Suchergebnis

Name	Bereich	Information	V.-Datum
LivaNova Deutschland GmbH München	Rechnungslegung/ Finanzberichte	Befreiender Konzernabschluss gem. § 291 HGB zum Geschäftsjahr vom 01.01.2020 bis zum 31.12.2020	13.05.2022

LivaNova Deutschland GmbH

München

Befreiender Konzernabschluss gem. § 291 HGB zum Geschäftsjahr vom 01.01.2020 bis zum 31.12.2020

2020 UK Annual Report

LIVANOVA PLC
London/UK

Helth innovation that matters

Hope Through Innovation

Our products work in partnership with and improve life.

At LivaNova, we unite to provide hope for patients and their families through innovative medical technologies, delivering life-changing improvements for both the Head and Heart. That is our Mission. We are driven by our shared purpose to put patients first to improve the quality of their lives - for every patient, every day.

This 2020 UK Annual Report (UK Annual Report) of LivaNova PLC comprises the Strategic Report, Directors' Report, Directors' Remuneration Report, and the LivaNova PLC consolidated Financial Statements prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 (IFRS) and Company UK GAAP Financial Statements prepared in accordance with FRS 101, in respect of the year ended 31 December 2020 contained herein.

This UK Annual Report has been prepared to satisfy the reporting requirements of the Companies Act 2006 and will be included in the 2021 Annual General Meeting (2021 AGM) materials made available to shareholders.

In this UK Annual Report, "LivaNova," the "Company," "Group," "we," "us" and "our" refer to LivaNova PLC and its consolidated subsidiaries.

Cautionary statement

Certain statements made in this UK Annual Report are forward looking. Such statements are based on current expectations and are subject to a number of risks and uncertainties that could cause actual results to differ materially from any expected future events or results referred to in the forward looking statements. Unless otherwise required by applicable laws, regulations or accounting standards, LivaNova does not undertake any obligation to update or revise any forward looking statements, whether as a result of new information, future developments or otherwise. Nothing in this UK Annual Report should be regarded as a profit forecast.

- Trademarks for LivaNova's VNS Therapy Systems, the VNS Therapy® System, the VITARIA® System and LivaNova's proprietary pulse generator products: Model 102 (Pulse®), Model 102R (Pulse Duo®), Model 103 (Demipulse®), Model 104 (Demipulse Duo®), Model 106 (AspireSR®), Model 1000 (SenTiva®), Model 1000-D (SenTiva® Duo), Model 7103 (VITARIA® and VITARIA TitrationAssist™) and Model 8103 (Symmetry®).

- Trademarks for our Cardiopulmonary product systems: S5® heart-lung machine (HLM), S3® HLM, S5 PRO™ HLM, B-Capta® , Inspire® , Heartlink® , XTRA® Autotransfusion System, 3T Heater-Cooler® , Connect™ and Revolution®.

- Trademarks for LivaNova's line of surgical tissue and mechanical valve replacements and repair- products: Mitroflow® , Crown PRT® , Solo Smart™, Perceval® , Perceval® Plus, Miami Instruments™, Top Hat® , Reduced Series Aortic Valves™, Carbomedics Carbo-Seal® , Carbo-Seal Valsalva® , Carbomedics Standard® , Orbis™ and Optiform® ; and Mitral valve repair products: Memo3D® , Memo3D ReChord™, MEMO 4D® , AnnuloFlo® , AnnuloFlex® , Bicarbon Slimline™, Bicarbon Fitline™ and Bicarbon Overline®.

- Trademarks for our advanced circulatory support systems: TandemLife® , TandemHeart® , TandemLung® , ProtekDuo® , and LifeSPARC™.

- Trademarks for our obstructive sleep apnea system: ImThera® and Aura6000®.

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

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LivaNova at a glance

Hope Through Innovation. Our products work in partnership with and improve life.

WHO WE ARE

LivaNova is a global medical technology company built on decades of experience and a relentless commitment to improve the lives of patients around the world. As a worldwide leader in Cardiovascular and Neuromodulation solutions, we are dedicated to helping create

meaningful products and therapies that transform lives each and every day. LivaNova is also dedicated to the highest standards, and we operate at the topmost level of business ethics and integrity.

OUR MISSION

At LivaNova, we unite to provide hope for patients and their families through innovative medical technologies, delivering life-changing improvements for both the Head and Heart.

OUR VALUES

Patients First. Our shared purpose is to improve the lives of patients.

Meaningful Innovation. We develop novel products and therapies to address multiple disease states.

Act with Agility. We challenge ourselves to continuously improve and act nimbly.

Commitment to Quality and Integrity. We dedicate ourselves to high quality and integrity in everything we do.

Collaborative Culture. We value diversity of thought and our collective strength as a team.

OUR PILLARS

Growth. Drive demand, build pipeline, expand portfolio.

Profitability. Build better, spend better, price better.

Talent. Attract, retain, develop.

Culture. Continuous improvement, discipline and accountability, teamwork.

OUR IMPACT

- ~ 4,000 EMPLOYEES supporting healthcare professionals globally
- Presence in over 5,500 HOSPITALS
- Distributing to over 100 COUNTRIES worldwide
- 120,000+ PATIENTS treated with VNS Therapy
- 2M+ PATIENTS treated with Inspire oxygenator
- 40+ YEARS of perfusion know-how and world leadership with S5 HLM
- 1M+ PATIENTS treated with XTRA Autotransfusion System
- 11+ YEARS of successful clinical use with Perceval heart valve

Overview of 2020

2020 was a year like no other. LivaNova faced unprecedented challenges as the COVID-19 pandemic (COVID-19 or pandemic) disrupted our business around the globe, and this dynamic is continuing into 2021. Throughout the pandemic, LivaNova's management team, with the full support of the LivaNova Board of Directors (Board), has been taking actions to shape our portfolio and structure the organization to ensure LivaNova is best positioned to serve our patients and drive shareholder value. The team introduced the concept of the Strategic Triangle in 2020, focusing LivaNova's attention on core growth, pipeline execution and operational excellence. Throughout the uncertainty of 2020, the Strategic Triangle has served as LivaNova's compass and focal point in defining our strategy as we move into 2021.

Core Growth

As with many of our peers, our Company did not escape 2020 unscathed. We experienced significant and unpredictable reductions in the demand for our products due to healthcare customers diverting medical resources and priorities towards the treatment of COVID-19. In addition, public health organizations regularly delayed or suspended elective procedures during the pandemic, which has negatively impacted the usage of our products, including the number of neuromodulation procedures. Sales in our epilepsy product line in our neuromodulation business declined due to COVID-19's impact on non-emergent procedures starting late in the first quarter of 2020 with a more severe impact in the second quarter followed by sequential improvement throughout the remainder of the year. Similar to our epilepsy business, the cardiopulmonary product line in our cardiovascular business was also challenged due to COVID-19's impact on non-emergent cardiac procedures and the late stage replacement cycle for HLMs. Meanwhile, our Advanced Circulatory Support (ACS) business maintained strong double-digit growth for the third year in a row, achieving greater than 30% growth in 2020 driven by the recent United States (U.S.) launch of our LifeSPARC platform, a temporary support system for emergent rescue patients.

Pipeline Execution

Depression

Following the U.S. Centers for Medicare and Medicaid's (CMS) acceptance in 2019 of our protocol for the RECOVER clinical study which involves the evaluation of VNS Therapy for difficult-to-treat depression (DTD) patients, CMS agreed to provide reimbursement for patients in the RECOVER study throughout 2020, with the possibility of extending it into a larger registry. It was a challenging year to recruit patients into a new clinical trial due to health concerns regarding entry into hospitals, lack of physical access in the case of closures, and generally, the unwillingness of potential candidates to engage in a new trial in the midst of a worldwide pandemic. Despite these unprecedented barriers, we managed to work remotely with sites and patients, open new sites, and recruit and implant patients. In 2020, we activated 68% of our target number of sites and focused on patient consent, which will contribute to meeting our next milestones in the RECOVER study.

Heart Failure

We continue to make progress in advancing Autonomic Regulation Therapy (ART) using VNS Therapy to treat heart failure, combining our learnings from pre-clinical research, initial pilot clinical research and efforts of others in this space to create a clinical evaluation plan for the VITARIA System. Our ANTHEM-HFrEF pivotal trial design was approved by the U.S. Food and Drug Administration (FDA) in 2017 under the support of the FDA's Breakthrough Devices Program (formerly known as the Expedited Access Pathway Program), and since the inception of the pivotal trial, randomization of patients to date has exceeded trial goals.

Obstructive Sleep Apnea

Since our acquisition of ImThera Medical, Inc. (ImThera) and its hypoglossal nerve stimulation device for the treatment of obstructive sleep apnea (OSA), we have been focused on remediating the system and analysing the results of the THN3 study. We continue to make progress in the program with a fully remediated system and the confirmatory study was submitted for FDA Investigational Device Exemption (IDE) approval during the fourth quarter of 2020. We are working through remaining questions from the FDA and expect to start the study in mid-2021.

Operational Excellence

Heart Valve Divestiture

In the fourth quarter of 2020, LivaNova entered into a purchase agreement with Mitral Holdco S.à r.l. (the Purchaser), a company wholly owned and controlled by funds advised by Gyrus Capital S.A. for the sale of LivaNova's heart valve (Heart Valve) business; the purchase agreement was amended on 9 April 2021. LivaNova believes the divestiture will enable LivaNova to sharpen its focus within its primary platforms, Neuromodulation and Cardiovascular, and to dedicate increased resources toward executing its promising pipeline opportunities. Once the transaction is complete, Gyrus intends to focus management attention and investment on the Heart Valve business to position it to become a leading player in the surgical heart valve market globally, translating into even greater opportunities for employees, customers and patients. Until the closing, the start of which is estimated to occur in the first half of 2021, LivaNova will operate the Heart Valve business in the normal course of business.

Corporate Governance

In December 2020, LivaNova announced a series of Board leadership changes driven by the Nominating and Corporate Governance Committee (NCG Committee). Todd Schermerhorn joined the Board and Audit and Compliance Committee (Audit Committee) in early December, and he will become the new Audit Committee Chair upon Hugh Morrison's departure after the 2021 AGM. In addition, effective as of the 2021 AGM, Daniel Moore will rotate from the role of Board Chair. Mr. Moore will remain as a director, and Mr. Kozy will succeed Mr. Moore as Chair. Similarly, as of the 2021 AGM, Dr. Arthur Rosenthal will rotate out of the Compensation Committee Chair role while remaining on the Compensation Committee, and Stacy Enxing Seng will assume the role of Compensation Committee Chair. These changes highlight LivaNova's commitment to corporate governance and help to further enhance the Board's independent oversight.

Despite the uncertainty posed by COVID-19 throughout 2020, we have remained focused on achieving consistent, profitable revenue growth in our core businesses, delivering on our pipeline, and improving profitability and cash generation. We have become stronger, more agile and remain cautiously optimistic that our focus on execution combined with expectations of declining COVID-19 infection rates will lead to improving results throughout 2021.

Our Global Business

Our Strategy

Our 2021 strategic priorities involve positioning LivaNova to realize its full value. Our Strategic Triangle serves as a guide to keep us highly focused on delivering the value embedded in LivaNova in three key areas: to consistently deliver growth, execute on our pipeline and improve profitability through operational excellence.

Core growth

Core growth emphasizes our focus on portfolio optimization to support leadership positions in underserved markets. Our focus is to generate consistent, profitable revenue growth with an emphasis on U.S. epilepsy and ACS. We intend to execute by expanding the go-to-market initiative for U.S. epilepsy by way of multi-disciplinary, dedicated teams that are focused on partnering with Comprehensive Epilepsy Centers (CECs) to deliver improved outcomes by bringing expertise in the areas of clinical research, education and training, and community outreach. These teams are in addition to our existing sales team and complement their work in the field. Nearly 20% of CECs in the U.S. are covered by our dedicated teams, and we are expanding throughout the course of 2021. Meanwhile, the launch of LifeSPARC, coupled with strong commercial execution of our expanded sales force, is expected to drive growth greater than 20% for our ACS business in 2021.

Pipeline execution

Pipeline execution represents our multiple existing and pipeline initiatives, which will accelerate our growth. This includes gaining momentum for the depression RECOVER study, achieving milestones in the heart failure ANTHEM-HFrEF pivotal study and launching our next-generation HLM, Polaris.

Operational excellence

Operational excellence means driving margin expansion, especially our operating margin. We have taken steps throughout 2020 and into 2021 to exercise cost discipline, for example by improving cash generation, increasing operating profitability and trimming costs, and we continue to scrutinize spend to mitigate the impact of the pandemic.

Our Business Model

LivaNova is comprised of two reportable segments: Neuromodulation and Cardiovascular, corresponding to our primary therapeutic areas. Other corporate activities include corporate shared service expenses for finance, legal, human resources, information technology and corporate development.

Neuromodulation

Our Neuromodulation segment designs, develops and markets Neuromodulation therapy for the treatment of drugresistant epilepsy (DRE), DTD and OSA. We are also developing and conducting clinical testing of the VITARIA System for treating heart failure with ART through VNS.

Our seminal Neuromodulation product, the LivaNova VNS Therapy System, is an implantable device authorized for the treatment of DRE and DTD. The VNS Therapy System consists of an implantable pulse generator and connective lead that 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 for epilepsy and depression patients, magnets to manually suspend or induce nerve stimulation. The 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 with a depleted battery, is tunneled under the skin to the vagus nerve in the lower left side of the patient's neck and connected to the pulse generator.

Epilepsy

There are several broad types of treatment available to patients with epilepsy: multiple seizure medications and cannabis derived products; various forms of the ketogenic diet; VNS Therapy; 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 characterized as drug-resistant, at which point, adjunctive non-drug options are considered, including VNS Therapy, brain surgery and a ketogenic diet.

Our VNS Therapy System was the first medical device treatment approved by the FDA in 1997 for refractory, DRE in adults and adolescents over 12 years of age and is indicated for use as an adjunctive therapy in reducing the frequency of seizures. In June 2017, the FDA approved our VNS Therapy device for use in patients who are at least four years of age and have partial onset seizures that are refractory to antiepileptic medications. At the same time, our VNS Therapy device received FDA approval for expanded magnetic resonance imaging (MRI). CE Mark approval followed shortly thereafter in August 2017. Currently, the SenTiva and AspireSR models of VNS Therapy technology provide for this expanded MRI access. Other worldwide regulatory bodies have also approved the VNS Therapy System for the treatment of epilepsy, many without age restrictions or seizure-type limitations.

Cardiovascular

Our Cardiovascular segment is engaged in the development, production and sale of cardiopulmonary products, heart valves and ACS products. Cardiopulmonary products include oxygenators, HLMs, autotransfusion systems, perfusion tubing systems, cannulae and other related accessories. ACS support includes temporary life support controllers and product kits that can include a combination of pumps, oxygenators and cannulae. Heart valves include mechanical heart valves, tissue heart valves, related repair products and minimally invasive surgical instruments.

Cardiopulmonary

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 HLMs, autotransfusion systems, oxygenators, perfusion tubing sets, cannulae and accessories, as well as related equipment and disposables for autotransfusion and autologous blood washing for neonatal, paediatric and adult patients. Our primary cardiopulmonary products include:

Heart-lung machines

The HLM product group includes HLMs, 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, includes the Inspire systems. The Inspire range of products is comprised of 12 models and provides perfusionists with a customizable approach for the benefit of patients.

Connect

Connect is our perfusion charting system. Focused on real time and retrospective calculations and trending tools, Connect assists perfusionists with data management during and after cardiopulmonary bypass.

Autotransfusion systems

One of the key elements for a complete blood management strategy is autologous blood transfusion. The autotransfusion product group facilitates the collection, processing and reinfusion of the patient's own blood lost at the surgical site during the perioperative period.

Cannulae

Our cannulae product family is used to connect the extracorporeal circulation to the heart of the patient during cardiac surgery. In April 2020, we announced that our Bi-Flow Extracorporeal Membrane Oxygenation (ECMO) cannula earned CE Mark approval for ECMO procedures where femoral artery cannulation can be applied. Bi-Flow previously received CE Mark in 2019 for cardiac surgery procedures requiring femoral artery cannulation. Now validated for up to 29 days of use, Bi-Flow ECMO is designed to reduce the risk of limb ischaemia for patients receiving ECMO, and it allows for safe, easy and reproducible procedures.

Advanced Circulatory Support

In 2018, we acquired TandemLife, which is focused on the delivery of leading-edge temporary support products, including cardiopulmonary and respiratory support solutions. Our solutions include temporary life support product kits that can include a combination of pumps, oxygenators and cannulae. Our latest product, LifeSPARC, is built around a common compact console and pump and provides temporary support for emergent rescue patients in a variety of settings. Designed for ease of use, the system offers power and versatility for multi-disciplinary programs to support more patients. The system is accompanied by four specialized and ready-to-deploy kits, each designed to support diverse cannulation strategies.

In April 2020, we announced that several of our cardiopulmonary products are now permitted to be used in the U.S. for ECMO therapy greater than six hours per guidance issued by the FDA on 6 April 2020 to temporarily expand the availability of devices to address the COVID-19 pandemic.

Heart Valves and Repair Products

In the fourth quarter of 2020, LivaNova entered into a purchase agreement (HV Purchase Agreement) with Mitral Holdco S.à r.l. (Mitral or the Purchaser), a company incorporated under the laws of Luxembourg and wholly owned and controlled by funds advised by Gyrus Capital S.A. (Gyrus), a Swiss private equity firm. The HV Purchase Agreement provides for the divestiture of certain of LivaNova's subsidiaries as well as certain other assets and liabilities relating to LivaNova's Heart Valve business and to the site management operations conducted by the Company's subsidiary, LivaNova Site Management S.r.l. (LSM), at its Saluggia campus.

On 9 April 2021, LivaNova and the Purchaser entered into an Amended and Restated Share and Asset Purchase Agreement (the HV A&R Purchase Agreement) which amends and restates the original HV Purchase Agreement to, among other things, defer the closing of the sale and purchase of LSM by up to two years and include or amend certain additional terms relating to such deferral, including certain amendments relating to the potential hazardous materials liabilities of LSM, the related expense reimbursement provisions, and transfer of certain heart valve-related employees and information technology assets.

In addition, the HV A&R Purchase Agreement includes certain amendments relating to mechanics and timing for the initial closing of the transaction and subsequent closings of the local businesses. As previously announced in December 2020, the initial closing of the transaction with respect to the Heart Valve business is expected to occur in the first half of 2021.

Our heart valve and repair products include a comprehensive line of products to treat a variety of heart valve disorders and consist of 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:

Self-anchoring tissue heart valves

Perceval is our 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 to reduce the time the patient spends in cardiopulmonary bypass.

In July 2020, we announced that the advanced Perceval Plus sutureless surgical aortic heart valve is now available for commercial release in Europe, having successfully completed a one-year limited launch with initial real-world clinical data gathering. Perceval Plus is positioned to become an essential component to any comprehensive heart program. Building on the clinically proven experience with Perceval, this next-generation valve facilitates minimally invasive cardiac surgery (MICS) and makes sutureless aortic valve replacement available to a wide patient population. Key innovations with Perceval Plus include the anticalcification treatment, FREE, for valve durability, along with design changes intended to improve patient outcomes.

Other tissue heart valves

Other 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. 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.

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 and Bicarbon Slimline, Bicarbon Fitline and Bicarbon Overline aortic and mitral valves.

Heart valve repair products

Mitral valve repair is a well-established solution for patients suffering from a leaky mitral valve, or mitral valve regurgitation (MR). We offer a wide range of mitral valve repair products, including the Memo 3D and Memo 3D ReChord, AnnuloFlo and AnnuloFlex.

Minimally invasive surgical instruments

Through the acquisition of the minimally invasive cardiac surgery business from Miami Instruments in June 2019, we offer minimally invasive cardiac surgery instruments that support the implantation of our heart valve products during surgery.

Human Capital Management

Our nearly 4,000 employees worldwide are crucial in our mission to provide hope to our patients and their families by delivering life-changing medical innovation for the head and the heart. We retain, develop and reward exceptional talent to meet the needs of our patients and customers. We have been successful in doing so in a highly competitive labour market due, in large part, to our proactive recruitment strategies, competitive compensation and benefits, collaborative and rewarding work environment, professional training and development programs for managers and employees, and health and wellness measures.

Compensation and Benefits

Our Chief Human Resources Officer is responsible for developing and executing our human capital strategy, and our compensation and benefits programs are managed by our Global Total Rewards Centre of Excellence, which sits within the Human Resources organization. We provide robust compensation and benefits programs. In addition to competitive salaries, these programs include, depending on jurisdiction, annual discretionary bonuses, stock awards, pension and health benefits, paid time off, flexible schedules and remote working, among others. To ensure alignment with fair pay standards, we monitor and benchmark our payment policies and practices to ensure that LivaNova continues to be a fair and diverse employer, free from discrimination. We also work closely with our trade unions and works councils to ensure that we are inclusive of the interests of our workers in our policies and decisions.

Culture

Our mission seeks to link our employees to our five core values: patients first, meaningful innovation, act with agility, commitment to quality and integrity, and collaborative culture. We bring our mission to life through regular patient stories, monthly employee newscasts, quarterly senior leader forums, live employee sharing, plant tours, Chief Executive Officer (CEO) Town Halls, and weekly Bite-Sized Learning and coaching for managers and employees. Most recently, we launched the "Stars" program in early 2021, an online employee recognition program which provides the opportunity to reward and acknowledge employees for delivering exceptional results and promoting our values, in real time.

Our values are deeply embedded in our culture, from the Board and executive leadership team to our field personnel and manufacturing floor. Our values inspire our good citizenship and how we conduct our business responsibly and sustainably while interacting with our communities, employees and the environment. In that vein, LivaNova created the Envir onmental, Social and Governance (ESG) Task Force in 2020, a cross-functional team of leaders focused on establishing a comprehensive program optimizing our environmental, social and governance efforts with full support from the executive team. Led by United Nations Global Compact

Principles and Sustainable Development Goals, the team has put a framework around LivaNova's various ESG efforts and is implementing strategies to put our values in action.

Measuring the effectiveness of our cultural journey is closely monitored by our employee engagement surveys. In 2020, 94% of our employees completed the LivaNova engagement survey, a 2% increase over the prior completion rate in 2018. Overall, employee engagement, measured by reputation, supervisors and the executive team, collaboration, working conditions, job content, compensation & benefits, and learning & development, increased by four points from the prior survey, and employees indicated a strong sense of loyalty towards LivaNova and its mission.

Training and Development

As part of our promotion and retention efforts, we provide annual performance reviews for all employees, primarily in the form of annual and mid-year activities, which involve an evaluation of goals and performance contributions. A portion of our employees, some of whom include operators involved in the direct production of our devices, receive performance feedback in a form and process tailored based on jurisdiction and local rules and regulations. LivaNova also offers regular performance management training, workshops and training in connection with our LivaNova Business System, which is our guide to excellence in how we operate and our framework to improve our business, day by day.

We also invest in ongoing leadership development by way of our Global Talent and Learning and Development group. In 2020, in connection with our annual Global Leadership Conference, we partnered with the NeuroLeadership Institute, hosting 130 senior LivaNova leaders to foster a deeper understanding of LivaNova's vision, best practice sharing, collaboration, self-reflection, inclusive leadership, and resilience as LivaNova moves into 2021. In addition, we rolled out a deeper talent review and development assessment in 2020 for these leaders to better allow both the employee and LivaNova to understand needs and development possibilities in relation to our strategy and performance in leadership, considering succession planning and the talent pipeline.

Finally, we offer internships and apprenticeships across functions around the globe which can, and do, lead to fulltime employment. We believe in continuing education and development regardless of nationality and origin, which is why we partner with organizations globally to find new talent with hopes of welcoming future, full-time employees.

Mentoring & Women's Networking

The LivaNova Women's Network (LWN), an organic, grassroots mentorship program, by women and for women, is in its third year of operation. The program facilitates pairings between mentors and mentees who meet on a regular basis. In 2020, the LWrN consisted of 109 members: 37 mentees, 29 mentors and 43 alumni. This program continues to provide members with new perspectives, more personalized development, and an opportunity to network with other women across the organization, thereby contributing to a better corporate culture based on strong, collaborative relationships and continuous opportunities to grow and develop.

Diversity

At LivaNova, we actively seek out diverse perspectives at all levels of our organization. Accordingly, we closely monitor our diversity metrics. As of 31 December 2020, LivaNova had eleven members on the Board, of whom 27% are female and 73% are male. Similarly, the Executive Team at the end of 2020 consisted of eleven individuals, 27% of which are female and 73% male. Of LivaNova's senior leadership team, which includes the executive team, vice presidents and directors, approximately 32% are women and 68% are men. Finally, as of 31 December 2020, LivaNova employed approximately 4,000 employees, 56% women and 44% men. Our bold new strategies for accelerating diversity begin with creating new ways to find extraordinary talent, and examples of our efforts include accurately mapping the talent market, creating job postings that attract highly qualified diverse candidates, expanding the diversity within our interview panels and guiding interviewers to conduct a fair interview process.

In addition, in October 2020, the Diversity, Inclusion and Belonging group was formed, with a mission to empower an environment where conversations of diversity and inclusion develop a culture of belonging. The employee-led, executive-sponsored initiative has expressed a commitment to build a network of LivaNova employees who embrace an open mindset with an appreciation of diverse experiences and has been meeting regularly, interacting with a large swath of the employee population.

COVID-19

Saving the lives of our patients starts with the care and well-being of our employees. In response to the COVID-19 pandemic, physical and mental health was at the forefront of our response. In February and March 2020, we started sending our non-essential workers home to work remotely, and we instituted strict requir ements for cleaning, social distancing and personal protective equipment within our offices. Shortly thereafter, we also released an Employee Volunteering Policy which allows employees, with certain approvals, to dedicate a maximum of 80 working hours per year as a volunteer for any registered non-profit organization that demonstrates positive social or environmental benefits or for health service association or local authorities.

In April, we launched a global Healthy Habits campaign, encouraging hygienic habits for all to keep themselves, their families, their customers and their patients safe. We pushed out regular "learning initiatives" to employees and leaders to encourage best practices while they work from home, and we upgraded and rolled-out in all our countries an extensive Employee Assistance Program (EAP), a confidential service offering employees and their dependents the support and guidance they need on almost any issue, including financial, psychological, family and/or wellness matters. We also implemented a flu vaccination plan for LivaNova globally, encouraging and providing reimbursement for any LivaNova employee desiring the flu vaccine.

To support healthcare providers, LivaNova employees donated masks and cardiopulmonary machines to hospitals in China. In Mirandola, Italy, our employees donated to local charities to provide masks for a local hospital and made a donation to support a volunteer ambulance service. Similarly, in Houston, Texas, we were able to supplement a local hospital's low supply coffers with masks. Finally, a Return to Health Services Program was promulgated, aimed at assisting requests from governments around the world to health care professionals to help on the frontline in the battle against COVID-19. Upon receipt of such a request, the employee can work with the employer to determine if such a request can be fulfilled.

Ethics and Integrity

At LivaNova, we unite to provide hope for patients and their families through innovative medical technologies, delivering life-changing improvements for both the head and heart. This is our mission. However, we can only uphold this mission with the trust and respect of not only physicians and patients but all of our employees, the communities in which we work, shareholders, partners, customers and suppliers. That trust and respect comes with us meeting the highest standards of business ethics and compliance. It is not only what we do, but how we do it.

Code of Conduct, Policies & Procedures and Risk Assessments

Our commitment to integrity starts with our Code of Ethics and Business Conduct (Code of Conduct), which was updated and introduced in 2020. It sets out the key expectations of behaviour for our directors, officers, employees and contractors. Our revamp of the Code of Conduct this past year stemmed from a full review of all our policies and procedures in an effort to simplify, detect and

mitigate risks, and increase compliance awareness and adoption throughout the Company. This type of internal reflection is critical to maintaining a current Ethics and Integrity (E&I) program and continues into 2021, with more guidance and tools being made available to our employees to enable decision-making in a compliant way with E&I as a focus.

All enhancements to our E&I program are a result of our dynamic risk-based approach. E&I regularly updates our risk assessment matrix based on a careful and regular review of the external legal, regulatory and compliance landscape, as well as internal considerations and observations. Monitoring and auditing within the Company ensures E&I is maintaining the pulse on the organization's culture and rate of compliance with policies and procedures, and all these factors together inform E&I's plans as they work to maintain a robust E&I program within LivaNova.

E&I Training

In 2020, E&I completed more than 120 education and awareness activities, including but not limited to, face-to-face forums, virtual instructor-led sessions, online trainings, newsletters, and targeted training and communications based on the needs of the business. The team also launched a global, online campaign asking our internal employees to certify compliance with the Code of Conduct. In 2020, approximately 99% of LivaNova employees with access to our internal systems acknowledged their commitment to the Code of Conduct. Due to the pandemic and subsequent restrictions, there were challenges reaching certain "offline" employees who do not have access to our training systems, but we plan to reach the remainder in 2021. E&I remains committed to dedicating significant efforts to training and education activities.

Reporting, the LivaNova Ethics Line and Investigations

LivaNova proactively promotes ethical behaviour and encourages employees to report violation of laws, regulations, our Code of Conduct and our policies and procedures. Throughout 2020, we embarked on a "Speak Up" poster campaign, whereby posters were placed in common areas at all sites promoting the Ethics & Integrity Helpline to stress the importance of internal reporting. Posters were changed each quarter and emphasized the individual responsibility of each employee to report potential issues.

The foundation of our internal investigations approach and process are captured in our Global Procedure for Conducting Internal Investigations, published in October 2020 (Investigation Procedure), which requires that any allegation of wrongdoing is recorded, triaged and investigated as required by the Investigation Procedure. All matters and reporters are treated with confidentiality pursuant thereto.

We also made significant enhancements to our case handling process during 2020, culminating in a global, crossfunctional repository and tracking system, Convercent, for our internal investigations. New cases, open investigations and remediation actions across all functions and geographies are closely monitored by E&I via Convercent, and key stakeholders are kept informed on a regular basis. Reports can be submitted by original reporters directly through the system using the phone or web-based ethics line or indirectly, by way of "offline" reports. All cases can be documented retrospectively in Convercent by a proxy reporter. In 2020, 87 reports were received and triaged, and no cases are left unattended or dismissed without due evaluation.

