclusion of Sorin's business activities after the Mergers.

Product Remediation

As noted above in Cardiopulmonary Product Updates, during 2016, we recognized expense of $37.5 million for a product remediation plan related to our 3T Heater Cooler device, representing 3.1% net sales. Refer to "Note 11. Product Remediation Liability" in our consolidated financial statements included in this Annual Report on Form 10-K for additional information.

Selling, General and Administrative ("SG&A") Expenses

SG&A expenses are comprised of sales, marketing, general and administrative activities. SG&A expenses exclude expenses incurred in connection with the merger between Cyberonics and Sorin, integration costs after the Mergers and restructuring costs under the Restructuring Plans initiated after the Mergers.

SG&A expenses as a percentage of net sales for the year ended December 31, 2016 decreased 1.9% to 38.7% as compared to the equivalent prior period ended December 31, 2015. This reduction was due to our integration and re-organization efforts that capitalized on synergies between Cyberonics and Sorin. In addition, in May 2016 we received a grant of $4.7 million from the Italian government, the Regione Emilia Romagna, as a reimbursement, and offset, to the costs Sorin incurred as a consequence of the earthquake of May 2012 in Italy, which reduced our SG&A expenses, as a percent of net sales by 0.4% .

SG&A expenses as a percentage of net sales for the equivalent period ended December 31, 2015 decreased by 1.8% to 40.6% as compared to the fiscal year ended April 24, 2015. This decrease was primarily due to lower SG&A costs in the Cardiac Surgery and CRM segments as compared to the Neuromodulation segment.

Research and Development ("R&D") Expenses

R&D expenses consist of product design and development efforts, clinical trial programs and regulatory activities.

R&D expenses as a percentage of net sales for the year ended December 31, 2016 was 10.1%, a 2.6% decrease as compared to the prior equivalent period ended December 31, 2015, and R&D expenses as a percentage of net sales for the equivalent period ended December 31, 2015 decreased by 1.8% to 12.7% as compared to the fiscal year ended April 24, 2015. In addition, R&D expense as a percentage of net sales decreased by 1.5% to 14.5% for the fiscal year ended April 24, 2015 as compared to the fiscal year ended April 25, 2014. These decreases were primarily due to completion of work, adaption to longer developmental schedules or cancellation of work. These decreases were partially offset by $2.1 million of impairment losses related to our Centro generator project and certain other R&D projects in the fiscal year ended April 24, 2015.

Merger and Integration Expenses

Merger and integration expenses consist primarily of consulting costs associated with: computer systems integration efforts, organization structure integration, synergy and tax planning, as well as the integration of internal controls for the two legacy organizations. In addition, integration expenses include retention bonuses, branding and renaming efforts and lease cancellation penalties in Milan and Brussels.

For year ended December 31, 2016, we incurred $20.5 million in Merger and Integration expenses as compared to $64.5 million in the equivalent prior period ended December 31, 2015. This decrease is primarily related to expenses related to the Merger that occurred in October 2015, partially offset by an increase in Integration expenses.

Restructuring Expenses

We initiate restructuring plans to leverage economies of scale, streamline distribution and logistics and strengthen operational and administrative effectiveness in order to reduce overall costs. Restructuring expenses consist primarily of termination payments triggered by the Mergers or by the 2015 and 2016 Reorganization Plans as detailed in "Note 4. Restructuring Plans" in the consolidated financial statements in this Annual Report on Form 10-K. We estimate that these Plans will result in a net reduction of approximately 317 personnel of which 205 have occurred as of December 31, 2016.

Our 2015 and 2016 Reorganization Plans (the "Plans") were initiated October 2015 and March 2016, respectively, in conjunction with the completion of the Mergers. The Plans include the closure of our R&D facility in Meylan, France and consolidation of its research and development ("R&D") capabilities into our Clamart, France facility. In addition, during the fourth quarter of the year ended December 31, 2016, we initiated a plan to exit the Costa Rica manufacturing operation and transfer its operations to Houston, Texas.

We incurred restructuring charges of $55.9 million, including $5.7 million in impairment charges to our building and equipment in Costa Rica. In the equivalent prior period ended December 31, 2015, we incurred charges of $11.3 million. We expect to complete the exit of Costa Rica in the first half of 2017 and we expect to complete the 2015 and 2016 Reorganization Plans in the first half of 2018. There were no restructuring expenses in the comparative prior year periods.

The carrying value of the land and building in Costa Rica, after impairment, of $4.5 million, were reclassified to Other Current Assets as Assets Held for Sale in the consolidated balance sheet as of December 31, 2016.

Amortization of Intangibles

Amortization of intangibles includes the amortization of finite-lived intangible assets, primarily intellectual property and customer relationships, acquired at fair value in the Mergers in October 2015. Amortization of intangibles does not include amortization of the step-up of inventory to fair value at the Mergers, which was reported as a component of cost of sales. Prior to the Mergers, Cyberonics' intangible asset amortization was primarily related to intellectual property utilized in R&D activities.

Goodwill Impairment

Our business consists of three operating Segments (which are our reporting units for goodwill impairment testing): our historical Cyberonics segment, Neuromodulation ("NM") and the two historical Sorin segments, Cardiac Surgery ("CS") and Cardiac Rhythm Management ("CRM").

We test goodwill for impairment on an annual basis or when events or changes in circumstances indicate that a potential impairment exists. As part of our annual goodwill impairment test as of October 1, 2016, we considered that certain sales targets were not achieved during the third quarter of 2016 and the reduction to our fourth quarter 2016 sales projections.

Our stock price also declined significantly during the fourth quarter, reaching a low following the Mergers of $40.84 on November 15, 2016. Our stock price traded between $40.84 and $60.99 during the fourth quarter of 2016 and averaged $49.31 during this period.

Management considered the reduction in third quarter sales and fourth quarter sales projections, in addition to a decline in our stock price, and based on a qualitative assessment concluded that the goodwill of the CRM and CS reporting units may be impaired. As a result, we performed the first step of the impairment test process by estimating the fair value of the reporting units using an income approach.

Based on the valuation performed as of October 1, 2016, the CRM reporting unit estimated fair value was less than its carrying value; therefore, we concluded that the CRM goodwill balance was impaired. For the second step of the impairment test, we compared the estimated fair value of the reporting unit to the fair value of all assets and liabilities of the reporting unit to calculate the implied fair value of goodwill. As a result, we recorded a non-cash loss on impairment totaling $18.3 million.

Litigation Settlement

During the fiscal year ended April 25, 2014, we segregated and reported the settlement of a lawsuit related to our 1988 patent license agreement with Dr. Jacob Zabara, resulting in a $7.4 million charge, before a tax benefit of $2.7 million.

Interest Expense

We incurred interest expense of $10.6 million for the year ended December 31, 2016 as compared to $1.5 million for the equivalent prior period ended December 31, 2015. The $9.1 million increase was partially due to a full year of interest expense for the year ended December 31, 2016 as compared to interest expense for debt acquired in the Mergers on October 19, 2015 through December 31, 2015. In addition, we accrued $5.7 million of income tax related interest expense for our inter-company sale of intellectual property, primarily during the second half of 2016.

Impairment of Investment

During the equivalent prior period ended December 31, 2015, we fully impaired our cost-method investment in Cerbomed, a European company developing a t-VNS device for epilepsy treatment, for a loss of $5.1 million.

Foreign Exchange (“FX”) and Other

Due to the global nature of our operations, we are exposed to foreign currency exchange rate fluctuations. Foreign Exchange and Other consisted of net FX gains of $3.5 million for the year ended December 31, 2016, primarily the result of our inter-company financing arrangements, net of the impact of foreign currency derivative contracts established to hedge against exchange rate movements.

Foreign Exchange and Other consisted of net FX losses of $7.5 million for the equivalent prior period ended December 31, 2015, which included a loss of $5.6 million from both foreign currency derivative contracts established to hedge against exchange rate movements on the loan from the European Investment Bank and other loans. The loss on the hedge was recorded in our consolidated statements of income (loss), whereas the hedged instruments’ gains were recorded in comprehensive income in our consolidated financial statements.

Foreign Exchange and Other consisted of a gain of $0.5 million and a loss of $0.3 million for the fiscal years ended April 24, 2015 and April 25, 2014 respectively, which consisted primarily of foreign currency transaction gains and losses from historical Cyberonics operations, we operated in a number of international markets and were exposed to the impact of foreign currency exchange rate movements, particularly with respect to the U.S. dollar versus the euro. Our positions and transactions were not hedged.

Income Taxes

LivaNova PLC is domiciled and resident in the U.K. Our subsidiaries conduct operations and earn income in numerous countries and are subject to the laws of taxing jurisdictions within those countries, and the income tax rates imposed in the tax jurisdictions in which our subsidiaries conduct operations vary. As a result of the changes in the overall level of our income, the deployment of various tax strategies and the changes in tax laws, our consolidated effective income tax rate may vary from one reporting period to another.

During the year ended December 31, 2016, and the equivalent prior period ended December 31, 2015, we recorded income tax expense of $7.1 million and a benefit of $6.6 million, respectively, with effective income tax rates of (21.6)% and 29.2%, respectively.

During the fiscal year ended April 24, 2015 and the fiscal year ended April 25, 2014, we recorded income tax expense of $31.4 million and $25.0 million, respectively. Our consolidated effective tax rates were 35.2% and 31.3% during the same periods, respectively.

Our 2016 consolidated effective income tax rate includes the impact of various discrete tax items, primarily related to a reduction in valuation allowances in the U.S. related to capital loss carryforwards, offset by an increase in tax expense related to an unrecognized tax benefit from a tax position taken in prior years, and the impact of the non-deductible CRM reporting unit goodwill impairment.

Our consolidated effective income tax rate for the equivalent prior period ended December 31, 2015, includes the impact of various discrete tax items, primarily related to an increase in tax expense resulting from non-deductible transaction costs associated with the merger of Cyberonics and Sorin and an increase in tax expense due to the change in corporate income tax rate in Italy.

Losses from Equity Method Investments

We recognized losses of $22.6 million primarily for the impairment of Respicardia and our share of investee losses at Highlife, Caisson, Respicardia and MicroPort Sorin CRM for the year ended December 31, 2016.

In 2016 we declined to exercise or extend our option to purchase all of the issued and outstanding shares of Respicardia held by other investors. In addition, our analysis indicated that our carrying value in Respicardia might not be recoverable and the impairment was other than temporary. We estimated the fair value of our investment in Respicardia using information about past events, current conditions, and forecasts, including an estimate of future cash flows. As a result, we impaired our investment in Respicardia by $9.2 million. In November 2016, we terminated our distributor agreement with Respicardia; the distributor agreement had been a key component in the determination of whether our influence over Respicardia was significant, and as a result, we determined that we no longer had significant influence over Respicardia and transferred the investment to our cost method investments. Refer to “Note 14. Investments” in the consolidated financial statements in this Annual Report on Form 10-K for additional information.

We recognized losses of $3.3 million from our share of investee losses at Highlife, Caisson, Respicardia and MicroPort Sorin CRM during the equivalent prior period ended December 31, 2015. All the equity method investments were acquired in the Mergers and therefore investee losses were included in our consolidated statement of net income (loss) beginning October 19, 2015.

Significant Accounting Policies and Critical Accounting Estimates

We have adopted various accounting policies to prepare the consolidated financial statements in accordance with accounting principles generally accepted in the United States (“U.S. GAAP”). Our most significant accounting policies are disclosed in “Note 2. Basis of Presentation, Use of Accounting Estimates and Significant Accounting Policies” in the consolidated financial statements. New accounting pronouncements are disclosed in “Note 26. New Accounting Pronouncements” in the consolidated financial statements.

To prepare our consolidated financial statements in conformity 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 revenue and expenses during the reporting period. Our actual results may differ from these estimates. We consider estimates to be critical if we are required to make assumptions about material matters that are uncertain at the time of estimation, or 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 requiring management’s judgment that we consider critical:

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 dates of acquisition, including identifiable intangible assets and in-process research and development 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 in-process research and development, 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 any excess purchase price over the fair value of the net tangible and identifiable intangible assets acquired to goodwill. Transaction costs associated with these acquisitions are expensed as incurred and are reported as operating expenses.

Merger, Integration and Restructuring Charges

As a result of the Mergers, we incurred merger, integration and restructuring charges and reported them separately as operating expenses in the consolidated statement of income (loss).

Merger Expenses. Merger expenses consisted of expenses directly related to the Mergers, such as professional fees for legal services, accounting services, due diligence, a fairness opinion and the preparation of registration and regulatory filings in the United States and Europe, as well as investment banking fees.

Integration Expenses. Integration expenses consisted primarily of professional fees related to planning the post-merger organization structure and synergy planning.

Restructuring Expenses. After the consummation of the Mergers between Cyberonics and Sorin in October 2015, we initiated several restructuring plans (the "Restructuring Plans") to combine our business operations. We identify costs incurred and liabilities assumed for the Restructuring Plans. The Restructuring Plans are intended to leverage economies of scale, streamline distribution, logistics and office functions in order to reduce overall costs.

Intangible Assets

Intangible assets shown on the consolidated balance sheet are finite-lived assets. Developed technology rights consist primarily of purchased patents, related know-how and licensed patent rights. Trademarks and tradenames include the Sorin trade name acquired as part of the Mergers. Customer relationships consist of relationships with hospitals and physicians in the countries where we operate. We amortize our intangible assets over their useful lives using the straight-line method.

Amortization expense for developed technology is recorded in research and development and cost of goods sold. When the product is marketed, we amortize the remaining carrying value of the intangible asset to cost of goods sold. Amortization expense for trade name and customer relationships is recorded in selling, general and administrative expense. We evaluate our intangible assets each reporting period to determine whether events and circumstances indicate either a different useful life or impairment. If we change our estimate of the useful life of an asset, we amortize the carrying amount over the revised remaining useful life.

Impairment of Property and Equipment and Intangible Assets

We review, when circumstances warrant, the carrying amounts of our property and equipment and our intangible assets to determine whether such carrying amounts continue to be recoverable. Such changes in circumstance may include, among other items, (i) an expectation of a sale or disposal of a long-lived asset or asset group, (ii) adverse changes in market or competitive conditions, (iii) an adverse change in legal factors or business climate in the markets in which we operate and (iv) operating or cash flow losses. For purposes of impairment testing, long-lived assets are grouped at the lowest level for which cash flows are largely independent of other assets and liabilities, generally at or below the reporting unit level. If the carrying amount of the asset or asset group is greater than the expected undiscounted cash flows to be generated by such asset or asset group, an impairment adjustment is recognized. Such adjustment is measured by the amount that the carrying value of such asset or asset group exceeds its fair value. We generally measure fair value by considering (a) sale prices for similar assets, (b) discounted estimated future cash flows using an appropriate discount rate and/or (c) estimated replacement cost. Assets to be disposed of are carried at the lower of their financial statement carrying amount or fair value less costs to sell.

We evaluate the goodwill and indefinite-lived intangible assets for impairment at least annually on October 1st and whenever other facts and circumstances indicate that the carrying amounts of goodwill and other indefinite-lived intangible assets may not be recoverable. For impairment evaluations with respect to both goodwill and other indefinite-lived intangibles, we first make a qualitative assessment to determine if the goodwill or other indefinite-lived intangible may be impaired. In the case of goodwill, if it is more-likely-than-not that a reporting unit's fair value is less than its carrying value, we then compare the fair value of the reporting unit to its respective carrying amount. A reporting unit is an operating segment or one level below an operating segment (referred to as a "component"). Our operating segments are deemed to be our reporting units. If the carrying value of a reporting unit were to exceed its fair value, we would then compare the implied fair value of the reporting unit's goodwill to its carrying amount, and any excess of the carrying amount over the fair value would be charged to operations as an impairment loss. With respect to indefinite-lived intangible assets, if it is more-likely-than-not that the fair value of an indefinite-lived intangible asset is less than its carrying value, we then estimate its fair value and any excess of the carrying value over the fair value of the indefinite-lived intangible asset is also charged to operations as an impairment loss.

Derivatives

U.S. GAAP requires companies to recognize all derivatives as assets and liabilities on the balance sheet and to measure the instruments at fair value through earnings unless the derivative qualifies for hedge accounting. If the derivative qualifies for hedge accounting, depending on the nature of the hedge and hedge effectiveness, changes in the fair value of the derivative will either be recognized immediately in earnings or recorded in other comprehensive income (loss) until the hedged item is

recognized in earnings upon settlement/termination. The changes in the fair value of the derivative are intended to offset the change in fair value of the hedged asset, liability or probable commitment. We evaluate hedge effectiveness at inception and on an ongoing basis. If a derivative is no longer expected to be highly effective, hedge accounting is discontinued. Hedge ineffectiveness, if any, is recorded in earnings. Cash flows from derivative contracts are reported as operating activities in the consolidated statements of cash flows.

We use currency exchange rate derivative contracts and interest rate derivative instruments, to manage the impact of currency exchange and interest rate changes on earnings and cash flows. In order to minimize earnings and cash flow volatility resulting from currency exchange rate changes, we enter into derivative instruments, principally forward currency exchange rate contracts. These contracts are designed to hedge anticipated foreign currency transactions and changes in the value of specific assets and liabilities. At inception of the forward contract, the derivative is designated as either a freestanding derivative or a cash flow hedge. We do not enter into currency exchange rate derivative contracts for speculative purposes. All derivative instruments that qualify for hedge accounting are recorded at fair value on the consolidated balance sheets, as financial asset or liabilities (current or non-current) depending upon the gain or loss position of the contract and contract maturity date.

Forward contracts designated as cash flow hedges are designed to hedge the variability of cash flows associated with forecasted transactions denominated in a foreign currency that will take place in the future. For derivative instruments that are designated and qualify as a cash flow hedge, the effective portion of the gain or loss on the derivative instrument is reported as a component of accumulated other comprehensive income (loss) and reclassed into earnings to offset exchange differences originated by the hedged item or to adjust the value of operating income (expense).

We use freestanding derivative forward contracts to offset exposure to the variability of the value associated with assets and liabilities denominated in a foreign currency. These derivatives are not designated as hedges, and therefore changes in the value of these forward contracts are recognized in earnings, thereby offsetting the current earnings effect of the related change in value of foreign currency denominated assets and liabilities.

We use interest rate derivative instruments designated as cash flow hedges to manage the exposure to interest rate movements and to reduce the risk of an increase in borrowing costs by converting floating-rate debt into fixed-rate debt. Under these agreements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to agreed-upon notional principal amounts. The interest rate swaps are structured to mirror the payment terms of the underlying loan. The fair value of the interest rate swaps is reported in the consolidated balance sheets financial assets or liabilities (current or non-current) depending upon the gain or loss position of the contract and the maturity of the future cash flows of the fair value of each contract. The effective portion of the gain or loss on these derivatives is reported as a component of accumulated other comprehensive income and reclassified to the statement of net income (loss) when the underlying position is settled. The non-effective portion is reported in interest expense in consolidated statement of income (loss).

Cost and Equity Method Investments

Certain of the Company's investments in equity and other securities are strategic investments in companies that are in varied stages of development. These investments are included in Investments on the consolidated balance sheets. The Company accounts for these investments under the cost or the equity method of accounting, as appropriate. The valuation of equity and other securities accounted for under the cost method considers all available financial information related to the investee, including valuations based on recent third-party equity investments in the investee. If an unrealized loss for any investment is considered to be other-than-temporary, the loss is recognized in the consolidated statements of income in the period the determination is made. Equity securities accounted for under the equity method are initially recorded at the amount of the Company's investment and are adjusted each period for the Company's share of the investee's income or loss and dividends paid. Equity securities accounted for under both the cost and equity methods are reviewed quarterly for changes in circumstance or the occurrence of events that suggest the Company's investment may not be recoverable.

Stock-Based Compensation

Our stock option awards and stock appreciation rights compensation expense is based on the fair market value of our awards and is amortized ratably over the award vesting period. The fair market value is determined using the Black-Scholes option pricing methodology at the grant date. This methodology takes into account variables such as the future expected volatility of our stock price, the amount of time expected to elapse between the date of grant and the date of exercise and a risk-free interest rate. Fair values of stock option awards and stock appreciation rights issued in the future may vary significantly from fair values of awards issued in the current period depending on our estimates, and judgments regarding these variables, and therefore expense in future periods, may differ significantly from current-period expense. Refer to "Note 2. Basis of Presentation, Use of Accounting Estimates and Significant Accounting Policies" accompanying the consolidated financial statements for further information related to key assumptions.

Income Taxes

We are a U.K. corporation, and we operate through our various subsidiaries in a number of countries throughout the world. Our provision for income taxes is based on the tax laws and rates applicable in the jurisdictions in which we operate and earn income. We use significant judgment and estimates in accounting for our income taxes. This involves assessing changes in temporary differences resulting from differing treatment of events for tax and accounting purposes. These assessments result in deferred tax assets and liabilities, which are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Actual tax expense may significantly differ from our expectations if, for example, judicial interpretations of tax law, tax regulations or tax rates change.

We file federal and local tax returns in many jurisdictions throughout the world and are subject to income tax examinations for our fiscal year 1992 and subsequent years, with certain exceptions. Tax authorities may disagree with certain positions we have taken and assess additional taxes and as a result, we establish reserves for uncertain tax positions, which require a significant degree of management judgment. We regularly assess the likely outcomes of our tax positions in order to determine the appropriateness of our reserves for uncertain tax positions; however, the actual outcome of an audit can be significantly different than our expectations, which could have a material impact on our tax provision. The total amount of unrecognized tax benefit, as of December 31, 2016, if recognized, would reduce our income tax expense by approximately $22.4 million.

We are required to periodically assess the recoverability of our deferred tax assets by considering whether it is more likely than not that some or all of the actual benefit of those assets will be realized. To the extent that realization does not meet the "more-likely-than-not" criterion, we establish a valuation allowance. We periodically review the adequacy and necessity of the valuation allowance by considering significant positive and negative evidence relative to our ability to recover deferred tax assets and to determine the timing and amount of valuation allowance that should be released. Changes in our assessment of the factors related to the recoverability of our deferred tax assets could result in materially different income tax provisions. As of December 31, 2016, we have valuation allowances of $51.5 million that are primarily related to net operating losses in certain jurisdictions and a capital loss carryforward. If the valuation allowances related to these items were to be released, our tax expense would be reduced by $51.5 million.

Other

On June 23, 2016, the United Kingdom held a referendum in which voters approved an exit from the European Union, commonly referred to as "Brexit," which has caused and may continue to cause significant volatility in capital and currency markets worldwide. Asset valuations, currency exchange rates and credit ratings may be especially subject to increased market volatility. The full impact of Brexit remains uncertain. A process of negotiation, which is likely to take two years or longer, will determine the future terms of the U.K.'s relationship with the European Union. It is unclear at this stage what financial, trade and legal implications the withdrawal of the U.K. from the European Union would have and how such withdrawal would affect us. Management will continue to monitor and assess the potential impact of this event on an ongoing basis.

After the recent presidential election in the U.S., the Trump Administration has included as part of its agenda a potential reform of U.S. tax laws. In addition, the "Tax Reform Blueprint" published by the House of Representatives includes a framework of various issues that may affect our future tax position including, but not limited to, a reduction in the corporate tax rate, elimination of the interest deduction and border adjustability. The content of any final legislation, the timing for enactment, and the reporting periods that would be impacted cannot be determined at this time.

Liquidity and Capital Resources

Based on our current business plan, we believe that our existing cash and cash equivalents and future cash generated from operations will be sufficient to fund our expected operating needs, working capital requirements, R&D opportunities, capital expenditures and debt service requirements over the next 12 months. We regularly review our capital needs and consider various investing and financing alternatives to support our requirements. Refer to "Note 16. Financing Arrangements" in the consolidated financial statements in this Annual Report on Form 10-K for additional information regarding our debt. Our liquidity could be adversely affected by the factors affecting future operating results, including those referred to in "Item 1A. Risk Factors" above.

Cash Flows

Net cash and cash equivalents provided by (used in) operating, investing and financing activities and the net increase (decrease) in the balance of cash and cash equivalents were as follows (in thousands):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Operating activities	$ 90,151	$ (9,288)	$ 79,676	$ 54,196
Investing activities	(38,246)	16,182	(9,765)	(34,412)
Financing activities	(124,309)	(18,127)	(48,256)	(37,267)
Effect of exchange rate changes on cash and cash equivalents	(420)	(341)	(767)	73
Net (decreases) increase	$ (72,824)	$ (11,574)	$ 20,888	$ (17,410)

Operating Activities

Cash provided by operating activities for the year ended December 31, 2016 was $90.2 million. The net loss of $62.8 million for the year ended December 31, 2016 included $161.3 million of non-cash items.

During the transitional period April 25, 2015 to December 31, 2015, cash flow utilized in operating activities was $9.3 million, which was net of amortization of $36.3 million related to Sorin's inventory written-up in the Mergers. $233.8 million of Sorin inventory were acquired as of October 19, 2015. In addition, we utilized operating cash for payment of accrued merger costs, which primarily accounted for the decrease in our balance of accounts payable and accrued liabilities of $32.8 million.

Cash provided by operating activities for the historical Cyberonics fiscal year ended April 24, 2015 increased as compared to fiscal year ended April 25, 2014 by $25.5 million to $79.7 million, primarily due to a $3.0 million increase in net income, an increase in non-cash operating expenses of $17.9 million and a decrease in cash outflow from operating assets and liabilities of $4.6 million. The increase in non-cash expenses as compared to the prior fiscal year was due primarily to the increase in the utilization of deferred tax assets of $14.6 million. The utilization of deferred tax assets related to (i) the usage of tax credits and net operating losses in Europe, (ii) an adjustment to deferred tax assets related to filing tax accounting method changes and (iii) an adjustment related to changes in the ownership structure in Europe. Accounts receivables improved cash flow by $8.0 million, due to the collection of $3.8 million from a single international customer in fiscal year 2015. Payables and accrued liabilities added $5.5 million to operating cash flow due to increased balances in these accounts. Accruals for accounting and legal fees increased due to the Mergers, the effects of which were partially offset by a reduction to our bonus compensation accruals at year end as compared to the prior year end. Cash flow from operating assets and liabilities was partially offset by increased inventory purchases of $7.4 million, which was primarily due to increased purchases to ensure an adequate supply of our new programming tablets and increased inventory levels at our Costa Rica manufacturing plant.

Investing Activities

Cash used in investing activities was $38.2 million during the year ended December 31, 2016. We invested $36.5 million in property, plant and equipment. We also invested an additional $7.5 million in Caisson Series B Preferred Units, partially offset by the transfer of $7.0 million to cash and cash equivalents form short-term investments.

Cash provided in investing activities of $16.2 million during the transitional period April 25, 2015 to December 31, 2015 was due to the transfer of $20.0 million to cash and cash equivalents from short-term investments and an increase in cash of $12.5 million obtained in the business acquisition, offset by net investment activity of $16.4 million.

Cash used in investing activities was $9.8 million during the fiscal year ended April 24, 2015. We invested $1.9 million in commercial paper. We also invested $6.7 million in property, plant and equipment primarily due to construction of the Costa Rica manufacturing facility. We also invested an additional €1.0 million, or approximately $1.2 million, in Cerbomed, which was fully impaired during the transitional period April 25, 2015 to December 31, 2015.