Ethics line metrics and Serious Reportable Incidents, as defined in the Investigation Procedure, are reported at least quarterly to the Corporate Ethics and Integrity Committee. In addition, on a quarterly basis, the Chief Ethics and Integrity Officer will report all Serious Reportable Incidents that were opened or closed during the quarter to LivaNova's Audit Committee, and where necessary, referrals may be made directly to the chair of the Audit Committee at any time during the quarter.

New Policies and Procedures

In addition to the above Investigations Procedure, the E&I team issued new policies and procedures in 2020 to reinforce employee guidelines for sales practices and interactions with health care professionals (HCPs) and patients, e.g., off-label request handling, social media communications, and provision of reimbursement information. As these policies are pushed out, continuing into 2021, employees are notified, obligated to review, and thereafter, certify their understanding.

Third Party Diligence

At LivaNova, we believe it is important that, when we do business with third parties, we have confidence they share our values. As a result, and in hand with our ESG Task Force, LivaNova rolled out its Third Party Code of Ethics and Business Conduct (Third Party Code of Conduct) in 2020. Located on our website (in multiple languages) and incorporated into our purchase orders and distributor agreements, the Third Party Code of Conduct outlines the minimum standards we require of all LivaNova third parties when doing business with us - these standards range from areas of human rights and labour conditions to anti-bribery and corruption as well as confidentiality and data privacy. We take these key principles of the International Labour Organization's fundamental conventions seriously; accordingly, non-alignment with the Third Party Code of Conduct may result in immediate termination of the business relationship.

In addition, throughout 2020, E&I continued to evolve its risk assessment and due diligence activities on distributors and sales agencies, upgrading the process and introducing enhanced screening and review activities specifically for sanction-sensitive transactions. It is important that when we do business with others, we have confidence they share our values. The Third Party Code of Conduct, E&I policies and risk-mitigation procedures all collectively help to assess and monitor our third party business partners to ensure that we do business with people that acknowledge and share our Company's high standards.

Privacy

Over the course of 2020, LivaNova reviewed and updated its EU Employee Privacy Notice to apply more globally by taking into account worldwide privacy regulations and LivaNova processing activities and operations. Our updated notice provides employees greater visibility into the types of personal data collected, where and how their personal data is processed, and outlines their subject access rights related to that personal data collected as part of their employment by LivaNova.

We also deployed OneTrust to manage our global privacy program within LivaNova in 2020. OneTrust is a privacy, security and governance management tool that helps LivaNova comply with global privacy and data protection regulations and provides us with compliance insight into the personal data we process as part of our business operations. In 2021, we will increasingly leverage OneTrust to manage and grow our privacy compliance efforts as privacy legislation continues to evolve and mature.

Looking Forward to 2021

In early 2021, Human Resources, in partnership with E&I, Legal and Risk, rolled out LivaNova's Anti-Harassment & Anti-Discrimination Policy to ensure all LivaNova colleagues can thrive in an inclusive workplace free from all forms of harassment, including unfair discrimination, sexual harassment, sexual misconduct, bullying, intimidation, or abusive conduct. At LivaNova, we value diversity and seek to unite people. Accordingly, we offer this reassurance to all employees and partners regardless of race, gender, nationality, ethnic origin, religion, age or sexual orientation. A global anti-harassment/bullying and anti-discrimination awareness campaign is in progress and will continue throughout the remainder of 2021.

Corporate Social Responsibility and the Environment

As noted in the section entitled "Human Capital Management" in this Strategic Report, LivaNova created the ESG Task Force in 2020, a cross-functional team of leaders focused on establishing a comprehensive program optimizing our environmental, social and governance efforts with full support from the executive team. Led by UN Global Compact Principles and Sustainable Development Goals, the ESG Task Force has put a framework around LivaNova's various ESG efforts and is implementing strategies to put these values into action.

The Board's NCG Committee charter encompasses ESG reporting under its list of duties and responsibilities, and as a result, the NCG Committee receives regular updates on the ESG Task Force's activities at each of its quarterly meetings. The directors on the NCG Committee actively engages on this topic every quarter, and the NCG Committee Chair reports material developments to the Board. The Chair of the Board, Daniel Moore, joined an all-employee Town Hall in early 2021, to speak to LivaNova's ESG efforts, further emphasizing its importance within the Company and encouraging employees to take an active role, whether by submitting ideas or joining initiatives.

Corporate Social Responsibility

The LivaNova International Fellowship (LIFE) Corporate Social Initiative Program was established in 2018 and falls squarely within the ESG Task Force's mission. The LIFE program reflects LivaNova's good citizenship, passion and values in supporting less fortunate patients and individuals in underserved communities by sharing our life-changing innovations. Since its inception, the program has engaged in patient awareness campaigns, supported humanitarian missions, and donated devices by way of patient assistance special programs, among others. We are focusing our efforts where we have the greatest opportunity to save and improve lives, help build capabilities and forge a selfreliant localized healthcare delivery system.

LIFE reached thousands of patients and communities in 2020, donating in excess of $950K of products in charitable donations in support of vulnerable patients in 13 countries and as part of our response to the COVID-19 pandemic. Examples of our endeavours over the course of 2020 include:

- Ghana: Donation of biological heart valves and a heater-cooler unit to create an independent cardiac unit in Kumasi, Ghana to support future cases and patients
- China: Donation of ECMO machines to hospitals in Wuhan to help respond to the emerging COVID-19 situation in early 2020 and a large donation of face masks to support our China team and their communities
- India: Donation of face masks to support our India team and their communities in the midst of the pandemic
- Dominican Republic: Donation of custom perfusion oxy-packs for patients undergoing surgery
- Eritrea: Support of a humanitarian mission with custom perfusion oxy-packs and accessories and heatercooler machines as they conducted paediatric and infant heart surgeries. We also provided teddy bears to be distributed amongst the paediatric patients.
- Malaysia: Donation and implantation of VNS Therapy devices for patients, including several children
- Nigeria, Tanzania, Ecuador and Peru: Donation of heater-cooler machines to support patient surgeries
- United States: Donation and implantation of VNS Therapy devices for indigent patients in various states
- Spain: Monetary donation to the Red Cross in Spain to support the purchase of personal protective equipment to assist healthcare workers and patients
- United Kingdom: Donation of teddy bears for children with epilepsy

LivaNova's LIFE program is supported by LivaNova employees around the globe. Since its launch, our efforts have crossed functional and geographical lines to ensure greater outreach, support and efficacy in our patient-driven initiatives, and we hope to impact further in 2021.

Environment Sustainability

LivaNova is committed to conducting business in a manner that is respectful of the environment and our natural resources. Throughout our operations, 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 European Union Registration, Evaluation, Authorization and Restriction of Chemicals (REACH); the UK Department for Environment, Food and Rural Affairs (DEFRA); the UK Environment Agency; Companies Act 2006, Regulations 2013 and the Companies and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018; and Italian regulations under the International Energy Agency (IEA).

We also operate independently to minimize the environmental impact of our business and products by using resources and energy efficiently. Specifically, we work to optimize energy and resource usage to ultimately reduce greenhouse gas emissions and waste. In 2018, we implemented a new system called trigeneration in our plant in Mirandola, Italy which is designed to reduce CO_2 , reduce energy consumption, generate energy savings and reduce costs, and we have moved from using oil to methane, considerably reducing the air pollution from our plant in Saluggia, Italy.

In 2019, we implemented a new vehicle policy, which, in addition to generating cost savings and efficiencies throughout LivaNova, has contributed to our goal of decreasing our carbon output. Not only did we exclude certain vehicle models from our inventory due to their negative environmental impact, but we implemented a cap on our vehicles' CO_2 emissions at 130 g/km, and we have maintained this policy throughout 2020. In addition, we continue to replace fluorescent light in our plants in Arvada, Colorado and Mirandola, Italy with LED bulbs to reduce overall energy consumption, and we are continually working to improve the efficiency of our machinery, e.g., by replacing HVAC units with more efficient equivalents. Additional energy efficiency measures specific to 2020 are incorporated into our 2020 Greenhouse Gas Report below.

In 2020, our Mirandola, Italy plant was certified International Standards Organization (ISO) ISO-14001 and ISO-45001 in 2020, joining our Saluggia, Italy plant, which has identical certifications as well as our Munich, Germany plant which has ISO-14001.

In addition, our team in Mirandola identified, engaged in, and completed the Scrigno Project in early 2021. Previous practice involved the transportation of components from one cleanroom to a secondary cleanroom in order to build final perfusion packs - transportation involved among other things, double packaging, shelf storage, pallet picking, and unpacking of the components in order to keep them

clean while being transported outside the cleanroom environment. In an effort to optimize the process, the team designed and implemented a mobile ISO 6 environment - the scrigno, or "box of valuables" in Italian - to transport components directly from one cleanroom to the other, without waste and in an environmentally friendly way. The team's forward thinking has resulted in a reduction of packing time and movement, a projected generation of $ 150,000/year in savings, a shorter logistics chain, lower inventory, and a reduction in consumption of 200,000 plastic bags/year and 3,000 cartons/year.

2020 Greenhouse Gas Report

In compliance with the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 and the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018, we report on our direct and indirect emissions as follows:

- scope 1 (direct emissions): Activities owned by our organisation that release emissions straight into the atmosphere, for example the combustion of fuels in company owned equipment and fugitive emissions.

- scope 2 (indirect emissions): Emissions released into the atmosphere associated with our consumption of purchased electricity, heat, and steam that we use at our site.

We also include the UK-specific energy emissions in line with the new Streamlined Energy and Carbon Reporting (SECR) requirements.

This report focuses on the areas of largest environmental impact, including manufacturing sites, warehouses, research and development (R&D) sites, and offices. Smaller locations representing less than 2% of our overall emissions are not included.

Methodology and approach

In reporting the emissions data as shown in the table herein, LivaNova uses the operational control approach, covering the reporting period from 1 January 2020 to 31 December 2020, in line with our financial year.

Location-based emissions are calculated in compliance with the World Resource Institute (WRI) Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard (GHG Protocol Corporate Standard) and have been calculated using carbon conversion factors published by DEFRA. We have applied the emission factors most relevant to the source data, including DEFRA for UK locations, Emissions & Generation Resource Integrated Database (eGRID) published by the EPA for U.S. locations and conversion factors from the IEA for all the remaining locations. The emission factors for gas, oil, steam, and fugitive emissions are from DEFRA.

GHG emissions from vehicles operated by LivaNova are calculated from fuel expenses and mileage. Where this data was not available, estimates have been used.

Energy efficiency measures

In our continuous commitment in reducing our carbon footprint, we implemented several energy efficiency and low-carbon energy measures throughout our sites in 2020. Certain changes include the replacement of older equipment with more efficient units such as in Italy, where old chillers have been replaced with new models, amounting to a total replaced capacity of 1.2 MWh. Other measures include an increased monitoring of electricity consumption which increases our understanding of our energy profile allowing us to target future energy efficiency measures. We also carry out other measures to improve the efficiency of the existing systems for example regularly inspecting compressed air systems for leaks or replacing old laptops with more efficient devices.

As a consequence of the COVID-19 pandemic, our office spaces were working at reduced capacity. Wherever possible and in compliance with social distancing, we closed-off sections of the buildings, reducing heating/cooling and turned off lighting and computers.

Other measures we implemented in 2020 aimed at reducing our carbon footprint which are not accounted for in Scope 1 and Scope 2 include: (1) the implementation of DocuSign, a company-wide electronic signatory software which led to substantive reduction in the need for printed copies and eliminating the need of posting physical copies of these documents; (2) our work from home policy which allowed and continues to allow our employees to collaborate remotely; and (3) a reduction in carbon emissions from the transportation of our employees commuting - in the UK, for example, we implemented the "cycle to work" scheme, which allows employees to obtain commuter bikes tax free. Also, while not reflected in the total numbers below, COVID-19 resulted in a sudden and prolonged halt from flying, both internationally and domestically. While employees are eager to regain those live connections, the pandemic has demonstrated that the amount of pre-pandemic travel may not need to be maintained, and LivaNova intends to scrutinize travel policies going forward.

Changes in emissions

As a result of our continuous focus on energy efficiency measures, but in large part, also as a consequence of the pandemic, Scope 1 and Scope 2 emissions experienced a reduction of 5% when compared to the previous year. The CO_2 e per £m sales revenue numbers increased from 2019 to 2020 due to an approximate 14% reduction in sales revenue as a result of COVID-19 over the same time frame. Despite a reduction in on-site staff during the pandemic, building HVACs in certain offices support entire facilities and could not be turned off on empty floors, thus losing an opportunity to decrease emissions.

	2020			2019		
	UK	Global (excluding UK)	Total	UK	Global (excluding UK)	Total
tonnes of carbon equivalent (tCO2e)						
Direct emissions (Scope 1)	22	12,425	12,448	22	12,873	12,895
Indirect emissions (Scope 2)	78	17,182	17,260	109	19,647	19,756
Total	100	29,607	29,707	131	32,520	32,651
Underlying energy use for GHG calculations (GWh)						
Scope 1 + Scope 2	0.4	114	115	0.5	121	122
Intensityratios						
CO2e per £m sales revenue			31.8			30.1
CO2e per full time employee			7.4			8.1

Note: Figures for 2019 have been updated to include all UK emissions. These were previously not included as they account for less than 0.5% of the total GHG emissions, in line with our methodology.

Government Regulation and Other Considerations

Our medical devices are subject to extensive government regulation by numerous government agencies, both within and outside the U.S. To varying degrees, each of these agencies requires us 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 our products. Our business is also affected by patient privacy and security laws, cost containment initiatives, and environmental health and safety laws and regulations worldwide.

The laws applicable to us are subject to changing and evolving interpretations, and we continue to monitor such shifts. LivaNova believes it is in compliance with such laws and regulations, and while the impact of regulatory changes cannot be predicted with certainty, LivaNova does not expect compliance to have a material adverse effect upon LivaNova's earnings, competitive position or estimated capital expenditures. However, 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 be subject to severe civil and criminal penalties, including substantial fines and damages, and exclusion from participation as a supplier of products to beneficiaries covered by government programs, among other potential enforcement actions.

Product Approval and Monitoring

Many countries where we sell our products subject our medical devices to their own approval and requirements regarding performance, safety and quality. The following provides a brief overview of the oversight and requirements to which we are subject for the commercial distribution of our products in the U.S., Europe and Japan, the largest markets for our medical devices.

Each medical device we seek to distribute commercially in the U.S. must receive 510(k) clearance or pre-market approval (PMA) from the FDA, unless specifically exempted by the agency. The 510(k) process, also known as premarket notification, requires us to demonstrate that our new medical device is substantially equivalent to a legally marketed medical device. The PMA process, which is more costly and rigorous than the 510(k) process, requires us to demonstrate independently that a medical device is safe and effective for its intended use. One or more clinical studies may be required to support a 510(k) application and are almost always required to support a PMA application.

The European Union (EU), established a single regulatory approval process, according to which a "Conformité Européenne" (French for "European Conformity") or CE Mark certifies conformity with all of the legal requirements of the regulatory process. To obtain a CE Mark, defined products must meet minimum standards of performance, safety and quality (i.e., the essential requirements), and then, according to their classification, comply with one or more of a selection of conformity assessment routes. 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. As a general rule, demonstration of conformity of medical devices and their manufacturers with the essential requirements must be based on, among other things, the evaluation of clinical data supporting the safety and performance of the products during normal conditions of use. The competent authorities of the EU countries separately regulate the clinical research for medical devices and the market surveillance of products placed on the market, and manufacturers with CE marked devices are subject to regular inspections to monitor compliance with the applicable directives and essential requirements. In 2017, the EU published its Medical Device Regulation (Reg MDR), which imposed significantly more pre-market and post-market requirements for medical devices. We are in the process of implementing our strategy to achieve MDR approvals for our products, which we will achieve by May 2024. Our Medical Device Directive certifications are valid until May 2024 and allow us to continue to legally commercialize our products in the EU until May 2024.

To be sold in Japan, our medical devices must undergo thorough safety examinations and demonstrate medical efficacy before they are granted approval. The Japanese government, through the Ministry of Health, Labour and Welfare of Japan (MHLW), regulates medical devices under the Pharmaceutical Affairs Law (PAL). Penalties for a company's noncompliance with PAL may include revocation or suspension of a company's business license and/or criminal sanctions. Japanese regulatory bodies also assess the quality management systems of the manufacturer and product conformity to the requirements of PAL.

Many countries in which we sell our products (outside of the U.S., the EU and Japan) have their own regulatory requirements for medical devices. Most of these countries require that product approvals be recertified on a regular basis, generally every four to 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.

The global regulatory environment is increasingly stringent and unpredictable. 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, their- existing regulations. While some regulatory bodies have pursued harmonization of global regulations, requirements continue to differ significantly among countries. We expect this global regulatory environment will continue to evolve, which could impact the cost, approval lead time, and ultimately, our ability to maintain existing approvals or obtain future approvals for our products.

Product and Promotional Restrictions

Both before and after we release a product for commercial distribution, we have ongoing responsibilities under various laws and regulations governing medical devices. The FDA and other regulatory agencies in and outside the U.S. review our design and manufacturing practices, labeling, record keeping, and required reports of adverse experiences and other information to identify potential problems with marketed medical devices. We are also subject to periodic inspections for compliance with applicable quality system regulations, which govern the methods used in, and the facilities and controls used for, the design, manufacture, packaging and servicing of finished medical devices intended for human use. In addition, the FDA and other U.S. regulatory bodies monitor the manner in which we promote and advertise our products. Although physicians are permitted to use their medical judgment to prescribe 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 our products for cleared or approved uses.

Any adverse regulatory action, depending on its magnitude, may limit our ability to market and sell our products effectively, limit our ability to obtain future premarket approvals or result in a substantial modification to our business practices and operations. For additional information, see the "Risks and Uncertainties" section of this UK Annual Report, under the heading entitled: "Our products are subject to costly and complex laws and governmental regulations, and failure to obtain product approvals or clearance may materially adversely affect our financial condition and business operations."

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, subject us to extensive governmental trade regulations. Many countries control the export and re-export of goods, technology and services for public health, national security, regional stability, antiterrorism and other reasons. Some governments may also impose economic sanctions against certain countries, persons or entities. In certain circumstances, governmental authorities may require that we obtain an approval before we export or re-export goods, technology or services to certain destinations, to certain end-users and for certain end-uses. Because we are subject to extensive regulations in the countries in

which we operate, 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.

We also sell and provide goods, technology and services to agents, representatives and distributors who may export such items to customers and end-users, and if these third parties violate applicable export control or economic sanctions laws or regulations when engaging in transactions involving our products, we may be subject to varying degrees of liability depending on the extent of our participation in the transaction. The activities of these third parties may cause disruption or delays in the distribution and sale of our products or result in restrictions being placed on our international distribution and sales of products, which may materially impact our business activities.

Patient Privacy and Security Laws

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

In the U.S., 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 impose 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. We may be deemed to operate as a business associate to covered entities in certain 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. 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 and data protection efforts. For example, the California Consumer Privacy Act (CCPA), a bill to enhance privacy rights and consumer protection for residents of California went into effect 1 January 2020. For additional information, see the "Risk and Uncertainties" section of this UK Annual Report, under the heading entitled: "Cyberattacks or other disruptions to our information technology systems could lead to reduced revenue, increased costs, liability claims, fines, harm to our competitive position and loss of reputation."

In the EU, Regulation 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation or GDPR) came into effect in May 2018, replacing Directive 95/46/EC (Data Protection Directive). While many of the principles of the GDPR reflect those of the Data Protection Directive, for example in relation to the requirements relating to the privacy, security and transmission of individually identifiable health information, there are a number of changes. In particular: (1) proactive compliance measures are introduced, such as the requirement to carry out a Privacy Impact Assessment and to appoint a Data Protection Officer where health data is processed on a "large scale." Although "large scale" is not defined, it is likely that clinical trials involving substantial numbers of patients (or healthy volunteers if applicable) would mean that such requirements apply to us; and (2) the administrative fines that can be levied are significantly increased, the maximum being the higher of €20 million (approximately $24.5 million), or 3% of our total worldwide revenue in the previous financial year.

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 we do 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 those of physicians through employment and other arrangements, such as gain-sharing, 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.

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 us 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 (FCPA), the UK Bribery Act of 2010 (UK Bribery Act) and other anti-corruption laws and regulations applicable in the jurisdictions where we operate. The FCPA can be used to prosecute companies in the U.S. for arrangements with physicians or other parties outside the U.S. if the physician or party is a government official of another country and prohibited payments are made to obtain or retain business. The UK Bribery Act prohibits both domestic and international bribery, as well as bribery across both public and private sectors. There are similar laws and regulations applicable to us outside the U.S. and the UK, all of which are subject to evolving interpretations. For additional information, please refer to the "Risks and Uncertainties" section of this UK Annual Report, under the heading entitled "The failure to comply with antibribery laws could materially adversely affect our business and result in civil and/or criminal sanctions."

Environmental Regulation and Management

We are subject to various environmental laws, directives and regulations both in the U.S. and abroad. Our operations involve the use of substances regulated under environmental laws, primarily in manufacturing and sterilization processes. We believe that sound

environmental, health and safety performance contribute to our competitive strength while benefiting our customers, stockholders and employees. We are focused on continuous improvement in these areas by reducing pollution, depletion of natural resources and our overall environmental footprint. Specifically, we work to optimize energy and resource usage, ultimately reducing greenhouse gas emissions and waste. For additional information relating to LivaNova's efforts in this area, please refer to the Environment and Corporate Social Responsibility section of this UK Annual Report.

Health Care Fraud and Abuse Laws

We are subject to U.S. federal and state government healthcare regulation and enforcement and government regulations and enforcement in other countries in which we conduct our business. The federal healthcare Anti-Kickback Statute prohibits persons from, among other things, knowingly and wilfully offering or paying remuneration, directly or indirectly, to a person to induce the purchase, order, lease, or recommendation of a good or service for which payment may be made in whole or part under a federal healthcare program such as Medicare or Medicaid, unless the arrangement fits within one of several statutory exemptions or regulatory "safe harbours." Violations of the federal Anti-Kickback Statute may result in civil monetary penalties up to $100,000 for each violation, plus up to three times the remuneration involved. Violations can also result in criminal penalties, including criminal fines of up to $100,000 and imprisonment for up to 10 years. Finally, violations can result in exclusion from participation in government healthcare programs, including Medicare and Medicaid.

In addition to the Anti-Kickback Statute, many states have their own anti-kickback laws. Often, these laws closely follow the language of the federal law, although they do not always have the same exceptions or safe harbours. In some states, these anti-kickback laws apply with respect to all payers, including commercial health insurance companies.

Additionally, violations of the U.S. False Claims Act (False Claims Act) can result in significant monetary penalties and treble damages. The U.S. federal government utilizes the False Claims Act, and the accompanying threat of significant financial liability, to investigate and prosecute device and biotechnology companies in connection with the promotion of products for unapproved uses and other sales and marketing practices. The U.S. 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 U.S. government's success with prosecuting claims under the False Claims Act, we anticipate that the U.S. 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 wilfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors; knowingly and wilfully embezzling or stealing from a healthcare benefit program; wilfully obstructing a criminal investigation of a healthcare offence; and knowingly and wilfully 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.

There has also been a recent trend of increased federal and state regulation of payments made to physicians and other healthcare providers. We are subject, for example, to the Physician Payments Sunshine Act, which requires us to report annually certain payments and other transfers of value we make to U.S. licensed physicians or U.S. teaching hospitals. Any failure to comply with such laws and regulations hold the potential for criminal and civil financial penalties.

The evolving 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 us, we may be subject to penalties, including, without limitation, civil and criminal penalties, damages, fines, the curtailment or restructuring of our operations, and exclusion from participation in federal and state healthcare programs, any of which could adversely affect our ability to operate our business and our financial results.

Environmental Health and Safety Laws

We are 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, storage and transportation of substances regulated under environmental health and safety laws, including those related to the transportation of hazardous substances. We use quality systems in the design, production, warehousing and distribution of our products to ensure our products are safe and effective. These quality systems include the FDA's Quality System Regulation (QSR) under section 520 of the federal FDA and its implementing regulations at 21 C.F.R. Part 820; and ISO 13485:2016 and EN ISO 13485:2016, Medical devices - Quality management systems. To the best of our knowledge at this time, we do not expect that compliance with environmental protection laws will have a material impact on our consolidated results of operations, financial position 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 31 December 2020, we held more than 1,100 issued patents worldwide, with approximately 280 pending patent applications that cover various aspects of our technology. Patents typically have a 20-year term from the application filing date. In addition, we hold exclusive and non-exclusive licenses to a variety of third-party technologies covered by patents and pending 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, we consider these intellectual property assets 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.

For additional information, please refer to the "Risks and Uncertainties" section of this UK Annual Report under the heading entitled "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 our patent and other proprietary rights against others.''

Industry Affiliations

To help navigate the complex compliance environment in which we operate, LivaNova has adopted the AdvaMed Code of Ethics on Interactions with Health Care Professionals, the APACmed Code of Ethical Conduct, the Mecomed Code of Ethical Business Practice and the MedTech Europe Code of Ethical Business Practice.

Business Review

LivaNova is reporting in its consolidated financial statements in this UK Annual Report the results from operations for the years ended 31 December 2020 and 31 December 2019. The basis of presentation, critical accounting estimates and significant accounting policies are set forth in "Note 2. Basis of Preparation, Use of Accounting Estimates and Significant Accounting Policies" to the IFRS consolidated financial statements contained in this UK Annual Report. Additionally, LivaNova reported the accounting principles generally accepted in the U.S. (U.S. GAAP) consolidated financial statements for the years ended 31 December 2020 and 31 December 2019 in the Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on 1 March 2021.

LivaNova reported an operating loss from continuing operations of $165.9 million on net sales of $934.2 million for the year ended 31 December 2020 and an operating loss from continuing operations of $594.3 million on net sales of $1,084.2 million for the year ended 31 December 2019.

In the year ended 31 December 2020, LivaNova recorded an impairment of long-lived assets totalling $96.6 million, as well as $49.5 million for a decommissioning provision, $7.3 million of merger and integration expenses, $7.6 million of restructuring expenses and $6.9 million as litigation provision, net. These items totalled $168.0 million and are included in exceptional items in the consolidated statement of (loss) income. Refer to "Note 33. Exceptional Items" for more details.

In the year ended 31 December 2019, LivaNova recorded impairment of intangible assets of $221.2 million, impairment of goodwill of $379.5 million, $23.5 million of merger and integration expenses, $12.3 million of restructuring expenses and $(0.6) million as litigation provision, net and is comprised of a litigation provision of $33.2 million, more than offset by $33.8 million from insurance recoveries. These items totalled $635.8 million and are included in exceptional items in the consolidated statement of (loss) income.

Key Performance Indicators

The directors of LivaNova consider that the most important key performance indicators (KPIs) for 2020 are those set out below and can be found in our press release dated 24 February 2021, and are reported under the basis of U.S. GAAP.

• Net sales growth (on a constant currency basis, or adjusted net sales)

Due to the number of currencies in which LivaNova's sales are invoiced to customers, the directors believe that constant currency sales growth is a more appropriate way to measure operational performance. Constant currency growth measures the change in sales between any particular year and the immediate prior year using average foreign exchange rates during the immediate prior year. Net sales include revenue earned from customers from sales of products and services net of customer discounts and estimated sales returns.

• Adjusted operating income from continuing operations

Income from operations, as measured under U.S. GAAP and adjusted for non-cash transactions and non-recurring costs, measures LivaNova's management of sales and normalized operating expenses.

• Adjusted net income from continuing operations

Adjusted net income represents our measure of the totality of LivaNova's income statement. It is calculated as U.S. GAAP net income adjusted for non-cash transactions and non-recurring costs and certain finance costs, and are adjusted for the related tax effects.

• Adjusted earnings per share from continuing operations

U.S. GAAP earnings per share (EPS), as adjusted for the items referred to above, is a measure often used by investors to arrive at a value for each share issued by a company, including the dilutive effect of incentive shares issued to management.

• Share price

An important KPI to be evaluated over a period longer than one year is the share price, which reflects not only the management of LivaNova's earnings on a consistent basis, but also management's ability to articulate medium and longer term strategy and communicate both of these to investors.

Results of Operations

In this Annual Report, LivaNova and its consolidated subsidiaries report results for the years ended 31 December 2020, and 31 December 2019 as follows:

	Year Ended 31 December	
(In thousands, except per share amounts)	2020	2019
Net sales	$ 934,241	$ 1,084,170
Costs and expenses:		
Cost of sales	309,777	326,485
Product remediation	7,860	15,777
Selling, general and administrative	447,759	536,198
Research and development	166,691	164,161
Exceptional items	168,004	635,837
Operating loss from continuing operations	(165,850)	(594,288)
Finance income	131	803
Finance expense	(59,827)	(16,402)
Foreign exchange and other losses	(14,067)	(571)
Share of loss from equity accounted investments	(264)	-
Loss from continuing operations before tax	(239,877)	(610,458)
Income tax benefit	60,822	51,227
Loss from continuing operations	(179,055)	(559,231)
(Loss) income from discontinued operations, net of tax	(1,493)	365

(In thousands, except per share amounts)	Year Ended 31 December 2020	2019
Loss attributable to owners of the parent	$ (180,548)	$ (558,866)

Net Sales

The table below illustrates net sales by operating segment for the years ended 31 December 2020 and 31 December 2019 (in thousands):

Net Sales	Year Ended 31 December 2020	2019
Cardiovascular	$ 577,083	$ 656,646
Neuromodulation	354,444	424,547
Other	2,714	2,977
Total	$ 934,241	$ 1,084,170

Cardiovascular

Cardiovascular net sales for the year ended 31 December 2020 compared to the year ended 31 December 2019 decreased 12.1% largely due to the impact of COVID-19. Cardiopulmonary sales declined 11.5% to $446.7 million for the year ended 31 December 2020 primarily due to declines in HLMs and oxygenator sales. HLM sales were negatively impacted due to COVID-19 impacts on hospital budgets for capital equipment, while oxygenator sales were negatively impacted by a decline of non-emergent cardiac surgery procedures globally resulting from CO VID-19. Heart Valve sales declined 26.6% to $88.0 million for the year ended 31 December 2020 primarily due to declines in sales of Perceval, tissue valves and mechanical valves caused by the decline in cardiac surgery procedures globally resulting from COVID-19. These declines in sales were partially offset by a 32.6% increase in ACS sales to $42.3 million for the year ended 31 December 2020, resulting from the full U.S. commercial release of LifeSPARC during the third quarter of 2020.

Neuromodulation

Neuromodulation net sales for the year ended 31 December 2020 compared to the year ended 31 December 2019 decreased 16.5% to $354.4 million. The decrease in net sales for the year ended 31 December 2020 was primarily due to declines in both new patient and end of service implants globally as patients and physicians delayed implant procedures due to COVID-19.

The table below illustrates net sales by market geography for the years ended 31 December 2020 and 31 December 2019 (in thousands):

	Year Ended 31 December 2020			
	Cardiovascular	Neuromodulation	Other	Total
United States	$ 186,125	$ 282,509	$ -	$ 468,634
Europe[(1)]	154,348	39,019	-	193,367
Rest of World	236,610	32,916	2,714	272,240
Total	$ 577,083	$ 354,444	$ 2,714	$ 934,241
	Year Ended 31 December 2019			
	Cardiovascular	Neuromodulation	Other	Total
United States	$ 211,152	$ 335,332	$ -	$ 546,484
Europe[(1)]	176,921	46,262	-	223,183
Rest of World	268,573	42,953	2,977	314,503
Total	$ 656,646	$ 424,547	$ 2,977	$ 1,084,170

[(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 cost of sales and major expenses as a percentage of net sales:

	Year Ended 31 December 2020	2019
Cost of sales	33.2 %	30.1 %
Product remediation	0.8 %	1.5 %
Selling, general and administrative	47.9 %	49.5 %
Research and development	17.8 %	15.1 %

Cost of Sales

Cost of sales consisted primarily of direct labour, allocated manufacturing overhead, the acquisition cost of raw materials and components.

Cost of sales as a percentage of net sales was 33.2% for the year ended 31 December 2020, an increase of 3.1% as compared to 2019. This increase was primarily due to product mix and unfavourable manufacturing variances of $20.0 million for the year ended 31 December 2020 due to the decline in demand resulting from COVID-19.

Product Remediation

Product remediation as a percentage of net sales was 0.8% and 1.5% for the years ended 31 December 2020 and 2019, respectively. Product remediation expenses include internal labour costs, costs to remediate certain inspectonal observations made by the FDA at our Munich facility and costs associated with the incorporation of the modification of the 3T Heater-Cooler (3T device(s)) design into the next generation heater cooler device.

SG&A Expenses

Selling, general and administrative (SG&A) expenses are comprised of sales, marketing, general and administrative activities. SG&A expenses exclude integration costs incurred following the merger between Cyberonics, Inc. (Cyberonics), a Delaware corporation and Sorin S.p.A. (“Sorin”), a joint stock company organized under the laws of Italy (Merger), restructuring costs under the restructuring plans.

SG&A expenses as a percentage of net sales decreased for the year ended 31 December 2020 as compared to 2019 primarily due to sales and marketing reductions from cost containment actions resulting from COVID-19, a decrease in 3T legal expenses and the settlement of tax litigation that resulted in the reversal of a tax penalty of $4.3 million.

R&D Expenses

R&D expenses consist of product design and development efforts, clinical study programs and regulatory activities, which are essential to our strategic portfolio initiatives, including DTD, obstructive sleep apnea and heart failure.

R&D expenses as a percentage of net sales increased for the year ended 31 December 2020 as compared to 2019 primarily due to a decline in net sales as well as an increase in R&D expense resulting from the net impact of changes in fair value of milestone-based contingent consideration arrangements of $8.8 million.

Exceptional Items

Items that are material, either by size or incidence, and non-recurring in nature are classified as exceptional items and include impairment of goodwill and intangible assets, merger and integration expenses, restructuring expenses and litigation provision, net. Further details on these items are included below.

Impairment of Goodwill and Long-Lived Assets

On 2 December 2020, LivaNova entered into the HV Purchase Agreement with the Purchaser. The HV Purchase Agreement provides for the divestiture of certain of LivaNova's subsidiaries as well as certain other assets and liabilities relating to the Company's Heart Valve business and site management operations conducted by the Company's subsidiary LSM at the Company's Saluggia campus. The purchase price of €60.0 million (approximately $73.6 million as of 31 December 2020) will be payable in two tranches: €50.0 million (approximately $61.3 million as of 31 December 2020) payable at closing, subject to customary trade working capital and net indebtedness adjustments, as set forth in the HV Purchase Agreement, and an additional €10.0 million (approximately $12.3 million as of 31 December 2020) payable on 30 December 2022.

On 9 April 2021, LivaNova and the Purchaser entered into an Amended and Restated Share and Asset Purchase Agreement (the HV A&R Purchase Agreement) which amends and restates the original HV Purchase Agreement to, among other things, defer the closing of the sale and purchase of LSM by up to two years and include or amend certain additional terms relating to such deferral, including certain amendments relating to the potential hazardous substances liabilities of LSM, the related expense reimbursement provisions, and transfer of certain heart valve-related employees and information technology assets.

In addition, the HV A&R Purchase Agreement includes certain amendments relating to mechanics and timing for the initial closing of the transaction and subsequent closings of the local businesses. The initial closing of the transaction with respect to the Heart Valve business is expected to occur in the first half of 2021.

As a result of entering into the HV Purchase Agreement, the Company concluded that the assets and liabilities of the Heart Valve business being sold meet the criteria to be classified as held for sale, which is included in our Cardiovascular reportable segment. As a result, we recognised an impairment of long-lived assets totalling $89.9 million to record heart valves at fair value less estimated cost to sell.

During the second quarter of 2019, we determined that there would be a delay in the estimated commercialization date of the Company's obstructive sleep apnea product currently under development. This delay constituted a triggering event that required evaluation of the In Process Research and Development (IPR&D) asset arising from the ImThera acquisition for impairment Based on the assessment performed, we determined that the IPR&D asset was impaired and as a result, recorded an impairment of $50.3 million, which is included in our Neuromodulation segment. The estimated fail' value of IPR&D was determined using the income approach. Future delays in commercialization or changes in management estimates could result in further impairment.

Our announcement that we would be ending our Caisson transcatheter mitral valve replacement (TMVR) program effective 31 December 2019, triggered an evaluation of finite and indefinite lived assets for impairment. As a result, we fully impaired the goodwill and IPR&D asset of $44.5 million and $89.0 million, respectively.

We performed a quantitative assessment of our heart valve cash generating units (Heart Valve CGU) as of 31 December 2019 in accordance with IAS 36 "Impairment of Assets." As a result of the quantitative assessment performed, we determined that our Heart Valve CGU was impaired and accordingly, recorded impairments of $335.0 million, $51.7 million and $30.2 million to goodwill, customer relationships and developed technology.

Merger and Integration Expenses

Merger and integration expenses consist of costs associated with our merger and business combinations. Such costs primarily include computer systems integration efforts, organizational structure integration, synergy and tax planning. Merger and integration expenses during the years ended 31 December 2020 and 2019 were $7.3 million and $23.5 million, respectively. While merger and integration costs continue into fiscal year 2021, these costs will continue to decline further over time.

Restructuring Expenses

In December 2018, we initiated a reorganization plan (the 2018 Plan) in order to reduce manufacturing and operational costs associated with our Cardiovascular facilities in Saluggia and Mirandola, Italy and Arvada, Colorado. The 2018 Plan resulted in a net reduction of approximately 75 personnel and was completed at the end of 2019.

In November 2019, we initiated a reorganization plan (the 2019 Plan) to streamline our organizational structure in order to address new regulatory requirements, create efficiencies, improve profitability and ensure business continuity. As a result, we incurred restructuring expenses of $1.9 million and $4.4 million during the years ended 31 December 2020 and 31 December 2019, respectively, primarily associated with severance costs for approximately 35 impacted employees. The 2019 Plan was completed during 2020.

Additionally, we ended our Caisson TMVR program effective 31 December 2019 after determining that it was no longer viable to continue to invest in the program. As a result, we recognised restructuring expenses of $0.3 million and $3.5 million during the years ended 31 December 2020 and 31 December 2019, respectively, primarily associated with severance costs for approximately 50 impacted employees. The Caisson TMVR restructuring plan was completed during 2020.

During the fourth quarter of 2020, we initiated a reorganization plan (the 2020 Plan) to reduce our cost structure. As a result, we incurred restructuring expenses of $5.3 million during the year ended 31 December 2020, primarily associated with severance costs for approximately 54 employees.

Litigation Provision, Net

During 2019, we entered into agreements with our insurance carriers to recover $33.8 million under our product liability insurance policies in relation to our 3T Heater Cooler cases. Refer to "Note 27. Commitments and Contingencies" in the consolidated financial statements in this Annual Report. The insurance recovery was received and recognised in 2019. We recorded an additional liability of $33.2 million in 2019 and $6.9 million in 2020 due to additional information obtained, including but not limited to: the nature and quality of filed and unfiled claims; certain settlement discussions with plaintiffs' counsel; and the current stage of litigation in our remaining filed and unfiled claims.

Finance Expense

We incurred interest expense of $59.8 million for the year ended 31 December 2020, as compared to $16.4 million for 2019. The increase for the year ended 31 December 2020 as compared to 2019 was primarily due to increased debt borrowings in 2020 at increased borrowing rates as well as an increase in the fair value of the exchangeable notes embedded derivative.

Foreign Exchange and Other Losses

Foreign exchange (FX) and other losses consists primarily of gains and losses arising from transactions denominated in a currency different from an entity's functional currency and foreign currency exchange rate and other derivative gains and losses. We incurred FX and other losses of $14.1 million for the year ended 31 December 2020, as compared to $0.6 million for 2019.

Income Taxes

LivaNova PLC is domiciled and resident in the UK. 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 earnings mix in various jurisdictions and the changes in tax laws, our consolidated effective income tax rate may vary substantially from one reporting period to another.

Our effective income tax rate from continuing operations for the year ended 31 December 2020 was 25.4% on loss from continuing operations before tax of $239.9 million compared with 8.4% on loss from continuing operations before tax of $610.5 million for 2019. Our effective income tax rate fluctuates based on, among other factors, changes in pre-tax income in countries with varying statutory tax rates, changes in unrecognised deferred tax assets, changes in tax credits and incentives and changes in unrecognised tax benefits associated with uncertain tax positions.

Compared with the year ended 31 December 2019, the increase in the effective tax rate for 2020 was primarily attributable to a tax benefit related to the U.S. Coronavirus Aid, Relief and Economic Security ("CARES Act"), increased losses recognized in Italy and the U.K. and the tax benefit due to the release of the uncertain tax positions upon the settlement of tax litigation in Italy and other items. Comparatively, the effective tax rate for 2019 included a release of uncertain tax positions and a U.S. federal tax benefit from a return to provision reconciliation, partly offset by the unrecognised deferred tax assets for a portion of the U.S. federal and state net operating losses (NOLs) and attributes during the year ended 31 December 2019.

Discontinued Operations

We completed the Cardiac Rhythm Management (CRM) Sale on 30 April 2018 to MicroPort Cardiac Rhythm B.V. and MicroPort Scientific Corporation for total cash proceeds of $195.9 million, less cash transferred of $9.2 million, less a closing working capital adjustment. In March 2020, we finalized the working capital adjustment and, as a result, made a $16.4 million payment to MicroPort during the first quarter of 2020 of which $14.9 million was included within other payables as at 31 December 2019, resulting in a loss on sale of CRM of $1.6 million during the year ended 31 December 2020. In conjunction with the sale, we entered into transition services agreements to provide certain support services generally for up to twelve months from the closing date of the sale. The services include, among others, accounting, information technology, human resources, quality assurance, regulatory affairs, supply chain, clinical affair's and customer support. During the years ended 31 December 2020 and 2019 we recognised income of nil and $0.9 million, respectively, for providing these services. Income recognised related to the transition services agreements is recorded as a reduction to the related expenses in the associated expense line items on our consolidated statement of (loss) income. Net (loss) income from discontinued operations for the years ended 31 December 2020 and 2019 was $(1.5) million and $0.4 million, respectively.

Liquidity and Capital Resources

We have experienced and may continue to experience significant and unpredictable reductions in the demand for our products as healthcare customers divert medical resources and priorities towards the treatment of COVID-19. As a result, we have implemented cost-cutting measures, including reduced hiring, marketing, travel, capital expenditures and certain research and development activities.

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 twelve months from the issuance date of these consolidated financial statements. We regularly review our capital needs and consider various investing and financing alternatives to support our requirements.

On 10 June 2020, we entered into a $450.0 million five-year senior secured term loan (the Term Loan). On 30 December 2020, we entered into a $50.0 million credit facility agreement with ACF FINCO I LP (2020 Revolving Credit Facility) for working capital needs. On 24 February 2021 the Company entered into amendments (the Amendments) to the Term Loan and the 2020 Revolving Credit Facility. Pursuant to the Amendments, the definition of "Consolidated EBITDA" for purposes of calculating the total secured leverage ratio was amended to add back an accrual in an amount not to exceed $43.0 million as a loss contingency liability as required under GAAP in connection with the clean-up of a hazardous waste storage site and contaminated areas located in Saluggia, Italy, solely in the case of the periods ending 31 December 2020, 31 March 2021, 30 June 2021 and 30 September 2021. The Company was in compliance with all financial covenants as of 31 December 2020, as amended. Refer to "Note 19. Financial Liabilities" for additional information regarding our debt.

On 17 June 2020, our wholly-owned subsidiary, LivaNova USA, Inc., issued $287.5 million aggregate principal amount of 3.00% cash exchangeable senior notes (the Notes). Holders of the Notes are entitled to exchange the Notes at any time during specified periods, at their option, and are entitled to exchange the Notes during any calendar quarter, if the last reported sale price of LivaNova's ordinary shares (Ordinary Shares), with a nominal value of £1.00 per share for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the exchange price, or $79.27 per share, on each applicable trading day. The Notes are exchangeable solely into cash and are not exchangeable into Ordinary Shares of LivaNova or any other security under any circumstances. The initial exchange rate for the Notes is 16.3980 Ordinary Shares per $1,000 principal amount of Notes (equivalent to an initial exchange price of approximately $60.98 per share). The exchange rate is subject to adjustment in certain circumstances, as set forth in the indenture governing the Notes.

The Company used the net proceeds from the Term Loan, together with a portion of the net proceeds of the Notes, after fees, discounts, commissions and other expenses, to repay outstanding indebtedness under the Company's 2017 European Investment Bank loan, 2014 European Investment Bank loan, Banca Nazionale del Lavoro S.p.A loan, and 2019 Debt Facility and related expenses. The Company repaid approximately $528.0 million in aggregate outstanding principal, accrued interest and associated fees, including breakage fees and legal fees.

Our liquidity could be adversely affected by the factors affecting future operating results, including those referred to in "Risks and Uncertainties" below and by the contingencies referred to in "Note 27. Commitments and Contingencies" in the consolidated financial statements in this Annual Report.

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 31 December	
	2020	2019
Operating activities	$ (65,777)	$ (78,935)
Investing activities	(53,862)	(60,245)
Financing activities	309,129	153,329
Effect of exchange rate changes on cash and cash equivalents	2,205	(216)
Net increase in cash and cash equivalents	$ 191,695	$ 13,933

Operating Activities

Cash used in operating activities for the year ended 31 December 2020 decreased $13.2 million as compared to 2019, primarily due to the effect of improved working capital management of $97.1 million, partially offset by a decrease in net income adjusted for non-cash items of $65.6 million as well as an increase in interest and taxes paid totalling $18.3 million.

Investing Activities

Cash used in investing activities during the year ended 31 December 2020 decreased $6.4 million as compared to 2019, primarily due to a decrease of $9.0 million in cash paid for acquisitions and a decrease in payment of contingent consideration of $6.9 million, partially offset by an increase in purchases of property, plant and equipment of $6.9 million and an increase in purchases of investments and loans to investees totalling $3.4 million.

Financing Activities

Cash provided by financing activities during the year ended 31 December 2020 increased $155.8 million as compared to 2019, primarily due to an increase in net borrowings and associated costs of $214.5 million, partially offset by the purchase of a capped call associated with our Notes of $43.1 million and a closing adjustment payment for the sale of our former CRM business of $14.9 million.

Debt and Capital

Our capital structure consists of debt and equity. As of 31 December 2020, we had total debt of $655.6 million which was 76.4% of total equity of $858.6 million.

Debt

During the year ended 31 December 2020, we borrowed $886.9 million in long-term debt, incurred $23.7 million in debt issuance costs, and repaid $482.1 million in long-term debt. Additionally, we reduced our short-term unsecured revolving credit agreements and other agreements with various banks by $1.3 million.

During the year ended 31 December 2019, we borrowed $197.2 million in long-term debt, incurred $3.8 million in debt issuance costs, and repaid $24.2 million in long-term debt. Additionally, we reduced our short-term unsecured revolving credit agreements and other agreements with various banks by $1.2 million.

Contractual Obligations

We have various contractual commitments that we expect to fund from existing cash, future operating cash flows and borrowings under our credit facilities. The following table summarises our significant contractual obligations as of 31 December 2020 and the periods in which such obligations are due (in thousands):

	Less Than One Year	One to Three Years	Three to Five Years	Thereafter	Total Contractual Obligations
Principal payments on debt obligations	$ 13,343	$ 5,854	$ 737,620	$ 360	$ 757,177
Interest payments on long-term debt	43,059	85,741	68,047	-	196,847
3T litigation settlements	5,144	-	-	-	5,144
Lease obligations	13,414	20,952	11,263	14,038	59,667
Inventory supply contract obligations	19,406	4,621	2,373	-	26,400
Derivative instruments	8,267	184	121,756	-	130,207
Contingent consideration	13,968	414	89,436	-	103,818
Other commitments	606	50	50	113	819
Total contractual obligations	$ 117,207	$ 117,816	$ 1,030,545	$ 14,511	$ 1,280,079

We have other commitments that we are contractually obligated to fulfil with cash under certain circumstances. Obligations under these guarantees are not normally called, as we typically comply with underlying performance requirements. As of 31 December 2020, no liability has been recorded in the consolidated financial statements associated with these obligations.

The following table summarises our guarantees as of 31 December 2020 (in thousands):

	Less Than One Year	One to Three Years	Three to Five Years	Thereafter	Total Guarantees

	Less Than One Year	One to Three Years	Three to Five Years	Thereafter	Total Guarantees
Guarantees on government bids[1]	$ 5,176	$ 5,028	$ 2,348	$ 1,318	$ 13,870
Guarantees - commercial[2]	924	627	327	1,500	3,378
Guarantees to tax authoritiest[3]	1,494	3,455	-	13,559	18,508
Guarantees to third-parties	135	1	79	445	660
Total guarantees	$ 7,729	$ 9,111	$ 2,754	$ 16,822	$ 36,416

[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] Guarantees to tax authorities consist of guarantees issued to the Italian Revenue Agency.

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 financial position, results of operations or cash flows.

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 receivable 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 counterparties 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, and set-off provisions. Legally enforceable master netting agreements reduce credit risk by providing protection in bankruptcy in certain circumstances and generally permitting the settlement 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 USD had uniformly strengthened by 10% against the GBP, EUR and the Japanese Yen, in the year ended 31 December 2020, the effect on our unrealised income, for our derivatives outstanding at 31 December 2020, would have been approximately $3.7 million; if the USD had uniformly weakened by 10% against the same currencies, the effect on our unrealised expenses for our derivatives outstanding at 31 December 2020 would have been approximately $4.6 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 LivaNova was to incur a hypothetical 10% adverse change in foreign currency exchange rates, net unrealised losses associated with LivaNova's foreign currency denominated assets and liabilities as of 31 December 2020, net of LivaNova's hedging would not be material to LivaNova's consolidated balance sheet or consolidated statement of (loss) income.

Interest Rate Risk

We are subject to interest rate risk on our investments and debt. If interest rates were to increase or decrease by 0.5%, the effects on our consolidated statement of (loss) income 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.

Risks and Uncertainties

Risks Relating to the Industry

COVID-19 has had, and we expect will continue to have, an adverse effect on our business, results of operations, financial condition and cash flows, the nature and extent of which are uncertain and unpredictable.

The continuing global spread of COVID-19 and its variants, including corresponding preventative and precautionary measures that we and other businesses, communities and governments are taking to mitigate the spread of the disease, has led to unprecedented restrictions on, disruptions in, and other related impacts on business. COVID-19 is affecting our employees, customers, facilities, communities and business operations, as well as the global economy and financial markets. As the COVID-19 crisis continues to evolve, the full extent to which the COVID-19 pandemic will impact our business, results of operations, financial condition and liquidity will depend on future developments that are highly uncertain and cannot be accurately predicted. In addition to travel restrictions put in place in early 2020, countries, states and governments may continue to close borders, impose prolonged quarantines or other restrictions and requirements on travel, and further limit our ability to conduct business in-person as we did prior to COVID-19.

Our sales and operating results for the year ended 31 December 2020 were materially adversely impacted. While we are seeing signs of stabilization in certain geographies as elective surgeries resume and expect this trend to continue on a global basis for 2021, recovery rates vary and the ultimate health and economic impact of COVID-19 is uncertain. In certain geographies, hospital systems continue to prioritize treatment of COVID-19 patients and otherwise comply with government guidelines, thereby resulting in the suspension or cancellation of elective medical procedures, which has caused a reduction in sales of these products. To the extent individuals and hospital systems continue to de-prioritize, delay or cancel these procedures, or if unemployment or loss of insurance coverage adversely impacts an individual's ability to pay for our products and services, our business, cash flows, financial condition and

results of operations will continue to be negatively affected. Further, the COVID-19 pandemic is straining hospital systems around the world, resulting in adverse financial impacts to those systems that could result in reduced future expenditures for our products. Clinical trials generally have paused or slowed enrolment due to facility closures and governmental restrictions, which will delay enrolment and timelines, and although many facilities have begun to reopen, there can be no assurance that there will not be additional closures in the future.

All of our manufacturing plants have been able to remain open during COVID-19. In addition, the supply of raw materials and the distribution of finished products remain operational with no known or foreseen constraints relating to COVID-19. Regardless, there can be no assurance that any of our facilities will not need to shut down in the future, or that the supply of components, raw materials, and services may be interrupted or insufficient as a direct result of the COVID-19 pandemic. Any disruption of our operations or those of our suppliers could impact our sales and operating results.

In addition, COVID-19 has impacted and may further impact the global economy and capital markets, including by negatively impacting demand for our products and foreign currency exchange rates, each of which may adversely impact our business. Further, the COVID-19 pandemic, and the volatile global economic conditions stemming from the pandemic, could precipitate or amplify the other risk factors that we identify here. We could experience loss of sales and profits due to delayed payments or insolvency of healthcare professionals, hospitals and other customers, suppliers and vendors facing liquidity issues. As a result, we may be compelled to take additional measures to preserve our cash flow.

Finally, COVID-19 could adversely impact our ability to retain key employees and the continued service and availability of skilled personnel necessary to run our productions and operations, including our executive officers and other members of our management team, as well as the ability of our third-party suppliers, manufacturers, distributors and vendors to retain their key employees. To the extent our management or other personnel are impacted in significant numbers by CO VID-19 and are not available to perform their job duties, we could experience delays in, or the suspension of, our manufacturing operations, research and product development activities, regulatory work streams, clinical development programs and other important commercial functions.

While the impact of COVID-19 has had, and we expect it to continue to have, an adverse effect on our business, results of operations, financial condition and cash flows, the nature and extent of such impact is uncertain and unpredictable. For more information on the impact of COVID-19 on the Company and LivaNova’s mitigation measures, please refer to "Note 2. Basis of Preparation, Use of Accounting Estimates and Significant Accounting Policies.” of the LivaNova consolidated financial statements in this UK Annual Report.

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

We operate in a highly competitive market characterized by increasingly complex products that are expensive and time consuming to develop and manufacture. 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, may make our products or proposed products less competitive. In addition, we face competition from providers of alternative medical therapies, such as pharmaceutical companies and providers of cannabis derived products, among others. 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 and training; price; capacity to recruit engineers, scientists and other qualified employees; and reimbursement approval from governmental payors and private healthcare insurance providers. Difficulties in any of these areas may cause our operations and financial condition to suffer.

In addition, 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 for medical devices that incorporate components we produce, or may be able to produce and sell their products at prices lower than we can. 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.

Reductions or interruptions in the supply of the materials and components used in manufacturing our products may adversely affect our financial condition and business operations.

We maintain manufacturing operations in six countries located throughout the world and purchase 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 us.

In 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 locate new supply sources quickly or at all in response to a supply reduction or interruption, with negative effects on our ability to manufacture our products effectively and timely.

Our products are subject to costly and complex laws and regulations, and failure to obtain product approvals or clearance may materially adversely affect our financial condition and business operations.

Our medical devices and technologies, as well as our business activities, are subject to a complex set of regulations and rigorous enforcement, including by the FDA, U.S. Department of Justice, Health and Human Services - Office of the Inspector General, and numerous other federal, state, and non-U.S. governmental authorities. To varying degrees, each of these agencies requires us to comply with laws and regulations governing the development, testing, manufacturing, labelling, marketing and distribution of our products. As a part of the marketing clearance or approval process for new products and new indications for existing products, we conduct numerous clinical trials with a variety of study designs, patient populations and trial endpoints. Unfavourable or inconsistent clinical data from existing or future clinical trials, or the market’s or FDA’s perception of this clinical data, may adversely impact our ability to obtain product approvals, our position in, and share of, the markets in which we participate, and our business, financial condition, results of operations and cash flows. Nevertheless, success in pre-clinical testing and early clinical studies does not always ensure that later clinical studies will be successful, and we cannot be sure that later studies will replicate the results of prior studies. Clinical studies must also be conducted in compliance with Good Clinical Practice requirements administered by the FDA and other non-U.S. 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 studies 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 studies 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.

We cannot guarantee that we will be able to obtain or maintain marketing clearance for new products or modifications to existing products, and the failure to maintain approvals or obtain approval or clearance could have a material adverse effect on our business, results of operations, financial condition and cash flows. Even if we are able to obtain approval or clearance, it may take a significant amount of time; require the expenditure of substantial resources; involve stringent clinical and pre-clinical testing, as well as increased post-market surveillance; and involve modifications, repairs or replacements of our products or limit the proposed uses of our products.

Failure to comply with product-related government regulations may materially adversely affect our financial condition and business operations.

Both before and after a product is commercially released, we have ongoing responsibilities under FDA and other applicable non-U.S. government agency regulations. For instance, many of our facilities and procedures and those of our suppliers are subject to periodic inspections by the FDA, which can result in inspectional observations on FDA's Form-483, warning letters, or other forms of enforcement. If the FDA were to conclude that we are not in compliance with applicable laws or regulations, or that any of our medical products are ineffective or pose an unreasonable health risk, the FDA could ban such medical products, detain or seize adulterated or misbranded medical products, order a recall, repair', replacement, or refund of such products, refuse to giant pending PMA applications or require certificates of non-U.S. governments for exports, and/or require us to notify health professionals and others that the devices present unreasonable risks of substantial harm to the public health. In 2015, we received a warning letter from the FDA alleging certain violations of FDA regulations, which resulted in certain devices that were manufactured in Munich, Germany, to be denied admission to the U.S. until resolution of the issues set forth by the FDA in the warning letter. See "Note 27. Commitments and Contingencies" of the LivaNova consolidated financial statements in this UK Annual Report. While we continue to work diligently to remediate the FDA's inspectional observations, the FDA and other non-U. S. government agencies could assess civil or criminal penalties against us, our officers or employees and impose operating restrictions on a company-wide basis. The FDA could also recommend prosecution to the U.S. Department of Justice. An adverse regulatory action could restrict us from effectively marketing and selling our products, limit our ability to obtain future pre-market clearances or PMAs, and result in a substantial modification to our business practices and operations. These potential consequences, as well as any adverse outcome from government investigations, could have a material adverse effect on our business, results of operations, financial condition, and cash flows.

In addition, in the U.S., device manufacturers are prohibited from promoting their products other than for the uses and indications set forth in the approved product labelling (so called off-label uses). Our VNS Therapy System, for example, is indicated in the U.S. as an adjunctive therapy in reducing the frequency of seizures in patients 4 years of age and older with partial onset seizures that are refractory to antiepileptic medications, yet certain physicians elect to prescribe our device for certain patients suffering from generalized seizures. While physicians may exercise their discretion in prescribing a device off-label, any failure on the part of the device manufacturer to comply with off-label regulations could subject us to significant civil or criminal exposure, administrative obligations and costs, and/or other potential penalties from, and/or agreements with, the federal government.

Governmental regulations outside the U.S. have, and may continue to, become increasingly stringent and common. In 2017, the EU published its MDR, which imposed significantly more pre-market and post-market requirements for medical devices. We are in the process of implementing our strategy to achieve MDR approvals for our products, which we will achieve by May 2024. Our Medical Device Directive certifications are valid until May 2024 and allow us to continue to legally commercialize our products in the EU until May 2024, but penalties for regulatory non-compliance could be severe, including fines and revocation or suspension of a company's business license, mandatory price reductions and criminal sanctions. Future laws and regulations may also have a material adverse effect on us.

If our marketed medical devices are defective or otherwise pose safety risks, the FDA and similar non-U.S. governmental authorities could require their recall or initiate an enforcement action, or we may initiate a recall of our products voluntarily.

The FDA and similar non-U.S. governmental authorities may require the recall of commercialized products in the event of material deficiencies or defects in design, software or manufacture or in the event that a product poses an unacceptable risk to health. Manufacturers, on their own initiative, may recall a product with a material deficiency.

We have initiated voluntary product recalls in the past, and a future recall announcement could harm our reputation with customers and negatively affect our revenue.