Cash used in investing activities was $34.4 million during the fiscal year ended April 25, 2014. We invested $15.2 million in property plant and equipment for our headquarters building, our software systems infrastructure and our Costa Rica manufacturing facility. We increased our short-term investments in certificates of deposit by $10.0 million. Additionallly, we purchased $3.8 million in technology-based intangible assets primarily related to patents focused on sleep apnea treatment, the integration of magnetic resonance imaging compatibility for our leads and the development of our cardiac-based seizure detection capabilities. During the fiscal year ended April 25, 2014, we invested €1.0 million, or $1.4 million, in preferred stock of Cerbomed and $4.0 million in ImThera Medical, Inc. ImThera Medical, Inc. is developing an implantable neurostimulation device system for the treatment of obstructive sleep apnea and Cerbomed was fully impaired in the transitional period April 25, 2015 to December 31, 2015.

Financing Activities

Cash used in financing activities during the year ended December 31, 2016 was $124.3 million, which includes $54.5 million to repurchase shares, a $33.7 million reduction in revolving credit facilities, repayment of advances on customer receivables of $23.8 million and repayment of long-term debt of $21.1 million. We also borrowed $7.2 million in additional long-term debt.

Cash used in financing activities during the transitional period April 25, 2015 to December 31, 2015 was $18.1 million, which included the repayment of long-term debt of $32.0 million, and the purchase of treasury shares for $7.3 million, partially offset by cash proceeds from net short-term debt borrowing of $11.1 million and stock based compensation activities of $8.8 million.

Cash used in financing activities during the fiscal year ended April 24, 2015 increased by $11.0 million as compared to fiscal to $48.3 million in the fiscal year ended April 24, 2014. Financing cash inflows decreased by $21.9 million due to decreased excess tax benefits from the utilization of equity-based net operating loss carry-forwards and $6.6 million in proceeds from the exercise of options for common stock. These effects were partially offset by the decreased cash outflow of $17.3 million for purchased treasury stock. On November 18, 2014, the Board authorized the repurchase of one million shares; however, in February 2015, our treasury stock purchase plan under Rule 10b5-1 of the Exchange Act (the "Plan"), entered into under the authority of the Board of Directors, terminated, and we stopped repurchasing shares of our stock.

Cash used in financing activities during fiscal year ended April 24, 2014 increased by $18.4 million as compared to fiscal year 2013. This increase was primarily due to increased treasury stock purchases of $39.3 million, partially offset by increased cash inflow from excess tax benefits derived from the utilization of equity-based net operating loss carry-forward of $22.3 million.

Debt and Capital

Our capital structure consists of debt and equity. As of December 31, 2016, our total debt of $122.9 million was 7.2% of total equity of $1,706.9 million.

Debt Acquired in the Mergers

At the consummation of the Mergers on October 19, 2015, LivaNova acquired all of the outstanding debt of Sorin in the aggregate principal amount of $203.0 million payable to various financial and non-financial institutions. Prior to the Mergers Cyberonics had no debt.

Debt - Post Mergers

During the year ended December 31, 2016, we reduced outstanding revolving credit facilities by $33.7 million, repaid $21.1 million of long-term debt obligations and borrowed $7.2 million in additional long-term debt.

Factoring

During the year ended December 31, 2016, we reduced our obligation for advances on customer receivables by $24.5 million, thereby eliminating this form of financing.

Contractual Obligations

We have various contractual commitments that we expect to fund from existing cash, future operating cash flows and borrowings under our revolving credit facilities. The actual timing of the clinical commitment payments may vary based on the

completion of milestones which are beyond our control. The following table summarizes our significant contractual obligations as of December 31, 2016 and the periods in which such obligations are due (in thousands):

	Less Than One Year	One to Three Years	Four to Five Years	Thereafter	Total Contractual Obligations
Principle payments on long-term debt	$ 21,327	$ 43,543	$ 28,876	$ 2,770	$ 96,516
Interest payments on long-term debt	887	1,140	338	38	2,403
Other commitments	1,191	1,500	1,500	750	4,941
Inventory supply contract obligations	17,285	7,031	110	202	24,628
Operating leases	18,839	32,230	22,680	22,891	96,640
Derivative instruments	942	1,140	252	—	2,334
Total contractual obligations [1]	$ 60,471	$ 86,584	$ 53,756	$ 26,651	$ 227,462

(1) Contractual obligations do not include $22.4 million of unrecognized tax benefits, inclusive of interest and penalties, included on our consolidated balance sheet as of December 31, 2016. We are unable to specify with certainty the future periods in which we may be obligated to settle such amounts.

We have other commitments that we are contractually obligated to fulfill with cash under certain circumstances. These commitments include letters of credit to guarantee our performance as it relates to our contract bidding, VAT tax, tax appeals, and other obligations in various jurisdictions. Obligations under these guarantees are not normally called, as we typically comply with underlying performance requirements. As of December 31, 2016, we have collateral deposits of $0.4 million with respect to these agreements.

The following table summarizes our guarantees as of December 31, 2016 (in thousands):

	Less Than One Year	One to Three Years	Four to Five Years	Thereafter	Total Contractual Obligations
Guarantees on governmental bids [1]	$ 14,415	$ 6,468	$ 4,779	$ 1,833	$ 27,495
Guarantees - commercial [2]	6,073	2,440	820	139	9,472
Guarantees to tax authorities [3]	3,918	1,348	—	6,706	11,972
Total guarantees	$ 24,406	$ 10,256	$ 5,599	$ 8,678	$ 48,939

(1) Government bid guarantees include such items as unconditional bank guarantees, irrevocable letters of credit and bid bonds.
(2) Commercial guarantees include our lease and tenancy guarantees.
(3) The guarantees to the governmental tax authorities consist primarily of the guarantee issued to the Italian VAT Authority.
(4) We are unable to specify with certainty the future periods in which we may be obligated to settle such amounts.

Market Risk

We are exposed to certain market risks as part of our ongoing business operations, including risks from foreign currency exchange rates, interest rate risks and concentration of procurement suppliers that could adversely affect our consolidated balance sheet, net income and cash flow.

We manage these risks through regular operating and financing activities and, at certain times, derivative financial instruments.

Foreign Currency Exchange Rate Risk

Due to the global nature of our operations, we are exposed to foreign currency exchange rate fluctuations. We maintain a foreign currency exchange rate risk management strategy that utilizes derivatives to reduce our exposure to unanticipated fluctuations in forecast revenue and costs and fair values of debt, inter-company debt and accounts receivables caused by changes in foreign currency exchange rates.

We mitigate our credit risk relating to counter-parties of our derivatives through a variety of techniques, including transacting with multiple, high-quality financial institutions, thereby limiting our exposure to individual counter-parties and by entering into International Swaps and Derivatives Association, Inc. ("ISDA") Master Agreements, which include provisions for a legally enforceable master netting agreement, with almost all of our derivative counter-parties. The terms of the ISDA agreements may also include credit support requirements, cross default provisions, termination events, or set-off provisions. Legally enforceable master netting agreements reduce credit risk by providing protection in bankruptcy in certain circumstances and generally permitting the closeout and netting of transactions with the same counter-party upon the occurrence of certain events.

Based on our exposure to foreign currency exchange rate risk, a sensitivity analysis indicates that if the U.S. dollar had uniformly weakened or strengthened by 10% against the Pound Sterling and the Yen, the effect on our unrealized income or expense for our derivatives outstanding at December 31, 2015 would have been approximately $2.3 million.

Any gains and losses on the fair value of derivative contracts would generally be offset by gains and losses on the underlying transactions. These offsetting gains and losses are not reflected in the above analysis.

If we were to incur a hypothetical 10% adverse change in foreign currency exchange rates, net unrealized losses associated with our foreign currency denominated assets and liabilities as of December 31, 2016, net of our hedging would not be material to our consolidated statement of financial position or results of operations.

Interest Rate Risk

We are subject to interest rate risk on our investments and debt. We manage a portion of our interest rate risk with contracts that swap floating-rate interest payments for fixed rate interest payments. If interest rates were to increase or decrease by 0.5%, the effects on our consolidated statement of income (loss) would not be material.

Concentration of Credit Risk

Our trade accounts receivable represent potential concentrations of credit risk. This risk is limited due to the large number of customers and their dispersion across a number of geographic areas, as well as our efforts to control our exposure to credit risk by monitoring our receivables and the use of credit approvals and credit limits. In addition, we have historically had strong collections and minimal write-offs. While we believe that our reserves for credit losses are adequate, essentially all of our trade receivables are concentrated in the hospital and healthcare sectors worldwide, and accordingly, we are exposed to their respective business, economic and country-specific variables. Although we do not currently foresee a concentrated credit risk associated with these receivables, repayment is dependent on the financial stability of these industry sectors and the respective countries' national economies and healthcare systems.

Factors Affecting Future Operating Results and Ordinary Share Price

The factors affecting our future operating results and ordinary share prices are disclosed in "Item 1A. Risk Factors" included in this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information required under 7A. has been incorporated into "Item 7. Management's discussion and Analysis of Financial Condition and Results of Operations - Market Risk."

Item 8. *Financial Statements and Supplementary Data*

The information required by this Item is incorporated by reference to the consolidated financial statements beginning on page F-1.

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

None.

Item 9A. *Controls and Procedures*

Disclosure Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

We maintain a system of disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act, that are designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. This information is also accumulated and communicated to management, including our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), as appropriate, to allow timely decisions regarding required disclosure. Our management, under the supervision and with the participation of our CEO and CFO, evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. Based on that evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of December 31, 2016.

(b) Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2016 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control - Integrated Framework (2013). Management's assessment included an evaluation of the design and testing of the operational effectiveness of our internal control over financial reporting. Based on that evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2016.

The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by PricewaterhouseCoopers S.p.A., an independent registered public accounting firm. Their report, dated March 1, 2017, is included in "Item 15. Exhibits, Financial Statement Schedules" in this Annual Report on Form 10-K.

(c) Changes in Internal Control Over Financial Reporting

On October 19, 2015, the Mergers were consummated between Cyberonics and Sorin. We have completed the integration of the legacy Sorin businesses into our internal control over financial reporting processes. In executing this integration, we analyzed, evaluated, and, where necessary, made changes in controls and procedures related to the legacy Sorin businesses.

Except for the paragraph above, no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-5(f) under the Exchange Act) occurred during the period ended December 31, 2016 that has materially affected, or is 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*

Pursuant to general instruction G to Form 10-K, we incorporate by reference into this item the information to be disclosed in our definitive proxy statement for our 2017 Annual Meeting of Stockholders.

Item 11. *Executive Compensation*

Pursuant to general instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement for our 2017 Annual Meeting of Stockholders.

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

Pursuant to general instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement for our 2017 Annual Meeting of Stockholders.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

Pursuant to general instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement for our 2017 Annual Meeting of Stockholders.

Item 14. *Principal Accounting Fees and Services*

Pursuant to general instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement for our 2017 Annual Meeting of Stockholders.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(1) Financial Statements

The Consolidated Financial Statements of LivaNova PLC and its subsidiaries and the Report of Independent Registered Public Accounting Firms are included in this Annual Report on Form 10-K beginning on page F-1:

(2) Financial Statement Schedules

All schedules required by Regulation S-X have been omitted as not applicable or not required, or the information required has been included in the notes to the consolidated financial statements.

(3) Index to Exhibits

The exhibits marked with the asterisk symbol (*) are filed or furnished (in the case of Exhibit 32.1) with this Form 10-K. The exhibits marked with the cross symbol (†) are management contracts or compensatory plans or arrangements filed pursuant to Item 601(b)(10)(iii) of Regulation S-K.

Exhibit Number	Document Description	Report or Registration Statement	SEC File or Registration Number	Exhibit Reference
2.1	Transaction Agreement, dated March 23, 2015, by and among LivaNova PLC (f/k/a Sand Holdco Limited), Cyberonics, Inc., Sorin S.p.A. and Cypher Merger Sub, Inc.	LivaNova PLC Registration Statement on Form S-4, filed on April 20, 2015, as amended	333-203510	2.1
3.1	Articles of Association of LivaNova PLC	LivaNova PLC Current Report on Form 8-K, filed on October 19, 2015	001-37599	3.1
10.1	Service Agreement, dated September 8, 2015, between LivaNova PLC and Vivid Sehgal	LivaNova PLC Current Report on Form 8-K, filed on September 14, 2015	333-203510	10.1
10.2	Amendment and Restatement Agreement, dated October 2, 2015, by and among LivaNova PLC, Sorin S.p.A., Sorin CRM S.A.S., Sorin Group Italia S.r.l. and the European Investment Bank	LivaNova PLC Current Report on Form 8-K, filed on October 19, 2015	001-37599	10.1
10.3	Amended and Restated Finance Contract, dated October 19, 2015, by and among LivaNova PLC, Sorin CRM S.A.S., Sorin Group Italia S.r.l. and the European Investment Bank	LivaNova PLC Current Report on Form 8-K, filed on October 19, 2015	001-37599	10.2
10.4	Form of Deed of Indemnification (Directors), each effective October 19, 2015	LivaNova PLC Current Report on Form 8-K, filed on October 19, 2015	001-37599	10.3
10.5	Form of Deed of Indemnification (Officers), each effective October 19, 2015	LivaNova PLC Current Report on Form 8-K, filed on October 19, 2015	001-37599	10.4
10.6	LivaNova PLC 2015 Incentive Award Plan and related Sub-Plan for U.K. Participants, adopted on October 16, 2015	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.1

10.7	Form of Stock Appreciation Right Grant Notice and Stock Appreciation Right Agreement under the LivaNova PLC 2015 Incentive Award Sub-Plan (Non-U.S. Form)	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.2
10.8	Form of Stock Appreciation Right Grant Notice and Stock Appreciation Right Agreement under the LivaNova PLC 2015 Incentive Award Plan (U.S. Form)	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.3
10.9†	LivaNova PLC Non-Employee Director Compensation Policy, adopted on October 19, 2015	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.4
10.10†	Director Appointment Letters for Non-Employee Directors, dated the dates indicated therein	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.5
10.11†	Form of Director Restricted Stock Unit Award Grant Notice and Director Restricted Stock Unit Award Agreement under the LivaNova PLC 2015 Incentive Award Plan (Non-Employee Directors)	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.6
10.12†	Service Agreement, dated October 19, 2015, between LivaNova PLC and André-Michel Ballester	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.7
10.13†	Side Letter, dated October 19, 2015, issued to André-Michel Ballester	LivaNova PLC Current Report on Form 8-K12B, filed on October 19, 2015	001-37599	10.8
10.14†	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the LivaNova PLC 2015 Incentive Award Sub-Plan (André-Michel Ballester)	LivaNova PLC Current Report on Form 8-K, filed on November 24, 2015	001-37599	10.1
10.15	Support Agreement, dated February 26, 2015, by and among Cyberonics, Inc., Mittel S.p.A., Equinox Two S.c.a., Tower 6 S.à.r.l., Ghea S.r.l., Bios S.p.A. and Tower 6Bis S.à.r.l.	LivaNova PLC Registration Statement on Form S-4, filed on April 20, 2015, as amended	333-203510	Annex A-2
10.16	Support Agreement, dated February 26, 2015, between Cyberonics, Inc. and André-Michel Ballester	LivaNova PLC Registration Statement on Form S-4, filed on April 20, 2015, as amended	333-203510	Annex A-3
10.17	Support Agreement, dated February 26, 2015, between Cyberonics, Inc. and Rosario Bifulco	LivaNova PLC Registration Statement on Form S-4, filed on April 20, 2015, as amended	333-203510	Annex A-4
10.18	Support Agreement, dated February 26, 2015, between Sorin S.p.A. and Daniel J. Moore	LivaNova PLC Registration Statement on Form S-4, filed on April 20, 2015, as amended	333-203510	Annex A-5
10.19	Support Agreement, dated February 26, 2015, between Sorin S.p.A. and Hugh M. Morrison	LivaNova PLC Registration Statement on Form S-4, filed on April 20, 2015, as amended	333-203510	Annex A-6
10.2	Joint Venture Contract, dated January 9, 2014 between Sorin CRM Holdings SAS and Shanghai MicroPort Medical (Group) Co., Ltd.	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.2

10.21	Capital Increase and Accession Agreement in relation to MicroPort WeiBo Medical Devices (Shanghai) Co. Ltd., dated January 9, 2014, by and among Shanghai MicroPort Medical (Group) Co., Ltd., Sorin CRM Holdings SAS and MicroPort WeiBo Medical Devices (Shanghai) Co. Ltd.	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.2
10.22	Amendment Agreement, dated May 19, 2014, to the Joint Venture Contract and Articles of Association in respect of MicroPort Sorin CRM (Shanghai) Co., Ltd.	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.2
10.23	Amendment Agreement (2), dated 9 January 2014 to the Joint Venture Contract in respect of MicroPort Sorin CRM (Shanghai) Co., Ltd.	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.2
10.24†	Employment Letter, dated January 12, 2016, to R. Jason Richey	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.2
10.25	Gruppo Sorin R&D Finance Contract, dated May 6, 2014, between the European Investment Bank and Sorin S.p.A., Sorin CRM S.A.S. and Sorin Group Italia S.r.l.	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.3
10.26†	Amendment to Restricted Stock Unit Agreement, dated February 17, 2016, between LivaNova PLC and André-Michel Ballester	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.3
10.27†	Cyberonics, Inc. 2009 Stock Plan, as amended,	Cyberonics, Inc. Proxy Statement on Schedule 14A, filed on August 2, 2012	000-19806	App. A
10.28†	Amended and Restated Cyberonics, Inc. New Employee Equity Inducement Plan, as amended	Cyberonics, Inc. Quarterly Report on Form 10-Q for the Cyberonics, Inc. fiscal quarter ended October 24, 2008	000-19806	10.3
10.29†	Letter regarding Change In Control Severance Payment, dated February 26, 2015, to Edward Andrle	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.29
10.30†	2015 Amendment to Employment Contract, dated February 4, 2008, between Sorin Groupe France SAS and Michel Darnaud	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.3
10.31†	2015 Amendment to the Employment Contract, dated July 15, 2005, between Sorin CRM SAS and Stéfano Di Lullo, executed in 2015	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.31
10.32†	Letter regarding Change in Control Severance Payment, dated February 26, 2015, to Jacques Gutedel	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.32
10.33†	Letter regarding Change in Control Severance Payment, dated February 26, 2015, to Pritpal Shinmar	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.33
10.34†	Letter regarding Termination of Employment and Compensation, dated February 26, 2015, to Brian Sheridan	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.34
10.35†	Severance Agreement, dated September 30, 2002, between Cyberonics, Inc. and R. Jason Richey	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.35
10.36†	Amendment to Severance Agreement, dated 23 December 2008, between Cyberonics, Inc. and R. Jason Richey	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.36

10.37†	Employment Letter, dated August 30, 2010 to Edward Andrle	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.37
10.38†	Expatriate Assignment Letter, dated December 29, 2010 to Edward Andrle	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.38
10.39†	Extension of Expatriate Assignment Letter, dated July 23, 2014 to Edward Andrle	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.39
10.40†	Employment Letter, dated January 2013, to Pritpal Shinmar	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.4
10.41†	Employment Agreement effective March 1, 2009, between Sorin Group International SA and Jacques Gutedel	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.41
10.42†	Employment Letter, dated November 14, 2003, to Brian Sheridan	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.42
10.43†	Employment Agreement, effective January 1, 2015 between David S. Wise and Cyberonics, Inc.	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.43
10.44†	Employment Agreement, effective November 1, 2005, between Ela Medical SAS and Stéfano di Lullo	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.44
10.45†	Employment Agreement Amendment letter, dated 23 December 2008, to Stéfano Di Lullo	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.45
10.46†	Employment Letter, dated 28 January 2008, to Michel Darnaud	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.46
10.47†	Employment Letter, dated June 20, 2008 to Piero Vecchi	LivaNova Plc Annual Report on Form 10-K/T, filed on March 4, 2016.	001-37599	10.47
10.48†	Letter Agreement dated July 1, 2016 between Mr Douglas Manko and Cyberonics Inc., a wholly owned subsidiary of LivaNova Plc	LivaNova Plc Quarterly Report on Form 10-Q, filed on November 2, 2016.	001-37599	10.48
10.49†	Amendment Agreement between Mr Jacques Gutedel dated July 6, 2016 and LivaNova Switzerland S.A., a subsidiary of LivaNova to amend Mr Gutedel's existing employment agreement dated March 1, 2009.	LivaNova Plc Quarterly Report on Form 10-Q, filed on November 2, 2016.	001-37599	10.49
10.50†	Service Agreement dated October 3, 2016 between Mr Damien McDonald and LivaNova Plc	LivaNova Plc Current Report on Form 8-K, filed on August 1, 2016.	001-37599	10.1
10.51†	Side Letter effective October 3, 2016 between Mr Damien McDonald and LivaNova Plc	LivaNova Plc Current Report on Form 8-K, filed on August 1, 2016.	001-37599	10.2
10.52†	Termination and Settlement Agreement dated August 3, 2016 between Mr Michel Darnaud and LivaNova France SAS	LivaNova Plc Current Report on Form 8-K, filed on August 5, 2016.	001-37599	10.1
10.53†	Consulting Agreement effective August 4, 2016 between Mr Michel Darnaud and LivaNova France SAS	LivaNova Plc Current Report on Form 8-K, filed on August 5, 2016.	001-37599	10.2
10.54	Form of Share Repurchase Contract approved by shareholders at the 2016 Annual Meeting of Shareholders	LivaNova Plc Proxy Statement on Schedule 14A filed on May 16, 2016	001-37599	Annex A

10.55	Form of Rule 10b5-1 Repurchase Plan approved by shareholders at the 2016 Annual Meeting of Shareholders	LivaNova Plc Proxy Statement on Schedule 14A filed on May 16, 2016	001-37599	Annex B
10.56	Board approval of Share Repurchase Programme on August 2, 2016	LivaNova Plc Current Report on Form 8-K, filed on August 2, 2016	001-37599	
10.57	$40m Revolving Facility Agreement between LivaNova Plc and Barclays Bank Plc	LivaNova Plc Quarterly Report on Form 10-Q, filed on November 2, 2016	001-37599	10.57
10.58*†	Settlement Agreement between Andre-Michel Ballester and LivaNova Plc dated December 21, 2016			
10.59*†	Consultancy Agreement between Andre-Michel Ballester and LivaNova Plc dated December 26, 2016			
10.61	Board approval of an amendment to the Share Repurchase Programme	LivaNova Plc Current Report on Form 8-K, filed on November 15, 2016.	001-37599	
21.1*	List of Subsidiaries of LivaNova PLC			
23.1*	Consent of PricewaterhouseCoopers S.p.A.			
23.2*	Consent of KPMG LLP			
31.1*	Certification of the Chief Executive Officer of LivaNova PLC pursuant to Section 302 of the Sarbanes-Oxley Act of 2002			
31.2*	Certification of the Chief Financial Officer of LivaNova PLC pursuant to Section 302 of the Sarbanes-Oxley Act of 2002			
32.1*	Certification of the Chief Executive Officer and of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted 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 Statement of Income for the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015 and the fiscal years ended April 24, 2015 and April 25, 2014, (ii) the Consolidated Statement of Comprehensive Income for the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014, (iii) the Consolidated Balance Sheet as of December 31, 2016, December 31, 2015, and April 24, 2015, (iv) the Consolidated Statement of Stockholders' Equity for the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014, (v) the Consolidated Statement of Cash Flows for the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014, and (vi) the Notes to the Consolidated Financial Statements.			

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.