Any recall could impair our ability to produce our products in a cost-effective and timely manner. In the future, we may initiate voluntary withdrawal, removal or repair actions that we determine do not require notification as a recall. If a regulating authority were to disagree with our determinations, it could require us to report those actions as recalls.

In addition, depending on the corrective action taken to redress a device's deficiencies or defects, regulators may require, or we may decide, that we need to obtain new approvals or clearances for the device before we market or distribute the corrected device. Seeking such approvals or clearances may delay our ability to replace the recalled devices in a timely manner. Any corrective action, whether voluntary or involuntary, or litigation, will require the dedication of our time and capital, distract management from operating the business, and may harm our reputation and financial results. 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.

As a manufacturer of medical devices, we will continue to be exposed to product liability claims that could adversely affect our consolidated financial condition and tarnish our reputation.

Many of the medical devices we manufacture and sell are designed to be implanted in the human body for long periods of time, and this exposes us to potential product liability risks that are inherent in the design, manufacture and marketing of such medical devices. 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. 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 significant portion of our product liability risks and also hold global insurance policies to cover a portion of future potential 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, and losses from product liability claims in the future could exceed our product liability insurance coverage and lead to a material adverse effect on our financial condition. In addition, future unanticipated large liability claims may raise substantial doubt about our ability to continue as a going concern.

As described in "Note 27. Commitments and Contingencies" of the LivaNova consolidated financial statements in this UK Annual Report, we are involved in various product liability litigation matters that may adversely affect our financial condition and may require us to devote significant resources to our defence of these claims.

Such litigation includes a federal multi-district litigation in the U.S. District Court for the Middle District of Pennsylvania and cases in various state courts and jurisdictions outside the U.S. relating to our cardiopulmonary 3T Heater-Cooler product. As of 28 April 2021,

we are aware of approximately 85 filed and unfiled claims worldwide, with the majority of the claims filed in various federal or state courts throughout the U.S. The number includes cases that have settled but have not yet been dismissed. The complaints generally seek damages and other relief based on theories of strict liability, negligence, breach of express and implied warranties, failure to warn, design and manufacturing defect, fraudulent and negligent misrepresentation/concealment, unjust enrichment and violations of various state consumer protection statutes. During the year ended 31 December 2018, we recognised a $294.1 million litigation provision and during the years ended 31 December 2019 and 31 December 2020 we recognised $33.2 million and $6.9 million, respectively, in additional litigation provisions related to these claims. Although we are defending these matters vigorously, we cannot predict the outcome or effect of any claim or other litigation matter.

Global healthcare policy changes and tightening of reimbursement for products may have a material adverse effect on us.

In response to increases in healthcare costs, there have been and continue to be proposals by governments, regulators and third-party payors to control these costs. These proposals have resulted in efforts to enact healthcare system reforms that may lead to pricing restrictions, limits on the amounts of reimbursement available for our products and could limit the acceptance and use of our products. 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 U.S. and internationally. Similarly, periodic changes to reimbursement methodologies could have an adverse impact on our business. Adoption of some or all of such healthcare policy and reimbursement proposals could have a material adverse effect on our financial position and results of operations.

Our failure to comply with rules relating to reimbursement of healthcare goods and services, healthcare fraud and abuse, false claims and other applicable laws or regulations may subject us to penalties and adversely impact our reputation and business operations.

Our devices and therapies are subject to regulation by various governmental agencies worldwide responsible for coverage, reimbursement and regulation of healthcare goods and services, including laws and regulations related to kickbacks, false claims, self-referrals and health care fraud. Any failure to comply with these laws and regulations could subject us or our officers and employees to criminal and civil financial penalties.

The risk of 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 harbours 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.

Cyber-attacks or other disruptions to our information technology systems could lead to reduced revenue, increased costs, liability claims, fines, harm to our competitive position and loss of reputation.

We are increasingly dependent on our information technology systems and those of third parties to operate our business, and certain products of ours include integrated software and information technology. COVID-19 has exacerbated such dependencies due to the challenges in managing such a vast population working remotely. We rely on information technology systems to collect and process customer orders, manage product manufacturing and shipping and support regulatory compliance, and we routinely process, store and transmit large amounts of data, including sensitive personal information, patient health information and confidential business information. The secure processing, maintenance and transmission of this information is critical to our operations but the size and complexity of our products and the information technology systems on which we rely make them vulnerable to cyber-attacks, breakdown, interruptions, destruction, loss or compromise of data, obsolescence or incompatibility among systems or other significant disruptions. Unauthorized persons routinely attempt to access our products or systems in order to disrupt, disable or degrade such products or services, to obtain proprietary or confidential information, or to remotely disrupt or access the systems of large health care providers by exploiting our products or systems. We maintain an information security risk insurance policy and continue to enhance our information security programs. While we have not fallen victim to any material cyber-attacks, such an incident could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Further, the negative publicity resulting from such disruptions could significantly impact our reputation and stock price.

In addition, we continue to grow, in part, through new business acquisitions. As a result of acquisitions, we may face risks due to implementation, modification, or remediation of controls, procedures and policies relating to data privacy and cybersecurity at the acquired company. We continue to consolidate and over time integrate the number of systems we operate, and to upgrade and expand our information system capabilities for stable and secure business operations. There can be no assurance that our process of consolidating, protecting, upgrading and expanding our systems and capabilities, continuing to build security into the design of our products, and developing new systems to keep pace with continuing changes in information processing technology will be successful or that additional systems issues will not arise in the future. Any significant breakdown, intrusion, interruption, corruption or destruction of these systems, as well as any data breaches, could have a material adverse effect on our business.

Recently, there has been heightened regulatory and enforcement focus on data protection in the U.S. (at both the state and federal level) and abroad, and an actual or alleged failure to comply with applicable U.S. or foreign data protection regulations or other data protection standards may expose us to litigation (including, in some instances, class action litigation), fines, sanctions or other penalties, which could harm our reputation and adversely impact our business, results of operations and financial condition. This regulatory environment is increasingly challenging and may present material obligations and risks to our business, including significantly expanded compliance burdens, costs and enforcement risks. If we are unable to maintain secure, reliable information technology systems and prevent data breaches, we may suffer legal and regulatory consequences in addition to business consequences. Our worldwide operations mean that we are subject to federal and state data protection and cyber-security laws and regulations in many jurisdictions. For example, if we are in breach of the GDPR's or CCPA's requirement that we ensure a level of security, both in terms of technology and other organizational measures, appropriate to the risk that the confidentiality, integrity or availability of personally identifiable data is compromised, we could be subject to fines and enforcement actions. Violations of GDPR can result in fines of as much as 4% of a company's annual revenue. Other governments have enacted or are enacting similar data protection laws, including data localization laws that require data to stay within their borders. Despite programs to comply with such laws and regulations and cyber insurance policy, there is no guarantee that we will avoid enforcement actions by governmental bodies. Enforcement actions may be costly and interrupt regular operations of our business. In addition, there is a trend of civil lawsuits and class actions relating to breaches of consumer data or other cyber-attacks pursuant to laws such as CCPA. While we have not been named in any such lawsuits, if a breach or loss of data occurs, we could become a target of civil litigation or government enforcement actions.

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 precision-engineered components, sub-assemblies, and finished products to exact tolerances and 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.

Our R&D efforts rely on 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 on 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 acquisitions, investments or investment collaborations will be successful or will not materially adversely affect our consolidated earnings, financial condition 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 our patent and other proprietary rights against others.

We 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. We operate in an industry characterized by extensive patent litigation, and intellectual property litigation is inherently complex and unpredictable. We are currently engaged in litigation where the plaintiffs' counsel asserts that our VNS Therapy System, when used with the SenTiva Model 1000 generator, infringes the claims of U.S. Patent No. 7,076,307. While the litigation has been stayed pending the outcome of an inter partes review with the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office, such litigation can result in significant damage awards and injunctions that could prevent our manufacture and sale of affected products or require us to pay significant royalties in order to continue to manufacture or sell affected products. 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. See "Note 27. Commitments and Contingencies" of the LivaNova consolidated financial statements in this UK Annual Report.

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 and intellectual property systems of certain countries in which we market some of our products do not protect our intellectual property rights to the same extent as in the U.S., which may impact our market position in those countries. If we are unable to protect our intellectual property in those countries, it could have a material adverse effect on our business, financial condition, cash flows and reputation.

We are subject to environmental laws and regulations and the risk of environmental liabilities, violations and litigation in multiple jurisdictions.

Our operations involve the use of substances regulated under environmental laws, primarily those used in manufacturing and sterilization processes in the various jurisdictions where we operate. In addition, certain environmental laws assess liability on current, prior and/or related owners or operators of real property for the costs or investigation, removal or remediation of hazardous substances at their properties or at properties on which they have disposed of hazardous substances, for example, our Saluggia campus contains hazardous substances as a result of nuclear installations, built in 1960 under previous ownership, and the Italian Government has stated that we will eventually be responsible for dismantling the nuclear installation on Company property, which will involve cleaning and dismantling contaminated buildings and equipment as well as delivering the aforementioned waste to a national repository. See "Note 27. Commitments and Contingencies" of the LivaNova consolidated financial statements in this UK Annual Report.

Similarly, 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 as described in "Note 27. Commitments and Contingencies" of the LivaNova consolidated financial statements in this UK Annual Report. A Court of Appeal in Italy issued a partial decision declaring Sorin/LivaNova jointly liable with SNIA for SNIA's environmental liabilities - and the Court of Appeal will next evaluate a report, conduct a hearing and review briefs to determine damages - and although we are appealing the partial decision on liability to the Supreme Court, a negative decision could result in material damages. For addition information, please see "Note 27. Commitments and Contingencies" of the LivaNova consolidated financial statements in this UK Annual Report.

In addition to clean-up actions brought by governmental authorities, private parties could bring personal injury or other claims due to the presence of, or exposure to, hazardous substances. The ultimate cost of site clean-up and timing or future cash outflows is difficult to predict, given the uncertainties regarding the extent of the required cleanup and the interpretation of applicable laws and regulations. The costs of complying with current or future environmental protection and health and safety laws and regulations, or liabilities arising from past or future releases of, or exposures to, hazardous substances, may exceed our estimates, or have a material adverse effect on our business, results of operations, financial condition and cash flows.

We are subject to the risks of conducting business internationally.

We develop, manufacture, distribute and sell our products globally and we intend to continue to pursue growth opportunities worldwide. Our international operations are subject to risks that are inherent in conducting business overseas and under non-U.S. laws, regulations and customs. These risks include possible nationalization, negative consequences associated with Brexit, expropriation, importation limitations, pricing restrictions, government shutdowns and violations of laws. 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 U.S.; difficulty enforcing agreements; creditworthiness of customers; trade protection measures and import and export licensing requirements; different labour regulations and workforce instability; higher danger of terrorist activity, war or civil unrest; selling our products through distributors and agents; political and economic instability; and the risks further described under the heading entitled "The failure to comply with antibribery laws could materially adversely affect our business and result in civil and/or criminal sanctions."

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. For transactions we enter into denominated in currencies other than our functional currencies, fluctuations in the exchange rate will impact our results of operations and 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.

In addition, 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 labour unions. A negative response from a works council or union-organized work stoppages by employees could have a negative impact on our business.

The failure to comply with anti-bribery laws could materially adversely affect our business and result in civil and/ or criminal sanctions.

Our operations are subject to anti-corruption laws, including the UK Bribery Act, FCPA and other anti-corruption laws that apply in counttries where we do business, that generally prohibit us and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. Because of the predominance of government-administered healthcare systems in many parts of the world outside the U.S., many of our customer relationships are potentially subject to such laws.

We are, therefore, 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 in violation of these laws and our Code of Conduct. 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 us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations.

Global enforcement of anti-corruption laws 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. We cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted. 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.

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

From time to time, we acquire businesses and expect to pursue acquisitions in support of our strategic goals. 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. 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, human resources, R&D, sales and marketing, operations, manufacturing, legal, compliance 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 manage and coordinate the growth of the combined company successfully 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 incur costs in excess of what we anticipate.

We may incur impairments of intangible assets and goodwill, primarily acquired in acquisitions, including the merger between Sorin and Cyberonics, that adversely affect our financial results.

As of 31 December 2020, the carrying value of our net intangible assets and goodwill totalled 1.0 billion, which represents 47.8% of our total assets. As of 31 December 2019, the carrying value of our net intangible assets and goodwill totalled $1.1 billion, which represented 55.9% of our total assets. During the year ended 31 December 2020, we entered into a HV Purchase Agreement for the divestiture of certain of LivaNova's subsidiaries as well as certain other assets and liabilities relating to the Company's Heart Valve business that resulted in an impairment of the heart valves long-lived assets totalling $89.9 million associated with our Cardiovascular reporting unit. (On 9 April 2021, we entered into the HV A&R Purchase Agreement which amends the original HV Purchase Agreement, per the description in the heart valves portion of the Cardiovascular section of the Business Review in this Strategic Report.) During the year ended 31 December 2019, we determined that the In Process Research and Development (IPR&D) asset relating to ImThera was impaired and as a result, recorded an impairment of $50.3 million, and we also fully impaired the goodwill and the IPR&D asset associated with the discontinuation of the Caisson business by recording a $42.4 million impairment to goodwill and a $89.0 million impairment to the IPR&D asset.

We review, when circumstances warrant, the carrying amounts of our intangible assets to determine whether those carrying amounts continue to be recoverable in accordance with U.S. generally accepted accounting principles. Significant negative industry or economic trends, disruptions to our businesses, significant unexpected or planned changes in the use of assets, divestitures and market capitalization declines, among other events, may result in impairments to goodwill and other intangible assets. Current impairments have significantly affected our financial results and future impairments could significantly affect reported financial results.

The closing of the proposed sale of our Heart Valve business is subject to a number of conditions to closing, and may not be completed in accordance with expected plans, on the currently contemplated timeline, or at all.

In early December 2020, LivaNova entered into a HV Purchase Agreement with the Purchaser. The HV Purchase Agreement provides for the divestiture of certain of LivaNova's subsidiaries as well as certain other assets and liabilities relating to LivaNova's Heart Valve business and to the site management operations conducted by the Company's subsidiary LSM at its Saluggia campus.

On 9 April 2021, LivaNova and the Purchaser entered into an Amended and Restated Share and Asset Purchase Agreement (the HV A&R Purchase Agreement) which amends and restates the original HV Purchase Agreement to, among other things, defer the closing of the sale and purchase of LSM by up to two years and include or amend certain additional terms relating to such deferral, including certain amendments relating to the potential hazardous materials liabilities of LSM, the related expense reimbursement provisions, and transfer of certain heart valve-related employees and information technology assets.

In addition, the HV A&R Purchase Agreement includes certain amendments relating to mechanics and timing for the initial closing of the transaction and subsequent closings of the local businesses. As previously announced in December 2020, the initial closing of the transaction with respect to the Heart Valve business is expected to occur in the first half of 2021. The closing of the LSM sale and purchase is subject to a number of closing conditions that are beyond our control, and there can be no assurance that such conditions will be satisfied or that such sale and purchase will occur in accordance with expected plans, on the currently contemplated timeline or at all.

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

If we fail to maintain our working relationships with physicians and other healthcare professionals, 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.

Inadequate funding for U.S. federal government agencies and government shutdowns could negatively affect our business, results of operations and financial condition.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel, government shutdowns and statutory, regulatory and policy changes.

In addition, a portion of our revenue is dependent on U.S. federal government healthcare program reimbursement. Any disruption in U.S. federal government operations, including government shutdowns, could have a material adverse effect on our business, results of operations and financial condition.

We may experience volatility in the trading price of our shares due to fluctuations in our quarterly operating results or other factors.

We experienced volatility in the trading price of our shares during 2019 and 2020, including following the pre-release of our earnings for the first quarter in 2019 as well as during COVID-19 in 2020. In the future, our operating results may vary significantly from quarter to quarter due to many factors, including factors beyond our control, which may cause further volatility in the trading price of our shares. A number of other factors may also cause future volatility in our stock price, including the items discussed in this "Risks and Uncertainties" section of the Strategic Report.

Shareholder activists could cause a disruption to our business.

In mid-October 2020, an activist investor indicated its concerns with, among other things, our capital allocation, reporting transparency within our sub-segments, and corporate governance and leadership. In the future, our business, operating results or financial condition could be adversely affected because activist proposals can be a significant distraction for our Board, management and employees and may require us to expend significant time and resources. Shareholder activists may create uncertainty for our employees, investors and customers, additional risk and uncertainties with respect to our financial position, operations, strategies and management, and may adversely affect our ability to attract and retain key employees. Any perceived uncertainties as to our future direction also may affect the market price and volatility of our securities.

Risks Relating to our Term Loan and Notes

Paying amounts due in cash in respect of our outstanding Term Loan and Notes on interest payment dates, at maturity and upon exchange thereof will require a cash payment. We may not have sufficient cash flow from our business to pay when due, or raise the funds necessary to pay when due, amounts owed in respect of the Notes and Term Loan, which could adversely affect our business and results of operations.

The ability to make scheduled payments of interest on, and principal of, to satisfy exchanges for cash in respect of, and/or to refinance, our outstanding Notes and Term Loan depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. If we are unable to generate enough cash flow to make payments on the Notes and Term Loan when due in 2025, we may be required to adopt one or more alternatives, such as selling assets or obtaining additional debt financing or equity capital on terms that may be onerous or highly dilutive. Our ability to refinance the Notes and Term Loan, which we may need to do in order to satisfy our obligations thereunder, will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on the Notes and Term Loan.

The holders of the Notes have the right to require us to repurchase their Notes upon the occurrence of a fundamental change (as defined in the indenture governing the Notes (the Indenture)) at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest, if any. Upon repurchase of the Notes, we will be required to make cash payments as required by the Indenture. We may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of, or exchange of, the Notes for cash. Our failure to repurchase the Notes or exchange the Notes for cash at a time when the repurchase or exchange is required by the Indenture governing the Notes would constitute a default under such Indenture.

In addition, our indebtedness on the Notes and Term Loan, combined with our other financial obligations and contractual commitments, could have other important consequences. For example, it could:

- Make us more vulnerable to adverse changes in government regulation and in the worldwide economic, industry and competitive environment;
- Limit our flexibility in planning for, or reacting to, changes in our business and our industry;
- Place us at a disadvantage compared to our competitors who have less debt;
- Limit our ability to borrow additional amounts to fund acquisitions, for working capital and for other general corporate purposes; and
- Make an acquisition of the Company less attractive or more difficult.

Any of these factors could harm our business, results of operations and financial condition. In addition, if we incur additional indebtedness, the risks related to our business and our ability to repay our indebtedness on the Notes and Term Loan would increase.

The conditional exchange features of the Notes and contingent embedded features of the Term Loan, when triggered, may adversely affect our liquidity and operating results.

If the conditional exchange feature of the Notes is triggered, holders of Notes are entitled to exchange the Notes at any time during specified periods, at their option. Holders of the Notes for example, are entitled to exchange the Notes during any calendar quarter, if the last reported sale price of LivaNova's Ordinary Shares, with a nominal value of £1.00 per share for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the exchange price - the exchange price being $60.98 per share and the "conversion trigger" (subject to other conditions per the Indenture) being $79.27 per share - on each applicable trading day. If holders elect to exchange their Notes during future periods following the satisfaction of an exchange condition as laid out in the Indenture, we would be required to settle our exchange obligation through the payment of cash, which could adversely affect our liquidity. In addition, if the contingent embedded features of the Term Loan are triggered, or if the Notes become redeemable due to the satisfaction of an exchange condition, then we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal amounts as a current rather than long-term liability, which would result in a material reduction of our net working capital.

Our debt instruments require us to comply with affirmative covenants and specified financial covenants and ratios and other obligations.

Certain restrictions and covenants 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, for example, per recently executed amendments relating to our term loan and revolving credit facility, could result in acceleration of the indebtedness under such agreements and cross defaults under our other debt instruments. For more information on these amendments, please refer to "Note 19. Financial Liabilities."

In addition, under certain of our debt instruments, obligations under any non-appealable judgements or settlements in litigation matters in excess of $50 million in any one year are required to be paid with the proceeds of junior debt or equity financing in order to avoid triggering an event of default. Any such actions or failure to comply with such obligations 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.

The accounting for the Notes will result in LivaNova having to recognise interest expense significantly greater than the stated interest rates of the Notes and may result in volatility to our reported financial results, which could adversely affect the price at which our Ordinary Shares trade.

We will settle exchanges of the Notes entirely in cash. Accordingly, the exchange feature that is part of the Notes is accounted for as a derivative pursuant to accounting standards relating to derivative instruments. This resulted in an initial valuation of the exchange feature, which was bifurcated from the debt component of the Notes, resulting in an original issue discount. The original issue discount is amortised and recognised as a component of interest expense over the term of the Notes, which results in an effective interest rate (EIR) reported in our consolidated statements of operations in excess of the stated interest rate of the Notes. Although this accounting treatment does not affect the amount of cash interest paid to holders of the Notes or our cash flows, it reduces our earnings and could adversely affect the price at which our Ordinary Shares trade.

Additionally, for each financial statement period after issuance of the Notes, a derivative gain or loss is and will be reported in our consolidated statements of income (loss) to the extent the valuation of the exchange feature changes from the previous period. The capped call transactions described below and elsewhere in this annual report are also accounted for as derivative instruments. The valuation of the exchange feature of the Notes and capped call transactions utilizes significant observable and unobservable market inputs, including stock price, stock price volatility, risk-free interest rate, and time to expiration of the Notes. The change of inputs at period end from the previous period may result in a material change of the valuation and the gain or loss resulting from the exchange feature of the Notes and capped call transactions may not completely offset each other. As such, there may be a material net impact to our consolidated statements of operations, which could adversely affect the price at which our Ordinary Shares trade.

The arbitrage or hedging strategy by purchasers of the Notes and Option Counterparties in connection with our capped call transactions may affect the value of our Ordinary Shares.

We expect that many investors in, and potential purchasers of the Notes will employ, or seek to employ, an arbitrage strategy with respect to the Notes. Investors would typically implement such a strategy by selling short our Ordinary Shares underlying the Notes and dynamically adjusting their short position while continuing to hold the Notes. Investors may also implement this type of strategy by entering into swaps on our Ordinary Shares in lieu of or in addition to selling short our Ordinary Shares. This activity could decrease (or reduce the size of any increase in) the market price of our Ordinary Shares at that time.

In connection with the pricing of the Notes, we entered into privately negotiated capped call transactions with certain financial institutions (the Option Counterparties). The capped call transactions are expected generally to offset cash payments due upon exchange of the Notes in excess of the principal amount thereof in the event that the market value per ordinary share of the Company is at the time of exchange of the Notes greater than the strike price under the capped call transactions, with such offset subject to a cap based on the cap price. We understand the Option Counterparties, or their respective affiliates, in connection with establishing their initial hedges of the capped call transactions, purchased our Ordinary Shares and/or entered into various derivative transactions with respect to our Ordinary Shares concurrently with or shortly after the pricing of the Notes. The Option Counterparties or their respective affiliates may modify these initial hedge positions by entering into or unwinding various derivatives with respect to our Ordinary Shares and/or purchasing or selling our Ordinary Shares or other securities of ours in secondary market transactions prior to the maturity of the Notes (and are likely to do so during any observation period related to an exchange of the Notes or upon a repurchase or redemption of the Notes). This activity could cause or avoid an increase or decrease in the market price of our Ordinary Shares at that time.

We are subject to counterparty risk with respect to the capped call transactions.

The Option Counterparties are financial institutions, and we are subject to the risk that they might default under the capped call transactions. Our exposure to the credit risk of the Option Counterparties is not secured by any collateral.

If an Option Counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings, with a claim equal to our exposure at that time under the capped call transactions with that Option Counterparty. Our exposure will depend on many factors but, generally, an increase in our exposure will be correlated to an increase in the market price and in the volatility of our Ordinary Shares. In addition, upon a default by an Option Counterparty, we may suffer adverse tax consequences and may, on a net basis, have to pay more cash to settle exchanges of the Notes. We can provide no assurances as to the financial stability or viability of the Option Counterparties.

Risks Relating to Tax and our Jurisdiction of Incorporation

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

We are subject to income taxes as well as non-income based taxes in the U.S., the UK, the EU and various other jurisdictions. No assurances can be given as to what our worldwide effective corporate tax rate will be because of, among other things, uncertainty regarding the tax regulations and laws, enactment and enforceability thereof and policies of the jurisdictions where we operate. Our actual effective tax rate may vary from our expectations or from historical trends and that variance may be material. Our effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities or changes in tax laws or their interpretation. We are also subject to ongoing tax audits in various non-U.S. 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 statements of income (loss) or financial condition.

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

Based on our management and organizational structure, we believe that we should be regarded as a resident exclusively in the UK for tax purposes and that we are appropriately treated as a foreign corporation for U.S. federal tax purposes. Although we are incorporated in the UK, the U.S. Internal Revenue Service (IRS) may assert that we should be treated as a U.S. corporation (and, therefore, a U.S. tax resident) for U.S. federal tax purposes. If we were to be treated as a U.S. corporation for U.S. federal income tax purposes, we could be subject to substantially greater U.S. tax liability than currently contemplated as a non-U.S. corporation.

The IRS may limit Cyberonics' and its U.S. affiliates' ability to utilize their U.S. tax attributes as a result of the Merger of Cyberonics and Sorin.

The Merger of Cyberonics and Sorin is considered an inversion for tax purposes. The U.S. Internal Revenue Code (IRC) and regulations under the IRC impose 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) depending on the resulting percentage ownership by U.S. persons of the merged company. The effect of this provision in the IRC is to deny the use of certain U.S. tax attributes (including NOLs and certain tax credits) to offset U.S. tax liability, if any, attributable to such inversion gain. In our case, we believe that the former stockholders of Cyberonics own less than the IRC's stated percentage of the Company. However, it cannot be assured that the IRS will agree with our position.

The UK's withdrawal from the EU, commonly referred to as "Brexit," could have an adverse impact on our business, financial condition, and operating results.

In December 2020, the UK and EU announced they had entered into a post-Brexit deal on certain aspects of trade and other strategic and political issues (the December Brexit Deal), but we do not know if the UK and EU will succeed in negotiating certain terms not addressed or covered by the December Brexit Deal. Failure to negotiate certain terms or modification to terms that previously existed could subject us to increased risk, including, among other things, disruptions in share issuances, changes in regulatory oversight, disruptions to supply, increases in prices, fees, taxes or tariffs on goods that are sold, inspections or barriers on goods sold, extra charges, and/or difficulty staffing.

In addition, the continued uncertainty surrounding Brexit may cause fluctuations in the value of the UK pound sterling and the EU euro. Fluctuations in the exchange rates between the U.S. dollar (USD) and foreign currencies may adversely affect our expenses, earnings, cash flows, results of operations, and revenues. Although we attempt to mitigate our exposure to some of our foreign currency exchange risks through hedging arrangements, our hedging arrangements may not target the potential impacts associated with fluctuations in currency resulting from Brexit or otherwise effectively offset the adverse financial impacts.

We and several of our wholly owned subsidiaries that are resident for tax purposes either in the UK, various EU Member States, or in the U.S., are parties to intercompany transactions and agreements under which we receive various tax reliefs and exemptions in accordance with applicable international tax laws, treaties and regulations that could be materially changed in the aftermath of Brexit. Any of the foregoing could adversely affect our ability to conduct and expand our operations in Europe and may have an adverse effect on our business, financial condition and results of operations.

As an English public limited company, certain capital structure decisions require shareholder approval, which may limit our flexibility to manage our capital structure.

We are a public limited company incorporated under the laws of England and Wales. Under English law, our Board may only allot shares with the prior authorization of shareholders. English law also generally provides shareholders with pre-emptive rights when new shares are issued for cash, which rights may be excluded by shareholders. In addition, English law generally prohibits a public company from repurchasing its own shares without the prior approval of shareholders. At the 2020 Annual General Meeting (2020 AGM), our shareholders approved the amendment of our articles of association to authorize the allotment of additional shares of up to 20% of our outstanding share capital without pre-emptive rights for a period of five years, though prior to the 2020 AGM, the Company declared, based on discussions with stakeholders and advisors, that it would not utilize such authorities for more than 18 months in excess of an amount equal to 10% of our then share capital. As a result, at the 2021 AGM and for the foreseeable future, we will be seeking shareholder approval to renew these authorities. If we do not receive shareholder approval of these matters, we may not be able to raise additional capital, in a timely manner or at all, if and as needed to fund our operations. In addition, we may not be able to continue to grant equity awards to employees, directors, officers and consultants under our incentive plans.

Transfers of our shares, other than ones effected by means of the transfer of book-entry interests in the Depository Trust Company (DTC), may be subject to UK stamp duty or UK stamp duty reserve tax (SDRT).

Transfers of our shares effected by means of the transfer of book-entry interests in DTC are not subject to UK stamp duty or SDRT. However, if a shareholder holds our shares directly rather than through DTC, any transfer of shares could be subject to UK stamp duty or SDRT at a rate of 0.5% of the consideration paid for the transfer and certain issues or transfers of shares to depositories or into clearance services are charged at a rate of 1.5% of the consideration paid for the transfer, or 1.5% of the market value of the shares if

there is no consideration. The transferee generally pays the UK stamp duty or SDRT. The potential for UK stamp duty or SDRT could adversely affect the trading price of our shares.

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. Our 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 our shares. If DTC determines at any time that our shares are not eligible for continued deposit and clearance within its facilities, then we believe that our shares would not be eligible for continued listing on a U.S. securities exchange and trading in our shares would be disrupted. While we would pursue alternative arrangements to preserve the listing and maintain hading, any such disruption could have a material adverse effect on the trading price of our shares.

Our Approach to Stakeholders

Section 172 Statement

Im accordance with section 172 of the Companies Act 2006 and the UK Corporate Governance Code 2018, the Board considers the Company's key stakeholders and takes their views and interests into account when making decisions. Clear communication and proactive engagement to understand the issues most relevant to our stakeholders is fundamental to the directors' responsibility to act in good faith to promote the success of the Company for the benefit of shareholders. The Board builds trust with those most important to the Company, and in doing so, ensures the Board is fully aware of the potential impacts of the decisions it makes for our stakeholders, the environment and the communities in which we operate, in both the short term and the long run.

Delegation of Authority

The Board believes governance of LivaNova is best achieved by delegation of its authority of the executive management of LivaNova to the CEO, subject to defined limits and monitoring. The Board routinely monitors the delegation of authority, ensuring that it is regularly updated, while retaining ultimate responsibility. At every Board meeting, the directors review the Company's progress against strategic priorities, and this collaborative approach helps to promote the long-term success of LivaNova and its stakeholders. Per the requirements of Section 172, the below articulates LivaNova's principal stakeholders, their concerns and our methods of engagement and impact.

Connecting with our Stakeholders

Patients

At LivaNova we unite to provide hope for patients and their families through innovative medical technologies. That is our mission. We are driven by our shared purpose to put patients first to improve the quality of their lives - for every patient, every day.

Their concerns. Our patients want LivaNova to manufacture safe, quality products that are responsive to their needs. They desire information that is fair- and balanced, easy to understand, accessible and transparent. Our patients want LivaNova to take ownership in the face of product complaints, and they hope to impact and benefit from, nextgeneration devices incorporating their feedback.

How we engage and impact. Our Board is keenly aware of LivaNova's mission of providing hope for patients and as a result, is focused on how best to incorporate patient needs into our Company vision. Marketing clips, news stories, patient interviews and interactions, and surveys are all ways by which the Board regularly receive feedback from our patients. This feedback, in turn, informs the way in which the Board considers and opines on our product pipeline and our clinical trials, among others, so that we can bring innovative products to patients.

Employees

LivaNova’s workforce is crucial to its mission to provide hope to our patients and their families through delivering life-changing medical innovation for the head and the heart. Our employees help us maintain our strong reputation for high standards of business conduct and are fundamental in delivering our purpose. We, in turn, want them to be proud of working at LivaNova, and particularly in the midst of COVID-19, safe at work. This can only be done if we listen to their concerns and take appropriate action.

Their concerns. Employees want to know that the Board is considering employees when making strategic decisions. They want opportunities and progression, and they want diversity and inclusion. COVID-19 brought with it renewed concerns surrounding job security and personal safety in the workplace.

How we engage and impact. The Board directly engages with the Company's employees by way of virtual plant tours with operators, discussions during senior leadership forums, and presentations during regular and ad hoc Board meetings. Indirectly, the Board receives regular updates from Human Resources on employees during their quarterly and ad hoc meetings. With the start of COVID-19 in 2020, the Board sought specific insights and weighed in on employee morale, personal protective measures for on-site essential workers, and job security measures. In that vein and with the Board's support, LivaNova rolled out an ESG Task Force in 2020, a cross-functional team of leaders focused on establishing a comprehensive program optimizing our ESG efforts. Driven by the UN Global Compact Principles and Sustainable Development Goals, the team put a framework around the Company's various ESG efforts and is implementing strategies to invest in LivaNova's people and give back to the communities in which we live and work. One particularly exciting development in 2020 was the formation of the Diversity, Inclusion and Belonging Group, which has a mission to empower an environment within LivaNova where conversations of diversity and inclusion develop a culture of belonging. For more information regarding employee engagement, please refer to the Human Capital Management section of the Strategic Report.

Physicians and Healthcare Professionals

Our physicians and healthcare professionals are our customers and positively influence our business to enhance the lives of patients. They are essential partners in clinical research, as advisers and study investigators. We strive to maintain excellent relationships with these stakeholders because they provide us with a detailed understanding of therapeutic and diagnostic developments, trends, and emerging opportunities, which allows us to respond quickly to the changing needs of providers and patients.

Their concerns. Our physicians and healthcare professionals want to know they are in receipt of quality, effective products, and they want LivaNova to be held accountable for its products. They want their patients to be heard and they want the Company to receive their feedback and respond to it in an ethical and transparent manner.

How we engage and impact. The Board is acutely aware of the importance of proper engagement with these key stakeholders. We engage by way of scientific dialogue to increase understanding of disease management and patient experience, and we ensure we provide high-quality, balanced information about our products and services. Finally we engage by collaborating on our clinical trials and research. In early February 2021 for example, our directors heard from physicians in every one of our key product areas to better understand their thoughts on our products and nextgeneration devices and gain insights as to how best to position the Company

moving forward. Our directors, in turn, impact these stakeholders by using those HCP insights on disease management and patient experience to inform their conversations and direction in relation to the Company's strategic plan. For further information regarding the importance of this relationship, please refer to the “Risk and Uncertainties” section under the heading entitled: The success and continuing development of our products depend on maintaining strong relationships with physicians and healthcare professionals in this Strategic Report.

Suppliers and Distributors

Our suppliers and distributors need to be nurtured in order for our business to grow and develop, even more so because of the nature of our products. Because we manufacture medical devices, we are reliant upon these third parties to provide and distribute safe, quality products, to comply with inspection and regulator review, and importantly, during the challenges imposed by COVID-19, to maintain supply and distribution channels, especially in instances of sole suppliers for whom we have no alternatives.

Their concerns. Our suppliers and distributors are concerned with a collaborative, fair and ethical partnership. They desire prompt and fair payment and clear communication regarding specifications, needs, and quality and regulatory restrictions.

How we engage and impact. The Board receives updates from the management team and Audit Committee on relationships with our key suppliers and how these relationships are evolving as we respond to different market conditions and environments. With full support from the Board and management, the ESG Task Force rolled out a Third Party Code of Conduct in 2020, which aligns with our own LivaNova Code of Conduct. We believe that our business can only succeed where the rights of all workers involved in the value chain of our businesses are protected and respected, and we aim to conduct business with third parties who share our commitment to operating in a responsible and ethical manner.

In addition, COVID-19 caused us to strictly scrutinize our relationships, and our Board actively engages in conversations regarding contingency planning and alternative source providers. Thus far, our suppliers for our raw materials and distributors of finished products remain operational with no known or foreseen constraints relating to COVID-19, but the Board and management team remain vigilant. For more information regarding the significance of our supplier relationships, please review the related “Risk and Uncertainties” section in the Strategic Report.

Government and Regulators

Government policy can impact the business operating environment. Product approvals, insurance coverage and clinical trials are all areas in which governmental bodies affect the economic value and availability of our products. In many countlies, our principal customers are government-owned hospitals, who purchase our products for their national health systems. It is important that we maintain good relationships with governments and regulators so that we continue to develop cost efficient and effective solutions for our patients.

Their concerns. Governments and regulators seek comfort around LivaNova's product safety, compliance with local, legal regulatory requirements, competition issues, and social and economic concerns.

How we engage and impact. The medical device industry is heavily regulated and our worldwide businesses are overseen by many different authorities in various jurisdictions. The Board relies on the management team to effectively manage its relationships with governments and regulators and raise issues of importance as the landscape evolves. In addition, as a matter of normal course, the Board receives quarterly updates on product quality, regulatory matters and complaints. For more information regarding the intersection between Government, Regulators and LivaNova, please refer to the "Government Regulation and Other Considerations" section of the Strategic Report.

Investors and Shareholders

Investors and shareholders are the ultimate owners of our business, and it is important for us to understand their perspectives on capital allocation and how the Company is managed.

Their concerns. Our investors and shareholders are focused on LivaNova's strategy, performance and leadership. They want to know there is a succession plan and that the company is acting appropriately with respect to remuneration. They desire an understanding of our pipeline, business, culture and values, including but not limited to ESG matters. Ultimately, our investors and shareholders want to know that the Board is representing the shareholders' interests and properly supervising the company.

How we engage and impact. Per corporate governance best practices and our Articles of Association, the Board has committed to using and promoting, among other things, the following at LivaNova: annual Board, committee and individual director performance evaluations and skills gap surveys; annual elections for directors; separated roles for the Chair of the Board and the CEO; majority voting for directors in uncontested elections; supermajority voting to change or amend the Company's Articles of Association; and a prohibition on repricing of grants in equity compensation plans. The Board is continually considering corporate governance improvements, and at the end of 2020, several announcements occurred including a change in Chief Financial Officer (CFO), onboaridng of a new director, imminent changes in chair and Board leadership, and a revised provision in the Company's Corporate Governance Guidelines, which provide that the Board will consider rotation of the Chair of the Board and Committee Chairs after a chair has served for approximately five successive years after balancing the benefits of rotation against the benefits of continuity, experience and expense.

In keeping with our standard practice, the Board is actively involved in the review of quarterly and full-year results and corresponding press releases that feed into the quarterly earnings calls and webcasts. The Investor Relations team reports at least quarterly to the Board on shareholder activity and any significant changes in holdings, and copies of analyst reports on the Company and its peers are circulated regularly to the directors. The AGM is perhaps the most important engagement mechanism allowing (1) the directors to present an annual report containing information about the Company's strategy and performance, and (2) the shareholders the opportunity to exercise their voting rights with respect to important company issues.

On a more personal level, the Board meets with investors and responds to shareholders throughout the year to understand the issues and factors that are significant for these stakeholders. In one example, in response to the Board's receipt of a public letter from an investor last year regarding concerns with, among other things, our capital allocation, reporting transparency within our sub-segments and corporate governance and leadership, our directors engaged directly and promptly, meeting to discuss the letter's main points and other related topics. The directors welcome the opportunity to engage in regular, fair and balanced dialogue with our investors to enable our investors to put a fair value on the Company and ensure continued access to capital if needed and accordingly, are available to meet with investors on request.

This Strategic Report is approved and signed on behalf of the Board

29 April 2021

Damien McDonald, Chief Executive Officer & Director

DIRECTORS' REPORT

Our Directors

The directors of the Company, who held office in the year ended 31 December 2020, were as follows:

Chairman and Non-executive Director

Mr. Daniel J. Moore

Executive Director

Mr. Damien McDonald

Non-executive Directors

Mr. Francesco Bianchi

Mr. William Kozy

Mr. Hugh Morrison

Mr. Alfred Novak

Dr. Sharon O'Kane

Dr. Arthur L. Rosenthal

Ms. Andrea Saia

Mr. Todd Schermerhorn(1)

Ms. Stacy Enxing Seng

(1) Mr. Todd Schermerhorn was appointed to the LivaNova Board on 3 December 2020.

Directors' Indemnities

Each director is covered by appropriate directors' and officers' liability insurance and there are also Deeds of Indemnity in place between the Company and each director. These Deeds of Indemnity provide for the Company to indemnify the directors in respect of any proceedings brought by third parties against them personally in their capacity as directors of the Company. The Company would also fund on-going costs in defending a legal action as they are incurred rather than after judgement has been given. In the event of an unsuccessful defence in an action against them in a criminal or civil action, individual directors would be liable to repay defence costs to the extent funded by the Company. In respect of any investigations or actions taken by a regulatory authority, individual directors would be liable to repay defence costs to the extent funded by the Company if that regulatory authority has determined that the relevant director has acted fraudulently, been grossly negligent, or has engaged in wilful misconduct in relation to that claim.

Company Details and Branches Outside the UK

The Company is a public limited company incorporated in England and Wales with registered number 09451374. The Company's registered address is 20 Eastbourne Terrace, London, England W2 6LG.

The Company has one branch outside the UK: LivaNova Plc (Italian Branch) in Italy.

Political Donations

The Company has not made any political donations, or incurred any political expenditure, in the period under review. In addition, the Company has not made any contributions to a non-EU political party during the period under review. Moreover, we have not sought shareholder approval in relation to political donations.

Dividends

No dividend has been proposed during, or in respect of, the course of the year under review and the Company has never declared a dividend. The Company has no immediate intention to declare and pay dividends.

Financial Risk Management Objectives / Policies and Hedging Arrangements

Please refer to "Note 4. Financial Risk Management" in the consolidated financial statements for information on LivaNova's financial risk management objectives/policies and hedging arrangements.

Post-Balance Sheet Events

Details regarding Zoll Medical Corporation's acquisition of Respicardia Inc. in April 2021 resulting in a gain of $4.6 million to the Company are set out in the following section: Consolidated Financial Statements: Note 36. Subsequent Events.

Similarly, details regarding LivaNova's entry into an Amended and Restated Share and Asset Purchase Agreement on 9 April 2021 with Mitral regarding LivaNova's heart valve business are set out in the same section: Consolidated Financial Statements: Note 36. Subsequent Events.

Future Developments / Research and Development

Details of the activities of the Company in the field of research and development are set out in the Business Overview of the Strategic Report.

Greenhouse Gas Reporting

We report on our Greenhouse Gas emission in our Strategic Report.

Section 172 Statement

In accordance with section 172 of the Companies Act 2006 and the UK Corporate Governance Code 2018, the Board considers the Company's key stakeholders and takes their views and interests into account when making decisions. Please refer to the section: Strategic Report, Our Approach to Stakeholders.

Statement of Disclosure to the UK Statutory Auditor

In accordance with section 418 of the Companies Act, each director at the date of this Directors' Report confirms that:

- so far as he or she is aware, there is no relevant audit information of which the Auditor is unaware; and
- he or she has taken all the steps he or she ought to have taken as director to make himself or herself aware of any relevant audit information and to establish that the Auditor is aware of that information.

This confirmation is given and should be interpreted in accordance with the provisions of section 418 of the Companies Act.

Auditors

PricewaterhouseCoopers LLP, the Company's Statutory Auditor, has indicated its willingness to continue in office, and on the recommendation of the Audit Committee and in accordance with section 489 of the Companies Act 2006, a resolution to re-appoint it will be proposed at the 2021 AGM.

Statement of Directors' Responsibilities in Respect of the Financial Statements

The directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulation.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have prepared the Group financial statements in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and the Company financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law).

Under Company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of the profit or loss of the Group and Company for that period. In preparing the financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- state whether applicable international accounting standards in conformity with the requirements of the Companies Act 2006 have been followed for the Group financial statements and United Kingdom Accounting Standards, comprising FRS 101 have been followed for Company financial statements, subject to any material departures disclosed and explained in the financial statements;
- make judgements and accounting estimates that are reasonable and prudent; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and Company will continue in business.

The directors are also responsible for safeguarding the assets of the Group and Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Group's and Company's transactions and disclose with reasonable accuracy at any time the financial position of the Group and Company and enable them to ensure that the financial statements and the Directors' Remuneration Report comply with the Companies Act 2006.

The directors are responsible for the maintenance and integrity of the Company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

This Directors Report is approved by order of the Board by

29 April 2021

Keyna P. Skeffington, Company Secretary

Remuneration Report

Dear Shareholder,

2020 was an extraordinary year. COVID-19 disrupted the world in an unprecedented fashion, placing enormous challenges in LivaNova's path. Through it all, the Company maintained operations with no closures, witnessed the resilience of its employees as they worked through the pandemic, delivered product to its customers without supply issues, and launched a new strategic plan encompassing three main tenets - a focus on core growth, pipeline execution, and operational excellence.

Review of 2020 Performance

The Compensation Committee of the Board has been impressed by the efforts made by employees and management across the Company in the wake of the pandemic. The team has continuously pushed towards recovery, as we witnessed in the second half of the year, but overall, performance suffered. The year ended 31 December 2020 was a challenging one, with worldwide sales dropping by 13.8% from 2019 to 2020 due in large part to COVID-19's impact on cardiac surgery and neuromodulation procedure volumes as well as a slowdown in capital equipment purchases. This was offset by ACS sales, an increase of 32.6% compared to 2019, primarily due to the launch of LifeSPARC.

2020 Compensation Review

Our 2020 Short-Term Incentive (STI) Plan (STIP) included financial objectives, non-financial objectives, and, for most non-executive officers (NEOs), leadership objectives. None of the financial objectives were achieved for the STIP and consequently, the payout related to the financial objectives was zero for all our NEOs. Three out of the six non-financial objectives were achieved, but payout was zero because payment of the non-financial portion of the bonus was tied to achievement of the threshold on one or both Group net sales and/or Group adjusted net income. Given the Company's overall financial results, the Compensation Committee reduced the payout under the STIP to 15% at target. The leadership objectives were achieved by each of the NEOs except for Mr. McDonald who did not have a leadership component. Ultimately, due to the Company's performance, the Compensation Committee utilized its discretion in determining that the CEO should not receive an STI payout.

The Compensation Committee is committed to the principal that pay must align with the financial experience of our investors and other shareholders. While cognizant of the tremendous effort and outstanding work by the CEO and entire executive team in running operations in the midst of a pandemic, the Compensation Committee also recognised that COVID-19 was impactful, materially affecting LivaNova's financial outcomes in 2020. Accordingly, the Compensation Committee, in consultation with its independent compensation consultant, Pearl Meyer & Partners, LLC (Pearl Meyer), believes that the final calculations associated with the NEOs' 2020 STI awards are appropriate.

Compensation Recoupment Policy

In October 2019, the Compensation Recoupment Policy was introduced, which provides for the recoupment of certain executive compensation in circumstances where the Board determines that recoupment is appropriate and warranted. While our LivaNova equity plan contains a forfeiture and claw-back provision that references general Company policies on the matter, the Compensation Committee took the step of explicitly highlighting the named policy in its award agreements and on our external website in 2020.

Remuneration Report / Say-on-Pay

We were pleased with the endorsement of LivaNova's compensation of its named executive officers (otherwise known as U.S. Say-on-Pay), which was approved by 91.8% of the shareholders at our 2020 AGM. The advisory vote on the UK directors' remuneration report regarding executive and non-executive director remuneration also showed strong support with 95.6% approval. The Compensation Committee reviewed shareholder and other stakeholder feedback along with the results of each of these votes and incorporated all such information when making compensation decisions. The Compensation Committee will continue to ensure that performance outcomes and any consequent payments are aligned with business performance and the growth transformation that LivaNova is currently undertaking.

Review of Non-Executive Director and Committee Fees

The remuneration for the non-executive directors remained flat from 2015 until 2020.

The Compensation Committee will continue to monitor the development of best practice relating to remuneration. We are committed to ensuring that our remuneration is strongly linked to our strategy so that we continue to deliver sustainable value for our shareholders.

I would like to thank my fellow Compensation Committee members for their support during the year, and we look forward to your support at our 2021 AGM.

As Chairman of the Compensation Committee, I am committed to ensuring an open dialogue with our shareholders. If you have any questions about remuneration generally, or the presentation or the content of this report, please contact me via mail to c/o Company Secretary, LivaNova PLC, 20 Eastbourne Terrace, London W2 6LG, United Kingdom or via email at company.secretariat@livanova.com.

29 April 2021

Dr. Arthur L. Rosenthal, Chairman of the Compensation Committee

How We Establish Executive Compensation Levels

The Directors' Remuneration Policy (Policy), which aims to encourage directors to perform in a consistent, responsible way with the focus on long-term value creation for our shareholders, took legal effect at the conclusion of the 2020 AGM. LivaNova strives to remain competitive in order to retain key talent, which is essential to our successful operation, and the Compensation Committee continues to monitor the development of best practice relating to remuneration. In keeping with our Policy in making executive compensation determinations, we rely on several factors to set compensation elements and compensation targets consistent with our executive compensation program objectives, which include:

● Assessment of Individual Performance

Individual performance has a strong impact on compensation.

● CEO

Following discussion with the CEO, the Compensation Committee sets the CEO's performance objectives for the year. At the end of the year, the Compensation Committee and the chairman of the Board meet in executive session to assess the CEO's performance against his performance objectives, his contribution to our company's performance, his ethics and integrity and other leadership attributes.

Assessment of Company Performance

The Compensation Committee establishes specific, objectively measurable company performance objectives that the Board, the Compensation Committee and management believe will help drive shareholder value. Achievement or not of the performance objectives determines substantially all of the payouts under the STIP and the lapsing or not of forfeiture restrictions on performance-based equity incentive awards.

● Benchmarking Analysis

The Compensation Committee reviews peer-group data as a market check for compensation decisions, but does not base compensation targets on peer-group data alone.

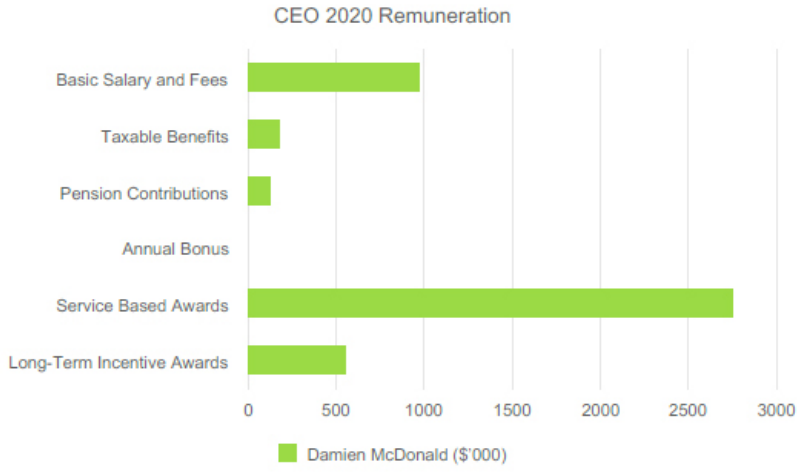
- Individual Competitiveness. The Compensation Committee compares the overall pay of individual executives to the most relevant benchmarking data available from its independent advisor, Pearl Meyer. The executive director's pay is driven primarily by individual and company performance, as well as internal pay equity.
- The peer group data is used as a market check to compare individual pay to the broad middle range (25th to 75th percentile) of peer group pay. The Compensation Committee typically seeks to maintain base salary toward the middle of peer group pay, but will permit annual bonuses and long-term equity incentive awards to approach the upper end of the broad middle range when justified by individual and company performance

● Overall Competitiveness

The Compensation Committee uses aggregated market data as a reference point to ensure that executive compensation falls within the broad middle range of comparable pay at peer companies.

2020 Remuneration

Total remuneration for 2020 for our sole Executive Director (audited)



	Basic Salary and Fees ($'000)[1]	Taxable Benefits ($'000)[2]	Pension Contributions ($'000)[3]	Total Fixed ($'000)	Annual Bonus ($'000)[4]	Service-Based Awards ($'000)[5]	Long-Term Incentive Awards ("UK LTIP") ($'000)[5]	Total Variable ($'000)	Total ($'000)
Damien McDonald - 2020	974	182	130	1,286	-	2,750	558	3,308	4,594
Damien McDonald - 2019	933	204	163	1,300	277	2,500	-	2,777	4,077

* The currency conversion rates used are for 2020-£/$ =1.282939471 (average currency rate for the period 1 January 2020 to 31 December 2020)
(1) In 2020, Damien McDonald -was paid a base salary of £758,931 per annum ($ 973,663).
(2) In 2020, the taxable benefits column line includes: (i) an accommodation allowance of £60,000 ($ 76,976), a car allowance of £17,750 ($22,722), (ii) school allowance of £12,780 ($ 16,396), and (iii) health insurance of £25,772 ($ 33,064), and (iv) UK hotel stay of £2,915 ($ 3,740), and tax assistance £22,260 ($ 28,558).
(3) Mr McDonald is entitled to an overall pension contribution or pension allowance of 15% of salary and bonus. As cash in lieu entails a UK employer's national insurance charge in the amount of 13.8% of the cash in lieu, the cash paid is decreased by this amount in order that the payment by the Company remains relatively cost-neutral.
(4) The annual bonus is explained in the 'Short-Term Incentive Plan -executive director-audited information" below. Given the fact that the financial objectives were not achieved, the payout for Mr. McDonald was zero.
(5) Because of LivaNova's strong U.S. nexus (listing and shareholding base), its "Long-Term Incentive Plan" (the LivaNova LTIP) includes service-based awards which have no performance requirement and vest, subject to continued service, in tranches over one or more years or by cliff vesting. Due to the difference in design of the LivaNova LTIP and the typical UK LTIP and in order to provide optimal transparency, LivaNova has created a separate column for service-based awards. Amounts recorded in that column are equal to the full grant date value of the equity awards (Award Value) (whether restricted stock units (RSUs) or stock appreciation rights (SARs)). In the event of SARs, because a SAR by definition has nil value at the moment of grant, LivaNova has recorded the grant value approved by the Compensation Committee.

Service-based awards granted:

Awards approved in 2019

• On 30 March 2019, the Compensation Committee approved an award of service-based RSUs and SARs, each with a value of $1,250,000. Because these awards were service-based, they were recorded in the year of grant (2019) in the Service-Based Award column, at their grant date value. LivaNova records the Compensation Committee-approved value ($1,125,000) for the SARs.

• No performance stock unit(s) (PSU(s)) met performance targets during 2019.

Awards approved in 2020

• On 30 March 2020, the Compensation Committee approved an award of service-based SARs with a value of $1,250,000 and an award of service-based RSUs with a value $1,500,000. Because these awards were service-based, they were recorded in the year of grant (2020) in the Service-Based Award column, at their grant date value. LivaNova records the Compensation Committee-approved value ($1,250,000) for the SARs.

• A portion of the PSUs granted on 15 March 2018 vested in 2020 with respect to performance met in 2020. The Award Value granted on 15 March 2018 for these PSU awards were $1,125,000 each PSU award:

- Free Cash Flow (FCF) Performance Stock Units (FCF PSUs): Mr. McDonald received 12,729 FCF PSUs subject to achievement of a three-year cumulative adjusted FCF target. The Compensation Committee determined the number of PSUs awarded to each participant by dividing one-fourth of the Award Value by the closing price and rounding down to the nearest whole unit, the other portion of the award was granted in RSUs, SARs and PSU (rTSR). At the end of 2020, cumulative adjusted FCF for the period 2018 through 2020 was compared to the full cash flow target. The achievement percent for the FCF PSUs was 78.58%; which is a payout percent of 57.16%). The Compensation Committee agreed with management's determination that the Company's FCF for the years 2018-2020 was $374.5 million and results in the achievement of 78.58% of the FCF Target for the FCF PSUs and vesting of 57.16% of the underlying RSUs of each FCF PSU. The number of shares vested were 7,275. The Fair Market Value for these vested PSUs was $558,283.50, the stock price on the vest date of March 2021 was $76.74. Below are tables used to calculate the FCF PSU payout.

Cumulative FCF Relative to Target	Percent Funding of Award
≥150%	200%
125%	150%
100%	100%

			Cumulative FCF Relative to Target	Percent Funding of Award
			60%	20%
			<60%	0%
	2018	2019	2020	Total
Plan Target ($M)	165.1	141.9	169.5	476.5
Actual ($M)	180	128	66.4	374.5
			Achievement	78.58%
			Award Funded	57.16%

- Relative Total Shareholder Return Performance Stock Units (rTSR PSUs): Mr. McDonald received 12,729 PSUs subject to a relative total shareholder return (rTSR) market condition. At the end of calendar year 2020, our rTSR for the three-year period 2018 through 2020 was compared to the rTSR for a comparator group of 27 companies selected by the Compensation Committee on the advice of its compensation consultant. The rTSR PSUs performance was not met, therefore there was no payout for these PSUs.

Short-term incentive plan - executive director (audited)

Our STIP is an annual cash-based incentive bonus plan, which is an important component of our total compensation program. It provides incentives that compensate our CEO for achieving objectives intended to enhance shareholder value.

Under English company law, we were obliged to adopt a remuneration policy for our directors, including our CEO, who is also a director. Under that shareholder-approved remuneration policy, our CEO's maximum short-term incentive cannot exceed 200% of his base salary. The Compensation Committee approved a lower maximum of 160% for Mr. McDonald.

The table below shows the minimum and maximum achievement of the target short-term incentive payment under the 2020 STIP.

	2020 STIP Minimum (Percentage of Base Salary)	2020 STIP Target (Percentage of Base Salary)	2020 STIP Maximum (Percentage of Target)[1]
Damien McDonald	-%	125%	160%

[1] Per the Remuneration Policy, the maximum bonus opportunity is 200% of base salary.

The Compensation Committee utilized its discretion in determining that Mr. McDonald should not receive an STI payout. The performance objectives selected by the Compensation Committee for the 2020 bonus plan were as follows:

Bonus Objectives	
Adjusted net sales	45%
Adjusted net income	30%
Non-Financial Objectives	25%
	100%

Payouts under the 2020 STIP were based on the achievement of two financial objectives: adjusted net sales and Adjusted Net Income

Objectives	Target	Achievement	Achievement %	Payout %
Group adjusted net sales[1]	1,128	937.7	83.1	0
Group adjusted net income[2]	159	61.9	38.9	0

[1] Adjusted net sales is our net sales for 2020 at budgeted currency exchange rates, excluding net sales from any acquisitions in 2020. Results discussed in the Compensation Committee on 28 February 2021.

[2] Adjusted net income is our non-GAAP net income at reported currency exchange rates, after adjustments for the effects of acquisitions, divestitures, restructuring, integration, purchase price allocation and intangible amortisation, special items, including 3T Heater Cooler remediation, costs associated with our June 2020 financing transactions and significant and unusual litigation, including 3T Heater Cooler litigation, and equity compensation. Results discussed in the press release on 24 February 2021.

Percentage change in director remuneration compared to other employees

The table below reflects a comparison between the percentage change in remuneration of the directors between 2020 and 2019 in comparison with that of the employees in LivaNova UK PLC entity.

	Base salary change %	Benefits change %	Annual Cash Bonus change %
Damien McDonald	5 %	(11)%	(100)%
Daniel J. Moore	- %	N/A	N/A
Hugh Morrison	- %	N/ A	N/A
Alfred J. Novak	- %	N/A	N/A
Dr. Arthur L. Rosenthal	- %	N/A	N/A
Francesco Bianchi	- %	N/A	N/A
Dr. Sharon O'Kane	- %	N/A	N/A
Andrea Saia	- %	N/A	N/A
William Kozy	- %	N/A	N/A
Stacy Enxing Seng[1]	- %	N/A	N/A
Todd Schermerhorn[2]	- %	N/A	N/A
Average for all employees	3 %	2 %	(16)%

[1] As for Ms. Enxing Seng, she was appointed to LivaNova's Board following her election by shareholders at the 2019 Annual General Meeting (2019 AGM) on 18 June 2019. Her fees were prorated for the second quarter in 2019.