LIVANOVA PLC

By: /s/ VIVID SEHGAL

Vivid Sehgal
Chief Financial Officer
(Principal Financial Officer)

Date: March 1, 2017

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:

Signature	Title	Date
/s/ DANIEL J. MOORE Daniel J. Moore	Chairman of the Board of Directors	March 1, 2017
/s/ DAMIEN MCDONALD Damien McDonald	Director, Chief Executive Officer *(Principal Executive Officer)*	March 1, 2017
/s/ VIVID SEHGAL Vivid Sehgal	Chief Financial Officer *(Principal Financial Officer)*	March 1, 2017
/s/ DOUG MANKO Doug Manko	Chief Accounting Officer (Principal Accounting Officer)	March 1, 2017
/s/ FRANCESCO BIANCHI Francesco Bianchi	Director	March 1, 2017
/s/ STEFANO GIANOTTI Stefano Gianotti	Director	March 1, 2017
/s/ HUGH M. MORRISON Hugh M. Morrison	Director	March 1, 2017
/s/ ALFRED J. NOVAK Alfred J. Novak	Director	March 1, 2017
/s/ SHARON O'KANE Sharon O'Kane, Ph.D.	Director	March 1, 2017
/s/ ARTHUR ROSENTHAL Arthur Rosenthal, Ph.D.	Director	March 1, 2017
/s/ ANDREA L. SAIA Andrea L. Saia	Director	March 1, 2017

CONSOLIDATED FINANCIAL STATEMENTS

For the year ended December 31, 2016, the transitional period ended December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014

TOGETHER WITH REPORTS OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
LivaNova PLC:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income (loss), comprehensive income (loss), stockholders' equity and cash flows present fairly, in all material respects, the financial position of LivaNova PLC and its subsidiaries at December 31, 2016 and December 31, 2015, and the results of their operations and their cash flows for the year ended December 31, 2016 and the transitional period from April 25, 2015 to December 31, 2015, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

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

/s/ PricewaterhouseCoopers SpA
Milan, Italy
March 1, 2017

Report of Independent Registered Public Accounting Firm

Cyberonics, Inc.:

We have audited the accompanying consolidated balance sheet of Cyberonics, Inc. and subsidiaries as of April 24, 2015, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the fifty-two weeks ended April 24, 2015 and April 25, 2014. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Cyberonics, Inc. and subsidiaries as of April 24, 2015, and the results of their operations and their cash flows for each of the fifty-two weeks ended April 24, 2015 and April 25, 2014, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP

Houston, Texas
June 15, 2015

LIVANOVA PLC AND SUBSIDIARIES'

CONSOLIDATED STATEMENTS OF INCOME (LOSS)

(In thousands except per share amounts)

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Net sales	$ 1,213,925	$ 415,707	$ 291,558	$ 282,014
Cost of sales	471,986	143,843	27,311	27,355
Product remediation	37,534	—	—	—
Gross profit	704,405	271,864	264,247	254,659
Operating expenses:				
Selling, general and administrative	469,234	169,180	123,619	120,642
Research and development	122,454	51,420	42,245	45,220
Merger and integration expenses	20,537	55,787	8,692	—
Restructuring expenses	55,943	11,323	—	—
Amortization of intangibles	45,511	9,734	1,039	1,342
Goodwill impairment	18,348	—	—	—
Litigation settlement	—	—	—	7,443
Total operating expenses	732,027	297,444	175,595	174,647
(Loss) income from operations	(27,622)	(25,580)	88,652	80,012
Interest income	1,698	392	184	182
Interest expense	(10,616)	(1,509)	(21)	(20)
Impairment of investment	—	(5,062)	—	—
Foreign exchange and other - gain (loss)	3,491	(7,522)	479	(295)
(Loss) income before income taxes	(33,049)	(39,281)	89,294	79,879
Income tax expense (benefit)	7,128	(12,976)	31,446	24,989
Losses from equity method investments	(22,612)	(3,308)	—	—
Net (loss) income	$ (62,789)	$ (29,613)	$ 57,848	$ 54,890
Basic (loss) income per share	$ (1.29)	$ (0.90)	$ 2.19	$ 2.02
Diluted (loss) income per share	$ (1.29)	$ (0.90)	$ 2.17	$ 2.00
Shares used in computing basic (loss) income per share	48,860	32,741	26,391	27,143
Shares used in computing diluted (loss) income per share	48,860	32,741	26,626	27,466

See accompanying notes to the consolidated financial statements

LIVANOVA PLC AND SUBSIDIARIES'

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(In thousands)

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Net (loss) income	$ (62,789)	$ (29,613)	$ 57,848	$ 54,890
Other comprehensive (loss) income:				
Net change in unrealized gain on derivatives	3,930	1,274	—	—
Tax effect	(1,199)	(386)	—	—
Net of tax	2,731	888	—	—
Foreign currency translation adjustment, net of tax	(16,990)	(51,715)	(3,856)	287
Total other comprehensive (loss) income	(14,259)	(50,827)	(3,856)	287
Total comprehensive (loss) income	$ (77,048)	$ (80,440)	$ 53,992	$ 55,177

See accompanying notes to the consolidated financial statements

LIVANOVA PLC AND SUBSIDIARIES'
CONSOLIDATED BALANCE SHEETS
(In thousands, except share data)

	December 31, 2016	December 31, 2015	April 24, 2015
ASSETS			
Current Assets:			
Cash and cash equivalents	$ 39,789	$ 112,613	$ 124,187
Short-term investments	—	6,997	27,020
Accounts receivable, net	275,730	272,352	50,569
Inventories	183,489	212,448	23,963
Prepaid and refundable income taxes	60,615	42,425	2,971
Deferred tax assets, net	—	—	7,199
Prepaid expenses and other current assets	60,450	26,579	4,812
Total Current Assets	620,073	673,414	240,721
Property, plant and equipment, net	223,842	244,587	40,287
Goodwill	691,712	745,356	—
Intangible assets, net	609,197	658,942	10,168
Investments	61,092	77,486	17,127
Deferred tax assets, net	6,017	153,509	6,078
Other assets	130,698	5,445	1,563
Total Assets	$ 2,342,631	$ 2,558,739	$ 315,944
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current Liabilities:			
Current debt obligations	$ 47,650	$ 82,513	$ —
Accounts payable	92,952	109,588	7,251
Accrued liabilities	75,567	63,047	8,334
Income taxes payable	22,340	26,699	2,083
Accrued employee compensation and related benefits liability	78,302	77,274	13,781
Total Current Liabilities	316,811	359,121	31,449
Long-term debt obligations	75,215	91,791	—
Deferred income taxes liability	172,541	235,483	—
Long-term employee compensation and related benefits liability	31,668	31,139	1,311
Other long-term liabilities	39,487	29,743	6,610
Total Liabilities	635,722	747,277	39,370
Commitments and contingencies (Note 18)	—		
Stockholders' Equity:			
Ordinary Shares, £1.00 par value: unlimited authorized; 48,156,690 shares issued and 48,028,413 outstanding at December 31, 2016; 48,868,305 shares issued and outstanding at December 31, 2015	74,578	75,444	—
Common Stock, canceled October 19, 2015; $.01 par, shares issued and outstanding of 32,054,236 and 25,996,102 at April 24, 2015, respectively	—	—	321
Additional paid-in capital	1,719,893	1,742,032	445,362
Treasury stock at cost, 128,277 ordinary shares at December 31, 2016; canceled at October 19, 2015 and 6,058,134 common shares at April 24, 2015	(4,500)	—	(243,535)
Accumulated other comprehensive (loss)	(68,487)	(54,228)	(3,401)
Accumulated (loss) earnings	(14,575)	48,214	77,827
Total Stockholders' Equity	1,706,909	1,811,462	276,574
Total Liabilities and Stockholders' Equity	$ 2,342,631	$ 2,558,739	$ 315,944

See accompanying notes to the consolidated financial statements

LIVANOVA PLC AND SUBSIDIARIES'
CONSOLIDATED STATEMENT OF STOCKHOLDERS EQUITY
(In thousands)

	Common / Ordinary		Additional Paid-In	Treasury	Accumulated Other Comprehensive	Accumulated Earnings	Total Stockholders'
	Shares	Amount	Capital	Stock	Income (Loss)	(Loss)	Equity
Balance at April 26, 2013	31,289	$ 313	$ 380,159	$ (116,161)	$ 168	$ (34,911)	$ 229,568
Stock-based compensation plans	531	5	19,635	—	—	—	19,640
Tax benefits from stock-based compensation plans	—	—	27,073	—	—	—	27,073
Purchase of Common Stock	—	—	—	(72,358)	—	—	(72,358)
Net income	—	—	—	—	—	54,890	54,890
Other comprehensive income	—	—	—	—	287	—	287
Balance at April 25, 2014	31,820	$ 318	$ 426,867	$ (188,519)	$ 455	$ 19,979	$ 259,100
Stock-based compensation plans	234	3	13,964	—	—	—	13,967
Tax benefits from stock-based compensation plans	—	—	4,531	—	—	—	4,531
Purchase of Common Stock	—	—	—	(55,016)	—	—	(55,016)
Net income	—	—	—	—	—	57,848	57,848
Other comprehensive loss	—	—	—	—	(3,856)	—	(3,856)
Balance at April 24, 2015	32,054	$ 321	$ 445,362	$ (243,535)	$ (3,401)	$ 77,827	$ 276,574
Stock-based compensation plans	86	1	21,100	—	—	—	21,101
Treasury stock	—	—	—	(7,350)	—	—	(7,350)
Cancellation of Cyberonics stock	(32,140)	(322)	(466,462)	250,885	—	—	(215,899)
Sub-total	—	—	—	—	(3,401)	77,827	74,426
Issuance of LivaNova ordinary shares for Cyberonics stock and equity awards	26,046	40,213	175,686	—	—	—	215,899
Issuance of LivaNova ordinary shares for Sorin stock and equity awards	22,673	35,005	1,554,078	—	—	—	1,589,083
Stock-based compensation plans	149	226	12,268	—	—	—	12,494
Net loss	—	—	—	—	—	(29,613)	(29,613)
Other comprehensive loss	—	—	—	—	(50,827)	—	(50,827)
Balance at December 31, 2015	48,868	75,444	1,742,032	—	(54,228)	48,214	1,811,462
Stock-based compensation plans	282	391	26,591	—	—	—	26,982
Share repurchases	(993)	(1,257)	(48,730)	(4,500)	—	—	(54,487)
Net loss	—	—	—	—	—	(62,789)	(62,789)
Other comprehensive loss	—	—	—	—	(14,259)	—	(14,259)
Balance at December 31, 2016	48,157	$ 74,578	$ 1,719,893	$ (4,500)	$ (68,487)	$ (14,575)	$ 1,706,909

See accompanying notes to the consolidated financial statements

LIVANOVA PLC AND SUBSIDIARIES'
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Cash Flows From Operating Activities:				
Net (loss) income	$ (62,789)	$ (29,613)	$ 57,848	$ 54,890
Non-cash items included in net (loss) income:				
Depreciation	39,852	10,766	5,768	4,289
Amortization	45,511	9,734	1,039	1,342
Stock-based compensation	19,569	31,030	11,940	11,240
Amortization of income taxes payable on intercompany transfers	25,952	12,719	—	—
Deferred income tax (benefit) expense	(26,711)	(39,766)	9,400	(5,201)
Impairment of goodwill	18,348	—	—	—
Impairment of property, plant and equipment	5,971	—	—	—
Impairment of investments	—	5,127	—	—
Loss from equity method investments	22,612	3,308	—	—
Other	10,217	10,492	14	(1,334)
Changes in operating assets and liabilities:				
Accounts receivable, net	(16,448)	(15,850)	(2,654)	(10,656)
Inventories	26,703	36,326	(7,113)	254
Other current and non-current assets	(32,686)	(10,390)	(2,112)	(2,716)
Restructuring reserve	12,405	(4,720)	—	—
Accounts payable and accrued current and non-current liabilities	1,645	(28,451)	5,546	2,088
Net cash provided by (used in) operating activities	**90,151**	**(9,288)**	**79,676**	**54,196**
Cash Flow From Investing Activities:				
Purchase of short-term investments	(7,054)	(13,990)	(31,985)	(39,985)
Maturities of short-term investments	14,051	34,013	30,089	29,990
Purchase of property, plant and equipment	(36,484)	(16,057)	(6,687)	(15,222)
Intangible assets purchases	(1,878)	(1,229)	—	(3,839)
Proceeds from asset sales	1,145	948	—	—
Purchases of equity and cost method investments	(8,026)	—	(1,182)	(5,356)
Cash obtained in the Merger	—	12,497	—	—
Net cash (used in) provided by investing activities	**(38,246)**	**16,182**	**(9,765)**	**(34,412)**
Cash Flows From Financing Activities:				
Short-term (repayments) borrowing, net	(33,708)	11,112	—	—
Proceeds from long-term debt obligations	7,231	—	—	—
Repayment of long-term debt obligations	(21,109)	(31,968)	—	—
Repayment of trade receivable advances	(23,779)	—	—	—
Loans to equity method investees	(6,270)	—	—	—
Share repurchases	(54,487)	(7,350)	(55,015)	(72,359)
Proceeds from exercise of options for stock	8,332	6,480	3,184	9,737
Cash settlement of compensation-based stock units	(2,724)	(708)	(1,171)	(1,323)
Realized excess tax benefits - stock-based compensation	2,060	3,050	4,746	26,678
Other financial assets and liabilities	145	1,257	—	—
Net cash used in financing activities	**(124,309)**	**(18,127)**	**(48,256)**	**(37,267)**
Effect of exchange rate changes on cash and cash equivalents	(420)	(341)	(767)	73
Net (decrease) increase in cash and cash equivalents	**(72,824)**	**(11,574)**	**20,888**	**(17,410)**
Cash and cash equivalents at beginning of period	112,613	124,187	103,299	120,709
Cash and cash equivalents at end of period	**$ 39,789**	**$ 112,613**	**$ 124,187**	**$ 103,299**
Supplementary Disclosures of Cash Flow Information:				
Cash paid for interest	7,371	815	1	4
Cash paid for income taxes	47,808	22,738	15,577	4,296
Supplementary Disclosure of Non-Cash Financing Activity:				
Acquisition financed by ordinary shares of LivaNova	—	1,589,083	—	—

See accompanying notes to the consolidated financial statements

Note 1. Nature of Operations

Background

LivaNova PLC and its subsidiaries (collectively, the "Company", "LivaNova", "we", or "our"), the successor registrant to Cyberonics, Inc., was organized under the laws of England and Wales on February 20, 2015 for the purpose of facilitating the business combination of Cyberonics, Inc., a Delaware corporation ("Cyberonics") and Sorin S.p.A., a joint stock company organized under the laws of Italy ("Sorin"). As a result of the business combination, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin. This business combination became effective on October 19, 2015, at which time LivaNova's ordinary shares were listed for trading on the NASDAQ Global Market ("NASDAQ") and on the London Stock Exchange (the "LSE") as a standard listing under the trading symbol "LIVN". On February 23, 2017, we announced our voluntary cancellation of our standard listing of ordinary shares with the London Stock Exchange due to the low volume of our ordinary share trading on the London Stock Exchange. Trading will cease at the close of business on April 4, 2017. LivaNova PLC is headquartered in London, United Kingdom ("U.K.").

Description of the business

We are a global medical device company focused on the development and delivery of important therapeutic solutions for the benefit of patients, healthcare professionals, and healthcare systems throughout the world. Working closely with medical professionals throughout the world in the field of Cardiac Surgery, Neuromodulation and Cardiac Rhythm Management, we design, develop, manufacture and sell innovative therapeutic solutions that are consistent with our mission to improve our patients' quality of life, increase the skills and capabilities of healthcare professionals and minimize healthcare costs.

Description of the Mergers

On October 19, 2015, pursuant to the terms of a definitive Transaction Agreement entered into by LivaNova, Cyberonics, Sorin and Cypher Merger Sub (the "Merger Sub"), dated March 23, 2015, Sorin merged with and into LivaNova, with LivaNova continuing as the surviving company, immediately followed by the merger of Merger Sub with and into Cyberonics, with Cyberonics continuing as the surviving company and as a wholly owned subsidiary of LivaNova (the "Mergers"). Upon the consummation of the Mergers, the historical financial statements of Cyberonics became the Company's historical financial statements. Accordingly, the historical financial statements of Cyberonics are included in the comparative prior periods.

The issuance of LivaNova ordinary shares in connection with the Mergers was registered under the Securities Act of 1933, as amended (the "Securities Act"), pursuant to the Registration Statement on Form S-4 (File No. 333-203510), as amended, filed with the United States Securities and Exchange Commission (the "SEC") by LivaNova and declared effective on August 19, 2015. Further, pursuant to Rule 12g-3(a) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), LivaNova is deemed to be a "successor" issuer to Cyberonics. As such, the ordinary shares of LivaNova are deemed to be registered under Section 12(b) of the Exchange Act, and LivaNova is subject to the informational requirements of the Exchange Act and the rules and regulations promulgated thereunder.

Note 2. Basis of Presentation, Use of Accounting Estimates and Significant Accounting Policies

The Mergers

On October 19, 2015, as further described herein, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin. Based on the structure of the Mergers, management determined that Cyberonics was considered to be the accounting acquirer and predecessor for accounting purposes.

The purchase price allocation recorded and reported in the Transition Report on Form 10-KT for the fiscal period that began April 25, 2015 and ended December 31, 2015, as amended (the "2015 Form 10-KT"), was based on a preliminary acquisition valuation and included the use of estimates based on information that was available to management at the time. Fair value estimates are based on a complex series of judgments about future events and uncertainties and rely heavily on estimates and assumptions. We finalized our appraisals and estimates which resulted in a change in the valuation of assets acquired, liabilities assumed, goodwill recognized and the related impact on deferred taxes and cumulative translation adjustments as a result of analysis of the facts and circumstances that existed at the time of the acquisition, and we recorded our adjustments during the quarters ended June 30, 2016 and September 30, 2016. Refer to "Note 3. Business Combinations" for further information regarding the adjustments.

Basis of Presentation

The accompanying consolidated financial statements of LivaNova at December 31, 2016 have been prepared in accordance with generally accepted accounting principles in the United States ("U.S." and such principles, "U.S. GAAP") and the instructions to Form 10-K and Article 3 and Article 5 of Regulation S-X.

Reporting Periods

In this Report on Form 10-K, LivaNova, as the successor company to Cyberonics, is reporting the results for:

- LivaNova and its consolidated subsidiaries for the year ended December 31, 2016.
- A transitional period, April 25, 2015 to December 31, 2015, filed on Form 10-K/T. This transitional report is the result of the change from Cyberonics' fiscal year ending the last Friday in April before the Mergers to a calendar year ending December 31st after the Mergers. The transitional period included the business activities of Cyberonics and its consolidated subsidiaries for the period April 25, 2015 to October 18, 2015, and the consolidated results of the combined businesses of LivaNova (Cyberonics and Sorin) for the period October 19, 2015 through December 31, 2015.
- LivaNova is also reporting the historical results of Cyberonics and its consolidated subsidiaries for the fiscal years ended April 24, 2015 and April 25, 2014.

Consolidation

The accompanying consolidated financial statements for LivaNova include LivaNova's wholly owned subsidiaries and the LivaNova PLC Employee Benefit Trust ("the Trust"). The accompanying consolidated financial statements for Cyberonics include Cyberonics' wholly owned subsidiaries. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates

The preparation of our consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in such financial statements and accompanying notes. These estimates are based on management's best knowledge of current events and actions we may undertake in the future. Estimates are used in accounting for, among other items, valuation and amortization of intangible assets, goodwill, measurement of deferred tax assets and liabilities, uncertain income tax positions, stock-based compensation, obsolete and slow-moving inventories, and in general, allocations to provisions and the fair value of assets and liabilities recorded in a business combination. Actual results could differ materially from those estimates.

Merger, Integration and Restructuring Charges

As a result of the Mergers, we incurred merger, integration and restructuring charges and reported them separately as operating expenses in the consolidated statements of income (loss).

- Merger expenses consisted of expenses directly related to the Mergers, such as professional fees for legal services, accounting services, due diligence, a fairness opinion and the preparation of registration and regulatory filings in the United States and Europe, as well as investment banking fees.
- Integration expenses consisted of consultancy fees with regard to: our systems integration, organization structure integration, finance, synergy and tax planning, the transition to U.S. GAAP for Sorin, our London Stock Exchange listing and certain re-branding efforts.
- After the consummation of the Mergers between Cyberonics and Sorin in October 2015, we initiated several restructuring plans (the "Restructuring Plans") to combine our business operations. We identified costs incurred and liabilities assumed for the Restructuring Plans. The Restructuring Plans are intended to leverage economies of scale, eliminate duplicate corporate expenses, streamline distributions and logistics and office functions in order to reduce overall costs.

Reclassifications

The following reclassifications have been made to conform the prior year consolidated statements of income (loss), consolidated balance sheets and consolidated statements of cash flows with current year presentation:

- Amortization expense of $9.7 million, $1.0 million and $1.3 million was reclassified from Cost of Sales, SG&A and R&D expense and reported separately in the accompanying consolidated statements of income (loss), for the transitional period April 25, 2015 to December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014, respectively, in order to conform with the year ended December 31, 2016.
- Prepaid income taxes were reclassified into Prepaid and Refundable Income Taxes from Prepaid Expenses and Other Current Assets in the accompanying consolidated balance sheet for the fiscal year ended April 24, 2015 in the amount of $3.0 million in order to conform with subsequent period presentations.
- Income taxes payable was reported separately as a current liability, rather than as an Other Current Liability, in the accompanying consolidated balance sheet for the fiscal year ended April 24, 2015 in the amount of $2.1 million in order to conform with subsequent period presentations.
- Accrued employee compensation and related benefits was reported separately as a current liability, rather than included with Accrued Liabilities, in the accompanying consolidated balance sheets for the transitional period April 25, 2015 to December 31, 2015 in the amount of $77.3 million, and for the fiscal year ended April 24, 2015 in the amount of $13.8 million in order to conform with the year ended December 31, 2016.
- Long-term employee compensation and related benefits liability was reported separately as a long-term liability, rather than included with Other Long-Term Liabilities, in the accompanying consolidated balance sheets for the fiscal year ended April 24, 2015 in the amounts of $1.3 million in order to conform with subsequent period presentations.
- Certain previously reported amounts in the accompanying consolidated statements of cash flows for the transitional period April 25, 2015 to December 31, 2015, the fiscal year ended April 24, 2015 and the fiscal year ended April 25, 2014 have been reclassified to conform to the current year presentation.

Cash and Cash Equivalents

We consider all highly liquid investments with an original maturity of three months or less, consisting of demand deposit accounts and money market mutual funds, to be cash equivalents and are carried in the balance sheet at cost, which approximated their fair value. We carried $0.0 million, $41.1 million and $28.3 million in money market mutual funds at December 31, 2016, December 31, 2015 and April 24, 2015, respectively.

Accounts Receivable

Our accounts receivable consisted of trade receivables from direct customers and distributors. We maintain an allowance for doubtful accounts for potential credit losses based on our estimates of the ability of customers to make required payments, historical credit experience, existing economic conditions and expected future trends. We write off uncollectible accounts against the allowance when all reasonable collection efforts have been exhausted.

Inventories

We state our inventories at the lower of cost, using the first-in first-out (“FIFO”) method, or market. Our calculation of cost includes the acquisition cost of raw materials and components, direct labor and overhead. We reduce the carrying value of inventories for those items that are potentially excess, obsolete or slow moving based on changes in customer demand, technology developments or other economic factors.

Property, Plant and Equipment (“PP&E”)

Assets held and used

PP&E is carried at cost, less accumulated depreciation. Maintenance and repairs, and minor replacements are charged to expense as incurred, while significant renewals and improvements are capitalized. We compute depreciation using the straight-line method over estimated useful lives. Leasehold improvements are depreciated over the shorter of the following terms: the useful life of the asset or a term that includes required lease periods and renewals that are deemed to be reasonably assured at the date the leasehold improvements are purchased. Capital improvements to the building are added as building components and depreciated over the useful life of the improvement or the building, whichever is less. PP&E is reviewed for impairment annually.

Assets held for sale

We classify long-lived assets as held for sale in the period in which we commit to a plan to sell the asset, the asset is available for immediate sale, the asset is being actively marketed for sale at a price that is reasonable in relation to its current fair value and the sale of the asset is probable. A long-lived asset classified as held for sale is measured at the lower of its carrying amount or fair value less cost to sell and depreciation is discontinued. We recognize a loss for any excess of carrying value over the fair value less cost to sell. See "Note 4. Restructuring Plans" for information regarding our Costa Rica manufacturing facility that was classified as held for sale at December 31, 2016.

Business Combinations and Goodwill

We allocate the amounts we pay for an acquisition to the assets we acquire and liabilities we assume based on their fair values at the date of acquisition, including property, plant and equipment, inventories, accounts receivable, long-term debt, and identifiable intangible assets 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 in-process research and development, 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 any excess purchase price over the fair value of the net tangible and identifiable intangible assets acquired to goodwill. Transaction costs associated with these acquisitions are expensed as incurred and are reported as operating expenses. We assigned goodwill arising from the Mergers to the Cardiac Surgery, Cardiac Rhythm Management and Neuromodulation reporting units. We recognize adjustments to the provisional amounts identified during the measurement period with a corresponding adjustment to goodwill in the reporting period in which the adjustment amounts are determined. The effect on earnings of changes in depreciation, amortization or other income effects, if any, as a result of the change to the provisional amounts will be recorded in the same period's financial statements, calculated as if the accounting had been completed at the acquisition date.

Intangible Assets, Other than Goodwill

Intangible assets shown on the consolidated balance sheets are finite-lived assets. Developed technology rights consist primarily of existing technology and technical capabilities acquired from Sorin in the Mergers that were recorded at their respective fair values as of the acquisition date which includes patents, related know-how and licensed patent rights that represent assets expected to generate future economic benefits. Trademarks and trade names include Sorin trade name acquired as part of the Mergers. Customer relationships consist of relationships with hospitals and cardiac surgeons in the countries where we operate. Other intangible assets consist of favorable leases acquired from Sorin in the Mergers. We amortize our intangible assets over their useful lives using the straight-line method.

Amortization expense is disclosed separately in the consolidated statement of net income (loss). We evaluate our intangible assets each reporting period to determine whether events and circumstances indicate either a different useful life or impairment. If we change our estimate of the useful life of an asset, we amortize the carrying amount over the revised remaining useful life.

Impairments of Long-Lived Assets, Investments and Goodwill

PP&E, intangible assets and investments

We evaluate the carrying value of our long-lived assets and investments when events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Such changes in circumstance may include, among other items, (i) an expectation of a sale or disposal of a long-lived asset or asset group, (ii) adverse changes in market or competitive conditions, (iii) an adverse change in legal factors or business climate in the markets in which we operate and (iv) operating or cash flow losses.

For PP&E and intangible assets used in our operations, recoverability generally is determined by comparing the carrying value of an asset, or group of assets to their expected undiscounted future cash flows. If the carrying value of an asset (asset group) is not recoverable, the amount of impairment loss is measured as the difference between the carrying value of the asset (asset group) and its estimated fair value. The asset grouping as well as the determination of expected undiscounted cash flow amounts requires significant judgments, estimates, and assumptions, including cash flows generated upon disposition. We generally measure fair value by considering sale prices for similar assets. Assets to be disposed of are carried at the lower of their financial statement carrying amount or fair value less costs to sell.

Goodwill

We conduct impairment testing of our goodwill on October 1st each year. We test goodwill between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount.

Testing is performed at the reporting unit level, which is defined as an operating segment or a component of an operating segment that constitutes a business for which financial information is available and is regularly viewed by management. The reporting units we use for goodwill impairment testing are Neuromodulation ("NM"), Cardiac Surgery ("CS") and Cardiac Rhythm Management ("CRM").

We assess qualitative factors to determine whether it is more likely than not that the fair value of our reporting units is less than its carrying amount, including goodwill. We assess such qualitative factors as expectation of a sale or disposal of a long-lived asset or asset group, adverse changes in market or competitive conditions, sustained declines in our stock price, an adverse change in legal factors or business climate in the markets in which we operate and operating cash flows. We also consider the results of prior reporting unit fair value calculations, if any, in our considerations. If we elect to perform a quantitative assessment of goodwill, a qualitative assessment is unnecessary.

If we determine that goodwill is more-likely-than-not impaired, or if we elect to perform quantitative testing, we perform the first step of the two-step goodwill impairment test. We first identify potential impairment by comparing the fair value of the reporting unit to its carrying amount, including goodwill. Fair value refers to the price that would be received if we were to sell the unit as a whole in an orderly transaction. If the carrying amount of our reporting unit is greater than zero and its fair value exceeds its carrying amount, goodwill of the reporting unit is considered not impaired and the second step of the impairment test is unnecessary. If the carrying value of the reporting unit exceeds its fair value, we perform step 2 of the goodwill impairment test and determine if the carrying amount of the reporting unit exceeds the implied fair value of the goodwill. We recognize goodwill impairment for this excess up to and including the carrying amount of the goodwill.

If the aggregate fair value of our reporting units exceeds our market capitalization, we evaluate the reasonableness of the implied control premium which includes a comparison to implied control premiums from recent market transactions within our industry or other relevant benchmark data.

Goodwill impairment evaluations are highly subjective. In most instances, they involve expectations of future cash flows that reflect our judgments and assumptions regarding future industry conditions and operations. The estimates, judgments and assumptions used in the application of our goodwill impairment policies reflect both historical experience and an assessment of current operational, industry, market, economic and political environments. The use of different estimates, judgments, assumptions and expectations regarding future industry and market conditions and operations would likely result in materially different asset carrying values and operating results.

Quantitative factors used to determine the fair value of the reporting units reflect our best estimates, and we believe they are reasonable. Future declines in the reporting unit's operating performance or our anticipated business outlook may reduce the estimated fair value of our reporting unit and result in additional impairments. Factors that could have a negative impact on the fair value of the reporting units include, but are not limited to:

- Decreases in revenue as a result of the inability of our sales force to effectively market and promote our products;
- Increased competition, patent expirations or new technologies or treatments;
- Declines in anticipated growth rates;
- The outcome of litigation, legal proceedings, investigations or other claims resulting in significant cash outflows;
- Increases in the market-participant risk-adjusted Weighted Average Cost of Capital ("WACC").

Derivatives

U.S. GAAP requires companies to recognize all derivatives as assets and liabilities on the balance sheet and to measure the instruments at fair value through earnings unless the derivative qualifies for hedge accounting. If the derivative qualifies for hedge accounting, depending on the nature of the hedge and hedge effectiveness, changes in the fair value of the derivative will either be recognized immediately in earnings or recorded in other comprehensive income (loss) until the hedged item is recognized in earnings upon settlement/termination. The changes in the fair value of the derivative are intended to offset the change in fair value of the hedged asset, liability or probable commitment. We evaluate hedge effectiveness at inception and on an ongoing basis. If a derivative is no longer expected to be highly effective, hedge accounting is discontinued. Hedge ineffectiveness, if any, is recorded in earnings. Cash flows from derivative contracts are reported as operating activities in the consolidated statements of cash flows.