[2] As for Mr. Schermerhorn, he was appointed to LivaNova's Board effective 3 December 2020. Although Mr. Schermerhorn did not receive payment in 2020, $ 9,851 was prorated and paid in 2021 for fees related to December 2020.

The table above reflects a comparison of the director's remuneration in 2019 to their remuneration in 2020. As for Mr. McDonald, the change in salary is due to an approved increase in base salary of 5% effective 1 April 2020. The change in benefits reflects a decrease in school allowance and accommodation allowance as per Mr. McDonald's employment service agreement. The change in annual cash bonus was due to the payout percent being 25% in 2019 vs no payout in 2020. As for the directors, there was no change in basic annual fees.

By comparison, the other employees in LivaNova UK PLC received; an average base salary increase of 3%, an average taxable benefit increase of 2% and an average decrease in annual bonus payout of 16%. The average annual cash bonus payout was 47% in 2019 vs 35% in 2020.

Single total figure on remuneration - Chairman and non executive directors (audited)

	Basic Annual Fee ($'000)		Additional Fee ($'000)[1]		Benefits ($'000)[2]		Total Emoluments ($'000)		Service-Based Share Awards ($'000)[3]		Total ($'000)	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
Daniel J. Moore	110	110	75	75	-	3	185	188	185	185	370	373
Hugh Morrison	110	110	36	36	-	2	146	148	110	110	256	258
Alfred J. Novak	110	110	23	23	37	-	170	133	110	110	280	243
Dr. Arthur L. Rosenthal	110	110	20	20	7	-	137	130	110	110	247	240
Francesco Bianchi	110	110	23	23	-	6	133	139	110	110	243	249
Dr. Sharon O'Kane	110	110	15	15	4	2	129	127	110	110	239	237
Andrea Saia	110	110	15	15	10	2	135	127	110	110	245	237
William Kozy	110	110	6	6	10	3	126	119	110	110	236	229
Stacy Enxing Seng[4]	110	59	8	4	-	3	118	66	110	110	228	176
Todd Schermerhorn[5]	9	-	1	-		-	10	-	63	-	73	-

[1] Cash amounts paid in addition to the basic retainer: (i) Chairperson of the Board, a non-employee director serving as the Chairperson of the Board shall receive an additional annual retainer of $75,000 for such service.(ii) Audit Committee, a non-employee director serving as Chairperson of the Audit Committee shall receive an additional- annual retainer of $30,000 for such service. A non-employee director serving as a member of the Audit Committee (other than the Chairperson) shall receive an additional annual retainer of $15,000 for such service, (ii) Compensation Committee. A non-employee director serving as Chairperson of the Compensation Committee shall receive an additional annual retainer of $20,000 for such service. A non-employee director serving as a member of the Compensation Committee (other than the Chairperson) shall receive an additional annual retainer of $8,000 for such service. (Hi) NCG Committee. A non-employee director serving as Chairperson of the NCG Committee shall receive an additional annual retainer of $15,000 for such service. A non-employee director serving as a member of the NCG Committee (other than the Chairperson) shall receive an additional annual retainer of $6,000 for such service. The fees for the non-executive directors for 2020 are as follows: Mr. Moore $75,000 for Chairman; Mr. Morrison, $30,000 for chair of the Audit Committee; Mr Novak $15,000 for member of Audit Committee and $8,000 for member of Compensation Committee; Dr. Rosenthal had $20,000 for the chair of Compensation Committee; Mr. Bianchi $15,000 for member of the Audit Committee and $8,000 for member of the Compensation Committee; Dr. O'Kane $15,000 for chair of NCG Committee; Ms. Saia $15,000 for member of the Audit Committee; Mr. Kozy $6,000 for member of the NCG Committee; Ms. Enxing Seng received a $8,000 for member of Compensation Committee; Mr. Schermerhorn received a prorated amount of $9,851.

[2] The amounts refer to expenses reimbursement for the directors to exercise their role that are considered taxable under UK tax legislation. Please note for Mr. Novak, these are expenses that were paid in 2020, but related to prior year expenses.

[3] An annual award of RSUs, granted on 29 June 2020 and vesting on 29 June 2021, having a value of $110,000, plus an additional value of $ 75,000 for the Chairman.

[4] Stacy Enxing Seng was appointed to LivaNova's Board following her election by shareholders at the 2019 AGM on 18 June 2019. Her fees were prorated for the second quarter in 2019.

[5] Todd Schermerhorn was appointed to LivaNova's Board effective 3 December 2020. No fees were paid for him in 2020. He was granted equity in 15 December 2020 and vesting on 15 December 2021, having a value of $62,684.93. Although Mr. Schermerhorn did not receive payment in 2020, $9,851 was prorated and paid in 2021 for fees related to December 2020.

[6] Payments are made quarterly to directors, at time of payment the amounts are converted from USD to GBP. All amounts are paid in GBP, amounts above are represented in USD.

2020 LivaNova Long-Term Incentive Plan (the 2020 LTIP) (audited)

The 2020 LTIP is comprised of both performance-based and service-based awards. The awards received by Mr. McDonald under the 2020 LTIP are explained below:

Service-Based Restricted Stock Units - executive director

Mr. McDonald received 34,427 service-based RSUs vesting in equal or substantially equal amounts on each of the first four anniversaries of the grant date. The Compensation Committee determined the number of RSUs awarded by dividing one-fourth of the Award Value by the most recent closing price ($43.57) of an ordinary share of our stock on the Nasdaq as of the grant date and rounding down to the nearest whole unit.

Relative Total Shareholder Return Performance Stock Units

Mr. McDonald received 34,427 PSUs subject to a relative total shareholder return market condition (rTSR). The Compensation Committee determined the number of PSUs awarded to each participant by dividing one-fourth of the Award Value by the closing price ($43.57) and rounding down to the nearest whole unit. At the end of calendar year 2022, our rTSR for the three-year period 2020 through 2022 will be compared to the rTSR for a comparator group of 30 companies selected by the Compensation Committee on the advice of its compensation consultant, Pearl Meyer, and the number of shares of our stock actually delivered to the participants will be determined by the following chart, with linear interpolation applied between specified levels:

TSR Performance Percentile Rank	Percent Payout
≥90th	200%
80th	150%
50th	100%
30th	40%

TSR Performance Percentile Rank	Percent Payout
<30th	0%

Stock Appreciation Rights

Mr. McDonald received 78,517 SARs vesting in equal or substantially equal amounts on each of the first four anniversaries of the grant date. The Compensation Committee determined the number of SARs awarded to each participant by dividing one-fourth of the Award Value by the Black-Scholes value of a SAR ($15.918) based on the closing price ($43.57) and rounding down to the nearest whole unit.

Three-Year Cumulative Adjusted FCF Performance Stock Units

Mr. McDonald received 34,427 PSUs subject to achievement of a three-year cumulative adjusted FCF target. The Compensation Committee determined the number of PSUs awarded to each participant by dividing one-fourth of the Award Value by the closing price ($43.57) and rounding down to the nearest whole unit. At the end of 2022, cumulative adjusted FCF for the period 2020 through 2022 will be compared to the full cash flow target, and the number of shares of our stock actually delivered to the participants will be determined by the following chart, with linear interpolation applied between specified levels:

FCF Achievement Relative to FCF Target	Percent Payout
≥150%	200%
125%	150%
100%	100%
60%	20%
<60%	0%

The 2020 rTSR Peer Group includes:

ABIOMED, Inc.	Intuitive Surgical, Inc.
Baxter International Inc.	Invacare Corporation
Becton, Dickinson and Company	Masimo Corporation
Boston Scientific Corporation	Medtronic plc
Cantel Medical Corp.	Natus Medical Incorporated
CONMED Corporation	Nevro Corp.
DexCom, Inc.	NuVasive, Inc.
Edwards Lifesciences Corporation	Penumbra Inc.
Globus Medical, Inc.	ResMed Inc.
Haemonetics Corporation	Smith & Nephew plc
Hill-Rom Holdings, Inc.	Stryker Corporation
Hologic, Inc.	Teleflex Incorporated
Insulet Corporation	Varian Medical Systems, Inc.
Integer Holdings Corporation	Wright Medical Group N.V.
Integra LifeSciences Holdings Corp.	Zimmer Biomet Holdings, Inc.

The following parameters will be used to determine rTSR for the three-year period ending 31 December 2022:

- Stock Price: 30 trading-day average closing prices as of the beginning and end of the performance period;
- Dividend Treatment: Dividend reinvestment approach (using ex-dividend date);
- Relative Performance Measurement:
- Calculate cumulative TSR for LivaNova and each of the benchmark companies,
- Compute LivaNova’s discrete percentile rank, which is inclusive of LivaNova’s TSR (Excel: PERCENTRANK function);
- Measured against benchmark group at the beginning of the performance period,
- Companies acquired or delisted during the performance period are excluded.

2020 Schemes Interests Awarded (audited)

Director	Face Value of Award ($) (1)	No. of Shares Subject to the Award	Percentage if minimum performance is met for Performance Awards(2)	Closing Share Price on Date of Award (For Face Value Calculation) ($)	Expiry of Performance Period	Performance Criteria
Damien McDonald	1,499,984	34,427	40 %	43.57	31 December 2022	rTSR PSUs(2)
Damien McDonald	1,499,984	34,427	20 %	43.57	31 December 2022	Cumulative Adjusted FCF PSUs(2)
Damien McDonald	1,499,984	34,427		43.57	N/A	Time-Based Vesting (RSUs)
Damien McDonald	1,249,834	78,517		15.918	N/A	Time-Based Vesting (SARs)
Damien McDonald	Total Face Value 2020 Award					$5,749,787

Director	Face Value of Award ($) [1]	No. of Shares Subject to the Award	Percentage if minimum performance is met for Performance Awards[2]	Closing Share Price on Date of Award (For Face Value Calculation) ($)	Expiry of Performance Period	Performance Criteria
Daniel J. Moore	184,993	3,931		47.06	N/A	Time-Based Vesting (RSUs)
Hugh Morrison	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Alfred J. Novak	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Dr. Arthur L. Rosenthal	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Francesco Bianchi	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Dr. Sharon O'Kane	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Andrea Saia	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
William Kozy	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Stacy Enxing Seng	109,979	2,337		47.06	N/A	Time-Based Vesting (RSUs)
Todd Schermerhorn	62,638	1,024		61.17	N/A	Time-Based Vesting (RSUs)

[1] Face Value of RSUs award calculated using the closing market price of the LivaNova share on the Nasdaq at the date of grant. SARs awarded to Mr. McDonald are calculated by the Black-Scholes value based on the closing market price of an ordinary share of our stock on Nasdaq as of the grant date ($15.918). In the event of SARs, because a SAR by definition has nil value at the moment of grant, LivaNova has recorded the grant value approved by the Compensation Committee as the Fair Value.
[2] PSU details are found on section above titled, ”2020 LivaNova Long-Term Incentive Plan (the 2020 LTIP)".

Payments made to past directors (audited)

The Company made payments to André-Michel Ballester who was no longer a director in 2020. Mr. Ballester is a former CEO of LivaNova, who resigned on 31 December 2016 .

The Company paid Mr. Ballester a total of $54,623 for litigation services related to 2020.

Payments made for loss of office (audited)

The Company made no payments for loss of office in the period under review. There is no Company policy relating to loss of office. When applicable, such terms are addressed on a case by case basis in, for example, a separation agreement.

Executive and Non-Executive Directors’ Shareholdings (audited)

To align the interests of our executive and non-executive directors to those of our shareholders, they are required to maintain significant shareholding of shares in LivaNova on a voluntary basis. The directors believe that meaningful ownership of equity in the Company is an essential element in demonstrating the commitment of its leadership to its primary task of creating value for its shareholders. To further this belief, equity award programs have been established as part of the overall compensation plans for both officers and directors. Until the relevant stock ownership threshold (Stock Ownership Threshold) is achieved by the CEO and each non-executive director, each individual should retain a minimum of the value equal to 100% of the net shares received (i.e., following tax withholding) following each vesting until the relevant Stock Ownership Threshold has been achieved. Following achievement of the relevant Stock Ownership Threshold, shares in excess of such amount may be sold, subject to the Company’s insider trading policy then in effect.

Shareholding Guidelines

Level	Stock Ownership Threshold
Executive Director (CEO)	5 x base salary
Non Executive Directors	5 x yearly Board annual cash retainer

Share Ownership as of 31 December 2020

Director	Ordinary Shares	Ordinary Shares Underlying Stock Options[1]	Ordinary Shares Underlying SARs	Ordinary Shares Underlying RSUs	RSUs Subject to Performance Criteria
Damien McDonald	56,899	-	290,056	68,232	125,160
Daniel J. Moore[2]	30,699	103,249	-	3,931	-
Hugh Morrison[3]	2,929	-	-	2,337	-
Alfred J. Novak	12,012	-	-	2,337	-

Director	Ordinary Shares	Ordinary Shares Underlying Stock Options[1]	Ordinary Shares Underlying SARs	Ordinary Shares Underlying RSUs	RSUs Subject to Performance Criteria
Dr. Arthur L. Rosenthal	20,046	-	-	2,337	-
Francesco Bianchi	2,955	-	-	2,337	-
Stacy Enxing Seng	1,459	-	-	2,337	-
Dr. Sharon O'Kane	5,023	-	-	2,337	-
Andrea Saia	4,438	-	-	2,337	-
William Kozy	2,983	-	-	2,337	-
Todd Schermerhorn	-	-	-	1,024	- -

[1] The 103,249 Ordinary Shares underlying Stock Options are 46,626 stock options with an exercise price of $51.90 and 56,623 Stock options with an exercise price of $57.39 granted respectively on 15 June 2013 and 15 June 2014 by Cyberonics and then converted in LivaNova Stock options on 19 October 2015, date of the Merger of Sorin and Cyberonics that resulted into LivaNova.

[2] 2,929 shares owned by Mr. Morrison are pledged as collateral in connection with a margin account.

[3] Dan Moore is the only non-executive director who holds Options, which have already vested and are exercisable. However, none of the 103,249 Options were exercised during the 2020 financial year.

As of 31 December 2020, three of our Board members, Daniel J. Moore, Alfred J. Novak and Dr. Rosenthal, have achieved the Stock Ownership Threshold, including our CEO, Damien McDonald.

Relative importance of spend on pay

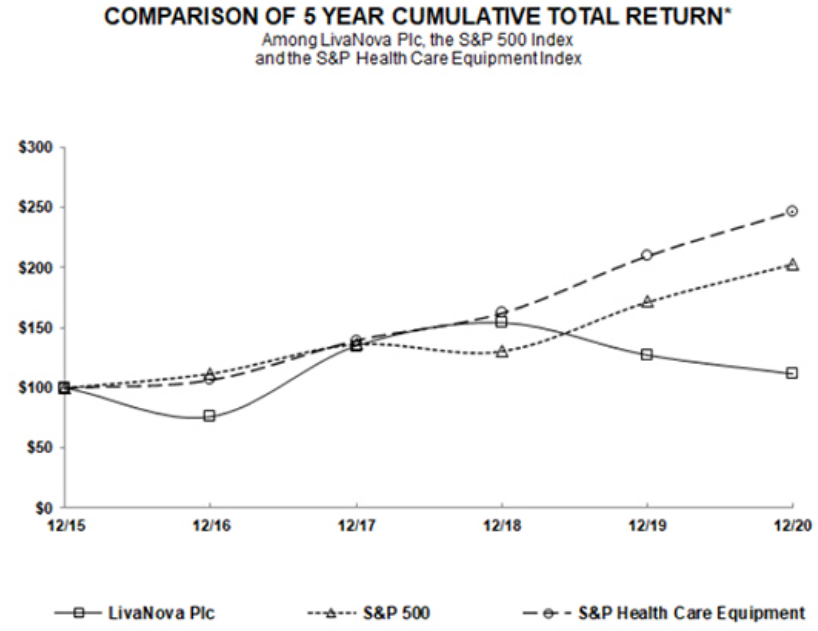
The following table sets out the total amounts spent in the year ended 31 December 2020 and the year ended 31 December 2019 on remuneration paid to employees and distributions to shareholders.

$ thousands	Year Ended 31 December 2020	Year Ended 31 December 2019	% change
Employee remuneration	433,829	454,687	(5)%
Share buybacks	0	0	N/A
Dividend	0	0	- %

Total shareholder return

Performance graph

The graph below shows the Company's performance measured through TSR on a holding of $100 in the Company's shares between 19 October 2015 and 31 December 2020, compared to the S&P 500 Index and the S&P Healthcare Equipment Index. LivaNova selected these indices as it felt they provided both a broader market benchmark together with a more proximate industry benchmark.



* $100 invested on 12/31/15 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

CEO Total Compensation

	Year Ended 31 December 2020	Year Ended 31 December 2019	Year Ended 31 December 2018	Year Ended 31 December 2017	Year Ended 31 December 2016[3]
Total single-figure remuneration (thousands $)	4,594	4,077	9,499	4.065	1,968
Annual bonus award (as a % of maximum)[1]	-	16%	66%	57%	53%
Vesting of long term performance awards (as a % of maximum)[2]	14%	-	100%	-	25%

[1] In 2018, Damien McDonald received a pay-out of 105% which represents 60% of the maximum payable which was set at 160% of his base salary. In 2019 payout of 25% which represents 16% of the maximum payable which was set at 160%. In 2020, Mr. McDonald did not receive a bonus payout, please see "Short-term incentive plan - executive director" section for more details.

(2) In 2018, 13,353 performance-based RSUs vested during the financial year ended 31 December 2018 which represents 100% of the maximum opportunity for vesting in the 2018 financial year. No performance awards vested in 2019. No performance awards vested in 2020. In 2021, 7,275 FCF PSUs vested, the achievement percent for the FCF PSUs was 78.58%; which is a payout percent of 57.16% related to performance in 2020, which represents 14% of the maximum payable which was set at 400%.
(3) The figures relating to the CEO total compensation for year ended 31 December 2016 are in respect to former CEO, Andre-Michel Ballester, who resigned with effect from 31 December 2016.

2021 Base Salary and STIP

On 17 February 2021, the Compensation Committee agreed that base salary and 2021 STI will remain the same as the previous year.

	2021 Base Salary ($)(1)	Increase from 2020	2021 STIP at Target	Change from 2020
Damien McDonald	985,394	-%	125%	-

(1) For salary amounts, we used an exchange rate of of $1.28294 per British Pound, which reflects the applicable period average published rate from our BOPC Accounting System between 1 January 2020 and 31 December 2020. The BOPC Accounting System uses Bloomberg as a source to obtain exchange rates.

On 17 February 2021, the Compensation Committee also approved the 2021 STIP.

Under the 2021 STIP, each participant is eligible to receive a target bonus amount calculated as a percentage of base salary, as specified in the participants' employment agreements, copies of which are on file with the SEC, or as determined by the Compensation Committee. The current target bonus percentage is as follows:

	Target Bonus Percentage of Base Salary
Damien McDonald	125%

Payment of the target bonus amount is conditioned on achievement of certain financial and non-financial objectives, as described below:

Business Payout =	Target Bonus X	Business Performance Factor	

The target bonus is calculated as weighted annual base salary multiplied by target bonus percentage.

The business performance factor (BPF) is calculated according the formula below:

Business Performance Factor =	(60% Net Sales Payout %	+ 40% Adjusted Net Income Payout %)	X	Non-Financial Goals Modifier %	

If the threshold for a financial objective is achieved, then the funding for that objective is scaled down or up for underachievement or overachievement, respectively, of the objective, as follows:

Net Sales Payout

Achievement %	Payout %
<90%	0%
90%	25%
	Linear Interpolation
100%	100%
	Linear Interpolation
≥110%	150%

Adjusted Net Income Payout

Achievement %	Payout %
<80%	0%
80%	25%
	Linear Interpolation
100%	100%
	Linear Interpolation
≥120%	150%

"Net Sales" is defined as our net sales for 2021 at budgeted currency exchange rates, excluding net sales from any acquisitions in 2021. "Adjusted Net Income" is defined as our non-GAAP net income at reported currency exchange rates, after adjustments for the effects of acquisitions, divestitures, restructuring, integration, purchase price allocation and intangible amortisation, special items, including 3T Heater Cooler remediation and significant and unusual litigation, including 3T Heater Cooler litigation, and equity compensation.

Given that adjusted net sales and adjusted net profit are key measures of company value, the Board considers the actual target amounts of both objectives to be too commercially sensitive for disclosure at this time. The Compensation Committee will disclose the target amounts after the publication of the Company's 2021 financial results.

Non-Financial Goals

Clinical Study	Regulatory	Publication	Product Development
50%	20%	20%	10%

The non-financial objectives comprise strategic milestones that will drive revenue generation beyond 2021. The Clinical Study projects include enrollment objectives for two clinical studies, each valued at 25% if the objectives are achieved within defined timelines. The Regulatory Project is related to a regulatory submission objective and is valued 20% if the objective is achieved. The Publication goal is related to a number of publications in peer reviewed journals and is valued 20% if the objective is achieved. The Product Development objective is related to key milestone related to new product development and is valued 10% if the objective is achieved.

The sum of the weight of each achieved goal represents the achievement of the Non-Financial Goals Modifier.

The Board considers the non-financial goals to be too commercially sensitive for disclosure at this time. The Compensation Committee will disclose the Non-Financial achievements after the publication of the Company's 2021 financial results.

If the threshold for a Non-financial Goal Modifier is achieved, then the funding pool is scaled down or up for underachievement or overachievement, respectively, as follows:

The table below shows the minimum and maximum achievement of the target short-term incentive payment under the 2021 STIP.

	Minimum	Maximum[(1)]
Damien. McDonald[(1)]	0%	160%

[(1)] Per the Remuneration Policy, the maximum bonus opportunity is 200% of base salary.

Given that adjusted net sales and adjusted net profit are key measures of company value, the Board considers the actual target amounts of both objectives to be too commercially sensitive for disclosure at this time. The Compensation Committee will disclose the target amounts after the publication of the Company's 2021 financial results.

2021 LivaNova Long-Term Incentive Plan (2021 LTIP)

On 30 March 2021, the Compensation Committee approved our 2021 LTIP for our CEO, Damien McDonald, . Pursuant to the 2021 LTIP, the Compensation Committee approved an equity Award Value of four award vehicles for Mr. McDonald with an effective date of 30 March 2021, as follows:

	RSUs ($)	SARs ($)	rTSR PSUs ($)	FCF PSUs ($)	ROIC PSUs ($)
Damien McDonald	1,500,000	1,250,000	1,500,000	750,000	750,000

Service-Based Elements:

RSUs

Mr. McDonald received an award of service-based RSUs vesting in equal or substantially equal amounts on each of the first four anniversaries of the grant date. The Compensation Committee determined the number of RSUs awarded by dividing the Award Value by the most recent closing price of an ordinary share of our stock on Nasdaq as of the grant date and rounding down to the nearest whole unit.

SARs

Mr. McDonald received an award of SARs vesting in equal or substantially equal amounts on each of the first four anniversaries of the grant date. The Compensation Committee determined the number of SARs awarded by dividing the Award Value by the Black-Scholes value of a SAR based on the most recent closing price of an ordinary share of our stock on Nasdaq as of the grant date and rounding down to the nearest whole unit.

Performance-Based Elements:

rTSR PSUs

Mr. McDonald received an award of PSUs subject to a three-year rTSR market condition. At the end of calendar year 2023, our TSR for the three-year period 2021 through 2023 will be compared to the TSR for a group of 32 companies (the 2021 rTSR Comparator Group) selected by the Compensation Committee's compensation consultant, Pearl Meyer, and the number of shares of our stock actually delivered to Mr. McDonald will be determined by the following chart, with linear interpolation applied between specified levels.

TSR Performance Percentile Rank	Percent Funding for Objective
≥90th	200%
80th	150%
50th	100%
30th	40%
<30th	0%

The following companies comprise the 2021 rTSR Comparator Group:

ABIOMED, Inc.	Invacare Corporation
Avanos Medical, Inc.	iRhythm Technologies, Inc.
Boston Scientific Corporation	Masimo Corporation
CONMED Corporation	Medtronic plc
DexCom, Inc.	Merit Medical Systems, Inc.
Edwards Lifesciences Corporation	Natus Medical Incorporated
Envista Holdings Corporation	Nevro Corp.
Globus Medical, Inc.	NuVasive, Inc.
Haemonetics Corporation	Penumbra Inc.
Hill-Rom Holdings, Inc.	ResMed Inc.
Hologic, Inc.	Smith & Nephew plc
ICU Medical, Inc.	STERIS plc
Insulet Corporation	Tandem Diabetes Care, Inc.
Integer Holdings Corporation	Teleflex Incorporated
Integra LifeSciences Holdings Corp.	The Cooper Companies, Inc.
Intuitive Surgical, Inc.	Zimmer Biomet Holdings, Inc.

Adjusted FCF PSUs

Mr. McDonald received an award of PSUs subject to achievement of a one-year cumulative adjusted FCF Target. These FCF PSUs are subject to a three-year cliff vesting period At the end of calendar year 2021, adjusted FCF for the period 2021 will be compared to the FCF Target, and the number of shares of our stock actually delivered to Mr. McDonald will be determined by the following chart, with linear interpolation applied between specified levels. The performance period of one year maximizes our agility in a highly variable operating environment, while the three-year service criteria (inclusive of the performance period) promotes long-term retention.

FCF Achievement Relative to FCF Target	Percent Funding for Objective
≥150%	200%
125%	150%
100%	100%
60%	20%
<60%	0%

The Board considers the actual target amounts to be too commercially sensitive for disclosure at this time. The Compensation Committee will disclose the target amounts after the publication of the Company's 2021 financial results.

Return on Invested Capital (ROIC) PSUs

Mr. McDonald received an award of PSUs subject to achievement of a one-year average minimum threshold ROIC Target. These ROIC PSUs are subject to a three-year cliff vesting period. At the end of calendar year 2021, ROIC measurement for the year will be compared to the ROIC Target, and the number of shares of our stock actually delivered to Mr. McDonald will be determined by the following chart, with linear interpolation applied between specified levels. The performance period of one year maximizes our agility in a highly variable operating environment, while the three-year service criteria (inclusive of the performance period) promotes long-term retention.

ROIC Achievement Relative to ROIC Target	Percent Funding for Objective
Target ≥ + 250 bps	200%
Target + 125 bps	150%
Target	100%
Target - 125 bps	50%
Target <-250bps	0%

Definition of ROIC: The ROIC measure aims to estimate core operating performance, excluding the impact of financing / capital structure decisions. The metric can signal and encourage effective financial stewardship.

ROIC = Net operating profit after taxes (NOPAT) / Invested Capital (IC)

- The numerator is shorthand for core operating performance.
- The denominator denotes the capital required to achieve that performance.

The Board considers the actual target amounts to be too commercially sensitive for disclosure at this time. The Compensation Committee will disclose the target amounts after the publication of the Company's 2021 financial results.

Role of the Compensation Committee

Members

The Chairman of the Compensation Committee is Dr. Arthur L. Rosenthal and the other members of the Compensation Committee are Alfred J. Novak, Stacy Enxing Seng and Francesco Bianchi, all of whom are nonexecutive directors that the Company considers to be independent. All have served on the Compensation Committee since 19 October 2015, with the exception of Ms. Enxing Seng who joined the Compensation Committee in 2019. After the 2021 AGM, Dr. Rosenthal will rotate out of the Compensation Committee Chair position while remaining on the Compensation Committee, and Ms. Enxing Seng will assume the role of Compensation Committee Chair. The Compensation Committee's charter is available on the Company's website at www.livanova.com.

The Compensation Committee has authority to determine and approve the corporate goals and objectives applicable to the compensation of the CEO and to assess the CEO's performance annually in light of these goals and objectives and then to determine and approve the CEO's compensation level based on this evaluation. The CEO is not present during discussions about his own compensation. The Compensation Committee has authority to determine and approve the compensation of all other executive officers. While we have not carried out any direct consultations with employees in connection with the preparation of our remuneration policy, we welcome employee feedback in this respect. The Compensation Committee is also entrusted with reviewing and approving incentive plans and equity-based plans that apply on a broader basis but which could also apply to the CEO and other executive officers.

Role of Compensation Consultant

The Compensation Committee has the sole authority to retain and terminate a compensation consultant to assist with its responsibilities, as well as the sole authority to approve the consultant's fees, which we then pay. Our executive officers do not discuss compensation matters with the Compensation Committee's consultant, except as needed to respond to questions from the consultant or to understand the data underlying the consultant's reports. The Compensation Committee's consultant does not provide other services for us or any of our executive officers or other employees. When making compensation decisions in 2020, our Compensation Committee considered advice and data provided by Pearl Meyer.

The Compensation Committee's consultant does not provide services for the Company or any of our officers. Since 2016, the Compensation Committee has engaged the services of Pearl Meyer, an experienced compensation consulting firm, to advise the Compensation Committee on executive compensation matters. The Compensation Committee selected Pearl Meyer based on its global expertise. The Compensation Committee considered the following factors and determined Pearl Meyer to be an independent and conflict-free advisor to the Company:

- the provision of other services to the Company by the advisor's employer;
- the amount of fees received from the Company by the advisor's employer, as a percentage of the total revenue of the advisor's employer;
- the policies and procedures of the advisor's employer that are designed to prevent conflicts of interest;
- any business or personal relationship of the advisor with a member of the Compensation Committee;
- any stock of the Company owned by the advisor; and
- any business or personal relationship of the advisor or the advisor's employer with an executive officer of the Company.

In 2020, Pearl Meyer provided support on the following projects:

- director compensation analysis and benchmarking;
- peer group analysis; and
- executive equity compensation analysis.

The Company paid Pearl Meyer a total of $80,373.75 for the services indicated above for 2020, computed on the basis of Pearl Meyer's hourly rates for services rendered, multiplied by the number of hours required to generate the reports and including administrative service fees.

Service Contracts

Our non-executive directors do not have service contracts, however they are elected for a one-year term. Our one executive director does have a service contract but there is no anticipated termination date.

Statement of Voting at Prior Annual General Meetings

At the 2020 AGM held on 29 June 2020, votes on the advisory vote to approve the Directors' Remuneration Report were as follows:

To approve, on an advisory basis, the UK Directors' remuneration report in the form set out in the Company's UK Annual Report and Accounts (UK Annual Report) for the period ended 31 Dec 2019

	For	Against	Abstentions
Votes	39,698,424	1,826,770	47,550
Percentages %	95.6	4.4	N/A

LivaNova's Remuneration Policy was last approved by shareholders at the 2019 AGM held on 18 June 2019. The results are below and the policy is available on the Investor Relations page of our website at www.livanova.com.

To approve the Directors' Remuneration Policy

	For	Against	Abstentions
Votes	39,323,750	1,618,032	61,006
Percentages %	96	4	N/A

Under English law, an abstention is not a vote in law and will not be counted in the calculation of the proportion of votes "for" or "against" the resolution.

This Remuneration Report was approved by the Board on

29 April 2021

Dr. Arthur L. Rosenthal, Chairman of the Compensation Committee

Financial Statements

Independent auditors' report to the members of LivaNova PLC

Report on the audit of the financial statements

Opinion

In our opinion:

- LivaNova PLC's Group financial statements and Company financial statements (the "financial statements") give a true and fair view of the state of the Group's and of the Company's affairs as at 31 December 2020 and of the Group's and Company's loss and the Group's cash flows for the year then ended;
- The Group financial statements have been properly prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006;
- The Company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law); and
- The financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the 2020 UK Annual Report (the "Annual Report"), which comprise: the Consolidated and Company Balance Sheets as at 31 December 2020; the Consolidated Statement of (Loss) Income and Company Statement of (Loss) Income, the Consolidated Statement of Comprehensive Income and Company Statement of Comprehensive Income, the Consolidated Statement of Cash Flows, and the Consolidated Statement of Changes in Equity and Company Statement of Changes in Equity for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Our audit approach

Overview

Audit scope

- The Group operates its two principal business franchises through a legal entity structure with distribution to over 100 countries, which are managed as a number of components. Our audit focuses on seven components, over which we performed either a full scope audit or audit procedures on certain balances or transactions.
- The components where we conducted audit procedures, together with work performed at corporate functions and over consolidation adjustments, accounted for 72% of the Group's net sales and 88% of the Group's loss from continuing operations before tax on an absolute basis.

Key audit matters

- Carrying value of Cardiopulmonary and Advanced Circulatory Support goodwill (Group)
- Carrying value of investments in subsidiaries (Company)
- Impact of COVID-19 (Group and Company)

Materiality

- Overall Group materiality: $5 million (2019: $5 million) based on approximately 0.5% of total net sales.
- Overall Company materiality: $35 million (2019: $34 million) based on approximately 1% of total assets.
- Performance materiality: $3.75 million (Group) and $26 million (Company).

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

This is not a complete list of all risks identified by our audit.

The 3T Heater-Cooler litigation provision and the carrying values of the Heart Valve cash generating unit ("CGU") goodwill and ImThera Medical Inc. in-progress research and development intangible asset ("IPR&D"), which were key audit matters last year, are no longer included because of the following reasons. In relation to the 3T Heater-Cooler litigation provision, there is reduced judgment and estimation involved in the current year as there were no significant settlements or judgmental adjustments to the provision, the provision balance is less material (2020: $39.5 million; 2019: $170.4 million), and with the passage of time it is less likely any new significant cases will be filed. The impairment assessment of the Heart Valve cash generating unit ("CGU") goodwill was determined to no longer involve significant estimation as its goodwill was fully impaired in the prior year. Additionally, there was limited estimation involved in the impairment assessment of the Heart Valve disposal group as its fair value less estimated cost to sell was based on the Share and Asset Purchase Agreement entered into with Mitral Holdco S.à r.l., less disposal costs. The ImThera Medical Inc. IPR&D had sufficient headroom, so there was reduced sensitivity in the current year. Otherwise, the key audit matters below are consistent with last year.

Key audit matter	How our audit addressed the key audit matter
Carrying value of Cardiopulmonary and Advanced Circulatory Support goodwill (Group)	
Refer to Notes 2 and 12 in the Group financial statements The Group holds goodwill of $591.6 million (2019: $582.3 million) in the Consolidated Balance Sheet as at 31 December 2020. The risk is that these assets are materially overstated. Goodwill must be tested for impairment on at least an annual basis. Goodwill is also tested for impairment between annual assessments if an event occurs or circumstances change that would indicate the carrying amount may be impaired. The recoverable amount is based on subjective estimates about the future performance of the underlying cash generating units ("CGUs"). The extent of risk and estimation involved is increased where the carrying value is larger and headroom is lower; the CGUs most at risk of impairment and which required the greatest degree of estimation were the Cardiopulmonary and Advanced Circulatory Support CGUs with goodwill balances of $74.8 and $118.1 million respectively. Future cash flows included an estimate of the impact of COVID-19. Key assumptions include revenue growth rates, forecasted selling, general and administrative expenses, and discount rates.	For the Cardiopulmonary and Advanced Circulatory Support CGUs, our audit procedures included evaluating and challenging the appropriateness of the impairment models and reasonableness of the assumptions used. We evaluated future cash flow forecasts and the process by which they were prepared. This included: • Comparing the future cash flow forecasts used to the latest Board approved forecasts; • Evaluating the estimated potential future impact of t COVID-19 used in the future cash flow forecasts; • Testing the mechanics and mathematical integrity of the directors' impairment models; and • Performing look back assessments to consider the historic growth trends and the accuracy of the Board approved forecast. We tested key assumptions utilised in the impairment assessments, namely revenue growth rates, forecasted selling, general and administrative expenses, and discount rates. This testing included: • Considering the current and past performance of the CGUs, consistency with third-party industry data, and whether the assumptions were consistent with evidence obtained in other areas of the audit; and • Utilising experts with specialised skills and knowledge to assist in evaluating the appropriateness of the valuation methodology and the reasonableness of certain key assumptions, including the discount rate and terminal revenue growth rate.

Key audit matter	How our audit addressed the key audit matter
	As a result of our work, we determined that it was appropriate not to recognise an impairment charge in the year for the Cardiopulmonary and Advanced Circulatory Support CGUs. We also assessed the appropriateness of the related disclosures in Notes 2 and 12 of the Group financial statements, including the sensitivities provided in respect of the Cardiopulmonary and Advanced Circulatory Support CGUs. This included evaluating and reperforming the directors' sensitivity analysis to understand the impact of reasonably possible changes to key assumptions. We considered the disclosures to be reasonable. We noted no material exceptions through performing these procedures.
Carrying value of investments in subsidiaries (Company)	
Refer to Notes 2 and 5 in the Company financial statements Investments in subsidiaries of $2,939 million (2019: $2,866 million) are accounted for at cost less impairment in the Company's Balance Sheet at 31 December 2020. The risk is that these assets are materially overstated.	For each investment in subsidiary, we evaluated the directors' assessment of whether any indicators of impairment existed. Where an investment's carrying value was greater than the net assets of the subsidiary, which was determined to be an impairment indicator, we reviewed the detailed estimates prepared by the directors to support the carrying value of the investment held.
Investments in subsidiaries are assessed for impairment if impairment indicators exist. If such indicators exist, the recoverable amounts of the investments in subsidiaries are estimated in order to determine the extent of the impairment loss, if any. Any such impairment loss is recognised in the Company Statement of (Loss) Income. There is estimation involved in the determination of the recoverable amounts of the investments in subsidiaries. The directors assessed each investment individually for impairment. An impairment indicator was determined to be present if the carrying value of the investment exceeded the subsidiary's net assets. Where an indicator was identified, the directors determined whether the carrying value of the investment can be supported by the recoverable amount, being the higher of fair value less cost of disposal or value in use where the net present value of future cash flows are estimated based on the continued use of the asset in the business.	The substantive audit procedures we performed included: • verifying the mathematical integrity of the impairment model; • where a value in use estimate was used, evaluating the appropriateness of key assumptions used in the estimate, including the cash flow projections, revenue growth rates, forecasted selling, general and administrative expenses, and discount rates, in conjunction with our goodwill impairment testing; and • where a fair value less estimated cost to sell model was used, evaluating the consistency of the estimate used with the Heart Valve disposal group impairment assessment.
The assessment utilised the discounted cash flow analyses developed as part of the Group goodwill impairment assessment and the fair value less cost of disposal assessment performed in respect of the Heart Valve disposal group. Future cash flows included an estimate of the impact of COVID-19. The key assumptions included in those estimates were the cash flow projections, revenue growth rates, general and administrative expenses, and discount rates.	Where applicable, we have performed an independent sensitivity analysis to understand the impact of reasonably possible changes in the directors' assumptions on the available headroom. As a result of our work, we considered it appropriate that, with the exception of LivaNova Canada Corp., no impairment charges were recorded on the basis that the carrying values of the investments in subsidiaries held by the Company are supportable. We also consider the impairment charge of $73.8 million recorded in relation to the investment in LivaNova Canada Corp. prior to its transfer to assets held for sale to be appropriate. We have also assessed the directors' disclosures within the Company financial statements and consider them to be appropriate. We noted no material exceptions through performing these procedures.
Impact of COVID-19 (Group and Company)	
Refer to Note 2 in the Group financial statements and Note 2 in the Company financial statements	Our procedures in respect of the impairment assessment of the Group's goodwill and Company's investments in subsidiaries are set out in the related key audit matters above.
The Group's operations, financial condition and results have been and may continue to be impacted by the COVID-19 pandemic. The Group has experienced significant and unpredictable reductions in the demand for its products due to healthcare customers diverting medical resources and priorities towards the treatment of COVID-19. In addition, public health organizations have regularly delayed or suspended elective and non-emergency procedures during the COVID-19 pandemic, which has negatively impacted the usage of the Group's products.	Our procedures and conclusions in respect of going concern are set out separately within the 'Conclusions relating to going concern' section of this report. We considered whether changes to working practices i introduced by the COVID-19 pandemic had an adverse impact on the effectiveness of Group's business process and IT controls. We did not identify any evidence of material deterioration in the control environment.
The key estimates impacted by COVID-19 were the recoverability of the Group's goodwill and the Company's investment in subsidiaries, as discussed in the key audit matters entitled 'Carrying value of Cardiopulmonary and Advanced Circulatory Support goodwill' and 'Carrying value of investments in subsidiaries'.	We have also assessed the disclosures within the financial statements and consider them to be appropriate. We noted no s material exceptions through performing these procedures.

Key audit matter	How our audit addressed the key audit matter
COVID-19 also has posed a risk to the Group's and Company's ability to continue as a going concern. In light of the impact of COVID-19, the directors refinanced its existing credit facilities. As a result of the debt refinancing the Group obtained additional financing in June 2020 which substantially increased the Group's liquidity headroom. Furthermore, the Group also signed an additional revolving credit facility agreement in the aggregate principal amount of up to $50 million in December 2020, which was not drawn down as at 31 December 2020. Management's and the other employees' way of working, including the operation of controls, has also been impacted by COVID-19 as a result of a large number of employees working remotely and using technology-enabled working practices.	

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the Group and the Company, the accounting processes and controls, and the industry in which they operate.

We conducted full scope audits at two financially significant components: the US and Italy. In addition, in order to achieve the required coverage, we performed audit and/or specified procedures over key financial statement line items at an additional three material and two other components, including net sales, cost of sales, selling, general and administrative expenses, research and development expenses, merger and integration expenses, inventory, trade receivables, trade payables, financial liabilities, income tax (expense) benefit, deferred taxes, and cash and cash equivalents. In addition, audit procedures were performed centrally in relation to various Group functions, including goodwill and IPR&D intangible assets, share-based compensation plans, contingent considerations, investments, litigation matters, assets and liabilities held for sale, and consolidation.

As a result of COVID-19, we were unable to visit any component teams in conducting the 2020 audit. As such, our oversight procedures included the issuance of formal written instructions to component auditors setting out the work to be performed at each location and regular communication throughout the audit cycle including regular component video conferences and calls, and review of component auditor work papers for financially significant and material components.

The components where we conducted audit procedures, together with work performed at corporate functions and over consolidation adjustments, accounted for 72% of the Group's net sales and 88% of the Group's loss from continuing operations before tax on an absolute basis.

The Company is incorporated in the UK, with a branch in Italy. We ensured that sufficient coverage was obtained through our testing of the UK entity and Italy branch. Certain balances were in scope for the Group audit, including cash and cash equivalents, financial liabilities, taxation, operating expenses, and trade payables, and were audited centrally to Group materiality. The remainder of the balances were audited to Company materiality.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Financial statements - Group	Financial statements - Company
Overall materiality	$5 million (2019: $5 million).	$35 million (2019: $34 million).
How we determined it	Based on approximately 0.5% of total net sales	Based on approximately 1% of total assets
Rationale for benchmark applied	As the Group has never paid a dividend and the Group has no immediate intention to declare and pay dividends and adjusted net sales is the most heavily weighted metric in determination of directors' remuneration, we consider total net sales to be an appropriate benchmark.	As the Company's principal activity is to hold investments in subsidiaries, the Company is not profit-oriented. Therefore, total assets are used as the benchmark.

For each component in the scope of our Group audit, we allocated a materiality that is less than our overall Group materiality. The range of materiality allocated across components was between $3 million and $4.9 million.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% of overall materiality, amounting to $3.75 million for the Group financial statements and $26 million for the Company financial statements.

In determining the performance materiality, we considered a number of factors - the history of misstatements, risk assessment and aggregation risk and the effectiveness of controls - and concluded that an amount in the middle of our normal range was appropriate.

We agreed with those charged with governance that we would report to them misstatements identified during our audit above $0.4 million (Group audit) (2019: $0.4 million) and $1.7 million (Company audit) (2019: $1.7 million) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the Group's and the Company's ability to continue to adopt the going concern basis of accounting included:

- agreeing the underlying cash flow projections to the Board approved forecasts, assessing how these forecasts are compiled, and evaluating the accuracy of the Board approved forecasts;

- evaluating the key assumptions within the Board approved forecasts;
- considering liquidity and available financial resources;
- performing a breakeven assessment for forecast revenue, in order to assess the extent of headroom in comparison to the principal risks facing the business, including those in relation to COVID-19; and
- reviewing the covenants applicable to the Group's borrowings and assessing whether the forecasts supported ongoing compliance with the covenants.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and the Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the Group's and the Company's ability to continue as a going concern.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic Report and Directors' Report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic Report and Directors' Report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic Report and Directors' Report for the year ended 31 December 2020 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the Group and Company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic Report and Directors' Report.

Directors' Remuneration

In our opinion, the part of the Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors' Responsibilities in Respect of the Financial Statements, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or the Company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the Group and industry, we identified that the principal risks of non-compliance with laws and regulations related to product safety (including but not limited to environmental laws and regulations and the US Food and Drug Administration regulation), and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Companies Act 2006. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting inappropriate journal entries to manipulate financial results and potential management bias in accounting estimates. The group engagement team shared this risk

assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the group engagement team and/or component auditors included:

- Evaluation and testing of the operating effectiveness of management's controls designed to prevent and detect irregularities;
- Discussions with management, legal counsel and internal audit, including inquiry regarding known or suspected instances of non-compliance with laws and regulations and fraud, and review of the reports made by internal audit;
- Reviewing relevant meeting minutes, including those of the Board of directors and the Audit and Compliance Committee;
- Challenging assumptions made by the directors in its significant accounting estimates, in particular in relation to the impairment assessments for the Group's goodwill and Company's investments in subsidiaries (see related key audit matters below);
- Identifying and testing the validity of journal entries, in particular any journal entries posted with unusual account combinations, journals posted with unusual description, journals posted by senior management and consolidation journals, and
- Assessment of matters reported on the Group's whistleblowing helpline and the results of the directors' investigation of such matters.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the Company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not obtained all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the Company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the Company financial statements and the part of the Remuneration Report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

London 29 April 2021

Nigel Comello, Senior Statutory Auditor

for and on behalf of PricewaterhouseCoopers LLP

Chartered Accountants and Statutory Auditors

LIVANOVA PLC AND SUBSIDIARIES

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Consolidated Statement of (Loss) Income

(In thousands, except per share amounts)

		Year Ended 31 December	
	Note	2020	2019
Net sales	29	$ 934,241	$ 1,084,170
Costs and expenses:			
Cost of sales	31	309,777	326,485
Product remediation		7,860	15,777
Selling, general and administrative	31	447,759	536,198
Research and development	31	166,691	164,161
Exceptional items	33	168,004	635,837
Operating loss from continuing operations		(165,850)	(594,288)
Finance income		131	803
Finance expense		(59,827)	(16,402)
Foreign exchange and other losses		(14,067)	(571)
Share of loss from equity accounted investments		(264)	-
Loss from continuing operations before tax		(239,877)	(610,458)
Income tax benefit	26	60,822	51,227
Loss from continuing operations		(179,055)	(559,231)
(Loss) income from discontinued operations, net of tax	9	(1,493)	365
Loss attributable to owners of the parent		$ (180,548)	$ (558,866)
Basic (loss) earnings per share:			
Continuing operations	28	$ (3.68)	$ (11.57)
Discontinued operations	28	(0.04)	0.01
		$ (3.72)	$ (11.56)
Diluted (loss) earnings per share:			
Continuing operations	28	$ (3.68)	$ (11.57)
Discontinued operations	28	(0.04)	0.01
		$ (3.72)	$ (11.56)
Shares used in computing basic (loss) earnings per share	28	48,592	48,349
Shares used in computing diluted (loss) earnings per share	28	48,592	48,349

See accompanying notes to the consolidated financial statements

Consolidated Statement of Comprehensive Income

(In thousands)

	Note	Year Ended 31 December 2020	2019
Loss attributable to owners of the parent		$ (180,548)	$ (558,866)
Items of other comprehensive income that will be subsequently reclassified to profit or loss:			
Cash flow hedges for interest rate fluctuations	17	113	92
Tax impact		(27)	(22)
Cash flow hedges for exchange rate fluctuations	17	2,266	1,825
Tax impact		(546)	(438)
Foreign currency translation differences		23,780	3,608
Total items of other comprehensive income that will be subsequently reclassified to profit or loss		25,586	5,065
Items of other comprehensive loss that will not be subsequently reclassified to profit or loss:			
Remeasurement of net assets for defined benefits	25	(1,321)	(1,337)
Tax impact		339	328
Total items of other comprehensive loss that will not be subsequently reclassified to profit or loss		(982)	(1,009)
Total other comprehensive income, net of taxes		24,604	4,056
Total comprehensive loss for the year, net of taxes attributable to owners of the parent		$ (155,944)	$ (554,810)
Total comprehensive (loss) income from discontinued operations for the year, net of taxes attributable to owners of the parent		(1,493)	365
Total comprehensive loss from continuing operations for the year, net of taxes attributable to owners of the parent		$ (154,451)	$ (555,175)

See accompanying notes to the consolidated financial statements

Consolidated Balance Sheet

(In thousands)

	Note	31 December 2020	31 December 2019
ASSETS			
Non-current assets			
Property, plant and equipment	11	$ 156,275	$ 168,921
Intangible assets	12	445,166	537,764
Goodwill	12	591,639	582,324
Right-of-use assets	20	50,378	55,194
Equity investments in associates	14	393	451
Financial assets	14	38,284	31,281
Derivative financial instruments	17	72,302	-
Deferred tax assets	26	82,551	76,151
Other assets		3,664	2,881
Total non-current assets		1,440,652	1,454,967
Current assets			
Inventories	15	126,675	164,154
Trade receivables	16	184,356	257,769
Other receivables	16	19,218	25,253
Derivative financial instruments	17	2,053	115
Other financial assets	14	3,522	3,236
Tax receivable		60,240	35,608
Cash and cash equivalents		252,832	61,137
Total current assets		648,896	547,272
Assets held for sale	8	79,973	-
Total assets		$ 2,169,521	$ 2,002,239
LIABILITIES AND EQUITY			
Equity			
Share capital		$ 76,300	$ 76,257
Group reconstruction reserve	18	1,729,764	1,729,764
Share premium		27,361	23,243
Treasury shares		(1,034)	(1,263)
Accumulated other comprehensive income (loss)	18	3,013	(21,591)
Accumulated deficit		(976,849)	(824,411)

	Note	31 December 2020	31 December 2019
Total equity		$ 858,555	$ 981,999
Non-current liabilities			
Derivative financial instruments	17	$ 121,940	$ 61
Financial liabilities	19	642,298	260,103
Contingent consideration	22	89,850	114,396
Litigation provision liability	22	7,878	24,378
Other liabilities	21	9,365	9,212
Provisions	22	53,779	10,584
Long-term lease liabilities	20	42,230	46,218
Provision for employee severance indemnities and other employee benefit provisions	25	19,748	23,261
Deferred taxes liabilities	26	11,184	18,182
Total non-current liabilities		998,272	506,395
Current liabilities			
Trade payables		73,099	85,038
Other payables	23	102,527	140,427
Derivative financial instruments	17	7,372	3,173
Other financial liabilities	19	13,343	77,326
Current litigation provision liability	22	31,625	146,026
Provisions	22	28,079	37,820
Current lease liabilities	20	11,271	11,316
Tax payable		16,456	12,719
Total current liabilities		283,772	513,845
Liabilities held for sale	8	28,922	-
Total liabilities and equity		$ 2,169,521	$ 2,002,239

See accompanying notes to the consolidated financial statements

The financial statements on pages 80 to 151 were approved by the Board and were signed on its behalf on 29 April 2021 by:

DAMIEN MCDONALD, CHIEF EXECUTIVE OFFICER & DIRECTOR

Company Number: 09451374

Consolidated Statement of Changes in Equity

(In thousands)

		Ordinary							
	Note	Number of Shares	Share Capital	Group Reconstruction Reserve	Share Premium	Treasury Shares	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Equity
Balance at 31 December 2018		49,323	$ 76,144	$ 1,729,764	$ 18,516	$ (1,462)	$ (25,647)	$ (287,921)	$ 1,509,394
Share-based compensation plans	24	88	113	-	4,727	199	-	22,376	27,415
Total transactions with owners recognised directly in shareholders' equity		88	113	-	4,727	199	-	22,376	27,415
Net loss		-	-	-	-	-	-	(558,866)	(558,866)
Other comprehensive income	18	-	-	-	-	-	4,056	-	4,056
Total comprehensive income (loss) for the year		-	-	-	-	-	4,056	(558,866)	(554,810)
Balance at 31 December 2019		49,411	76,257	1,729,764	23,243	(1,263)	(21,591)	(824,411)	981,999
Share-based compensation plans	24	109	140	-	4,021	229	-	28,110	32,500
Balance at Cancellation of shares		(73)	(97)	-	97	-	-	-	-
Total transactions with owners recognised directly in shareholders' equity		36	43	-	4,118	229	-	28,110	32,500
Net loss		-	-	-	-	-	-	(180,548)	(180,548)
Other comprehensive income	18	-	-	-	-	-	24,604	-	24,604

	Note	Ordinary Number of Shares	Share Capital	Group Reconstruction Reserve	Share Premium	Treasury Shares	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Equity
Total comprehensive income (loss) for the year		-	-	-	-	-	24,604	(180,548)	(155,944)
Balance at 31 December 2020		49,447	$ 76,300	$ 1,729,764	$ 27,361	$ (1,034)	$ 3,013	$ (976,849)	$ 858,555

See accompanying notes to the consolidated financial statements

Consolidated Statement of Cash Flows

(In thousands)

	Note	Year Ended 31 December 2020	2019
Cash Flows From Operating Activities:			
Loss for the year		$ (180,548)	$ (558,866)
Non-cash items included in loss:			
Depreciation and amortisation	11, 12	62,447	70,645
Depreciation of lease assets	20	14,429	13,054
Remeasurement of contingent consideration to fair value	22	(20,463)	(29,406)
Remeasurement of derivative instruments		22,085	26
Share-based compensation	24	36,323	37,219
Impairment of long-lived assets	8, 11, 12	96,632	224,441
Impairment of goodwill	12	-	379,493
Amortisation on income taxes payable on intercompany transfers		2,171	2,575
Net finance expense		59,696	15,599
Income tax benefit		(60,822)	(51,227)
Amortisation of debt issuance costs		9,710	2,204
Other non-cash items		378	1,870
Changes in operating assets and liabilities:			
Accounts receivable, net		58,796	(5,321)
Inventories		1,403	(10,608)
Other current and non-current assets		(39,642)	(2,129)
Litigation provision liability	22	(131,258)	(123,695)
Tax payable		49,114	(2,555)
Current and non-current liabilities		(8,764)	(23,100)
Cash used in operations		(28,313)	(59,781)
Interest paid		(29,971)	(17,143)
Income taxes paid		(7,493)	(2,011)
Net cash used in operating activities		(65,777)	(78,935)
Cash Flow From Investing Activities:			
Purchase of property, plant, equipment		(30,461)	(23,548)
Acquisitions, net of cash acquired		(1,719)	(10,750)
Payment of contingent consideration		(12,018)	(18,955)
Purchase of intangible assets		(4,563)	(4,432)
Proceeds from asset sales		1,433	1,261
Purchases of investments		(3,184)	(2,500)
Loans to investees		(2,691)	-
Other		(659)	(1,321)
Net cash used in investing activities		(53,862)	(60,245)
Cash Flows From Financing Activities:			
Change in short-term borrowing, net		(872)	(1,188)
Proceeds from short-term borrowing (maturities greater than 90 days)		47,053	-
Repayments of short-term borrowing (maturities greater than 90 days)		(44,838)	-
Proceeds from long-term debt obligations	19	886,899	197,160
Repayment of long-term debt obligations	19	(482,065)	(24,210)
Purchase of capped call	19	(43,096)	-
Principal payments of lease liabilities	20	(13,645)	(12,207)
Proceeds from exercise of options for stock		-	372
Shares repurchased from employees for minimum tax withholding		(5,601)	(7,064)
Proceeds from share issuances under employee share purchase plan		3,744	4,468
Debt issuance costs		(23,736)	(3,795)
Closing adjustment payment for sale of CRM business	9	(14,891)	-

		Year Ended 31 December	
	Note	2020	2019
Other financial assets and liabilities		177	(207)
Net cash provided by financing activities		309,129	153,329
Effect of exchange rate changes on cash and cash equivalents		2,205	(216)
Net increase in cash and cash equivalents		191,695	13,933
Cash and cash equivalents at beginning of year		61,137	47,204
Cash and cash equivalents at end of year	$	252,832	$ 61,137

See accompanying notes to the consolidated financial statements

Notes to the Consolidated Financial Statements

Note 1. Nature of Operations

Company information.

LivaNova PLC (collectively with its subsidiaries, the "Company," "LivaNova," "Group," "we" or "our") is a public limited company incorporated in the United Kingdom under the Companies Act 2006 (Registration number 09451374). The Company is domiciled in England and Wales in the United Kingdom and its registered address is 20 Eastbourne Terrace, London, W2 6LG, United Kingdom.

Background.

LivaNova PLC was organized under the laws of England and Wales on 20 February 2015 for the purpose of facilitating the business combination of Cyberonics, Inc., a Delaware corporation and Sorin S.p.A., a joint stock company organized under the laws of Italy. As a result of the business combination, LivaNova, headquartered in London, became the holding company of the combined businesses of Cyberonics and Sorin. This business combination became effective on 19 October 2015, at which time LivaNova's Ordinary Shares were listed for trading on the NASDAQ Global Market (Nasdaq) and on the London Stock Exchange (LSE) as a standard listing under the trading symbol "LIVN." Upon the consummation of the business combination of Cyberonics and Sorin, the historical financial statements of Cyberonics became the Company's historical financial statements. On 23 February 2017, we announced our voluntary cancellation of our standard listing of our shares with the LSE due to the low trading volume of our shares and trading ceased at the close of business on 4 April 2017. We continue to serve our shareholders through our listing on the Nasdaq.

Description of the business.

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 cardiovascular disease and neuromodulation, 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 minimise healthcare costs.

Business segments.

LivaNova is comprised of two reportable segments: Cardiovascular and Neuromodulation, corresponding to our primary therapeutic areas. Other corporate activities include corporate shared service expenses for finance, legal, human resources, information technology and corporate business development.

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

Basis of Preparation.

The consolidated financial statements have been properly prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006, and have been prepared on a going concern basis.

On 31 December 2020, the EU-adopted IFRS was brought into UK law and became UK-adopted international accounting standards, with future changes to IFRS being subject to endorsement by the UK Endorsement Board. The consolidated financial statements will transition to UK-adopted international accounting standards for financial periods beginning 1 January 2021.

Accounting policies have been applied consistently, other than where new policies have been adopted, and are presented on a historical cost basis, except for investments in equity instruments in privately-held companies, derivative financial instruments, contingent consideration liabilities, pension obligations, assets and liabilities held for sale and share awards that have been measured at fair value. The consolidated financial statements are presented in United States Dollars and all values are rounded to the nearest thousands, except where otherwise indicated.

Going Concern.

Due to the COVID-19 pandemic ("COVID-19"), we have experienced and may continue to experience significant and unpredictable reductions in the demand for our products as healthcare customers have diverted medical resources and priorities towards the treatment of COVID-19. In addition, public health bodies have delayed elective procedures during the COVID-19 pandemic, which has negatively impacted the usage of our products, including the number of Neuromodulation procedures. Further, some people are avoiding seeking treatment for non-COVID-19 emergency procedures, which has also negatively impacted the demand for our products.

We have observed improving market dynamics during the first quarter of 2021, especially in the Unites States; however, we continue to be impacted in regions with COVID-19 case rate variability. We expect the recovery to continue during the remainder of fiscal year 2021.

As at 31 March 2021, the Group had cash and cash equivalents of $252.5 million. 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 twelve months from the issuance date of these consolidated financial statements. We regularly review our capital needs and consider various investing and financing alternatives to support our requirements. Therefore, it is appropriate to adopt the going concern basis in preparing these consolidated financial statements.

On 17 June 2020, our wholly-owned subsidiary, LivaNova USA, Inc., issued the $287.5 million Notes. Holders of the Notes are entitled to exchange the Notes at any time during specified periods, at their option, and are entitled to exchange the Notes during any calendar quarter, if the last reported sale price of LivaNova's ordinary shares, with a nominal value of £1.00 per share for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the exchange price, or $79.27 per share, on each

applicable trading day. The Company believes that it is remote that the Notes will be exchanged by the holders at any time during the next twelve months. In the event holders do elect to exchange the Notes, the Company plans to use cash on hand and unutilized credit facilities to facilitate payment. Refer to "Note 19. Financial Liabilities" for further information.