We use currency exchange rate derivative contracts and interest rate derivative instruments to manage the impact of currency exchange and interest rate changes on earnings and cash flows. In order to minimize earnings and cash flow volatility resulting from currency exchange rate changes, we enter into derivative instruments, principally forward currency exchange rate contracts. These contracts are designed to hedge anticipated foreign currency transactions and changes in the value of specific assets and liabilities. At inception of the forward contract, the derivative is designated as either a freestanding derivative or a cash flow hedge. We do not enter into currency exchange rate derivative contracts for speculative purposes. All derivative

instruments that qualify for hedge accounting are recorded at fair value on the consolidated balance sheets, as financial assets or liabilities (current or non-current) depending upon the gain or loss position of the contract and contract maturity date.

Forward contracts designated as cash flow hedges are designed to hedge the variability of cash flows associated with forecasted transactions denominated in a foreign currency that will take place in the future. For derivative instruments that are designated and qualify as a cash flow hedge, the effective portion of the gain or loss on the derivative instrument is reported as a component of accumulated other comprehensive income (loss) and reclassified into earnings to offset exchange differences originated by the hedged item or to adjust the value of operating income (expense). We use freestanding derivative forward contracts to offset exposure to the variability of the value associated with assets and liabilities denominated in a foreign currency. These derivatives are not designated as hedges, and therefore changes in the value of these forward contracts are recognized in earnings, thereby offsetting the current earnings effect of the related change in value of foreign currency denominated assets and liabilities.

We use interest rate derivative instruments designated as cash flow hedges to manage the exposure to interest rate movements and to reduce the risk of increased borrowing costs by converting floating-rate debt into fixed-rate debt. Under these agreements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to agreed-upon notional principal amounts. The interest rate swaps are structured to mirror the payment terms of the underlying loan. The fair value of the interest rate swaps is reported in the consolidated balance sheets as financial assets or liabilities (current or non-current) depending upon the gain or loss position of the contract and the maturity of the future cash flows of the fair value of each contract. The effective portion of the gain or loss on these derivatives is reported as a component of accumulated other comprehensive income. The non-effective portion is reported in interest expense in consolidated statements of income (loss).

Fair Value Measurements

We follow the authoritative guidance on fair value measurements and disclosures with respect to assets and liabilities that are measured at fair value on both a recurring and nonrecurring basis. Under this guidance, fair value is defined as the exit price, or the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The authoritative guidance also establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs market participants would use in valuing the asset or liability, based on market data obtained from sources independent of us. Unobservable inputs are inputs that reflect our assumptions about the factors market participants would use in valuing the asset or liability developed based upon the best information available in the circumstances. The categorization of financial assets and financial liabilities within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The hierarchy is broken down into three levels defined as follows:

- Level 1 - Inputs are quoted prices in active markets for identical assets or liabilities.
- Level 2 - Inputs 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, and inputs (other than quoted prices) that are observable for the asset or liability, either directly or indirectly.
- Level 3 - Inputs are unobservable for the asset or liability.

Financial liabilities that are classified as Level 1 securities include highly liquid portfolio of publically traded mutual funds for which quoted market prices are available.

Financial assets and liabilities that are classified as Level 2 include derivative instruments, primarily forward and option currency contracts and interest rate swaps contracts, which are valued using standard calculations and models that use readily observable market data as their basis.

Level 3 investment securities include convertible preferred stocks and convertible debt securities of private companies for which there are no quoted market prices such that the determination of fair value requires significant judgment or estimation. These securities were valued using third-party pricing sources that incorporate transaction details such as contractual terms, maturity, timing, and amount of expected future cash flows, as well as assumptions about liquidity and credit valuation adjustments by market participants. Significant increases (decreases) in any of those inputs in isolation would result in a significantly lower (higher) fair value of the securities.

Investments

Short-Term Investments

Our short-term investments consisted of certificates of deposit and commercial paper considered held-to-maturity debt securities and carried at cost, which approximates fair value.

Cost and Equity Method Investments

Our investments in equity instruments, and related loans, are strategic investments in companies that are in varied stages of development and not publicly traded. Our equity investments are reported under Investments, and related loans under Prepaid Expenses and Other Current Assets and Other Assets, on the consolidated balance sheets. We account for our equity investments and related loans under the cost or the equity method, as appropriate, depending on our level of control over the investee. We use the equity method if we exercise significant influence over the investee but do not control the investee, and we use the cost method if we exercise less than significant influence, which is generally under 20% ownership.

Cost Method Investments

We initially record the amount of our cost method investments at cost and regularly review our investments for changes in circumstance or the occurrence of events that suggest our investment may not be recoverable. This evaluation considers all available financial information related to the investee, including valuations based on recent third-party equity investments in the investees. If an impairment is considered to be other-than-temporary, the loss is recognized in the consolidated statements of income in the period the determination is made. Impairments are reported as Impairment of Investments in the consolidated statement of income (loss).

Equity Method Investments

The cost of our investments accounted for under the equity method may give rise to a difference between the cost of the investment and our share of the investee's net book value, or a basis difference. A basis difference is assigned to assets and liabilities of the investee with remaining unassigned basis assigned to goodwill. We amortize finite lived basis differences over the life of the asset or liability. We adjust our investment carrying value each period for our share of the investee's income or loss. We report our share of the investee's losses and the amortization of basis differences in the consolidated statements of income (loss) as Income (Loss) from Equity Method Investments. We regularly review our investments for changes in circumstance or the occurrence of events that suggest our investment may not be recoverable, and if an impairment is considered to be other-than-temporary, the loss is recognized in the consolidated statements of income in the period the determination is made and reported as Losses from Equity Method Investments.

Warranty Obligation

Warranties

We offer a warranty on various products. We estimate the costs that may be incurred under warranties and record a liability in the amount of such costs at the time the product is sold. The amount of the reserve recorded is equal to the net costs to repair or otherwise satisfy the claim. We include the warranty obligation in accrued liabilities on the consolidated balance sheets. Warranty expense is recorded to cost of goods sold in our consolidated statements of income (loss).

Retirement Benefit Plan Assumptions

We sponsor various retirement benefit plans, including defined benefit pension plans (pension benefits), defined contribution savings plans and termination indemnity plans, covering substantially all U.S. employees and employees outside the United States. Pension benefit costs include assumptions for the discount rate, retirement age, compensation rate increases and the expected return on plan assets.

Revenue Recognition

Product Revenue

We sell our products through a direct sales force and independent distributors. We recognize revenue when persuasive evidence of a sales arrangement exists, title to the goods and risk of loss transfers to customers or to independent distributors, the selling price is fixed or determinable and collectability is reasonably assured. We estimate expected sales returns based on historical data and record a reduction of sales with a return reserve. We record state and local sales taxes net; that is, we exclude sales tax from revenue.

Service Revenue

Services largely consist of technical assistance services provided to hospitals for the installation, maintenance and support in the operation of heart-lung machines, and autotransfusion systems. Service related revenue is recognized on the basis of progress of the services, when services are rendered, when collectability is reasonably assured and when the amount is fixed and determinable.

Research and Development ("R&D")

All R&D costs are expensed as incurred. R&D includes costs of basic research activities as well as engineering and technical effort required to develop a new product or make significant improvement to an existing product or manufacturing process. R&D costs also include regulatory and clinical study expenses, including postmarket clinical studies. Amortization of intangible assets not associated with a marketable product is recorded in R&D.

Leases

We account for leases that transfer substantially all benefits and risks incidental to the ownership of property as an acquisition of an asset and the incurrence of an obligation, and we account for all other leases as operating leases. Certain of our leases provide for tenant improvement allowances that have been recorded as deferred rent and amortized, using the straight-line method, over the life of the lease as a reduction to rent expense. In addition, scheduled rent increases and rent holidays are recognized on a straight-line basis over the term of the lease.

Stock-Based Compensation

Stock-Based Incentive Awards

We may grant stock-based incentive awards to directors, officers, key employees and consultants. We measure the cost of employee services received in exchange for an award of equity instruments based on the grant date fair market value of the award. We recognize equity-based compensation expense ratably over the period that an employee is required to provide service in exchange for the entire award (all vesting periods). We issue new shares upon stock option exercises, otherwise issuance of stock for vesting of restricted stock, restricted stock units or stock appreciation right ("SAR") are issued from treasury shares. We have the right to elect to pay the cash value of vested restricted stock units in lieu of the issuance of new shares.

Stock Appreciation Rights

A stock appreciation right ("SAR") confers upon an employee the contractual right to receive an amount of cash, stock, or a combination of both that equals the appreciation in the company's stock from an award's grant date to the exercise date. SARs may be exercised at the employee's discretion during the exercise period and do not give the employee an ownership right in the underlying stock. SARs do not involve payment of an exercise price. We use the Black-Scholes option pricing methodology to calculate the grant date fair market value of SARs. We determine the expected volatility of the awards based on historical volatility. Calculation of compensation for stock awards requires estimation of employee turnover and forfeiture rates.

Restricted Stock and Restricted Stock Units

We may grant restricted stock and restricted stock units at no purchase cost to the grantee. The grantee of unvested restricted stock units have no voting rights nor rights to dividends. Sale or transfer of the stock and stock units are restricted until they are vested. The fair market value of service-based restricted stock and restricted stock units are determined using the market closing price on the grant date, and compensation is expensed ratably over the vesting period. Calculation of compensation for stock awards requires estimation of employee turnover and forfeiture rates.

Income Taxes

We are a U.K. corporation, and we operate through our various subsidiaries in a number of countries throughout the world. Our provision for income taxes is based on the tax laws and rates applicable in the jurisdictions in which we operate and earn income. We use significant judgment and estimates in accounting for our income taxes. We recognize deferred tax assets and liabilities for the anticipated future tax effects of temporary differences between the financial statements basis and the tax basis of our assets and liabilities, which are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Income tax expense compared to pre-tax income yields an effective tax rate.

We file federal and local tax returns in many jurisdictions throughout the world and are subject to income tax examinations for our fiscal year 1992 and subsequent years, with certain exceptions. While we believe that our tax return positions are fully supported, tax authorities may disagree with certain positions we have taken and assess additional taxes. Therefore, we regularly assess the likely outcomes of our tax positions in previously filed tax returns and positions we expect to take in future

tax returns that are reflected in measuring our current or deferred income tax assets and liabilities, and we establish reserves when we believe that a tax position is likely to be challenged and that we may or may not prevail. We presume that all tax positions will be examined by a taxing authority with full knowledge of all relevant information. We regularly monitor our tax positions and tax liabilities, and we reevaluate the technical merits of our tax positions. Some of the reasons a reserve for an uncertain tax benefit may be reversed are: (i) completion of a tax audit, (ii) a change in applicable tax law including a tax case or legislative guidance, or (iii) an expiration of the statute of limitations. We recognize interest and penalties associated with unrecognized tax benefits and record interest with interest expense, and penalties in administrative expense, in the consolidated statements of income (loss).

We periodically assess the recoverability of our deferred tax assets by considering whether it is more likely than not that some or all of the actual benefit of those assets will be realized. To the extent that realization does not meet the "more-likely-than-not" criterion, we establish a valuation allowance. We periodically review the adequacy and necessity of the valuation allowance by considering significant positive and negative evidence relative to our ability to recover deferred tax assets and to determine the timing and amount of valuation allowance that should be released. This evidence includes: (i) profitability in the most recent fiscal quarters, (ii) internal forecasts for the current and next two future fiscal years, (iii) size of deferred tax asset relative to estimated profitability, (iv) the potential effects on future profitability from increasing competition, healthcare reforms and overall economic conditions, (v) limitations and potential limitations on the use of our net operating losses due to ownership changes, pursuant to IRC Section 382, and (vi) the implementation of prudent and feasible tax planning strategies, if any.

Vesting or exercise of performance shares, restricted stock units, stock appreciation rights, deferred bonus shares and stock options result in a difference between the income tax deduction and the financial statement stock-based compensation, which creates an excess tax benefit (windfall) or tax deficiency (shortfall). If a windfall benefit can be utilized to reduce income taxes payable as determined using a "with and without" method, the windfall benefit will offset the shortfall deficiency; if not, then the shortfall is recognized as tax expense.

Comprehensive Income and Foreign Currency Translations

In addition to net income, comprehensive income includes changes in foreign currency translation adjustments, unrealized gains and losses on derivative contracts qualifying and designated as cash flow hedges and net changes in retirement obligation funded status. Taxes are not provided on cumulative translation adjustments, as substantially all translation adjustments relate to earnings which are intended to be indefinitely reinvested in the countries where earned.

Income Per Share

Accounting standards require dual presentation of earnings per share ("EPS"): basic EPS and diluted EPS. Basic EPS is computed by dividing net earnings applicable to participating securities by the weighted average number of participating securities outstanding for the period. Diluted EPS includes the effect of potentially dilutive instruments. Refer to "Note 23. Income/Loss per Share" for additional information.

Segments

Prior to the Mergers we had one operating and reportable segment. Upon completion of the Mergers, we reorganized our reporting structure and aligned our segments and the underlying divisions and businesses. We currently function in three operating segments; the historical Cyberonics operations are included in the Neuromodulation segment, and the historical Sorin businesses are included in the Cardiac Surgery and the Cardiac Rhythm Management segments. Refer to "Note 24. Geographic and Segment Information" for additional information.

Contingencies

The Company is subject to product liability claims, government investigations and other legal proceedings in the ordinary course of business. Legal fees and other expenses related to litigation are expensed as incurred and included in Selling, general and administrative expenses in the Consolidated Statements of Income. Contingent accruals are recorded when the Company determines that a loss is both probable and reasonably estimable. Due to the fact that legal proceedings and other contingencies are inherently unpredictable, our assessments involve significant judgment regarding future events.

Note 3. Business Combinations

On October 19, 2015, and pursuant to the terms of the Merger Agreement, Sorin merged with and into LivaNova, with LivaNova continuing as the surviving company, immediately followed by the merger of Merger Sub with and into Cyberonics, with Cyberonics continuing as the surviving company and as a wholly owned subsidiary of LivaNova. Following the completion of the Mergers, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin, and LivaNova's ordinary shares were listed, under the ticker symbol "LIVN", on NASDAQ and admitted for listing on the standard segment of the U.K. Financial Authority's Official List and to trading on the LSE. As a result of the Mergers, on October 19, 2015, LivaNova issued approximately 48.8 million ordinary shares.

On October 19, 2015, each ordinary share of Sorin was converted into the right to receive 0.0472 ordinary shares of LivaNova, ("Sorin Exchange Ratio"), and each share of common stock of Cyberonics was converted into the right to receive one ordinary share of LivaNova. The fair value of the shares issued as total consideration of the Mergers is based on Cyberonics' closing stock price of $69.95 per share on October 16, 2015, the last business day prior to the close of the Mergers. Based on the number of outstanding shares of Sorin and Cyberonics as of October 19, 2015, former Sorin and Cyberonics shareholders held approximately 46 percent and 54 percent, respectively, of LivaNova's ordinary shares after giving effect to the Mergers.

Based on the relative voting rights of Cyberonics and Sorin shareholders immediately following completion of the Mergers and the premium paid by Cyberonics for Sorin ordinary shares, and after taking into consideration all relevant facts, Cyberonics was considered to be the acquirer for accounting purposes. LivaNova accounted for the acquisition of Sorin as a business combination using the acquisition method of accounting. Under the acquisition method of accounting, the tangible and identifiable intangible assets acquired and liabilities assumed are recorded based on their fair values at the acquisition date with the excess over the fair value of consideration recognized as goodwill.

Total fair value of consideration transferred in the Mergers (in thousands except for shares and per share data and the Sorin Exchange Ratio):

Total Sorin shares outstanding as of October 16, 2015		477,824,000
Sorin Exchange Ratio		0.0472
Shares of LivaNova issued		22,553,293
Value per share of Cyberonics as of October 16, 2015	$	69.95
Fair value of ordinary shares transferred to Sorin shareholders	$	1,577,603
Fair value of ordinary shares issued to Sorin share award holders [(1)]	$	9,231
Fair value of LivaNova stock appreciation rights issued to Sorin stock appreciation rights holders [(2)]	$	2,249
Fair value of ordinary shares transferred to Sorin shareholders	$	1,589,083

(1) Each Sorin share award (other than a Sorin stock appreciation right) granted prior to the Sorin merger effective time accelerated, vested and was converted into the right to receive LivaNova ordinary shares based on the Sorin Exchange Ratio. The total fair value of the replacement awards is $25.2 million, including $9.2 million attributable to pre-combination services and allocated to consideration transferred to acquire Sorin. Of the remaining $16.0 million, $8.3 million was recognized immediately in the post-combination period and $7.7 million will be recognized over the post-combination service period to February 28, 2017 due to the service period requirements of the awards. Refer to "Note 20. Stock-Based Incentive Plans" for further discussion of treatment of equity awards.

The consideration transferred in the Mergers was measured using the fair-value-based measure of the share awards as of the closing date. For purposes of calculating the consideration transferred, the fair-value-based measure of the Sorin share awards was determined to be the opening market price of LivaNova's ordinary shares of $69.39 on October 19, 2015.

(2) As of October 16, 2015 there were 3,815,824 Sorin stock appreciation rights. Each Sorin stock appreciation right granted prior to the Sorin merger effective time accelerated, vested and was converted into the right to receive 0.0472 LivaNova stock appreciation right based on the Sorin Exchange Ratio. The total fair value of the replacement stock appreciation rights is $3.8 million, including $2.2 million attributable to pre-combination services and allocated to consideration transferred to acquire Sorin. The remaining $1.6 million was recognized immediately in the post-combination period. Refer to "Note 20. Stock-Based Incentive Plans" for further discussion of treatment of equity awards.

The following table summarizes the fair value of the assets acquired and liabilities assumed in the Mergers on October 19, 2015, including the measurement period adjustments recognized since the fair values were presented in our report on Form 10-K/T for the transitional period ended December 31, 2015 (in thousands):

	October 19, 2015	Adjustments	October 19, 2015 (as adjusted)
Total fair value of consideration transferred	$ 1,589,083	$ —	$ 1,589,083
Estimated fair value of assets acquired and liabilities assumed:			
Cash and cash equivalents	12,495	—	12,495
Accounts receivable	224,466	—	224,466
Inventories	233,832	—	233,832
Other current assets	60,674	(84)	60,590
Property, plant and equipment	207,639	(1,121)	206,518
Intangible assets	688,729	—	688,729
Equity investments	67,059	(72)	66,987
Other assets	7,483	(1,328)	6,155
Deferred tax assets	135,370	(121,234)	14,136
Total assets acquired	1,637,747	(123,839)	1,513,908
Current portion of debt and other obligations	110,601	—	110,601
Other current liabilities	237,855	830	238,685
Long-term debt	128,458	—	128,458
Deferred tax liabilities	279,328	(148,640)	130,688
Other long-term liabilities	55,567	—	55,567
Total liabilities assumed	811,809	(147,810)	663,999
Goodwill	$ 763,145	$ (23,971)	$ 739,174

The valuation of the intangible assets acquired in the Mergers and related amortization periods are as follows (in thousands, except years):

	Valuation as of October 19, 2015	Amortization period in years
Customer relationships	$ 464,019	16-18
Developed technology	211,091	9-15
Sorin trade-name	13,619	4
	$ 688,729	

The valuation of Other long-term liabilities acquired in the Mergers included $2.7 million of unfavorable leases with weighted average remaining lives of 5 years.

Goodwill was calculated as the excess of the consideration transferred over the net assets recognized and represents growth opportunities and expected cost synergies of the combined company. The Mergers are expected to provide both short-term and long-term revenue enhancements and cost savings and synergy opportunities, increase the diversity of LivaNova's business mix, and accelerate the entry into three emerging market opportunities in the areas of heart failure, sleep apnea and less invasive mitral valves. The Mergers are also expected to allow LivaNova to utilize and integrate certain Sorin technologies into its existing and future product lines for epilepsy. LivaNova expects all of its reporting units to benefit, directly or indirectly, from the synergies arising from the business combination, and as a result, we assigned the goodwill arising from the Sorin acquisition to all three reporting units. This assignment was made by taking into consideration market participant rates of return for each acquired reporting unit (Cardiac Surgery and Cardiac Rhythm Management) in order to assess the respective fair values. The remaining goodwill, allocated to Neuromodulation, which is the accounting acquirer's existing business unit, is

supported by the synergies deriving from the Mergers. Goodwill recognized as a result of the acquisition is not deductible for tax purposes. Refer to "Note 8. Goodwill and Intangible Assets" for further discussion and details of the balance of goodwill.

Contingent liabilities assumed includes $9.2 million related to uncertain tax positions. Contingent liabilities also included $3.4 million for contingent payments at fair value related to two acquisitions completed by Sorin prior to the closing of the Mergers. The contingent payments for one acquisition are based on achievement of sales targets by the acquiree through June 30, 2018 and the contingent payments for the second acquisition are based on sales of cardiopulmonary disposable products and heart-lung machines through 2019 of the acquiree. Refer to "Note 18. Commitments and Contingencies" for further discussion of contingent liabilities and uncertain tax positions.

The measurement period adjustments shown in the table above were recorded prior to September 30, 2016, and reflect changes in the estimated fair values of certain assets and liabilities, primarily related to deferred income taxes, as a result of new information on facts and circumstances that existed at the time of acquisition. Adjustments were made to deferred income taxes as a result of the allocation of fair value to the legal entities. As a consequence of such push-down, deferred income taxes were presented on a net basis by jurisdiction.

We recorded reductions or (increases) to the following expenses due to the measurement period adjustments (in thousands):

	Year Ended December 31, 2016
Amortization of intangible assets	$ 1,844
Depreciation	2,790
Other costs	(40)
Total before income tax effect	4,594
Income tax	(3,756)
Net	$ 838

LivaNova's consolidated financial statements for the transitional period April 25, 2015 to December 31, 2015, include Sorin's results of operations from the acquisition date through December 31, 2015. Net sales and operating loss attributable to Sorin during this period were $200.1 million and $6.0 million, respectively. In relation to the Mergers, we incurred $42.1 million of transaction costs and $13.7 million of integration costs during the transitional period April 25, 2015 to December 31, 2015. The transaction costs primarily related to advisory, legal, and accounting fees are included in the merger and integration expenses line item in the consolidated statement of income (loss). The integration costs are also included in the merger and integration expenses line on the consolidated statement of income (loss).

Note 4. Restructuring Plans

We initiate restructuring plans to leverage economies of scale, streamline distribution and logistics and strengthen operational and administrative effectiveness in order to reduce overall costs. Costs associated with these Plans were reported as restructuring expenses in the operating results of our consolidated statement of income (loss).

Our 2015 and 2016 Reorganization Plans (the "Plans") were initiated October 2015 and March 2016, respectively, in conjunction with the completion of the Mergers. The Plans include the closure of our R&D facility in Meylan, France and consolidation of its research and development ("R&D") capabilities into our Clamart, France facility. In addition, during the year ended December 31, 2016, we initiated a plan to exit the Costa Rica manufacturing operation and transfer its operations to Houston, Texas. We expect to complete the exit of Costa Rica in the first half of 2017 and to complete the 2015 and 2016 Reorganization Plans in the first half of the year ending December 2018.

We estimate that these Plans will result in a net reduction of approximately 317 personnel of which 205 have occurred as of December 31, 2016.

The following table presents the Reorganization Plans' accruals and inventory obsolescence and other reserves recorded in connection with the Reorganization Plans (in thousands):

	Employee severance and other termination costs	Other	Total
Balance at April 24, 2015	$ —	$ —	$ —
Charges	11,323	—	11,323
Cash payments	(4,404)	—	(4,404)
Balance at December 31, 2015	6,919	—	6,919
Charges	46,678	9,265	55,943
Cash payments / write-downs	(32,505)	(6,209)	(38,714)
Balance at December 31, 2016	$ 21,092	$ 3,056	$ 24,148

The following table presents restructuring expense by reportable segment (in thousands):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015
Cardiac Surgery	$ 11,042	$ 1,211
Cardiac Rhythm Management	18,566	829
Neuromodulation [(1)]	14,769	1,079
Other	11,566	8,204
Total	$ 55,943	$ 11,323

(1) Neuromodulation expense for the year ended December 31, 2016 included building and equipment impairment of $5.7 million related to the Costa Rica exit plan.

Note 5. Accounts Receivable and Allowance for Bad Debt

Accounts receivable, net consisted of the following (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Trade receivables from third parties	$ 285,336	$ 274,005	$ 51,233
Allowance for bad debt	(9,606)	(1,653)	(664)
	$ 275,730	$ 272,352	$ 50,569

During the year ended December 31, 2016, we increased our allowance for bad debt by $8.3 million primarily due to certain receivables in Greece, Venezuela, the U.S. and Italy whose probability of recoverability became doubtful during the year.

Our customers consist of hospitals, other healthcare institutions, distributors, organized purchase groups and government and private entities. Actual collection periods for trade receivables vary significantly as a function of the nature of the customer (e.g., government or private) and its geographic location. We acquired carrying value of $224.5 million of trade receivables from Sorin in the Mergers. As part of the acquisition accounting, accounts receivables were recorded at fair value, which was measured considering any allowance for bad debt previously recognized by Sorin.

Note 6. Inventories

Inventories consisted of the following (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Raw materials	$ 47,704	$ 52,482	$ 11,118
Work-in-process	32,316	44,369	5,653
Finished goods	103,469	115,597	7,192
	$ 183,489	$ 212,448	$ 23,963

We included $35.2 million of amortization of the step-up in inventory basis that resulted from the Mergers in Cost of Sales in the consolidated statement of net income (loss) for the year ended December 31, 2016, whereas, in the transitional period ended December 31, 2015, the amortization of the step-up in inventory was $21.0 million. Inventories are reported net of the provision for obsolescence, which totaled $9.8 million, $3.6 million, and $2.3 million at December 31, 2016, December 31, 2015, and April 24, 2015, respectively.

The provision for obsolescence at December 31, 2016 reflects normal obsolescence and includes components that are phased out or expired. The provision for obsolescence at December 31, 2015 reflects the fact that inventories were fair valued (and the obsolescence provision was set to zero) at the Mergers, in October 2015.

Note 7. Property, Plant and Equipment ("PP&E)

PP&E detail (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015	Lives in years
Land	$ 15,181	$ 15,662	$ 1,644	
Building and building improvements	96,304	82,014	28,048	3 to 50
Equipment, software, furniture and fixtures	176,610	140,364	39,325	3 to 20
Other	1,317	8,634	—	3 to 10
Capital investment in process	17,012	42,210	6,695	
Total	306,424	288,884	75,712	
Accumulated depreciation	(82,582)	(44,297)	(35,425)	
Net	$ 223,842	$ 244,587	$ 40,287	

Depreciation expense for LivaNova was $39.9 million, $10.8 million and $5.8 million for the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015 and the fiscal year ended April 24, 2015. Depreciation expense increased due to the inclusion of Sorin activity for the full year in 2016.

As part of the Mergers, we acquired Sorin's PP&E with a carrying value of $206.5 million equal to their fair values. During the year ended December 31, 2016, our investments were primarily for costs associated with manufacturing and office facilities, R&D equipment, in addition to general infrastructure and information technology system improvements.

During the year ended December 31, 2016, we initiated a plan to exit the Costa Rica manufacturing operation and transfer those activities to Houston, Texas. Movable machinery and equipment was transferred to various locations, primarily to Europe. As a result of our exit from Costa Rica, we recorded impairments for the building and equipment of $5.7 million which is included in Restructuring expenses in the consolidated statement of net income (loss). We wrote-down obsolete inventory of $0.3 million and accrued $0.3 million for employee termination expenses as of December 31, 2016. In addition, the carrying value of $4.5 million of the land and building after impairment were classified as Assets Held for Sale and included in Prepaid expenses and other current assets in the consolidated balance sheet as of December 31, 2016.

Note 8. Goodwill and Intangible Assets

Detail of finite-lived and indefinite-lived intangible assets (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Finite-lived intangible assets:			
Developed technology	$ 206,048	$ 213,873	$ 13,204
Customer relationships	441,088	444,472	—
Trademarks and trade names	12,649	13,030	—
Other intangible assets	2,106	11	1,023
Total	661,891	671,386	14,227
Accumulated amortization	(52,694)	(12,444)	(4,059)
Net	$ 609,197	$ 658,942	$ 10,168
Indefinite-lived intangible assets:			
Goodwill	$ 691,712	$ 745,356	$ —

During the year ended December 31, 2016, we purchased $1.9 million of developed technology.

In connection with the Mergers and based upon the preliminary acquisition valuation, we acquired certain finite-lived intangible assets: $464.0 million of customer relationships, $211.1 million of developed technology and $13.6 million of trade names.

The amortization periods for our finite-lived intangible assets as of December 31, 2016:

	Minimum Life in years	Maximum Life in years
Developed technology	9	15
Customer relationships	16	18
Trademarks and trade names	4	4
Other intangible assets	5	5

The estimated future amortization expense based on our finite-lived intangible assets at December 31, 2016 (in thousands):

2017	$ 45,408
2018	45,407
2019	45,407
2020	45,407
2021	45,397
Thereafter	382,171

Goodwill and Goodwill Impairment

Our business consists of three operating Segments (which are our reporting units for goodwill testing): our historical Cyberonics segment, Neuromodulation (“NM”) and the two historical Sorin segments, Cardiac Surgery (“CS”) and Cardiac Rhythm Management (“CRM”).

The carrying amount of goodwill by Segment (in thousands):

	Neuromodulation	Cardiac Surgery	Cardiac Rhythm Management	Total
April 24, 2015				
Goodwill from acquisition	$ 315,943	$ 429,627	$ 17,575	$ 763,145
Currency adjustments	—	(17,086)	(703)	(17,789)
December 31, 2015	315,943	412,541	16,872	745,356
Measurement period adjustments, net	—	(25,728)	1,757	(23,971)
Impairments	—	—	(18,348)	(18,348)
Currency adjustments	—	(11,044)	(281)	(11,325)
December 31, 2016	$ 315,943	$ 375,769	$ —	$ 691,712

As a result of the Mergers, the newly formed LivaNova entity recognized $763.1 million of goodwill on its balance sheet as the excess of the fair value of consideration over the fair value of the net assets acquired and liabilities assumed from Sorin. We finalized the measurement of assets and liabilities recognized in the Mergers in the nine months ended September 30, 2016, and as a result we recorded a net decrease in goodwill of $24.0 million.

We test goodwill for impairment on an annual basis or when events or changes in circumstances indicate that a potential impairment exists. As part of our annual goodwill impairment test as of October 1, 2016, we considered that certain sales targets were not achieved during the third quarter of 2016 and the reduction to our fourth quarter 2016 sales projections.

Our stock price also declined significantly during the fourth quarter, reaching a low following the Mergers of $40.84 on November 15, 2016. Our stock price traded between $40.84 and $60.99 during the fourth quarter of 2016 and averaged $49.31 during this period.

Management considered the reduction in third quarter sales and fourth quarter sales projections, in addition to a decline in our stock price, and based on a qualitative assessment concluded that the goodwill of the CRM and CS reporting units may be impaired. As a result, we performed the first step of the impairment test process by estimating the fair value of the reporting units using an income approach.

Based on the valuation performed as of October 1, 2016, the CRM reporting unit estimated fair value was less than its carrying value; therefore, we concluded that the CRM goodwill balance was impaired. For the second step of the impairment test, we compared the estimated fair value of the reporting unit to the fair value of all assets and liabilities of the reporting unit to calculate the implied fair value of goodwill. As a result, we recorded a non-cash loss on impairment totaling $18.3 million which was included in Goodwill Impairment in our consolidated statement of net loss for the year ended December 31, 2016.

Based on the valuation performed as of October 1, 2016, the CS reporting unit estimated fair value exceeded the carrying value by approximately 6%, therefore we concluded that the goodwill balance was not impaired.

The income approach was based on a discounted cash flow model, which utilized present values of cash flows to estimate fair value. The future cash flows were projected based on our estimates of future sales, operating costs, capital requirements, growth rates and terminal values. Forecasted sales and growth rates take into account current market conditions and our anticipated business outlook, both of which have been impacted by the reduction in sales projections during 2016.

Operating costs were forecasted using a combination of our historical average operating costs and expected future costs, adjusted for an estimated inflation factor. Capital requirements in the discounted cash flow model were based on management's estimates of future capital costs, taking into consideration our historical trends. The estimated capital requirements included cash outflows to maintain manufacturing and R&D facilities.

A terminal period was used to reflect our estimate of stable, perpetual growth. The terminal period reflects a terminal growth rate of 3% for both reporting units, which includes an estimated inflation factor. The future cash flows were discounted using a market participant risk-adjusted weighted average cost of capital ("WACC") for CRM and CS of 9.5% and 8.5%, respectively.

These assumptions were derived from unobservable inputs and reflect management's judgments and assumptions. A decline in the CS reporting unit cash flow projections or adverse changes in other key assumptions such as a 50 basis point increase in the WACC or a 0.5% reduction in the terminal growth rate could result in a goodwill impairment charge in the future. However, management does not believe that an impairment charge is likely.

We evaluated the estimated fair value of our reporting units as compared to our market capitalization as of October 1, 2016. The aggregate fair values of our reporting units exceeded our market capitalization, and we believe the resulting implied control premium was reasonable based on recent market transactions within our industry or other relevant benchmark data.

We performed a qualitative assessment for our NM reporting unit as of October 1, 2016. Despite the reduction to sales projections for CRM and CS, we concluded that the fair value of NM remains substantially in excess of the carrying value of the reporting unit, as evidenced by the estimated fair value of the NM reporting unit calculated for the purpose of reconciling the fair value of our reporting units to our market capitalization. Therefore, we concluded that it remains more-likely than not that the NM reporting unit goodwill was not impaired.

The estimates used to determine the fair value of the CS reporting unit reflect management's best estimates of inputs and assumptions that a market participant would use. We believe our estimates are reasonable given the Company's advantageous position in the global market for oxygenators, heart-lung machines, and auto-transfusion systems, despite the issues experienced in the 3T Heater Cooler market. Future declines in the CS reporting unit's operating performance or our anticipated business outlook may reduce the estimated fair value of our CS reporting unit and result in an impairment of goodwill. As indicated in the Risk Factors, various factors that could impact the reporting unit's operating performance include, but are not limited to, the timing of regulatory approvals, market acceptance of products, non-coverage determinations for reimbursement by third-party payors, temporary manufacturing disruptions, or product recalls or safety alerts.

Note 9. Other Assets - Long Term

Detail of other long-term assets (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Taxes payable on inter-company transfers of property	$ 124,600	$ —	$ —
Investments [(1)]	2,537	1,777	1,231
Loans and notes receivable	2,029	2,205	—
Guaranteed deposits	940	785	—
Other	592	678	332
	$ 130,698	$ 5,445	$ 1,563

(1) Primarily cash surrender value of company owned life insurance policies.

Note 10. Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Product Remediation[(1)]	$ 23,464	$ —	$ —
Restructuring related liabilities	16,859	6,919	—
Provisions for agents, returns and other	7,271	7,199	—
Product warranty obligations	2,736	2,119	—
Royalty costs	2,503	1,316	—
Deferred income	1,708	992	—
Derivatives	942	1,815	—
Clinical study costs	839	2,004	974
Insurance	118	2,566	—
Advances received on customer receivables	—	24,494	—
Merger related expense accruals	—	—	4,101
Other	19,127	13,623	3,259
	$ 75,567	$ 63,047	$ 8,334

(1) Refer to "Note 11. Product Remediation Liability."

Note 11. Product Remediation Liability

In December 2015, we received an FDA Warning Letter (the "Warning Letter") alleging certain violations of FDA regulations applicable to medical device manufacturing at our Munich, Germany and Arvada, Colorado facilities. On October 13, 2016 the Centers for Disease Control and Prevention ("CDC") and FDA separately released safety notifications regarding the 3T Heater Cooler devices in response to which the Company issued a Field Safety Notice Update for U.S. users of 3T Heater Cooler devices to proactively and voluntarily contact facilities to facilitate implementation of the CDC and FDA recommendations.

At December 31, 2016, the Company recognized a liability for a product remediation plan related to its 3T Heater Cooler device. The remediation plan developed by the Company consists primarily of a modification of the 3T design to include internal sealing and addition of a vacuum system to new and existing devices. These changes are intended to address regulatory actions and further reduce the risk of possible dispersion of aerosols from the 3T Heater Cooler devices in the operating room. The deployment of this solution for commercially distributed devices will occur upon final validation and verification of the design changes and approval or clearance by regulatory authorities worldwide, including FDA clearance in the U.S. and CE Mark in Europe. Based on the device classification and magnitude of the design change, we estimate that we can self-certify the effectiveness of the change in order to apply the CE Mark in Europe. As part of this plan, we also intend to perform a no-charge deep disinfection service for 3T users who have reported confirmed M. chimaera mycobacterium contamination. Although the deep disinfection service is not yet available in the U.S., it is currently offered in many countries around the world and will be expanded to additional geographies as regulatory approvals are received. Finally, in the fourth quarter of 2016 we initiated a program to provide existing 3T users with a new loaner 3T device at no charge pending regulatory approval and implementation of the vacuum system addition and deep disinfection service worldwide. This loaner program began in the U.S. and is being progressively made available on a global basis, prioritizing and allocating devices to 3T users based on pre-established criteria. It is estimated that by the end of 2018, a majority of the 3T devices in use globally will be upgraded and returned to operation. In addition to $4.0 million of costs incurred during the year ended December 31, 2016, we also recognized a $33.5 million liability at December 31, 2016 to provide for the remaining execution of the plan including finalization and implementation of the design change, deep disinfection services and the provision of loaner 3T Heater Cooler devices. We concluded that it was probable that a liability had been incurred upon management's approval of the plan and the commitments made by management to various regulatory authorities globally in November and December 2016, and furthermore, the cost associated with the plan was reasonably estimable. This liability is included in Accrued Liabilities and Other Long-Term Liabilities on the consolidated balance sheet. It is reasonably possible that our estimate of the remediation liability could materially change in future periods due to the various significant assumptions involved such as customer behavior, market reaction and the timing of approvals or clearance by regulatory authorities worldwide.

For further information, please refer to "Note 18. Commitments and Contingencies." At this stage, no liability has been recognized with respect to any lawsuits involving the Company related to the 3T Heater Cooler and the related legal costs will be expensed as incurred.

Note 12. Warranties

We include warranty obligations with current accrued liabilities in the consolidated balance sheets. Changes in the carrying amount of our warranty obligation consisted of the following (in thousands):

Balance at December 31, 2015	$	2,119
Product warranty accrual		1,359
Settlements		(762)
Effect of changes in currency exchange rates		20
Balance at December 31, 2016	$	2,736

Note 13. Other Long-Term Liabilities

Other long-term liabilities consisted of the following (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Uncertain tax positions	$ 16,857	$ 13,048	$ 5,782
Product Remediation[1]	10,023	—	—
Government grant deferred revenue	3,803	3,918	—
Earnout for contingent payments [2]	3,890	3,457	—
Unfavorable operating leases [3]	1,672	2,513	—
Financial derivatives	1,392	1,793	—
Other	1,850	5,014	828
	$ 39,487	$ 29,743	$ 6,610

(1) Refer to "Note 11. Product Remediation Liability."

(2) The earnout for contingent payments represents contingent payments we assumed during the Mergers for two acquisitions completed by Sorin prior to the Mergers. The first acquisition, in September 2015, was of Cellplex PTY Ltd. in Australia; the second acquisition was of the commercial activities of a local distributor in Colombia. The contingent payments for the Cellplex acquisition are based on achievement of sales targets by the acquiree through June 30, 2018 and the contingent payments for the second acquisition are based on sales of cardiopulmonary disposable products and heart-lung machines of the acquiree through December 2019. Refer to "Note 15. Fair Value Measurements."

(3) The unfavorable operating leases liability represents the adjustment to recognize Sorin's future lease obligations at their estimated fair value in conjunction with the Mergers, with an average life of 5 years.

Note 14. Investments

Short-Term Investments

Our short-term investments as of December 31, 2015 and April 24, 2015 consisted of investments in Commercial paper and Commercial paper and Certificates of deposit, respectively.

Cost Method Investments

Our cost-method investments are included in Investments in the consolidated balance sheets and consist of our equity positions in the following privately-held companies (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
ImThera Medical, Inc. - convertible preferred shares and warrants [1]	$ 12,000	$ 12,000	$ 12,000
Cerbomed GmbH - convertible preferred shares [2]	—	—	5,127
Rainbow Medical Ltd.[3]	3,733	3,847	—
Respicardia [4]	17,518	—	—
MD Start II	526	—	—
Carrying amount - cost method investments	$ 33,777	$ 15,847	$ 17,127

(1) ImThera Medical, Inc. is a private U.S. company developing a neurostimulation device system for the treatment of obstructive sleep apnea.

(2) Cerbomed GmbH is a European company developing a transcutaneous vagus nerve stimulation device for the treatment of epilepsy. During the transitional period April 25, 2015 to December 31, 2015, we recorded an other-than-temporary impairment of $5.1 million against our investment in Cerbomed. We recorded the charge in Impairment of Investments in the consolidated statement of income (loss). Refer to "Note 15. Fair Value Measurements."

(3) Rainbow Medical Ltd. is a private Israeli venture capital company that seeds and grows companies developing medical devices in a diverse range of medical fields.

(4) Respicardia is a privately funded U.S. company developing an implantable device designed to restore a more natural breathing pattern during sleep in patients with central sleep apnea ("CSA") by transvenously stimulating the phrenic nerve. As of November 30, 2016, we reclassified Respicardia to a cost method investment from an equity method investment, refer to the *Respicardia* details below.

Equity Method Investments

Our equity-method investments are included in Investments in the consolidated balance sheets and consist of our equity position in the following entities (in thousands, except for percent ownership):

	% Ownership [1]	December 31, 2016	December 31, 2015	April 24, 2015
Caisson Interventional LLC [2]	49%	$ 16,423	$ 13,712	$ —
Highlife S.A.S. [2]	38%	6,009	8,363	—
MicroPort Sorin CRM (Shanghai) Co. Ltd.	49%	4,867	8,959	—
Respicardia, Inc. [3]	19.7%	—	30,586	—
Other		16	19	—
Total [4]		$ 27,315	$ 61,639	$ —

(1) Ownership percentages as of December 31, 2016.

(2) We have outstanding loans to Caisson Interventional LLC and to Highlife S.A.S that amount to $8.7 million, which are included in Other Current and Other Assets Long-Term in the consolidated balance sheets. We invested an additional $7.5 million in Caisson Series B Preferred Units, in July 2016, upon achievement of a previously agreed upon milestone.

(3) In September 2016 we recorded an impairment of Respicardia of $9.2 million and as of November 30, 2016, we reclassified Respicardia to cost method investments. Refer to the *Respicardia* details below.

(4) The total difference between the carrying amount of the investments and the amount of underlying equity in the net assets of these equity method investments was $46.9 million as of December 31, 2016.

Respicardia

In September 2016 we declined to exercise or extend our option to purchase all of the issued and outstanding shares of Respicardia held by other investors as we preferred to continue as a minority investor instead of becoming a strategic acquirer. In addition, our analysis indicated that our carrying value in Respicardia might not be recoverable and the impairment was other than temporary. We estimated the fair value of our investment in Respicardia using information about past events, current conditions, and forecasts and an estimate of future cash flows. As a result, in September 2016, we impaired our investment in Respicardia by $9.2 million, which essentially represents the purchase option's carrying value on the date we declined to exercise our option. This loss is included in Losses from Equity Method Investments in the consolidated statement of income (loss) for the year ended December 31, 2016. In November 2016, we terminated our distributor agreement with Respicardia; the distributor agreement had been a key component in the determination of whether our influence over Respicardia was significant, and as a result, we determined in November 2016 that we no longer had significant influence over Respicardia and transferred the investment to our cost method investments.

Caisson

In July 2016, we invested $7.5 million in Caisson Series B Preferred Units upon their achievement of a previously agreed upon milestone. This investment raised our interest in Caisson by 5.4% to 49.1%. There were no other changes with respect of our interest in, and control of, Caisson, therefore we continue to account for this investment under the equity method of accounting.

Note 15. Fair Value Measurements

Fair value is defined as the exit price, or the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The authoritative guidance for fair value measurements establishes a three-tier fair value hierarchy, categorizing the inputs used to measure fair value. The hierarchy can be described as follows:

Level 1. Observable inputs such as quoted prices in active markets for identical assets or liabilities.

Level 2. Inputs 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, and inputs (other than quoted prices) that are observable for the asset or liability, either directly or indirectly. To measure the fair value of derivative transactions (transactions to hedge exchange risk and interest rate risk), we calculate the mark-to-market of each transaction using prices quoted in active markets (e.g., the spot exchange rate of a currency for forward exchange transactions) and observable market inputs processed for the measurement (e.g., the fair value of an interest rate swap using the interest rate curve), or the measurement of an exchange rate option (with the processing of listed prices and observable variables such as volatility). For all level 2 valuations, we use the information provided by a third-party as a source for obtaining quoted observable prices and to process market variables.

Level 3. Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions. When a determination is made to classify an asset or liability within Level 3, the determination is based upon the significance of the unobservable inputs to the overall fair value measurement. The fair value of assets using Level 3 input are based on our own judgments about the assumptions that market participants would use in pricing the asset and on observable market data, when available. We generally consider: (a) sale prices for similar assets, (b) discounted estimated future cash flows using an appropriate discount rate and/or (c) estimated replacement cost.

We review the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy. There were no transfers between Level 1, Level 2, or Level 3 during the year ended December 31, 2016 or the transitional period April 25, 2015 to December 31, 2015.

Assets and Liabilities That Are Measured at Fair Value on a Recurring Basis

The following table provides information by level for assets and liabilities that are measured at fair value on a recurring basis (in thousands):

		Fair Value Measurements Using Inputs Considered as:		
	December 31, 2016	**Level 1**	**Level 2**	**Level 3**
Assets:				
Derivative assets - designated as cash flow hedges (FX)	$ 4,911	$ —	$ 4,911	$ —
Derivative assets - freestanding hedges (FX)	3,358	—	3,358	—
Total assets	$ 8,269	$ —	$ 8,269	$ —
Liabilities:				
Derivative liabilities - designated as cash flow hedges (FX)	$ 2,334	$ —	$ 2,334	$ —
Earnout for contingent payments [(1)]	3,890	—	—	3,890
Total Liabilities	$ 6,224	$ —	$ 2,334	$ 3,890

	Fair Value as of December 31, 2015	Fair Value Measurements Using Inputs Considered as: Level 1	Level 2	Level 3
Assets:				
Derivative assets - designated as cash flow hedges (FX)	$ 839	$ —	$ 839	$ —
Total Assets	$ 839	$ —	$ 839	$ —
Liabilities:				
Derivative liabilities - designated as cash flow hedges (interest rate swaps)	$ 2,876	$ —	$ 2,876	$ —
Derivative liabilities - freestanding hedges (interest rate swaps)	24	—	24	—
Derivative liabilities - freestanding hedges (FX)	1,547	—	1,547	—
Earnout for contingent payments [(1)]	3,457	—	—	3,457
Total Liabilities	$ 7,904	$ —	$ 4,447	$ 3,457

(1) This contingent payment arose as a result of acquisitions by Sorin, prior to the Mergers, see "Note 13. Other Long-Term Liabilities" for further information.

Assets and Liabilities that are Measured at Fair Value on a Nonrecurring Basis

Our investment in entities accounted for under the cost-method and the equity method have no quoted market prices. These investments and our non-financial assets such as: goodwill, intangible assets, and PP&E, are measured at fair value if there is an indication of impairment and recorded at fair value only when an impairment is recognized. We classify the measurement input for these assets as Level 3 inputs within the fair value hierarchy.

During the year ended December 31, 2016, we recorded a $9.2 million impairment of our equity-method investment in Respicardia, Inc. Refer to "Note 14. Investments" for further information. This impairment is included in Losses from Equity Method Investments in the consolidated statement of net income (loss). Additionally we recorded an $18.3 million goodwill impairment. Refer to "Note 8. Goodwill and Intangible Assets" for further information. In addition, during the fourth quarter of the year ended December 31, 2016, we recorded an impairment of approximately $2.3 million and $3.4 million, for our Costa Rica manufacturing plant and equipment, respectively. These impairments were triggered by our plan to transfer manufacturing to Houston, Texas from Costa Rica. Refer to "Note 7. Property Plant and Equipment" for further information. These impairments are included in Restructuring Expenses in the consolidated statement of net income (loss).

During the transitional period April 25, 2015 to December 31, 2015 we fully impaired certain finite-lived intangible assets and PP&E for a loss of $0.4 million and $0.6 million, respectively, which was primarily related to R&D projects that no longer factored into our future product plans.

Short-Term Financial Instruments Not Measured at Fair Value

The carrying values of our cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to the short-term nature of these items. The balance of our investments in short-term securities consisted of commercial paper carried at cost plus accrued interest which approximates its fair value. Refer to "Note 14. Investments" for further information.

The carrying value of our long-term debt including the short-term portion, as of December 31, 2016, was $96.5 million which we believe approximates fair value.

Note 16. Financing Arrangements

The outstanding principal amount of long-term debt (in thousands, except interest rates):

	Principal Amount at December 31, 2016	Principal Amount at December 31, 2015	Maturity	Effective Interest Rate
European Investment Bank [1]	$ 78,987	$ 99,426	June 2021	0.96%
Banca del Mezzogiorno [2]	6,747	8,851	December 2019	0.50% - 3.15%
Mediocredito Italiano [3]	7,276	—	December 2023	0.50% - 3.074%
Bpifrance (ex-Oséo) [4]	1,909	2,621	October 2019	2.58%
Region Wallonne [5]	798	1,192	December 2023 and June 2033	0.00% - 2.45%
Mediocredito Italiano - mortgages [6]	799	944	September 2021 and September 2026	0.80% -1.30%
Total long-term facilities	96,516	113,034		
Less current portion of long-term debt	21,301	21,243		
Total long-term debt	$ 75,215	$ 91,791		

(1) The European Investment Bank loan supports product development projects in Italy and France for the Cardiac Surgery and Cardiac Rhythm Management segments, and in addition, for the support of New Ventures therapeutic solutions aimed at treating heart failure and mitral valve regurgitation.

(2) The Banca del Mezzogiorno loans support R&D projects as a part of the Large Strategic Project program of the Italian Ministry of Education, Universities and Research.

(3) During the year ended December 31, 2016, we entered into two term loans as part of the Fondo Innovazione Tecnologica program implemented by the Italian Ministry of Education, University and Research through Mediocredito Italiano Bank.

(4) This loan with Bpifrance, a French government entity, provides financial support for R&D activity in France.

(5) This loan from Wallonia Region in Belgium, supports several R&D projects.

(6) The Mediocredito Italiano - mortgages are real estate mortgage loans secured by a mortgage on our building located at our Cantù manufacturing site in Italy.

The outstanding principal amount of short-term debt (revolving credit agreements) (in thousands, except interest rates):

	Principal Amount at December 31, 2016	Principal Amount at December 31, 2015	Interest Rate
Intesa San Paolo Bank	$ —	$ 20,630	—%
BNL BNP Paribas	7,379	18,459	0.25%
Unicredit Banca	8,433	15,201	0.21%
BNP Paribas (Brazil)	3,211	2,225	15.27%
French Government	1,971	2,030	—
Banco de Bogota	757	—	3.69%
Other	4,598	2,725	
Total short-term facilities	26,349	61,270	
Current portion of long-term debt	21,301	21,243	
Total current debt	47,650	82,513	
Total debt	$ 122,865	$ 174,304	

Note 17. Derivatives and Risk Management

Due to the global nature of our operations, we are exposed to foreign currency exchange rate fluctuations. In addition, due to certain loans with floating interest rates, we are also subject to the impact of changes in interest rates on our interest payments. We enter into foreign currency exchange rate ("FX") derivative contracts and interest rate swap contracts to reduce the impact of foreign currency rate and interest rate fluctuations on earnings and cash flow. We measure all outstanding derivatives each period end at fair value and report the fair value as either financial assets or liabilities in the consolidated balance sheets. We do not enter into derivative contracts for speculative purposes. If the derivative qualifies for hedge accounting, depending on the nature of the hedge and hedge effectiveness, changes in the fair value of the derivative will either be recognized immediately in earnings or recorded in other comprehensive income (loss) ("AOCI") until the hedged item is recognized in earnings upon settlement/termination. FX amounts in AOCI are reclassified to in the consolidated statement of earnings (loss) as shown in the tables below and interest rate swaps gains and losses in AOCI are a reclassified to interest expense in the consolidated statement of income (loss). We evaluate hedge effectiveness at inception and on an ongoing basis. If a derivative is no longer expected to be highly effective, hedge accounting is discontinued. Hedge ineffectiveness, if any, is recorded in earnings. Cash flows from derivative contracts are reported as operating activities in the consolidated statements of cash flows.

Derivatives that are not designated as hedging instruments are referred to as freestanding derivatives with changes in fair value included in earnings. We use currency exchange rate derivative contracts and interest rate derivative instruments, to manage the impact of currency exchange and interest rate changes on earnings and cash flows. In order to minimize earnings and cash flow volatility resulting from currency exchange rate changes, we enter into derivative instruments, principally forward currency exchange rate contracts. These contracts are designed to hedge anticipated foreign currency transactions and changes in the value of specific assets and liabilities. At inception of the forward contract, the derivative is designated as either a freestanding derivative or a cash flow hedge.

Freestanding Derivative FX Contracts

The gross notional amount of FX derivative contracts, not designated as hedging instruments, outstanding at December 31, 2016 and December 31, 2015 was $489.1 million and $254.4 million, respectively. These derivative contracts are designed to offset the FX effects in earnings of various intercompany loans, our European Investment Bank loan, and receivables denominated in JPY and GBP.

The amount and location of the net gains (losses) in the consolidated statements of income (loss) related to open and settled freestanding FX derivative contracts (in thousands):

Net Gains (Losses) from Derivatives Not Designated as Hedging Instruments	Location of gains / (losses) in the statement of net income (loss)	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015
FX derivative contracts	Foreign exchange and other	10,960	(12,813)

Cash Flow Hedges

Foreign Currency Risk

We utilize FX derivative contracts, designed as cash flow hedges, to hedge the variability of cash flows associated with our 12 month USD forecasts of revenues denominated in British Pound and Japanese Yen. We transfer to earnings from accumulated other comprehensive income (loss), the gain or loss realized on the FX derivative contracts at the time of invoicing.

There was no hedge ineffectiveness and there were no components of the FX derivative contracts excluded in the measurement of hedge effectiveness during the year ended December 31, 2016.

During the year ended December 31, 2016, we discontinued and settled certain of our FX derivative contracts due to changes in our foreign currency revenue forecast that resulted in a gain of $0.2 million reclassified to earnings from accumulated other comprehensive (loss).

Interest Rate Risk

In July 2014, Sorin entered into a European Investment Bank ("EIB") long-term loan agreement that matures in June 2021 with variable interest payments due quarterly based on the Euribor 3 month floating interest rate. To minimize the impact of changes in the interest rate we entered into an interest rate swap agreement program to swap the EIB floating-rate interest payments for fixed-rate interest payments. The interest rate swap contracts qualify for, and are designated as, cash flow hedges.

There was no interest rate swap hedge ineffectiveness or component of the swap contract excluded in the measurement of hedge effectiveness during the year ended December 31, 2016.

Open derivative contracts designated as cash flow hedges (in thousands):

Description of derivative contract:	December 31, 2016	December 31, 2015
FX derivative contracts to be exchanged for British Pounds	$ 6,663	$ 13,134
FX derivative contracts to be exchanged for Japanese Yen	$ 57,840	$ 53,766
Interest rate swap contracts	$ 63,246	$ 79,625

After-tax net gain associated with derivatives designated as cash flow hedges recorded in the ending balance of Accumulated Other Comprehensive Loss and the amount expected to be reclassified to earnings in the next 12 months (in thousands):

	December 31, 2016	Amount expected to be reclassed to earnings in next 12 months
FX derivative contracts	$ 3,289	$ 3,289
Interest rate swap contracts	330	73
Total	$ 3,619	$ 3,362

Pre-tax gains (losses) posted to other comprehensive income ("OCI") and the amount reclassified to earnings for derivative contracts designated as cash flow hedges (in thousands):

		Year Ended December 31, 2016	
Description of derivative contract	Location in earnings of reclassified gain or loss	Gains Recognized in OCI	Gains (Losses) Reclassified from OCI to Earnings:
FX derivative contracts	Foreign Exchange and Other	$ 2,874	$ (3,705)
FX derivative contracts	SG&A	—	4,218
Interest rate swap contracts	Interest expense	85	458
Total		$ 2,959	$ 971

		Transitional Period April 25, 2015 to December 31, 2015	
Description of derivative contract	Location in earnings of reclassified gain or loss	Gains Recognized in OCI	Gains Reclassified from OCI to Earnings:
FX derivative contracts	Foreign Exchange and Other	$ 1,150	$ —
FX derivative contracts	SG&A	—	—
Interest rate swap contracts	Interest expense	124	—
Total		$ 1,274	$ —

The following tables present the fair value, and the location of, derivative contracts reported in the consolidated balance sheets (in thousands):

December 31, 2016	Asset Derivatives		Liability Derivatives	
Derivatives designated as hedging instruments	**Balance Sheet Location**	**Fair Value [1]**	**Balance Sheet Location**	**Fair Value [1]**
Interest rate contracts	Prepaid expenses and other current assets	$ —	Accrued liabilities	$ 942
Interest rate contracts	Other assets (long term)	—	Other long-term liabilities	1,392
Foreign currency exchange rate contracts	Prepaid expenses and other current assets	4,911	Accrued liabilities	—
Total derivatives designated as hedging instruments		4,911		2,334
Derivatives not designated as hedging instruments				
Interest rate contracts	Prepaid expenses and other current assets	—	Accrued liabilities	—
Foreign currency exchange rate contracts	Prepaid expenses and other current assets	3,358	Accrued liabilities	—
Total derivatives not designated as hedging instruments		3,358		—
Total derivatives		$ 8,269		$ 2,334

December 31, 2015	Asset Derivatives		Liability Derivatives	
Derivatives designated as hedging instruments	**Balance Sheet Location**	**Fair Value [1]**	**Balance Sheet Location**	**Fair Value [1]**
Interest rate contracts	Prepaid expenses and other current assets	$ —	Accrued liabilities	$ 1,083
Interest rate contracts	Other assets (long term)	—	Other long-term liabilities	1,793
Foreign currency exchange rate contracts	Prepaid expenses and other current assets	839	Accrued liabilities	—
Total derivatives designated as hedging instruments		839		2,876
Derivatives not designated as hedging instruments				
Interest rate contracts	Prepaid expenses and other current assets	—	Accrued liabilities	24
Foreign currency exchange rate contracts	Prepaid expenses and other current assets	—	Accrued liabilities	1,547
Total derivatives not designated as hedging instruments		—		1,571
Total derivatives		$ 839		$ 4,447

(1) For the classification of input used to evaluate the fair value of our derivatives, refer to "Note 15. Fair Value Measurements."

Note 18. Commitments and Contingencies

3T Heater Cooler

FDA Warning Letter

On December 31, 2015, LivaNova received a Warning Letter (the "Warning Letter") dated December 29, 2015 from the U.S. Food and Drug Administration ("FDA") alleging certain violations of FDA regulations applicable to medical device manufacturers at the Company's Munich, Germany and Arvada, Colorado facilities.

The FDA inspected the Munich facility from August 24, 2015 to August 27, 2015 and the Arvada facility from August 24, 2015 to September 1, 2015. On August 27, 2015, the FDA issued a Form 483 identifying two observed non-conformities with certain regulatory requirements at the Munich facility. We did not receive a Form 483 in connection with the FDA's inspection of the Arvada facility. Following the receipt of the Form 483, we provided written responses to the FDA describing corrective and preventive actions that were underway or to be taken to address the FDA's observations at the Munich facility. The Warning Letter responded in part to our responses and identified other alleged violations not previously included in the Form 483.

The Warning Letter further stated that our 3T Heater Cooler devices and other devices we manufactured at our Munich facility are subject to refusal of admission into the United States until resolution of the issues set forth by the FDA in the Warning Letter. The FDA has informed us that the import alert is limited to the 3T Heater Cooler devices, but that the agency reserves the right to expand the scope of the import alert if future circumstances warrant such action. The Warning Letter did not request that existing users cease using the 3T Heater Cooler device, and manufacturing and shipment of all of our products other than the 3T Heater Cooler remain unaffected by the import limitation. To help clarify these issues for current customers, we issued an informational Customer Letter in January 2016, and that same month agreed with the FDA on a process for shipping 3T Heater Cooler devices to existing U.S. users pursuant to a certificate of medical necessity program.

Lastly, the Warning Letter stated that premarket approval applications for Class III devices to which certain Quality System regulation deviations identified in the Warning Letter are reasonably related will not be approved until the violations have been corrected. However, the Warning Letter only specifically names the Munich and Arvada facilities in this restriction, which do not manufacture or design devices subject to premarket approval.

We are continuing to work diligently to remediate the FDA's inspectional observations for the Munich facility as well as the additional issues identified in the Warning Letter. We take these matters seriously and intend to respond timely and fully to the FDA's requests.

CDC and FDA Safety Communications and Company Field Safety Notice Update

On October 13, 2016 the Centers for Disease Control and Prevention ("CDC") and FDA separately released safety notifications regarding the 3T Heater Cooler devices. The CDC's Morbidity and Mortality Weekly Report ("MMWR") and Health Advisory Notice ("HAN") reported that tests conducted by CDC and its affiliates indicate that there appears to be genetic similarity between both patient and heater cooler strains of the non-tuberculous mycobacterium ("NTM") bacteria M. chimaera isolated in hospitals in Iowa and Pennsylvania. Citing the geographic separation between the two hospitals referenced in the investigation, the report asserts that 3T Heater Cooler devices manufactured prior to August 18, 2014 could have been contaminated during the manufacturing process. The CDC's HAN and FDA's Safety Communication, issued contemporaneously with the MMWR report, each assess certain risks associated with heater cooler devices and provide guidance for providers and patients. The CDC notification states that the decision to use the 3T Heater Cooler during a surgical operation is to be taken by the surgeon based on a risk approach and on patient need. Both the CDC's and FDA's communications confirm that heater cooler devices are critical medical devices and enable doctors to perform life-saving cardiac surgery procedures.

Also on October 13, 2016, the Company issued a Field Safety Notice Update for U.S. users of 3T Heater Cooler devices to proactively and voluntarily contact facilities to facilitate implementation of the CDC and FDA recommendations. In the fourth quarter of 2016 the Company initiated a program to provide existing 3T users with a new loaner 3T device at no charge pending regulatory approval and implementation of additional risk mitigation strategies worldwide. This loaner program began in the U.S. and is being progressively made available on a global basis, prioritizing and allocating devices to 3T users based on pre-established criteria. We anticipate that this program will continue until we are able to address customer needs through a broader solution that includes implementation of one or more of the risk mitigation strategies currently under review with regulatory agencies.

At December 31, 2016, the Company recognized a liability for a product remediation plan related to its 3T Heater Cooler device. We concluded that it was probable that a liability had been incurred upon management's approval of the plan and the

commitments made by management to various regulatory authorities globally in November and December 2016, and furthermore, the cost associated with the plan was reasonably estimable. Refer to "Note 11. Product Remediation Liability" for additional information.

Baker, Miller et al v. LivaNova PLC

On February 12, 2016, LivaNova was alerted that a class action complaint had been filed in the U.S. District Court for the Middle District of Pennsylvania with respect to the Company's 3T Heater Cooler devices, naming as evidence, in part, the Warning Letter issued by the FDA in December 2015. The named plaintiffs to the complaint are two individuals who underwent open heart surgeries at WellSpan York Hospital and Penn State Milton S. Hershey Medical Center in 2015, and the complaint alleges that: (i) patients were exposed to a harmful form of bacteria, known as nontubercuous mycobacterium ("NTM"), from LivaNova's 3T Heater Cooler devices; and (ii) LivaNova knew or should have known that design or manufacturing defects in 3T Heater Cooler devices can lead to NTM bacterial colonization, regardless of the cleaning and disinfection procedures used (and recommended by the Company). Named plaintiffs seek to certify a class of plaintiffs consisting of all Pennsylvania residents who underwent open heart surgery at WellSpan York Hospital and Penn State Milton S. Hershey Medical Center between 2011 and 2015 and who are currently asymptomatic for NTM infection (approximately 3,600 patients).

The putative class action, which has not been certified, seeks: (i) declaratory relief finding the 3T Heater Cooler devices are defective and unsafe for intended uses; (ii) medical monitoring; (iii) general damages; and (iv) attorneys' fees. On March 21, 2016, the plaintiffs filed a First Amended Complaint adding Sorin Group Deutschland GmbH and Sorin Group USA, Inc. as defendants. On September 29, 2016 the Court dismissed LivaNova PLC from the case, and on October 11, 2016, the Court denied the Company's motion to dismiss Sorin Group Deutschland GmbH and Sorin Group USA, Inc. from the lawsuit.

In addition to the Baker case addressed in the preceding section, the Company has received additional lawsuits from around the U.S. related to surgical cases in which a 3T Heater Cooler device was allegedly used. Twenty-seven lawsuits have been filed against the Company in state and Federal courts in Pennsylvania, South Carolina, North Carolina, Iowa, South Dakota, California, Texas and Alabama and one case has been filed in Montreal, Canada. Two of the cases noted above are brought by plaintiffs seeking class action status: the case filed against the Company in Canada, which relates to surgical cases at the Montreal Heart Institute, and a single case relating to surgical cases performed at two hospitals in South Carolina. The Company has not yet been served with either of these complaints.

At LivaNova, patient safety is of the utmost importance, and significant resources are dedicated to the delivery of safe, high-quality products. We intend to vigorously defend each of these claims. Given the early stage of each of these matters, we cannot, however, give any assurances that additional legal proceedings making the same or similar allegations will not be filed against LivaNova PLC or one of its subsidiaries, nor that the resolution of these complaints or other related litigation in connection therewith will not have a material adverse effect on our business, results of operations, financial condition and/or liquidity.

Other Matters

SNIA Litigation

Sorin S.p.A. was created as a result of a spin-off (the "Sorin spin-off") from SNIA S.p.A. ("SNIA"). The Sorin spin-off, which spun off SNIA's medical technology division, became effective on January 2, 2004. Pursuant to the Italian Civil Code, in a spin-off transaction, the parent and the spun-off company can be held jointly liable up to the actual value of the shareholders' equity conveyed or received (we estimate that the value of the shareholders' equity received was approximately €573 million, or $601.7 million), for certain indebtedness or liabilities of the pre-spin-off company:

- for "debt" (*debiti*) of the pre-spin-off company that existed at the time of the spin-off (this joint liability is secondary in nature and, consequently, arises only when such indebtedness is not satisfied by the company owing such indebtedness);
- for "liabilities" (*elementi del passivo*) whose allocation between the parties to the spin-off cannot be determined based on the spin-off plan.

Sorin believes and has argued before the relevant fora that Sorin is not jointly liable with SNIA for its alleged SNIA debts and liabilities. Specifically, between 1906 and 2010, SNIA's subsidiaries Caffaro Chimica S.r.l. and Caffaro S.r.l. and their predecessors (the "SNIA Subsidiaries"), conducted certain chemical operations (the "Caffaro Chemical Operations"), at sites in Torviscosa, Brescia and Colleferro, Italy (the "Caffaro Chemical Sites"). These activities allegedly resulted in substantial and widely dispersed contamination of soil, water and ground water caused by a variety of hazardous substances released at the Caffaro Chemical Sites. In 2009 and 2010, SNIA and the SNIA Subsidiaries filed for insolvency. In connection with SNIA's Italian insolvency proceedings, the Italian Ministry of the Environment and the Protection of Land and Sea (the "Italian

Ministry of the Environment"), sought compensation from SNIA in an aggregate amount of €3.4 billion, or $3.6 billion, for remediation costs relating to the environmental damage at the Caffaro Chemical Sites allegedly caused by the Caffaro Chemical Operations. The amount was based on certain clean-up activities and precautionary measures set forth in three technical reports prepared by ISPRA, the technical agency of the Ministry of the Environment. In addition to disputing liability, the Company also disputes the amount being claimed and the basis for its estimation by Italian authorities, and that issue also remains in dispute. No final remediation plan has been approved at any time by the Italian authorities.

In September 2011, the Bankruptcy Court of Udine, and in July 2014, the Bankruptcy Court of Milan each held (in proceedings to which our Company is not part) that the Italian Ministry of the Environment and other Italian government agencies (the "Public Administrations") were not creditors of either SNIA Subsidiaries or SNIA in connection with their claims in the context of their Italian insolvency proceedings. LivaNova (as the successor to Sorin in the litigation) believes these findings are and will be influential (although not formally binding) upon other Italian courts, including civil courts. Public Administrations have appealed both decisions in those insolvency proceedings: in January 2016 the Court of Udine rejected the appeal brought by the Italian Public Administrations. The Public Administrations have appealed that second loss in pending proceedings before the Italian Supreme Court. The appeal by the Public Administrations before the Court of Milan remains pending.

In January 2012, SNIA filed a civil action against Sorin in the Civil Court of Milan asserting provisions of the Italian Civil Code relating to potential joint liability of a parent and a spun-off company in the context of a spin-off, as described above. Those proceedings seek to determine Sorin's joint liability with SNIA for damages allegedly related to the Caffaro Chemical Operations (as described below). SNIA's civil action against Sorin also named the Public Administrations Italian Ministry of the Environment and other Italian government agencies, as defendants, in order to have them bound to the final ruling. The Public Administrations that had also sought compensation from SNIA for alleged environmental damage subsequently counterclaimed against Sorin, seeking to have Sorin declared jointly liable towards those Public Administrations alongside SNIA, and on the same legal basis. SNIA and the Public Administrations also requested the court to declare inapplicable to the Sorin spin-off the cap on potential joint liability of parties to a spin-off otherwise provided for by the Italian Civil Code. The cap, if applied, would limit any joint liability to the actual value of the shareholders' equity received. The Public Administrations have argued before the court that the Sorin spin-off was planned prior to the date such caps were enacted under the Italian Civil Code (although executed after such caps were introduced into Italian law) and should therefore not be applied to the Sorin spin-off.

Sorin has vigorously contested all of SNIA's claims against Sorin as well as those claims brought by the Public Administrations. A favorable decision pertaining to the case was delivered in Judgment No. 4101/2016 on April 1, 2016 (the "Decision"). In its Decision, the Court of Milan dismissed all legal actions of SNIA and of the Public Administrations against Sorin (now LivaNova), further requiring the Public Administrations to pay Sorin €300 thousand, or $315 thousand, as legal fees (of which €50,000 jointly with SNIA).

On June 21, 2016, the Public Administrations filed an appeal against the above decision before the Court of Appeal of Milan. The first hearing of the appeal proceedings was held on December 20, 2016 and the Court scheduled the final hearing for May 16, 2017. After such hearing the parties will file their final briefs and the Court is expected to render its decision in November 2017. SNIA appeared before the Court but did not file an appeal.

LivaNova (as successor to Sorin in the litigation) continues to believe that the risk of material loss relating to the SNIA litigation is not probable as a result of the reasoning contained in, and legal conclusions reached in, the recent court decisions described above. We also believe that the amount of potential losses relating to the SNIA litigation is, in any event, not estimable given that the underlying damages, related remediation costs, allocation and apportionment of any such responsibility, which party is responsible for which time period, all remain issues in dispute and that no final decision on a remediation plan has been approved. As a result, LivaNova has not made any accrual in connection with the SNIA litigation.

Pursuant to European Union, United Kingdom and Italian cross-border merger regulations applicable to the Mergers, legacy Sorin liabilities, including any potential liabilities arising from the claims against Sorin relating to the SNIA litigation, are assumed by LivaNova as successor to Sorin. Although LivaNova believes the claims against Sorin in connection with the SNIA litigation are without merit and continues to contest them vigorously, there can be no assurance as to the outcome. A finding during any appeal or novel proceedings that Sorin or LivaNova is liable for relating to the environmental damage at the Caffaro Chemical Sites or its alleged cause(s) could have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Environmental Remediation Order

On July 28, 2015, Sorin and other direct and indirect shareholders of SNIA received an administrative order from the Italian Ministry of the Environment (the "Environmental Remediation Order"), directing them to promptly commence environmental remediation efforts at the Caffaro Chemical Sites (as described above). LivaNova believes that the Environmental Remediation Order is without merit. LivaNova (as successor to Sorin) believes that it should not be liable for damages relating to the Caffaro Chemical Operations pursuant to the Italian statute on which the Environmental Remediation Order relies because, inter alia, the statute does not apply to activities occurring prior to 2006, the date on which the statute was enacted (Sorin was spun off from SNIA in 2004). Additionally, LivaNova believes that Sorin should not be subject to the Environmental Remediation Order because Italian environmental regulations only permit such an order to be imposed on an "operator" of a remediation site, and Sorin has never operated any activity of whatsoever nature at any of the industrial sites concerned and, further, has never been identified in any legal proceeding as an operator at any of these Caffaro Chemical Sites, and could not and in fact did not cause any environmental damage at any of the Caffaro Chemical Sites.

Accordingly, LivaNova (as successor to Sorin) alongside other parties, challenged the Environmental Remediation Order before the Administrative Court of Lazio in Rome (the "TAR"). A hearing was held on February 3, 2016.

On March 21, 2016 the TAR issued several judgments, annulling the Environmental Remediation Order, one for each of the addressees of the Environmental Remediation Order, including LivaNova. Those judgments were based on the fact that (i) the Environmental Remediation Order lacks any detailed analysis of the causal link between the alleged damage and the activities of the Company, which is a pre-condition to imposition of the measures proposed in the Environmental Remediation Order, (ii) the situation of the Caffaro site does not require urgent safety measures, because no new pollution events have occurred and no additional information/evidence of a situation of contamination exists and (iii) the Environmental Remediation Order was not enacted using the correct legal basis, and in any event the Ministry failed to verify the legal elements that could have led to a conclusion of legal responsibility of the addressees of the Environmental Remediation Order.

LivaNova has welcomed the decisions. The TAR decisions described above have nonetheless been appealed by the Ministry before the Council of State. No information on the timing of the first hearing of this appeal is presently available.

Andrew Hagerty v. Cyberonics, Inc.

On December 5, 2013, the United States District Court for the District of Massachusetts ("District Court") unsealed a qui tam action filed by former employee Andrew Hagerty against Cyberonics under the False Claims Act (the "False Claims Act") and the false claims statutes of 28 different states and the District of Columbia (*United States of America et al ex rel. Andrew Hagerty v. Cyberonics, Inc.* Civil Action No. 1:13-cv-10214-FDS). The False Claims Act prohibits the submission of a false claim or the making of a false record or statement to secure reimbursement from, or limit reimbursement to, a government-sponsored program. A "qui tam" action is a lawsuit brought by a private individual, known as a relator, purporting to act on behalf of the government. The action is filed under seal, and the government, after reviewing and investigating the allegations, may elect to participate, or intervene, in the lawsuit. Typically, following the government's election, the qui tam action is unsealed.

Previously, in August 2012, Mr. Hagerty filed a related lawsuit in the same court and then voluntarily dismissed that lawsuit immediately prior to filing this qui tam action. In addition to his claims for wrongful and retaliatory discharge stated in the first lawsuit, the qui tam lawsuit alleges that Cyberonics violated the False Claims Act and various state false claims statutes while marketing its VNS Therapy System, and seeks an unspecified amount consisting of treble damages, civil penalties, and attorneys' fees and expenses.

In October 2013, the United States Department of Justice declined to intervene in the qui tam action, but reserved the right to do so in the future. In December 2013, the District Court unsealed the action. In April 2014, Cyberonics filed a motion to dismiss the qui tam complaint, alleging a number of deficiencies in the lawsuit. In May 2014, the relator filed a First Amended Complaint. Cyberonics filed another motion to dismiss in June 2014, and the parties completed their briefing on the motion in July 2014. On April 6, 2015, the District Court dismissed all claims filed by Andrew Hagerty under the False Claims Act, but did not dismiss the claims for wrongful and retaliatory discharge. On July 28, 2015, Cyberonics filed its answer to the surviving claims in Mr. Hagerty's first Amended Complaint and asserted its demand for arbitration pursuant to Mr. Hagerty's employment documents.

In August 2015, Mr. Hagerty filed a Motion Seeking Leave to file a Second Amended Complaint responding to certain deficiencies noted by the District Court when dismissing claims in his First Amended Complaint alleging that Cyberonics submitted, or caused the submission of false claims under the False Claims Act. On September 4, 2015, Cyberonics filed our Brief in Opposition to Hagerty's Motion for Leave to file a Second Amended Complaint. Mr. Hagerty filed a Reply Brief in support of his Motion for Leave to file a Second Amended Complaint on September 11, 2015. On September 16, 2015, the

District Court heard oral arguments on (a) Mr. Hagerty's motion seeking to amend his complaint, and (b) Cyberonics' pending motion demanding arbitration on the claims relating to wrongful and retaliatory discharge. On November 17, 2015, the District Court (1) denied Mr. Hagerty's Motion for Leave to File a Second Amended Complaint (accordingly, the previously dismissed claims remain dismissed); (2) granted Cyberonics' Motion to Compel Arbitration of the two remaining claims (for retaliatory discharge under the False Claims Act ("FCA") and for wrongful termination/retaliation under Massachusetts law); and (3) stayed the pending case (in order to consolidate all issues for appeal pending resolution of the arbitration). On or about February 22, 2016, Mr. Hagerty dismissed, without prejudice, his individual claims that were ordered to arbitration. Subsequently, on or about March 21, 2016, Mr. Hagerty filed an appeal of the previously dismissed FCA claims with the U.S. First Circuit Court of Appeals ("Appeals Court"). Both Mr. Hagerty and the Company filed written briefs with the Appeals Court and on November 8, 2016, the First Circuit Court of Appeals held oral arguments before the Court. On or about December 16, 2016, the Court issued its opinion in the matter, upholding the district court's dismissal of the FCA claims. Mr. Hagerty did not seek panel rehearing or en banc reconsideration of that opinion on or before January 9, 2017 and the First Circuit issued a mandate sending the case back to the district court for final disposition. Mr. Hagerty may still file a petition for Writ of Certiorari with the U.S. Supreme Court before March 16, 2017.

We believe that our commercial practices were and are in compliance with applicable legal standards, and we will continue to defend this case vigorously. We make no assurance as to the resources that will be needed to respond to these matters or the final outcome, and we cannot estimate a range of potential loss or damages.

Tax Litigation

In a tax audit report notified on October 30, 2009, the Regional Internal Revenue Office of Lombardy (the "Internal Revenue Office") informed Sorin Group Italia S.r.l. that, among several issues, it was disallowing in part (for a total of €102.6 million, or $107.7 million) a tax-deductible write down of the investment in the U.S. company, Cobe Cardiovascular Inc., which Sorin Group Italia S.r.l. recognized in 2002 and deducted in five equal installments, beginning in 2002. In December 2009, the Internal Revenue Office issued notices of assessment for 2002, 2003 and 2004. The assessments for 2002 and 2003 were automatically voided for lack of merit. In December 2010 and October 2011, the Internal Revenue Office issued notices of assessment for 2005 and 2006 respectively. The Company challenged all three notices of assessment (for 2004, 2005 and 2006) before the relevant Provincial Tax Courts.

The preliminary challenges filed for 2004, 2005 and 2006 were heard and all denied at the first jurisdictional level, and subsequently, the Company filed an appeal against the decisions in the belief that all the decisions are incorrect in their reasoning and radically flawed. In July 2016, the appeal submitted against the first-level decision for 2004 was accepted (in November 2016, the appeal filed by Bios SpA was also accepted). The second level decision related to the 2004 notice of assessment was appealed to the Italian Supreme Court (Corte di Cassazione) by the Internal Revenue Office in February 2017 and the Supreme Court's decision is pending. The appeal submitted against the first-level decision for the 2005 notice of assessment was rejected. The second-level decision for 2005 was appealed to the Italian Supreme Court where we argued that the assessment should be deemed null and void and illegitimate because of inappropriate interpretation and application of tax regulations; the Supreme Court's decision is pending. In October 2016, the appeal we submitted against the first-level negative decision for 2006 assessment was rejected and we will file an appeal of this decision to the Italian Supreme Court.

In November 2012, the Internal Revenue Office served a notice of assessment for 2007 and, in July 2013, served a notice of assessment for 2008, wherein the Internal Revenue Office claimed an increase in taxable income due to a reduction (similar to the previous notices of assessment for 2004, 2005 and 2006) of the losses reported by Sorin Group Italia S.r.l. for the 2002, 2003 and 2004 tax periods and utilized in 2007 and 2008. Both notices of assessment were challenged within the statutory deadline. The Provincial Tax Court of Milan suspended the decision for 2007 until the litigation regarding years 2004, 2005 and 2006 are defined. We expect a decision from the Provincial Court of Milan with regard to our challenge to the 2008 assessment in March 2017.

The total amount of losses in dispute is €62.6 million or $65.7 million. At the time of Cyberonics-Sorin merger, LivaNova carefully reassessed its exposure, on this complex tax litigation, taking into account the recent general adverse trend to taxpayers on litigations with Italian tax authorities. Although the Company's defensive arguments are strong, the negative Court trend experienced so far by Sorin (four consecutive negative judgments received and one positive judgment received to date) as well as the fact of the ultimate outcome being dependent on the last possible Court level, i.e. the Italian Supreme Court, which is entitled to resolve only on procedural and legal aspects of the case but not on its substance, led LivaNova to leave unchanged the previously recognized risk provision of €16.9 million for $17.7 million

Other Litigation

Additionally, we are the subject of various pending or threatened legal actions and proceedings that arise in the ordinary course of our business. These matters are subject to many uncertainties and outcomes that are not predictable and that may not be known for extended periods of time. Since the outcome of these matters cannot be predicted with certainty, the costs associated with them could have a material adverse effect on our consolidated net income, financial position or cash flows.

Lease Agreements

We have operating leases for facilities and equipment. Rent expense from all operating leases amounted to approximately $26.1 million, $5.2 million, $0.8 million and $0.9 million for the year ended December 31, 2016, for the transitional period from April 25, 2015 to December 31, 2015 and for the fiscal years ended April 24, 2015 and April 25, 2014, respectively.

Future minimum lease payments for operating leases as of December 31, 2016 (in thousands):

2017	$	18,839
2018		18,902
2019		13,329
2020		12,938
2021		9,742
Thereafter		22,891

Note 19. Stockholders' Equity

Preferred stock

LivaNova is not authorized to issue preferred stock and no Cyberonics' preferred stock was outstanding at the consummation of the Mergers on October 19, 2015.

Common stock of Cyberonics and ordinary shares of LivaNova

Prior to the Mergers, shares of Cyberonics common stock were registered pursuant to Section 12(b) of the Exchange Act and listed on NASDAQ under the ticker symbol "CYBX," and Sorin Ordinary Shares were listed on the Mercato Telematico Azionario organized and managed by Borsa Italiana S.p.A. (the "Italian Stock Exchange"). Shares of Cyberonics common stock and the Sorin ordinary shares were suspended from trading on NASDAQ and the Italian Stock Exchange, respectively, prior to the open of trading on October 19, 2015. Following the completion of the Mergers, LivaNova became the holding company of the combined businesses of Cyberonics and Sorin, and LivaNova's ordinary shares were listed on NASDAQ and listed on the Official List of the U.K.'s Financial Conduct Authority and admitted to trading on the Main Market of the London Stock Exchange under the ticker symbol "LIVN."

Share repurchase plans

On August 1, 2016, the Board of Directors ("BOD") authorized a share repurchase plan pursuant to an authority granted by shareholders at the 2016 annual general meeting held on June 15, 2016. The repurchase program was structured to enable us to buy back up to $30 million of ordinary shares on NASDAQ in the period ended December 31, 2016 and an aggregate of $150 million of ordinary shares (inclusive of the $30 million of ordinary shares set out above) also on NASDAQ up to and including December 31, 2018. In November 2016, the share repurchase plan was amended to authorize the repurchase up to $50 million of ordinary shares through December 31, 2016 (instead of the originally authorized $30 million). Ordinary shares repurchased under the repurchase plan are canceled. As of December 31, 2016, we purchased 993,339 shares under this plan at a cost of $50.0 million at an average price per share of $50.32. All the repurchased shares have been canceled and are no longer considered issued or outstanding.

Share repurchase plans prior to the Mergers

Common shares were repurchased on the open market pursuant to the Cyberonics' Board of Directors-approved repurchase plans during the fiscal year ended April 24, 2015 and prior. During the fiscal years ended April 24, 2015 and April 25, 2014, pursuant to approved treasury stock repurchase plans, Cyberonics repurchased 875,121 and 1,205,300 shares, respectively, of its common stock, at an average price of $55.94 and $57.66, respectively.

Accumulated other comprehensive income

The table below presents the change in each component of accumulated other comprehensive income (loss), net of tax and the reclassifications out of accumulated other comprehensive income into net earnings for the year ended December 31, 2016 and the transitional period from April 25, 2015 to December 31, 2015 (in thousands):

	Change in unrealized gain (loss) on cash flow hedges	Foreign Currency Translation Adjustments [1]	Total
As of April 24, 2015	$ —	$ (3,401)	$ (3,401)
Other comprehensive income (loss) before reclassifications, before tax	1,274	(51,715)	(50,441)
Tax benefit (expense)	(386)	—	(386)
As of December 31, 2015	888	(55,116)	(54,228)
Other comprehensive income (loss) before reclassifications, before tax	2,959	(16,990)	(14,031)
Tax benefit (expense)	(795)	—	(795)
Other comprehensive income (loss) before reclassifications, net of tax	2,164	(16,990)	(14,826)
Reclassification of loss from accumulated other comprehensive income, before tax	971	—	971
Tax effect	(404)	—	(404)
Reclassification of loss from accumulated other comprehensive income, after tax	567	—	567
Net current-period other comprehensive income (loss), net of tax	2,731	(16,990)	(14,259)
As of December 31, 2016	$ 3,619	$ (72,106)	$ (68,487)

(1) Taxes were not provided for foreign currency translation adjustments as translation adjustment are related to earnings that are intended to be reinvested in the countries where earned.

Note 20. Stock-Based Incentive Plans

Sorin awards exchanged for LivaNova awards

Prior to the Mergers, the Sorin Board of Directors adopted the Long-Term Incentive 2012-2014 (the "2012-2014 Plan), 2013-2015 (the "2013-2015 Plan") and 2014-2016 (the "2014-2016 Plan") stock grant plans in April 2012, April 2013 and April 2014, respectively. The stock grant plans authorized the issuance of stock appreciation rights (2014-2016 Plan only), performance share units and restricted stock units. The awards under these stock grant plans were converted into LivaNova awards pursuant to the terms of the Transaction Agreement as described below. Refer to "Note 2. Basis of Presentation, Use of Accounting Estimates and Significant Accounting Policies" for additional details related to the Mergers.

Pursuant to the Transaction Agreement, 3,815,824 stock appreciation rights outstanding (2014-2016 Plan) and 3,365,931 restricted stock units (2013-2015 and 2014-2016 Plans) and performance stock units (2012-2014 Plan) that were unvested immediately prior to the Mergers were accelerated and vested upon the close of the Mergers and were converted into 180,076 LivaNova stock appreciation rights and 158,716 LivaNova ordinary shares, respectively, in a manner designed to preserve the intrinsic value of such awards. The accelerated vesting and share conversion constituted a modification under the authoritative guidance for accounting for stock-based compensation. The modification resulted in $8.8 million of incremental costs on the date of acquisition.

In addition, pursuant to the Transaction Agreement, 2,617,490 unvested performance share units granted under the 2014-2016 Plan and 2013-2015 Plan which were held by Sorin employees upon close of the Mergers were converted into 123,456 LivaNova ordinary shares in a manner designed to preserve the intrinsic value of such awards. For awards not yet earned based on performance achieved as of the date of the Mergers, a service requirement was added to the remaining awards and the performance conditions were removed, resulting in a modification to the award (see below for further details). A portion of the service awards vested on the date of the Mergers and of the remaining awards, 50% vested on February 26, 2016 and 50% vested on February 26, 2017, in each case subject to continued employment. The awards will continue to be governed in accordance with the terms and conditions as were applicable immediately prior to the completion of the Mergers, with the exception of the modified terms pursuant to the Transaction Agreement. The modifications made to the performance share units granted under the 2014-2016 Plan and 2013-2015 Plan constituted modifications under the authoritative guidance for accounting for stock-based compensation. The modification resulted in $8.6 million incremental costs of which $0.9 million was recognized on the acquisition date and the remaining $7.7 million will be recognized over the remaining service period of the awards. We recognized $4.9 million and $1.4 million stock-based compensation expense related to these modifications from the date of the acquisition for the year ended December 31, 2016 and through the transitional period ended December 31, 2015, respectively.

Further, pursuant to the Transaction Agreement, 1,721,530 deferred bonus shares held by Sorin employees that were outstanding immediately prior to the Mergers were accelerated and became vested upon the close of the Mergers, and were converted to 81,251 LivaNova ordinary shares in a manner designed to preserve the intrinsic value of such awards. The accelerated vesting and share conversion constituted a modification under the authoritative guidance for accounting for stock-based compensation. This guidance requires the Company to revalue the award upon the transaction close and allocate the revised fair value between consideration paid and post-combination expense based on the ratio of service performed through the transaction date over the total service period of the award. The revised fair value allocated to post-combination services resulted in $0.3 million of incremental costs which was recognized on the acquisition date.

Cyberonics awards exchanged for LivaNova awards

Prior to the Mergers, Cyberonics issued stock options and restricted stock awards under its Amended and Restated New Employee Equity Inducement Plan and 2009 Stock Plan. All of the awards under these plans accelerated and vested as a result of the Mergers. Cyberonics stock options (except as described below) and restricted shares were converted into 813,794 LivaNova share options and 209,043 LivaNova ordinary shares, respectively, in a manner designed to preserve the intrinsic value of such awards. The stock options will continue to become exercisable in accordance with the terms and conditions as were applicable immediately prior to the completion of the Mergers. Additionally, 146,105 Cyberonics stock options held by executive officers that were outstanding immediately prior to the Mergers were settled in cash in the amount of $5.0 million.

LivaNova awards

On October 16, 2015, the sole shareholder of LivaNova approved the adoption of the Company's 2015 Incentive Award Plan (the "2015 Plan"). The Plan became effective as of October 19, 2015. Incentive awards may be granted under the 2015 Plan in the form of stock options, stock appreciation rights, restricted stock, restricted stock units, other stock-based and cash-based awards and dividend equivalents. As of December 31, 2016, there were approximately 6,916,397 shares available for future grants under the 2015 Plan.

Stock-Based Compensation

Amounts of stock-based compensation recognized in the consolidated statements of income (loss), by expense category are as follows (in thousands):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Cost of goods sold	$ 709	$ 470	$ 559	$ 488
Selling, general and administrative	17,677	15,856	8,357	7,998
Research and development	912	1,694	3,024	2,754
Merger-related expense	271	13,010	—	—
Total stock-based compensation expense	19,569	31,030	11,940	11,240
Income tax benefit, related to awards, recognized in the consolidated statements of income	5,205	7,856	3,944	3,744
Total expense, net of income tax benefit	$ 14,364	$ 23,174	$ 7,996	$ 7,496

Amounts of stock-based compensation expense recognized in the consolidated statements of income (loss) by type of arrangement are as follows (in thousands):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Service-based stock option awards and SAR's	$ 8,914	$ 10,762	$ 4,317	$ 3,722
Service-based restricted stock and restricted stock unit awards	10,523	8,288	6,119	5,527
Performance-based restricted stock and restricted stock unit awards	132	11,980	1,504	1,991
Total stock-based compensation expense	$ 19,569	$ 31,030	$ 11,940	$ 11,240

Unrecognized Stock-Based Compensation

Below, we present the amount of stock-based compensation cost not yet recognized related to non-vested awards, including awards assumed or issued, as a result of the Mergers (in thousands):

	Year Ended December 31, 2016	
	Unrecognized Compensation Cost	Weighted Average remaining Vesting Period (in years)
Service-based stock appreciation rights	$ 13,636	2.53
Service-based restricted and restricted stock unit awards	18,290	3.12
Performance-based restricted stock and restricted stock unit awards	24	0.19
Total stock-based compensation cost unrecognized	$ 31,950	2.87

Stock Options and Stock Appreciation Rights

We use the Black-Scholes option pricing methodology to calculate the grant date fair market value of service-based stock option awards and stock appreciation rights. The following table lists the assumptions we utilized as inputs to the Black-Scholes model:

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Dividend Yield [1]	—	—	—	—
Risk-free interest rate - based on grant date [2]	1.0% - 1.8%	1.2% - 1.4%	1.60% - 1.98%	1.36% - 2.01%
Expected option term - in years per group of employees/consultants [3]	4 - 5	4 - 5	4.88 - 6.56	5.92 - 6.54
Expected volatility at grant date [4]	30.75% - 32.36%	34.1%	31.67% - 41.09%	40.41% - 43.59%

(1) We have not paid dividends and no future dividends have been approved.
(2) We use yield rates on U.S. Treasury securities for a period that approximated the expected term of the award to estimate the risk-free interest rate.
(3) We estimated the expected term of the awards granted using historic data of actual time elapsed between the date of grant and the exercise or forfeiture of options or SARs for employees. For consultants, the expected term is the remaining time until expiration of the option or SAR.
(4) Refer to "Note 2. Basis of Presentation, Use of Accounting Estimates and Significant Accounting Policies-*Stock-based Compensation*" for further information regarding expected volatility.

The following tables detail the activity for service-based stock option awards and stock appreciation rights, including awards assumed or issued as a result of the Mergers:

	December 31, 2016			
Options and SARs	**Number of Optioned Shares**	**Wtd. Avg. Exercise Price**	**Wtd. Avg. Remaining Contractual Term (years)**	**Aggregate Intrinsic Value (in thousands) [1]**
Outstanding — at December 31, 2015	1,589,561	$ 55.56		
Granted	761,812	54.31		
Exercised	(256,293)	37.62		
Forfeited	(81,230)	64.42		
Expired	(64,522)	55.45		
Outstanding — at December 31, 2016	1,949,328	57.07	6.09	$ 2,041
Fully vested and exercisable — end of year	941,763	55.65	4.23	$ 2,007
Fully vested and expected to vest — end of year [2]	1,915,212	$ 57.03	6.05	$ 2,041

(1) The aggregate intrinsic value of options and SARs is based on the difference between the fair market value of the underlying stock at December 31, 2016, using the market closing stock price, and exercise price for in-the-money awards.
(2) Factors in expected future forfeitures.

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Weighted average grant date fair value of stock option awards and SARs granted during the fiscal year [1]	$ 15.03	$ 21.05	$ 18.64	$ 23.29
Aggregate intrinsic value of stock option and SAR exercises during the fiscal year (in thousands)	$ 5,033	$ 5,464	$ 3,973	$ 14,210

(1) Including weighted average Mergers date fair value of SARs assumed in the Mergers.

Restricted Stock and Restricted Stock Units Awards

The following tables detail the activity for service-based restricted stock and restricted stock unit awards, including activity from restricted stock units assumed or issued as a result of the Mergers:

	December 31, 2016	
	Number of Shares	Wtd. Avg. Grant Date Fair Value
Non-vested shares at December 31, 2015	203,563	$ 59.20
Granted	407,822	55.53
Vested	(88,303)	56.65
Forfeited	(16,863)	62.73
Non-vested shares at December 31, 2016	506,219	$ 56.56

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Weighted average grant date fair value of service-based share grants issued during the fiscal year	$ 55.53	$ 57.55	$ 56.85	$ 52.02
Aggregate fair value of service-based share grants that vested during the year (in thousands)	$ 4,810	$ 24,384	$ 9,194	$ 8,125

The following tables detail the activity for performance-based and market-based restricted stock and restricted stock unit awards:

	December 31, 2016	
	Number of Shares	Wtd. Avg. Grant Date Fair Value
Non-vested shares at December 31, 2015	—	$ —
Granted	52,083	$ 42.01
Non-vested shares at December 31, 2016	52,083	

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Weighted average grant date fair value of performance-based share grants issued during the fiscal year	$ 42.01	$ —	$ 57.39	$ —
Aggregate fair value of performance-based share grants that vested during the year (in thousands)	$ —	$ 9,648	$ 10,519	$ 3,190

Note 21. Employee Retirement Plans

Prior to the Mergers, Cyberonics did not sponsor any defined benefit pension plans. As a result of the Mergers, we assumed several defined benefit pension plans which include plans in the U.S., Italy, Germany, Japan and France. We maintain a frozen cash balance retirement plan in the U.S., that is a contributory, defined benefit plan designed to provide the benefit in terms of a stated account balance dependent on the employer's promised interest-crediting rate. In Italy and France we maintain a severance pay defined benefit plan that obligates the employer to pay severance pay in case of resignation, dismissal or retirement. In other jurisdictions we sponsor non-contributory, defined benefit plans designated to provide a guaranteed minimum retirement benefits to eligible employees.

We carried forward Cyberonics' defined contribution plans after the Mergers, which consisted of the Cyberonics, Inc. Employee Retirement Savings Plan, that qualifies under Section 401(k) of the IRC, covering U.S. employees, the Cyberonics, Inc. Non-Qualified Deferred Compensation Plan (the "Deferred Compensation") covering certain U.S. middle and senior management and the Belgium Defined Contribution Pension Plan for Cyberonics' Belgium employees.

The expense related to these plans was $11.9 million and $3.5 million for the year ended December 31, 2016 and the transitional period from April 25, 2015 to December 31, 2015, respectively, and $1.8 million and $1.7 million for the fiscal years ended April 24, 2015 and April 25, 2014, respectively.

The change in benefit obligations and funded status of our U.S. and non-U.S. pension benefits (in thousands):

	Year Ended December 31, 2016		Transitional Period April 25, 2015 to December 31, 2015	
	U.S. Pension Benefits	Non-U.S. Pension Benefits	U.S. Pension Benefits	Non-U.S. Pension Benefits
Accumulated benefit obligations at year end:	10,615	39,002	10,218	29,315
Change in projected benefit obligation:				
Projected benefit obligation at beginning of year	$ 10,218	$ 29,315	$ —	$ —
Service cost	—	693	—	155
Interest cost	367	534	86	117
Benefits obligations assumed in the Mergers	—	—	10,378	29,082
Employee contributions	—	—	—	—
Plan curtailments and settlements [1]	(609)	(296)	(59)	—
Actuarial (gain) loss	698	1,227	(40)	193
Benefits paid	(249)	(2,214)	(147)	(232)
Foreign currency exchange rate changes and other	—	(682)	—	—
Projected benefit obligation at end of year	$ 10,425	$ 28,577	$ 10,218	$ 29,315
Change in plan assets:				
Fair value of plan assets at beginning of year	5,858	2,760	—	—
Actual return on plan assets	277	29	(33)	6
Plan assets acquired in the Mergers	—	—	6,097	2,676
Employer contributions	648	—	—	83
Employee contributions	—	369	—	—
Plan settlements	(609)	—	(59)	—
Benefits paid	(249)	(244)	(147)	(5)
Foreign currency exchange rate changes	—	63	—	—
Fair value of plan assets at end of year	$ 5,925	$ 2,977	$ 5,858	$ 2,760
Funded status at end of year:				
Fair value of plan assets	5,925	2,977	5,858	2,760
Projected Benefit obligations	10,425	28,577	10,218	29,315
Underfunded status of the plans [2]	4,500	25,600	4,360	26,555
Recognized liability	$ 4,500	$ 25,600	$ 4,360	$ 26,555
Amounts recognized on the consolidated balance sheets consist of:				
Non-current assets	—	—	—	—
Current liabilities	—	—	—	—
Non-current liabilities	4,500	25,600	4,360	26,555
Recognized liability	$ 4,500	$ 25,600	$ 4,360	$ 26,555

(1) Benefits to be accumulated in future periods in our French defined benefit plan were curtailed due to our Meylan, French facility restructuring.

(2) In certain countries outside the United States fully funding pension plans is not a common practice. Consequently, certain pension plans have been partially funded.

Defined Benefit Plan Net Periodic Benefit Cost

The net periodic benefit cost of the defined benefit pension plans includes the following components (in thousands):

	U.S. Pension Benefits		Non-U.S. Pension Benefits	
	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015
Service cost	$ —	$ —	$ 693	$ 155
Interest cost	367	86	534	117
Expected return on plan assets	(277)	(77)	(29)	—
Settlement and curtailment loss (gains)	259	282	(296)	—
Amortization of net actuarial loss	439	96	1,227	—
Net periodic benefit cost	$ 788	$ 387	$ 2,129	$ 272

To determine the discount rate for our U.S. benefit plan, we used the Citigroup Above-median yield curve. For the discount rate used for the other non-U.S. benefit plans we consider local market expectations of long-term returns. The resulting discount rates are consistent with the duration of plan liabilities. The expected long-term rate of return on plan assets assumptions are determined using a building block approach, considering historical averages and real returns of each asset class. In certain countries, where historical returns are not meaningful, consideration is given to local market expectations of long-term returns.

Major actuarial assumptions used in determining the benefit obligations and net periodic benefit (income) cost for our significant benefit plans are presented in the following table:

	U.S. Pension Benefits		Non-U.S. Pension Benefits	
	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015
Actuarial assumptions used to determine benefit obligation				
Discount rate	3.63%	3.79%	0.27% - 1.50%	0.48% - 2.00%
Rate of compensation increase	N/A	N/A	2.50% - 3.89%	2.50% - 3.89%
Actuarial assumptions used to determine net periodic benefit cost				
Discount rate	3.04% - 3.79%	3.64%	3.64%	—%
Expected return on plan assets	5.00%	5.00%	5.00%	N/A

Retirement Benefit Plan Investment Strategy

In the U.S., we have an account that holds the defined benefit frozen balance pension plan assets. The Qualified Plan Committee (the “Plan Committee”) sets investment guidelines for U.S. pension plans. The plan assets in the U.S. are invested in accordance with sound investment practices that emphasize long-term fundamentals. The investment objectives for the plan assets in the U.S. are to achieve a positive rate of return that would be expected to close the current funding deficit and so enable us to terminate the frozen pension plan at a reasonable cost. The Plan Committee also oversees the investment allocation process, selects the investment managers, and monitors asset performance. The investment portfolio contains a diversified portfolio of fixed income and equity index funds. Securities are also diversified in terms of domestic and international securities, short- and long-term securities, growth and value styles, large cap and small cap stocks.

Outside the U.S., pension plan assets are typically managed by decentralized fiduciary committees. There is a significant variation in policy asset allocation from country to country. Local regulations, local funding rules, and local financial and tax considerations are part of the funding and investment allocation process in each country.

Our U.S. pension plan target allocations by asset category:

	U.S. Pension Benefits as of December 31, 2016
Equity Securities	25%
Debt Securities	70%
Other	5%

Retirement Benefit Fair Values

The following is a description of the valuation methodologies used for retirement benefit plan assets measured at fair value:

Equity Mutual Funds: Valued based on the year-end net asset values of the investment vehicles. The net asset values of the investment vehicles are based on the fair values of the underlying investments of the partnerships valued at the closing price reported in the active markets in which the individual security is traded. Equity mutual funds have a daily reported net asset value.

Fixed Income Mutual Funds: Valued based on the year-end net asset values of the investment vehicles. The net asset values of the investment vehicles are based on the fair values of the underlying investments of the partnerships valued based on inputs other than quoted prices that are observable.

Money Markets: Valued based on quoted prices in active markets for identical assets.

The following tables provide information by level for the retirement benefit plan assets that are measured at fair value, as defined by U.S. GAAP (in thousands):

	Fair Value as of December 31, 2016	Fair Value Measurement Using Inputs Considered as: Level 1	Level 2	Level 3
Equity mutual funds	$ 1,660	$ —	$ 1,660	$ —
Fixed income mutual funds	4,041	—	4,041	—
Money market funds	224	224	—	—
	$ 5,925	$ 224	$ 5,701	$ —

	Fair Value as of December 31, 2015	Fair Value Measurement Using Inputs Considered as: Level 1	Level 2	Level 3
Equity mutual funds	$ 1,727	$ —	$ 1,727	$ —
Fixed income mutual funds	4,058	—	4,058	—
Money market funds	73	73	—	—
	$ 5,858	$ 73	$ 5,785	$ —

Refer to “Note 15. Fair Value Measurements” for discussion of the fair value measurement terms of Levels 1, 2, and 3.

Defined Benefit Retirement Funding

We make the minimum required contribution to fund the U.S. pension plan as determined by MAP - 21 and the Highway and Transportation Funding Act of 2014 (“HAFTA”). We contributed $0.6 million to the pension plans (U.S. and non-U.S.) during the year ended December 31, 2016. During the transitional period April 25, 2015 to December 31, 2015, we did not make a material contribution to the U.S. or non-U.S. pension plans. We anticipate that we will make contributions to the U.S. pension plan of approximately $0.9 million during fiscal year 2017.

Benefit payments, including amounts to be paid from our assets, and reflecting expected future service, as appropriate, are expected to be paid as follows (in thousands):

	U.S. Plans	Non-U.S. Plans
2017	$ 687	$ 1,058
2018	881	935
2019	574	898
2020	994	877
2021	723	1,011
Thereafter	$ 6,756	$ 23,798

Severance Indemnity

In Italy, upon termination of employment for any reason, employers are required to pay a termination indemnity (*Trattamento di fine Rapporto* or "TFR") to all employees as required by Italian Civil Code. In Italy, the TFR serves as a backup in the event of redundancy or as an additional pension benefit after retirement. The TFR is considered a defined contribution plan with respect to amounts vesting as of January 1, 2007 for employees who have opted for supplementary pensions or who have chosen to maintain the TFR at the company, for companies with more than 50 employees. We have incurred expenses related to the Italian TFR of approximately $1.3 million and $1.5 million for the year ended December 31, 2016 and the transitional period April 25, 2015 to December 31, 2015, respectively.

Defined Contribution Plans

We incurred expenses for our defined contribution plans of $10.3 million and $3.0 million for the year ended December 31, 2016 and the transitional period April 25, 2015 to December 31, 2015, respectively.

Note 22. Income Taxes

The U.S. and non-U.S. components of income before income taxes and the provision for income taxes are as follows (in thousands):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Income before income taxes:				
U.K. and Non-United States	$ (95,017)	$ (43,892)	$ 2,020	$ 3,622
United States	61,968	4,611	87,274	76,257
	$ (33,049)	$ (39,281)	$ 89,294	$ 79,879
Provision for current income tax expense:				
U.K. and Non-United States	$ 17,196	$ 3,246	$ 1,065	$ 104
United States	16,643	23,544	21,104	29,789
	$ 33,839	$ 26,790	$ 22,169	$ 29,893
Provision for deferred income tax (benefit)/expense:				
U.K. and Non-United States	$ (26,849)	$ (20,193)	$ 834	$ (3,534)
United States	138	(19,573)	8,443	(1,370)
	$ (26,711)	$ (39,766)	$ 9,277	$ (4,904)
Total provision for income tax expense (benefit)	$ 7,128	$ (12,976)	$ 31,446	$ 24,989

The following is a reconciliation of the statutory income tax rate to our effective income tax rate expressed as a percentage of income before income taxes:

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Statutory tax rate at U.S. Rate	— %	—%	35.0%	35.0%
Statutory tax rate at U.K. Rate	20.0	20.0	—	—
Effect of changes in tax rate	5.1	(8.5)	—	—
Deferred tax valuation allowance	(39.4)	(5.7)	—	(4.4)
Transaction costs [(1)]	(8.0)	(13.8)	—	—
Sale of Intellectual Property	(13.7)	—	—	—
Goodwill Impairment	(32.0)	—	—	—
Adjustment to Cyberonics BVBA NOL deferred tax asset resulting from the Belgium tax audit	—	—	—	7.3
Adjustment to Cyberonics BVBA NOL deferred tax asset valuation allowance resulting from the Belgium tax audit	—	—	—	(7.3)
State and local tax provision, net of federal benefit	(6.5)	(1.0)	2.7	2.5
Foreign tax rate differential	(37.2)	29.7	1.5	0.5
Notional interest deduction	53.1	7.9	—	—
U.S. Subpart F	(6.1)	(5.1)	—	—
Research and development tax credits	6.6	4.0	(2.1)	(3.4)
Distribution of subsidiary earnings	42.8	—	—	—
Reserve for uncertain tax positions	(6.5)	—	(1.5)	—
Domestic manufacturing deduction	2.2	2.0	(2.9)	—
Other, net	(2.0)	3.5	2.5	1.1
Effective tax rate	(21.6)%	33.0%	35.2%	31.3%

(1) Included in transitional period April 25, 2015 to December 31, 2015 is the reversal of the deferred tax asset established during the fiscal year ended April 24, 2015 based on the assumption that these otherwise non-deductible transaction costs would be deductible if the business combination was not consummated. Because the transaction was ultimately consummated, the deferred tax asset was reversed as a non-deductible transaction cost in the amount of $2.3 million.

Based on the November 2015 FASB accounting pronouncement regarding the classification of the current portion of deferred taxes, we elected early adoption on a prospective basis. For further information refer to "Note 26. New Accounting Pronouncements" below. As a result, we classified deferred tax assets and deferred tax liabilities as long-term on the consolidated balance sheet as of December 31, 2016. The Company has not retrospectively adjusted prior periods. Significant components of our deferred tax assets are as follows, (in thousands):

	December 31, 2016	December 31, 2015	April 24, 2015
Deferred tax assets:			
Net operating loss carryforwards	$ 131,904	$ 127,545	$ 1,977
Tax credit carryforwards	17,242	19,851	3,059
Deferred compensation	6,521	6,218	6,847
Accruals and reserves	28,520	24,778	2,620
Depreciation and amortization	15,226	16,536	—
Inventory	4,441	4,994	384
Other	10,306	5,565	919
Gross deferred tax assets	214,160	205,487	15,806
Valuation allowance	(51,503)	(50,124)	(1,613)
Total deferred tax assets	162,657	155,363	14,193
Deferred tax liabilities:			
Gain on sale of intellectual property	(136,117)	—	—
Basis differences in subsidiaries	(12,553)	(13,555)	—
Property, equipment & intangible assets	(179,316)	(223,453)	(916)
Other	(1,195)	(329)	—
Gross deferred tax liabilities:	(329,181)	(237,337)	(916)
Total deferred tax (liabilities) assets, net	$ (166,524)	$ (81,974)	$ 13,277
Reported in the consolidated balance sheet as (after valuation allowance and jurisdictional netting):			
Deferred tax assets, net current	$ —	$ —	$ 7,199
Net Deferred tax asset	6,017	153,509	6,078
Deferred tax liability	(172,541)	(235,483)	—
Net deferred tax (liabilities) assets	$ (166,524)	$ (81,974)	$ 13,277

During the year ended December 31, 2016 we utilized a U.S. capital loss carryforward in the amount of $5.3 million. We have $12.8 million of foreign tax credits in the United States, $0.6 million in Canadian research and development credits, $2.8 million of U.S. State tax credits, and $1.2 million of other U.S. credits. Lastly, we have 3.1 million Euros of French refundable research and development credits shown as a current tax asset in our balance sheet. We have net operating losses ("NOL") and carryforwards of the following amounts (in thousands):

Region	Gross Amount	Gross Amount with No Expiration	With Expiration	Starting Expiration Year
Europe	$ 265,555	$ 253,794	$ 11,761	2017
South America	11,754	11,754	—	N/A
U.S. Federal	148,824	—	148,824	2020
U.S. State	138,488	—	138,488	2017
Far East	$ 3,894	$ —	$ 3,894	2018

As of December 31, 2016, we have a valuation allowance of $51.5 million, primarily related to net operating losses within the CRM business of legacy Sorin. As a result of the business combination during the transitional period April 25, 2015 to December 31, 2015, the historic net operating losses of Sorin U.S. are limited by IRC section 382. The annual limitation is approximately $14.2 million, which is sufficient to absorb the U.S. net operating losses prior to their expiration. Thus no additional valuation allowance has been recorded.

We have consolidated certain of our intangible assets into an entity organized under the laws of England and Wales. Because the intangible assets were sold and purchased inter-company, the tax expense on the inter-company gain of $155.6 million was deferred, and will be amortized to current income tax expense in the consolidated statement of net income (loss) over an 8 year period, which represents the estimated useful life of the intangible assets that were consolidated into the U.K. entity. Approximately $11.6 million was amortized to current income tax expense during the year ended December 31, 2016. The unamortized balance as of December 31, 2016 is included in Prepaid expenses and other current assets and Other assets in the consolidated balance sheet in the amount of $19.4 million and $124.6 million, respectively. The cash taxes payable were recorded as a deferred tax liability and are reclassified to income taxes payable as taxes become payable on the intercompany gain. The deferred tax liability associated with the intercompany gain totaled $136.1 million as of December 31, 2016 and is included in Deferred income taxes liability in the consolidated balance sheet.

A significant portion of the net deferred tax liability included above relates to the tax effect of the step-up in value of the assets acquired in the combination with Sorin. Refer to “Note 3. Business Combinations” for additional information.

No provision has been made for income taxes on undistributed earnings of foreign subsidiaries as of December 31, 2016 because it is our intention to indefinitely reinvest undistributed earnings of our foreign subsidiaries. In the event of the distribution of those earnings in the form of dividends, a sale of the subsidiaries, or certain other transactions, we may be liable for income taxes. There should be no material tax liability on future distributions as most jurisdictions with undistributed earnings have various participation exemptions / no withholding tax. As of December 31, 2016, it was not practicable to determine the amount of the deferred income tax liability related to those investments.

The following is a roll-forward of our total gross unrecognized tax benefit (in thousands):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015
Balance at beginning of year	$ 20,224	$ 5,782	$ 7,079
Increases			
Tax positions related to current year	—	14,442	—
Tax positions related to prior year	2,548	—	—
Impact of foreign currency exchange rates	(398)	—	—
Decreases			
Tax positions related to prior years	—	—	(1,297)
Balance at end of year	$ 22,374	$ 20,224	$ 5,782

In April 2016, the Guardia di Finanza, the Italian enforcement agency, under the authority of the Minister of Economy and Finance, commenced an audit of Sorin Group Italia Srl for tax years 2012 through 2015. On December 16, 2016, the Italian tax inspectors issued an audit report for tax year 2014. Based on the audit report for tax year 2014 and an analysis as to the more likely than not outcome, we have recorded a liability related to unrecognized tax benefits for the tax years 2012 through 2015.

During the fiscal year ended April 24, 2015, based upon our review and rework of certain prior-year R&D tax credits, we believe that the credits are more likely than not to be sustained upon examination and as a result we released the reserve against these R&D tax credits.

Tax authorities may disagree with certain positions we have taken and assess additional taxes. We regularly assess the likely outcomes of our tax positions in order to determine the appropriateness of our reserves for uncertain tax positions. However, there can be no assurance that we will accurately predict the outcome of these audits and the actual outcome of an audit could have a material impact on our consolidated results of income, financial position or cash flows. If all of our unrecognized tax benefits as of December 31, 2016 were recognized, $22.4 million would impact our effective tax rate. We are unable to estimate the amount of change in the majority of our unrecognized tax benefits over the next 12 months. Refer to "Note 18. Commitments and Contingencies" for additional information regarding the status of current tax litigation.

We record accrued interest and penalties related to unrecognized tax benefits in interest expense and other expense, respectively.

The major jurisdictions where we are subject to income tax examinations are as follows:

Jurisdiction	Earliest year open
U.S. - federal and state	1992
Italy	2012
Germany	2010
England and Wales	2012
Canada	2012
France	2010

In April 2016, the U.S. Internal Revenue Service ("IRS") and U.S. Treasury Department issued new rules that materially change the manner in which the determination is made as to whether the U.S. anti-inversion rules under Section 7874 will apply. The new rules have the effect of linking with the Mergers certain future acquisitions of U.S. businesses made in exchange for LivaNova equity, and such linkage may impact LivaNova's ability to engage in particular acquisition strategies. For example, the new temporary regulations would impact certain acquisitions of U.S. companies in an exchange for stock in LivaNova during the 36 month period beginning October 19, 2015 by excluding from the Section 7874 calculations the portion of shares of LivaNova that are allocable to the legacy Cyberonics shareholders. This new rule would generally have the effect of increasing the otherwise applicable Section 7874 fraction with respect to future acquisitions of a U.S. business, thereby increasing the risk that such acquisition could cause LivaNova to be treated as a U.S. corporation for U.S. federal income tax purposes.

On October 13, 2016, the U.S. IRS and U.S. Treasury Department released final and temporary regulations under section 385. In response to comments, the final regulations significantly narrow the scope of the proposed regulations previously issued on April 4, 2016. Like the proposed regulations, the final regulations establish extensive documentation requirements that must be satisfied for a debt instrument to constitute debt for U.S. federal tax purposes and re-characterizes a debt instrument as stock if the instrument is issued in one of a number of specified transactions. Moreover, while these new rules are not retroactive, they will impact our future intercompany transactions and our ability to engage in future restructuring.

Note 23. Income(Loss) Per Share

The following table sets forth the computation of basic and diluted net income/loss per ordinary share or share of common stock, (in thousands except per share data):

	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Numerator:				
Net income (loss)	$ (62,789)	$ (29,613)	$ 57,848	$ 54,890
Denominator:				
Basic weighted average shares outstanding	48,860	32,741	26,391	27,143
Add effects of stock options [(1)]	—	—	235	324
Diluted weighted average shares outstanding	48,860	32,741	26,626	27,466
Basic income/(loss) per share	$ (1.29)	$ (0.90)	$ 2.19	$ 2.02
Diluted income/(loss) per share	$ (1.29)	$ (0.90)	$ 2.17	$ 2.00

(1) Excluded from the computation of diluted EPS were average outstanding dilutive instruments (options, stock appreciation rights ("SARs") and restricted shares and restricted share units) to purchase 154,000 and 221,000 ordinary shares of LivaNova because to include them would be anti-dilutive due to the net loss during the year ended December 31, 2016 and the transitional period April 25, 2015 to December 31, 2015, respectively. Excluded from the computation of diluted earnings per share for the fiscal years ended April 24, 2015 and April 25, 2014 were average outstanding options to purchase 57,000 and 38,000 common shares, respectively, of Cyberonics because to include them would have been anti-dilutive due to the option exercise price exceeding the average market price of Cyberonics common stock during the periods.

Note 24. Geographic and Segment Information

Segment Information

Upon completion of the Mergers, we reorganized our reporting structure and aligned our segments and the underlying divisions and businesses. LivaNova was then comprised of three principal Business Units: Cardiac Surgery, Neuromodulation and Cardiac Rhythm Management, corresponding to three main therapeutic areas. The historical Cyberonics operations were included under the Neuromodulation Business Unit, and the historical Sorin businesses were included under the Cardiac Surgery and Cardiac Rhythm Management Business Units. Corporate activities included corporate business development and New Ventures. The New Ventures group was created with contributions from both Cyberonics and Sorin. This change had no impact on our consolidated results for prior periods presented.

In July 2016, we announced a new organizational structure and the introduction of new talent into the executive leadership team. We are transitioning the organization to a regional focus with regional leaders in the U.S., Europe, and the rest of world. Supporting the regions will be our three product franchises: Neuromodulation, Cardiac Surgery, and Cardiac Rhythm Management. The product franchise leaders will be responsible for product R&D and marketing on a global basis. We believe a regional focus will allow a number of tangible benefits, namely the ability to share resources, faster decision-making, improved market access capabilities, and greater focus on the needs of physicians, hospitals, and patients. Our new operating structure and the introduction of new talent into the leadership team will facilitate an evolution of our goals and decision making processes in the near to immediate term; accordingly, we will continue to monitor the way we manage, evaluate and internally report our business activities and the corresponding impact this could have on our segment reporting.

The Cardiac Surgery segment generates its revenue from the development, production and sale of cardiovascular surgery products. Cardiac Surgery products include oxygenators, heart-lung machines, autotransfusion, mechanical heart valves and tissue heart valves. The Cardiac Rhythm Management segment generates its revenue from the development, manufacturing and marketing of products for the diagnosis, treatment, and management of heart rhythm disorders and heart failure. Cardiac Rhythm Management products include high-voltage defibrillators CRT-D and low-voltage pacemakers. The Neuromodulation segment generates its revenue from the design, development and marketing of neuromodulation therapy for the treatment of drug-resistant epilepsy and treatment resistant depression. Neuromodulation products include the VNS Therapy System, which

consists of an implantable pulse generator, a lead that connects the generator to the vagus nerve, surgical equipment to assist with the implant procedure, equipment to enable the treating physician to set the pulse generator stimulation parameters for the patient, instruction manuals and magnets to suspend or induce stimulation manually.

Corporate expenses include shared services for finance, legal, human resources and information technology. Corporate business development ("New Ventures") is focused on new growth platforms and identification of other opportunities for expansion. In the tables below, these organizations are reported together in "Other."

Net sales of our reportable segments include end-customer revenues from the sale of products they each develop and manufacture or distribute. We define segment income as operating income before merger and integration, restructuring, amortization and litigation settlement.

Net sales and operating income (loss) by segment are as follows (in thousands):

Net Sales	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Cardiac Surgery	$ 611,715	$ 147,635	$ —	$ —
Cardiac Rhythm Management	249,067	52,470	—	—
Neuromodulation	351,406	214,761	291,558	282,014
Other	1,737	841	—	—
Total Net Sales	$ 1,213,925	$ 415,707	$ 291,558	$ 282,014

Segment income from operations reconciled to Operating Income (Loss) (in thousands):

Segment Income from Operations:	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Cardiac Surgery (including product remediation)	$ 16,578	$ 7,321	$ —	$ —
Cardiac Rhythm Management (including goodwill impairment)	(32,018)	(13,332)	—	—
Neuromodulation	180,579	87,845	97,344	87,455
Other	(70,770)	(40,304)	—	—
Total Reportable Segment Income from Operations	$ 94,369	$ 41,530	$ 97,344	$ 87,455
Merger and integration expenses	20,537	55,787	8,692	—
Restructuring expenses	55,943	11,323	—	—
Amortization of intangibles	45,511	—	—	—
Litigation settlement	—	—	—	7,443
Operating (Loss) Income	$ (27,622)	$ (25,580)	$ 88,652	$ 80,012

Assets by reportable segment (in thousands):

Assets:	December 31, 2016	December 31, 2015	April 24, 2015
Cardiac Surgery	$ 1,277,799	$ 1,472,108	$ —
Cardiac Rhythm Management	341,998	432,758	—
Neuromodulation	611,085	539,698	315,944
Corporate	111,749	114,175	—
Total Assets	$ 2,342,631	$ 2,558,739	$ 315,944

Depreciation and amortization expense by segment (in thousands):

Depreciation and Amortization Expense:	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
Cardiac Surgery	$ 58,213	$ 11,247	$ —	$ —
Cardiac Rhythm Management	21,808	4,292	—	—
Neuromodulation	4,736	4,103	6,807	5,631
Other	606	858	—	—
Total [1]	$ 85,363	$ 20,500	$ 6,807	$ 5,631

(1) Amortization of intangibles, as disclosed separately in the consolidated statement of income (loss), is included in the depreciation and amortization totals by Segment above.

Capital expenditures by segment (in thousands):

Capital Expenditures:	December 31, 2016	December 31, 2015	April 24, 2015	April 25, 2014
Cardiac Surgery	$ 21,190	$ 10,402	$ —	$ —
Cardiac Rhythm Management	3,809	4,954	—	—
Neuromodulation	8,098	1,418	6,687	19,061
Other	5,265	512	—	—
Total	$ 38,362	$ 17,286	$ 6,687	$ 19,061

Geographic Information

We operate under three geographic regions: United States, Europe, and Rest of World. Accordingly, the geographic information for the prior years has been restated to present these regions.

Net sales to external customers by geography are determined based on the country the products are shipped to (in thousands):

Net sales:	Year Ended December 31, 2016	Transitional Period April 25, 2015 to December 31, 2015	Fiscal Year Ended April 24, 2015	Fiscal Year Ended April 25, 2014
United States	$ 490,506	$ 232,261	$ 235,712	$ 226,923
Europe [1] [2]	402,066	105,322	41,484	38,293
Rest of World	321,353	78,124	14,362	16,798
Total	$ 1,213,925	$ 415,707	$ 291,558	$ 282,014

(1) Net sales to external customers includes $37.3 million and $14.3 million in the United Kingdom, our country of domicile, for the year ended December 31, 2016 and the transitional period April 25, 2015 to December 31, 2015, respectively. Prior to the Mergers, we were domiciled in the United States. In addition, the only country (other than the U.S.) in which sales exceeded 10% of total sales, was France, at 10.4% of total sales for the year ended December 31, 2016.

(2) Includes those countries in Europe where LivaNova has a direct sales presence. Countries where sales are made through distributors are included in Rest of World.

(3) No single customer represented over 10 percent of our consolidated net sales in the year ended December 31, 2016, the transitional period April 25, 2015 to December 31, 2015, and the fiscal years ended April 24, 2015 and April 25, 2014.

Property, plant, and equipment, net by geography are as follows (in thousands):

PP&E	December 31, 2016	December 31, 2015	April 24, 2015
United States	$ 61,279	$ 57,806	$ 28,465
Europe [1]	130,777	148,708	522
Rest of World	31,786	38,073	11,300
Total	$ 223,842	$ 244,587	$ 40,287

(1) Property, plant, and equipment, net included $3.0 million and $2.4 million in the United Kingdom as of December 31, 2016 and December 31, 2015, respectively. Prior to the Mergers, we were domiciled in the United States.

Note 25. Quarterly Financial Information (unaudited)

(in thousands except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Year ended December 31, 2016 [1]					
Net sales	$ 286,969	$ 321,047	$ 295,268	$ 310,641	$1,213,925
Gross profit	162,696	189,545	188,125	164,039	704,405
Net (loss) income	(40,378)	8,957	(1,569)	(29,799)	(62,789)
Diluted (loss) income per share	$ (0.83)	$ 0.18	$ (0.03)	$ (0.61)	$ (1.29)

	First Quarter April 25, 2015 to July 24, 2015	Transitional Second Quarter July 25, 2015 to October 18, 2015	Transitional Period October 19, 2015 to December 31, 2015	Total
Transitional period April 25, 2015 to December 31, 2015 [2]				
Net sales	$ 81,011	$ 67,521	$ 267,175	$ 415,707
Gross profit	71,578	57,985	142,301	271,864
Net income (loss)	12,419	(25,091)	(16,941)	(29,613)
Diluted income (loss) per share	$ 0.47	$ (0.96)	$ (0.41)	$ (0.90)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Fiscal year ended April 24, 2015 [3]					
Net sales	$ 72,004	$ 73,417	$ 72,065	$ 74,072	$ 291,558
Gross profit	65,594	66,651	65,525	66,477	264,247
Net income	13,519	17,273	16,542	10,514	57,848
Diluted income per share	$ 0.50	$ 0.64	$ 0.62	$ 0.40	$ 2.17

(1) Certain costs previously reported as Litigation related expense in the consolidated statement of income (loss) were deemed to be costs related to the 3T Heater Cooler remediation and have been reclassified and reported as Product remediation expenses in the consolidated statement of income (loss). These costs totaled $0.7 million, $0.8 million and $0.7 million in the first quarter, second quarter and third quarter of 2016, respectively. As a result of the reclassifications, gross profit in the above table has been reduced by such amount.

(2) During the transitional period April 25, 2015 to December 31, 2015, we consummated the merger with Sorin, and as a result, incurred $67.1 million in merger, integration and in restructuring expenses.

(3) During fiscal year ended April 24, 2015, we entered into a definitive merger agreement with Sorin and incurred expenses associated with the proposed merger of $8.7 million.

Note 26. New Accounting Pronouncements

In May 2014, the FASB issued ASC Update No. 2014-09, Revenue from Contracts with Customers (Topic 606): Update No. 2014-09 requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers and will replace most existing revenue recognition guidance when it becomes effective. This new standard is effective for annual reporting periods beginning after December 15, 2017, and interim periods within that reporting period. Early application is not permitted, and the standard permits the use of either the retrospective or cumulative effect transition method. We are evaluating the effect this standard will have on our financial statements and related disclosures. We have not yet selected a transition method, nor have we determined the effect of the standard on our ongoing financial reporting.

In September 2015, the FASB issued ASC Update No. 2015-16, Business Combination (Topic 805): Simplifying the Accounting for Measurement-Period Adjustments. This accounting guidance requires that an acquirer recognize adjustments to provisional amounts that are identified during the measurement period with a corresponding adjustment to goodwill in the reporting period in which the adjustment amounts are determined. The effect on earnings of changes in depreciation, amortization or other income effects, if any, as a result of the change to the provisional amounts will be recorded in the same period's financial statements, calculated as if the accounting had been completed at the acquisition date. This guidance should be applied prospectively to adjustments to provisional amounts that occur after the effective date. This guidance is effective for fiscal years beginning after December 15, 2015 and interim periods within those fiscal years. We adopted this guidance January 1, 2016, and as a result we recorded a measurement period reduction to goodwill of $24.0 million during the year ended December 31, 2016. Refer to "Note 3. Business Combinations" to the consolidated financial statements for further information.

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. Update 2016-01 requires equity investments that do not result in consolidation and are not accounted for under the equity method to be measured at fair value with changes recognized in net income. However, an entity may elect to measure equity investments that do not have readily determinable fair values 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 amendments, in addition, reduce complexity of the impairment assessment of equity investments without readily determinable fair values with regard to the other-than-temporary impairment guidance. The amendments also require separate presentation of financial assets and financial liabilities by measurement category and form of financial asset and liability. This guidance is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early application of certain provisions is permitted. We are currently evaluating the effect this standard will have on our consolidated financial statements and related disclosures.

In February 2016, the FASB issued ASC Update No. 2016-02, Leases (new Topic 842, superseded Topic 840): This guidance requires lessees to recognize most leases on their balance sheets as lease liabilities with corresponding right-of-use assets. While many aspects of lessor accounting remain the same, the new standard makes some changes, such as eliminating today's real estate-specific guidance. The new standard requires lessees and lessors to classify most leases using a principle generally consistent with that of "IAS 17 - Leases," which is similar to U.S. GAAP but without the use of bright lines. The standard also changes what is considered initial direct costs. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. The standard is effective for annual periods beginning after December 15, 2018 and interim periods within that year. Early adoption is permitted. We are currently evaluating the effect this standard will have on our consolidated financial statements and related disclosures.

In March 2016, the FASB issued ASC Update No. 2016-09, Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. This update simplifies the accounting for certain income tax aspects of share-based payment transactions, including: the recognition of excess tax benefits and tax deficiencies as income tax expense or benefit in the income statement, the treatment of the tax effects of exercised or vested awards as discrete items in the reporting period in which they occur and the recognition of excess tax benefits regardless of whether the benefit reduces taxes payable in the current period. The amendments related to the timing of when excess tax benefits should be applied using a modified retrospective transition method by means of a cumulative-effect adjustment to equity as of the beginning of the period in which the guidance is adopted. In addition, simplification includes the classification of all excess tax benefits on the statement of cash flows as an operating activity; the entity may elect to apply this cash flow simplification using either a prospective or a retrospective transition method. The amendments in this Update are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods; early adoption is permitted in any interim or annual period. The effect of our adoption of this Update on the consolidated financial statements depends on many factors including our future stock prices. We do not expect the adoption of this Update to have a material impact on our consolidated results of operations or financial position.

In June 2016, the FASB issued ASC Update No. 2016-13, Financial Instruments—Credit Losses (Topic 326): The amendments in this update require a financial asset (or a group of financial assets) measured at amortized cost basis to be presented at the net amount expected to be collected. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances. The initial allowance for credit losses is added to the purchase price rather than being reported as a credit loss expense. Only subsequent changes in the allowance for credit losses are recorded as a credit loss expense for these assets. In addition, credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. The amendments limit the amount of the allowance for credit losses to the amount by which fair value is below amortized cost, require that credit losses be presented as an allowance rather than as a write-down and will allow an entity to record reversals of credit losses in current period earnings in situations in which the estimate of credit losses declines in current period. Current GAAP prohibits reflecting those improvements in current period earnings. The amendments in this update are effective for annual periods beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted as of the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The modified-retrospective approach is generally applicable through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. We are currently evaluating the effect this standard will have on our consolidated financial statements and related disclosures.

In August 2016, the FASB issued ASC Update No. 2016-15, Classification of Certain Cash Receipts and Cash Payments (Topic 230 -Statement of Cash Flows): The amendments provide guidance in the presentation and classification of certain cash receipts and cash payments in the statement of cash flows including debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, and distributions received from equity method investees. The amendments are effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years with early adoption permitted. The amendments should be applied using a retrospective transition method to each period presented. We are currently evaluating the impact of adopting these provisions on our consolidated financial statements.

In October 2016, the FASB issued ASC Update No. 2016-16, Income Taxes - Intra-Entity Transfers of Assets Other Than Inventory (Topic 740): This update simplifies the accounting for the income tax consequences of transfers of assets from one unit of a corporation to another unit or subsidiary by eliminating an accounting exception that prevents the recognition of current and deferred income tax consequences for such “intra-entity transfers” until the assets have been sold to an outside party. The amendment should be applied using a modified retrospective transition method by means of a cumulative-effect adjustment directly to retained earnings as of the beginning of the period in which the guidance is adopted. The rule takes effect for annual periods after December 15, 2017, including interim periods within those annual reporting periods; early adoption is permitted. We are currently evaluating the effect this standard will have on our consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASC Update 2017-04, Intangibles - Goodwill and Other - Simplifying the Test for Goodwill Impairment (Topic 350). The amendments in this Update simplified the testing for goodwill impairment subsequent to the measurement period, which was the subject of ASC Update 2015-16, discussed above. An entity, under this Update, should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. This Update also eliminated the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. Therefore, the same impairment assessment applies to all reporting units. An entity is required to disclose the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount of net assets. The standard is effective for annual or interim goodwill impairment testing dates performed in fiscal years beginning after December 15, 2019. Early adoption is permitted for goodwill impairment test performed on testing dates after January 1, 2017. We will adopt this standard on January 1, 2017. We are currently evaluating the effect this standard will have on our consolidated financial statements and related disclosures.

Note 27. Transition Period Financial Information

Prior to the Mergers, Cyberonics' fiscal year ended on the last Friday in April of each year. The fiscal year of LivaNova, which became the successor issuer to Cyberonics on October 19, 2015, begins on January 1 and ends on December 31 of each year. The change of fiscal year, effective as of October 19, 2015, resulted in a transitional period which began April 25, 2015 and ended December 31, 2015. The comparable amounts for the equivalent prior period (unaudited), are as follows (in thousands, except per share data):

	For the Transitional Period April 25, 2015 to December 31, 2015	Equivalent Prior Period April 26, 2014 to December 26, 2014 (unaudited)
Net sales	$ 415,707	$ 181,641
Cost of sales	143,843	16,835
Gross profit	271,864	164,806
Operating expenses:		
Selling, general and administrative	169,180	83,045
Research and development	51,420	28,125
Merger and integration expenses	55,787	—
Restructuring expenses	11,323	—
Amortization of intangibles	9,734	
Total operating expenses	297,444	111,170
(Loss) income from operations	(25,580)	53,636
Interest income	392	125
Interest expense	(1,509)	(8)
Impairment of investment	(5,062)	—
Foreign exchange and other - gain (loss)	(7,522)	109
(Loss) income before income taxes	(39,281)	53,861
Income tax expense (benefit)	(12,976)	18,791
Loss from equity method investments	(3,308)	—
Net (loss) income	$ (29,613)	$ 35,070
	—	
Basic (loss) income per share	$ (0.90)	$ 1.32
Diluted (loss) income per share	$ (0.90)	$ 1.31
Shares used in computing basic (loss) income per share	32,741	26,552
Shares used in computing diluted (loss) income per share	32,741	26,775

Note 28. Subsequent Event

We announced on February 23, 2017 our voluntary cancellation of our standard listing of ordinary shares with the London Stock Exchange ("LSE"). We have taken this action due to the low volume of our ordinary share trading on the LSE. Trading will cease at the close of business on April 4, 2017. We will continue to serve our shareholders through our listing on the NASDAQ Stock Market, where the vast majority of trading of our ordinary shares occurs. This decision has no bearing on our status as a UK company and our commitment to invest in the European market.

Item 16. Form 10-K Summary

None.