Fiscal Year-End.

LivaNova's fiscal year ends 31 December.

Consolidation.

The accompanying consolidated financial statements include LivaNova, our wholly owned subsidiaries and associates and the LivaNova PLC Employee Benefit Trust. All significant intercompany accounts and transactions have been eliminated.

Equity Method.

Under the equity method of accounting, the investments in associates and joint ventures are initially recognised at cost and adjusted thereafter to recognise the Company's share of the post-acquisition profits or losses of the investee in profit or loss, and the Company's share of movements in other comprehensive income (OCI) (loss) of the investee in OCI (loss). Dividends received or receivable from associates are recognised as a reduction in the carrying amount of the investment.

Unrealised gains on transactions between the Company and its associates and joint ventures are eliminated to the extent of the Company's interest in these entities. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred.

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 selling, general and administrative on the consolidated statement of (loss) income. We recognise adjustments to the provisional amounts identified during the measurement period with a corresponding adjustment to goodwill in the reporting year in which the adjustment amounts are determined. The effect on earnings of changes in depreciation, amortisation or other income effects, if any, as a result of the change to the provisional amounts are recorded in the same year's consolidated 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 sheet consist of finite-lived and indefinite-lived assets expected to generate future economic benefits and are recorded at their respective fair values as of their acquisition date. Finite-lived intangible assets consist primarily of developed technology and technical capabilities, including patents, related know-how and licensed patent rights, trade names, customer relationships and favourable leases acquired in acquisitions. Customer relationships consist of relationships with hospitals and cardiac surgeons in the countries where we operate. Indefinite-lived intangible assets other than goodwill are composed of IPR&D assets acquired in acquisitions. We estimate the useful lives of our intangible assets, which requires management judgement. We amortise our finite-lived intangible assets over their useful lives using the straight-line method.

We evaluate our finite-lived and indefinite-lived intangible assets each reporting year to determine whether events and circumstances indicate either a different useful life or impairment, respectively. For finite-lived intangible assets, if we change our estimate of the useful life of an asset, we amortise the carrying amount over the revised remaining useful life.

Foreign Currency.

We determine the functional currency of our subsidiaries that exist and operate in different economic and currency environments based on the primary economic environment in which the subsidiary operates, that is, the currency of the environment in which an entity primarily generates and expends cash. Our significant foreign subsidiaries are located in Europe and the U.S. The functional currency of our significant European subsidiaries is the Euro, and the functional currency of our significant U.S. subsidiaries is the U.S. dollar.

Assets and liabilities of subsidiaries whose functional currency is not the U.S. dollar are translated into U.S. dollars based on a combination of both current and historical exchange rates, while their revenues earned and expenses incurred are translated into U.S. dollars at average period exchange rates. Translation adjustments are included as accumulated other comprehensive income (AOCI) on the consolidated balance sheet. Gains and losses arising from transactions denominated in a currency different from an entity's functional currency are included in FX and other losses on our consolidated statement of (loss) income. Taxes are not provided on cumulative translation adjustments, as substantially all translation adjustments are related to earnings which are intended to be indefinitely reinvested in the countries where earned. Foreign exchange and other losses on the consolidated statement of (loss) income consists primarily of gains and losses arising from transactions denominated in a currency different from an entity's functional currency and foreign currency exchange rate and other derivative gains and losses.

Foreign currency differences arising from translation are recognised in the consolidated statement of (loss) income.

The Euro and GBP exchange rate to the USD used in preparing the Company financial statements was as follows:

	Weighted Average Rate	Closing Rate	Weighted Average Rate	Closing Rate
	Euro	Euro	GBP	GBP
Year ended 31 December 2020	0.877417	0.815100	0.779623	0.732120
Year ended 31 December 2019	0.893318	0.891190	0.783710	0.756720

Financial Instruments. A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. Financial assets and financial liabilities are offset with the net amount reported in the consolidated balance sheet only if there is a current enforceable legal right to offset the recognised amounts and intent to settle on a net basis, or to realise the assets and settle the liabilities simultaneously.

(a) Financial Assets

Initial Recognition and Measurement.

Financial assets are classified, at initial recognition, as financial assets at fair value through profit or loss, loans and receivables, investments, financial assets, or as derivatives designated as hedging instruments in an effective hedge, as appropriate. The Company

determines the classification of its financial assets at initial recognition. All financial assets are recognised initially at fair value plus, in the case of assets not at fair value through profit or loss, transaction costs that are attributable to the acquisition of the financial asset. Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognised on the trade date, i.e., the date on which the Company commits to purchase or sell the asset.

The subsequent measurement and impairment of financial assets depends on their classification as described below:

Financial Assets at Fair Value Through Profit or Loss.

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held-for trading if they are acquired for the purpose of selling or re-purchasing in the near term. This category includes derivative financial instruments entered into by the Company that are not designated as hedging instruments in hedge relationships as defined by IFRS 9. 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 recognised in income statement, thereby offsetting the current net income (loss) effect of the related change in value of foreign currency denominated assets and liabilities.

Changes in the fair value of our investments in equity instruments held at fair value are recognised through profit or loss.

Loans and Receivables.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, such financial assets are subsequently measured at amortised cost using the effective interest rate (EIR) method, less impairment. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in finance income in the statement of profit or loss. The receivable balance consists of trade receivables from direct customers and distributors and loans issued. We maintain an expected credit loss provision for expected 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 uncollectable accounts against the provision when all reasonable collection efforts have been exhausted. Loans, together with the associated provision are written off when there is no realistic prospect of future recovery and all collateral has been realised or has been transferred to the Company. The losses arising from impairment are recognised in the consolidated statement of (loss) income in cost of sales or other operating expenses for receivables.

Collection periods for trade receivables vary significantly due to the nature of a customer (e.g. government or private) and its geographic location. LivaNova may utilize non-recourse and with-recourse factoring arrangements as a part of its funding policy; however, as at 31 December 2020 and 31 December 2019, there are no factoring arrangements outstanding.

Refer to "Note 16. Trade Receivables and Other Receivables" for further information.

Financial Asset Derecognition.

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is derecognised when:

- The rights to receive cash flows from the asset have expired, or
- The Company has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through arrangement, and either (a) the Company has transferred substantially all the risks and rewards of the asset, or (b) the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

(b) Financial Liabilities

Initial Recognition and Measurement.

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings (bank debt), payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate. All financial liabilities are recognised initially at fair value and, in the case of loans, borrowings and payables, net of directly attributable transaction costs. The Company's financial liabilities include trade and other payables, loans and bank debt including bank overdrafts, and derivative financial instruments.

The measurement of financial liabilities depends on their classification, as follows:

Financial Liabilities at Fair Value Through Profit or Loss.

Financial liabilities at fair value through profit or loss include financial liabilities held-for-trading and financial liabilities designated upon initial recognition as at fair value through profit or loss. Financial liabilities are classified as held-for-trading if they are acquired for the purpose of selling in the near term. This category includes derivative financial instruments entered into by the Company that are not designated as hedging instruments in hedge relationships as defined by IFRS 9, which the Company has elected to apply. Gains or losses on liabilities held-for-trading are recognised in the consolidated statement of (loss) income. Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in IFRS 9 are satisfied. Changes in the fair value of our contingent consideration liability are recognised through profit or loss.

Loans and Borrowings (bank debt).

After initial recognition, interest bearing loans and borrowings are subsequently measured at amortised cost using the EIR method. Gains and losses are recognised in the consolidated statement of (loss) income when the liabilities are de-recognised, as well as through the EIR method amortisation process. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in finance costs in the consolidated statement of (loss) income.

Financial Guarantee Contracts.

Financial guarantee contracts issued by the Company are those contracts that require a payment to be made to reimburse the holder for a loss it incurs, because the specified debtor fails to make a payment when due, in accordance with the terms of a debt instrument. Financial guarantee contracts are recognised initially as a liability at fair value, and then adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequently, the liability is measured through profit or loss at the higher of the best estimate of the expenditure required to settle the present obligation at the reporting date and the amount recognised less cumulative amortisation.

Financial Liability Derecognition.

A financial liability is de-recognised when the obligation under the liability is discharged, cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the consolidated statement of (loss) income.

Derivative Financial Instruments and Hedge Accounting.

We use currency exchange rate derivative contracts and interest rate derivative instruments to manage the impact of currency exchange and interest rate changes on the consolidated statement of (loss) income and the consolidated statement of cash flows. Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. We evaluate hedge effectiveness at inception and on an ongoing basis, based upon a comparison between the actual amounts and the forecasted amounts of the hedged items, for each currency included in the hedge accounting model. If a derivative is no longer expected to be highly effective, hedge accounting is discontinued. Hedge ineffectiveness, if any, is recorded in the consolidated statement of (loss) income. Cash flows from derivative contracts are reported as operating activities in the consolidated statement of cash flows.

When a hedging instrument expires, is sold or is terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the consolidated statement of (loss) income. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately reclassified to profit or loss.

In order to minimise income statement 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 and of some revenue. At inception of the forward contract, the derivative is designated as either a freestanding derivative or a cash flow hedge. 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 AOCI (loss) and reclassified to the consolidated statement of (loss) income to offset exchange differences originated by the hedged item or to adjust the value of net income (loss) from continuing operations. We do not enter into currency exchange rate derivative contracts for speculative purposes.

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. Cash equivalents are carried on the consolidated balance sheet at cost, which approximated their fair value.

Non-monetary Assets.

Property, Plant and Equipment. Property, Plant & Equipment (PP&E) is carried at cost, less accumulated depreciation and any accumulated impairment losses. 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. Where an item of PP&E comprises several parts with different useful lives, each part is recognised as a separate item and depreciated over its useful life. Useful life and residual value of PP&E are reviewed at each year-end. As necessary, the occurrence of changes to the useful life or residual value is recognised prospectively as a change in accounting estimates.

Leasehold improvements are depreciated over the shorter of the useful life of an asset or the lease term. 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.

The estimated useful lives for all classes of depreciable PP&E, except for land and capital investment in process which are not depreciated, as at 31 December 2020 were as follow:

	Lives in Years
Building and building improvements	3 to 39
Equipment, other, furniture, fixtures	3 to 20

The estimated useful lives for all classes of depreciable PP&E, except for land and capital investment in process which are not depreciated, as at 31 December 2019 were as follow:

	Lives in Years
Building and building improvements	3 to 39
Equipment, other, furniture, fixtures	2 to 13

Where there are any internal or external indications that the value of an item of PP&E may be impaired, the recoverable amount of the group of cash generating unit(s) (CGU(s)) to which it belongs is calculated. If the recoverable amount is less than the carrying amount of the group of CGUs, a provision for impairment is recorded. PP&E is reviewed for impairment annually on 31st of December.

Impairment of Goodwill and Long-lived Assets.

The Company assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Company estimates the asset’s recoverable amount. An asset’s recoverable amount is the higher of an asset’s CGU’s fair value less costs of disposal and its value in use. It is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered unpaired and is written down to its recoverable amount.

The methodology applied to our CGUs value in use calculations, reflecting past experience and external sources of information, includes Board approved five-year budgets based on pre-tax cash flows which are extended to trend the expected revenue growth rate at the end of the budgeted period down to the estimated long-term growth rate in a linear manner. The methodology applied to our value in use calculations is based on projected periods and includes a discounted cash flow model test, utilizing discount rates and a long-term growth rate. Goodwill impairment evaluations are highly subjective. They involve expectations of future cash flows that reflect our judgements and assumptions regarding future industry conditions and operations. The estimates, 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. Quantitative factors used to determine the fair value of the CGU reflect our best estimates, and we believe they are reasonable. Future declines in the CGU’s operating performance or our anticipated business outlook may reduce the estimated fair value of our CGU and result in additional impairment. 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; and
- Increases in the market-participant risk-adjusted weighted average cost of capital (WACC)

Refer to "Note 12. Goodwill and Intangible Assets" for a discussion of the sensitivity analyses performed for forecasted selling, general and administrative expenses, the discount rate and expected revenue growth rate.

Generally, for intangible assets with a definite useful life, the Company uses cash flow projections for the whole useful life of these assets with a terminal value based on cash flow projections usually in line with or lower than inflation rates for later years.

Discount rates used are based on the Company's estimated WACC adjusted for specific country and currency risks associated with cash flow projections as an approximation of the weighted average cost of capital of a comparable market participant. Due to the above factors, actual cash flows and values could vary significantly from forecasted future cash flows and related values derived using discounting techniques.

Goodwill is tested for impairment annually as at 31 December and when circumstances indicate that the carrying value may be impaired. Impairment is determined for goodwill by assessing the recoverable amount of each CGU (or group of CGUs) to which the goodwill relates. Where the recoverable amount of the cash generating unit is less than their carrying amount, an impairment loss is recognised. Impairment losses relating to goodwill cannot be reversed in future years.

We conduct impairment testing of our indefinite-lived intangible assets on 31 December each year. We test indefinite-lived intangible assets for impairment between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. An impairment loss is recognised when the asset's carrying value exceeds its fair value.

Research and Development.

Research costs are recognised as an expense for the year in which they are 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 post-market clinical studies.

Inventories.

We state our inventories at the lower of cost, using the first-in first-out (FIFO), and net realizable value. Our calculation of cost includes the acquisition cost of raw materials and components, direct labour 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.

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 within the next twelve months and when actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. 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 recognise an impairment for any excess of carrying value over the fair value less cost to sell.

Revenue Recognition.

Refer to "Note 3. Revenue Recognition."

Defined Benefit Pension Plans and Other Post-Employment Benefits.

The Company sponsors 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 U.S. The cost of providing benefits under the defined benefit plans is determined separately for each plan using the projected unit credit method.

Re-measurements, comprising of actuarial gains and losses, the effect of the asset ceiling (excluding amounts included in net interest on the net defined benefit liability) and the return on plan assets (excluding amounts included in net interest on the net defined benefit liability), are recognised immediately in the consolidated balance sheet with a corresponding debit or credit to retained earnings through OCI in the year in which they occur. Re-measurements are not reclassified to profit or loss in subsequent years.

Past service costs are recognised in profit or loss on the earlier of:

- The date of the plan amendment or curtailment, and
- The date on which the Company recognises related restructuring costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The Company recognises the following changes in the net defined benefit obligation under cost of sales and selling, general and administrative expenses in the consolidated statement of (loss) income (by function):

- Service costs comprising current service costs, past-service costs, gains and losses on curtailment and non-routine settlements
- Net interest expense or income

Provision for severance indemnity is mandatory for Italian companies and is considered:

- a defined benefit plan with respect to amounts vested up to 31 December 2006 and amounts vesting from 1 January 2007 for employees who have chosen to maintain the Trattamento di Fine Rapporto (TFR) at the company, for companies with 50 or fewer employees;
- a defined contribution plan with respect to amounts vesting as from 1 January 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.

As a defined benefit plan, the TFR is measured using the unit credit projection method based on actuarial assumptions (demographic assumptions: mortality, turnover, disability of the population included in the above plan; financial assumptions: discount rate, benefit growth rate, capitalization rate). The increase in the present value of the TFR is included in personnel expense, with the exception of the revaluation of the net liability, which is recorded among items of OCI. The cost of TFR accrued through 31 December 2006 no longer includes the component related to future salary increases. Payments of TFR, as a defined contribution plan, are also included in personnel expense, and until they are settled financially, they have a balancing entry in the statement of financial position in the form of current payables.

Share-Based Compensation.

We grant share-based incentive awards to directors, officers, key employees and consultants during each fiscal year. 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. The cost of equity-settled transactions is recognised in employee benefits expense, together with a corresponding increase in Retained earnings over the period in which the service and the performance conditions are fulfilled (the vesting period). The cumulative expense recognised for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Company's best estimate of the number of equity instruments that will ultimately vest. We issue new shares upon stock option exercises, otherwise issuance of stock for vesting of restricted stock, restricted stock units or exercises of stock appreciation rights 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. The social security contributions on employee share-based payment awards are accrued over the service period.

The following share-based incentive awards are offered by the Company:

- Share Appreciation Rights (SAR).

  A SAR confers upon an employee the contractual right to receive an amount of cash, share, or a combination of both that equals the appreciation in the Company's common share 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 share. The SARs may be settled in LivaNova shares and/or cash, as determined by LivaNova and as set forth in the individual award agreements. 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 on historical volatility.

- Restricted Share (RS) and Restricted Share Units (RSU).

  We may grant RS and RSUs at no purchase cost to the grantee. The grantees of unvested RSUs have no voting rights or rights to dividends. Sale or transfer of the stock and stock units is restricted until they are vested. The fair market value of service-based RS and RSUs is 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. We have the right to elect to pay the cash value of vested restricted share units in lieu of the issuance of new shares. Under our share-based compensation plans we re-purchase a portion of these shares from our employees to permit our employees to meet their minimum statutory tax withholding requirements on vesting of their restricted share.

- Market Performance-Based Restricted Share Units.

  We may grant market performance-based RSUs at no purchase cost to the grantee. The grantees of the units have no voting rights or rights to dividends. Sale or transfer of the units is restricted until they are vested. The number of shares that are ultimately transferred to the grantee is dependent upon the Company's percentile rank of TSR relative to a peer group. The fair market value of market performancebased RSUs is determined utilizing a Monte Carlo simulation on the grant date and compensation is expensed ratably over the service period. Calculation of compensation for market performance-based stock awards requires estimation of employee turnover, historical volatility and forfeiture rates.

- Operating Performance-Based Restricted Share Units.

  We may grant operating performance-based RSUs at no purchase cost to the grantee. The grantees of the units have no voting rights or rights to dividends. Sale or transfer of the units is restricted until they are vested. The number of shares that are ultimately transferred to the grantee is dependent upon the Company's achievement of certain thresholds for cumulative adjusted FCF. The fair market value of operating performance-based RSUs is determined using the market closing price on the grant date. Compensation is expensed ratably over the service period and adjusted based upon the percent achievement of cumulative adjusted FCF. Calculation of compensation for operating performance-based stock awards requires estimation of employee turnover, adjusted FCF and forfeiture rates.

Income Taxes.

The tax expense for the year comprises current and deferred tax. Current and deferred tax is recognised in profit or loss, except to the extent that it relates to items recognised in OCI or directly in equity. In this case, the tax is also recognised in OCI or directly in equity, respectively.

The income tax expense or credit for the year is the tax payable on the current year's taxable income based on the applicable income tax rate for each jurisdiction, adjusted by changes in deferred tax assets and liabilities attributable to temporary differences and to unused tax losses.

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting year in the countries where the company's subsidiaries and associates operate and generate taxable income. The Company is subject to taxation on earnings in several countries under various tax regulations. Calculation of taxes on a global scale requires the use of estimates and assumptions developed based on the information available at the balance sheet date. Management establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred taxes are recognised by the liability method for temporary differences between the carrying amount of assets and liabilities in the consolidated balance sheet and their tax base. They are measured at the tax rates that are expected to apply to the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date. Adjustments to deferred taxes resulting from changes in tax rates are recognised in profit or loss. A deferred tax asset is recognised for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilized. At each year-end, the Company reviews the recoverable value of deferred tax assets of tax entities holding significant loss carryforwards. This value is based, by tax entity, on the strategy for recoverability of the tax loss carryforwards. Deferred taxes are charged or credited directly to equity when the tax relates to items that are recognised directly in equity, such as gains and losses on cash flow hedges and actuarial gains and losses on defined benefit plan obligations.

Deferred tax assets and liabilities are set off when they are levied on the same taxable entity (legal entity or tax group) by the same taxation authority and the entity has a legally enforceable right of set off. Deferred taxes are recognised for all temporary differences associated with investments in subsidiaries and associates, except to the extent that the Company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax balances are not discounted.

Leases.

On 1 January 2019, we adopted IFRS 16, Leases, which replaced IAS 17, Leases, and introduced new or amended requirements with respect to lease accounting. It introduced significant changes to lessee accounting by removing the distinction between operating and finance lease and requiring the recognition of a right-of-use (ROU) asset and lease liability at commencement for all leases with certain exceptions discussed below. Lessees subsequently reduce the lease liability when paid and recognise depreciation on the leased asset. We adopted the standard using the modified retrospective approach with an effective date of 1 January 2019. We recognised $61.4 million of ROU assets and $61.8 million of lease liabilities upon initial adoption on 1 January 2019. We primarily have leases for (i) office space, (ii) manufacturing, warehouse and research and development facilities and (iii) vehicles. The 2018 financial statements were not restated under the new standard. As a practical expedient, no reassessment was performed of contracts that were previously identified as leases and contracts that were not previously identified as containing a lease applying IAS 17 and IFRIC 4 'Determining whether an Arrangement contains a Lease.' At the adoption date, additional lease liabilities were recognised for leases previously classified as operating leases applying IAS 17. These lease liabilities were measured at the present value of the remaining lease payments and discounted using entity-specific incremental borrowing rate as discussed further below. In general, a corresponding ROU asset was recognised for an amount equal to each lease liability, adjusted by the amount of any prepaid or accrued lease payment relating to the specific lease contract, as recognised on the balance sheet at 31 December 2018. In addition, we elected the practical expedient to account for lease and non-lease components together as a single combined lease component, which is applicable to all asset classes. We did not, however, elect the practical expedient related to using hindsight in determining the lease term as this was not relevant following our election of the modified retrospective approach.

In addition, we elect certain practical expedients on an ongoing basis, including the practical expedient for short-term leases and leases of low-value assets pursuant to which a lessee is permitted to make an accounting policy election by class of underlying asset not to recognise a lease liability and lease asset. A short-term lease is defined as a lease with a term of 12 months or less and does not include an option to purchase the underlying asset that the lessee is reasonably certain to exercise. In exception to vehicles as it relates to the low-value lease asset policy, we have applied these accounting policies to all asset classes in our portfolio and will recognise the lease payments for such short-term leases and leases of low-value assets within profit or loss on a straight-line basis over the lease term.

The standard has no impact on the actual cash flows. However, the standard requires the capitalisation, and subsequent depreciation, of costs that were previously expenses as paid, which impacts disclosures of cash flows within the cash flow statement.

Furthermore, from a lessor perspective, certain of our agreements that allow the customer to use, rather than purchase, our medical devices meet the criteria of being a lease in accordance with the new standard. While the amount of revenue and expenses recognised over the contract term will not be impacted, the timing of revenue and expense recognition will be impacted depending upon lease classification. We enacted appropriate changes to our business processes, systems and internal controls to support identification, recognition and disclosure of leases under the new standard.

We determine if an arrangement is or contains a lease at inception or when the terms and conditions of a contract are significantly changed. ROU assets and lease liabilities are recognised based on the present value of the future minimum lease payments over the lease term at the latter of our lease standard effective date for adoption or the lease commencement date. The lease term is the non-cancellable period of a lease, together with contractual options to extend or to terminate the lease early, where it is reasonably certain that an extension option will be exercised or a termination option will not be exercised. Variable lease payments that do not depend on an index or rate, such as variable common area rent maintenance charges and utility fees not known upon lease commencement, are not included in determination of the minimum lease payments and will be expensed in the period in which the obligation for those payments is incurred. Variable lease payments that depend on an index or rate are initially measured using the index or rate as of the commencement date. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement in determining the present value of future payments. The incremental borrowing rate is determined using a risk-free rate adjusted for factors such as credit rating and borrowing currency, and represents an estimate of the interest rate we would incur at lease commencement to borrow the funds necessary to obtain an asset of similar value to the ROU asset over the term of a lease. We used the incremental borrowing rate available nearest to our adoption date for leases that commenced prior to that date. The ROU lease asset also includes any lease payments made in advance and excludes lease incentives. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. ROU assets are depreciated over the shorter of the asset's useful life or the lease term on a straight-line basis. Lease payments are allocated between the liability and finance costs. Finance costs are recorded as an expense in the Consolidated Statement of Income over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability. Certain of our leases provide for tenant improvement allowances that have been recorded as ROU assets and amortised, using the straight-line method, over the life of the lease.

For additional information refer to “Note 20. Leases."

Certain of our leases provide for tenant improvement allowances that have been recorded as deferred rent and amortised, 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 were recognised on a straight-line basis over the term of the lease.

Equity.

Ordinary Shares are classified as equity. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Where any group company purchases the Company’s equity instruments, for example as the result of a share buy-back or a sharebased payment plan, the consideration paid, including any directly attributable incremental costs (net of income taxes) is deducted from equity attributable to the owners of LivaNova as treasury share until the shares are cancelled or reissued. Where such Ordinary Shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction costs and the related income tax effects, is included in equity attributable to the owners of LivaNova.

Provisions and Warranties.

Provisions for legal claims, service warranties and make good obligations are recognised when the Company has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are not recognised for future operating losses. Where there are a number of similar

obligations, the likelihood that an outflow will be required in settlement is determined by considering the class of obligations as a whole. A provision is recognised even if the likelihood of an outflow with respect to any one item included in the same class of obligations may be small.

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting year. The discount rate used to determine the present value is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The increase in the provision due to the passage of time is recognised as interest expense.

The Company offers a product warranty on various products. The Company estimates the costs that may be incurred under warranties and records 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. The warranty obligation is included in current provisions on the consolidated balance sheet. Warranty expense is recorded in cost of sales in the consolidated statement of (loss) income.

Contingent Consideration.

Contingent consideration is recognised at fair value at the date of acquisition based on the consideration expected to be transferred and estimated as the probability of future cash flows, discounted to present value in accordance with accepted valuation methodologies. The discount rate used is a benchmark yield curve for U.S. healthcare companies, determined at the time of measurement. Contingent consideration is remeasured each reporting year with the change in fair value, including accretion for the passage of time, recorded in the consolidated statement of (loss) income. The change in fair value of contingent consideration based on the achievement of regulatory milestones is recorded as research and development expense while the change in fair value of sales-based earnout contingent consideration is recorded as cost of sales.

Product Liability Accruals.

Accruals for product liability claims are recorded when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated based on existing information. Accruals for product liability claims are adjusted periodically as additional information becomes available. The Company accrues an estimate of the legal defence costs needed to defend each matter when those costs are probable and can be reasonably estimated.

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 statement of (loss) 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 judgement regarding future events.

Earnings Per Share.

Basic (loss) EPS is calculated by dividing the (loss) income for the year attributable to equity holders of the parent by the weighted average number of shares outstanding during the year. Diluted EPS is calculated by dividing the income (loss) attributable to equity holders of the parent by the weighted average number of shares outstanding during the year plus the weighted average number of shares that would be issued on conversion of all the dilutive potential shares into shares. However, for the calculation of diluted EPS for the years ended 31 December 2020 and 2019 there is no dilution because to do so would be antidilutive due to the Company being in a net loss position during these years. Refer to "Note 28. Earnings Per Share" for additional information.

Critical Estimates and Judgements.

The preparation of our consolidated financial statements in conformity with IFRS requires management to make estimates and judgements that affect the amounts reported in such financial statements and accompanying notes. These estimates and judgements are based on management's best knowledge of current events and actions we may undertake in the future. Actual results could differ materially from those estimates. Application of the following accounting policies requires certain judgements and estimates that have the potential for the most significant impact on our consolidated financial statements:

Critical Estimates

- 3T Litigation and Saluggia Site Hazardous Substances Provisions.

  Provisions for legal claims are recognised when the Company has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Estimates are used in assessing the likelihood of a loss being incurred and when determining a reasonable estimate of the loss for each claim. Final settlement amounts may be materially different from the provision recorded. For further discussions on our 3T Litigation and Saluggia Site Hazardous Substances Provisions, please refer to "Note 27. Commitments and Contingencies."

- Impairment of non-financial assets.

  An impairment exists when the carrying value of an asset or cash generating unit exceeds its recoverable amount, which is generally based on available data from binding sales transactions, conducted at arm's length for similar assets, observable market prices less incremental costs for disposing of the asset or based on a discounted cash flow model. The discounted cash flow model is most sensitive to revenue growth rates, forecasted selling, general and administrative expenses and discount rates used for extrapolation purposes. Refer to the disclosures in "Note 8. Assets and Liabilities Held for Sale" and "Note 12. Goodwill and Intangible Assets" where reasonably possible changes in key assumptions could affect the carrying value.

- Retirement and Other Post-Employment Benefit Plans.

  We sponsor pension and other post-employment benefit plans in various forms that cover a significant portion of our current and former associates. For post-employment plans with defined benefit obligations, we are required to make significant assumptions and estimates about future events in calculating the expense and the present value of the liability related to these plans. These include assumptions about the interest rates we apply to estimate future defined benefit obligations and net periodic pension expense as well as rates of future pension increases. In addition, our actuarial consultants provide our management with historical statistical information, such as withdrawal and mortality rates in connection with these estimates. Assumptions and estimates used by the Company may differ materially from the actual results we experience due to changing market and economic conditions, higher or lower withdrawal rates, and longer or shorter life spans of participants among other factors. For more information on obligations under retirement and other post-employment benefit plans, underlying actuarial assumptions and sensitivity analysis, see "Note 25. Employee Retirement Plans."

- Goodwill and Intangible Assets - In-process research and development.

  Goodwill and in-process R&D were recognised as part our past merger and acquisition activities based on detailed valuations that use information and assumptions provided by management. These valuations consider management's best estimates of inputs and assumptions that a market participant would use. The key estimates in the valuations include the discount rate as well as the expected revenue growth rate and the terminal growth rate. For a discussion of impairments recognised and sensitivity analyses performed, refer to "Note 8. Assets and Liabilities Held for Sale" and "Note 12. Goodwill and Intangible Assets."

Critical Judgements

- Commitments and Contingencies.

  A number of LivaNova subsidiaries are involved in various government investigations and legal proceedings (product liability, commercial, employment, environmental claims, etc.) arising out of the normal conduct of their businesses. The outcome of these matters is not certain and judgement is required in determining whether these matters require the recognition of a liability. The most significant matters considered relate to our 3T device and our Saluggia site. For more information, see "Note 27. Commitments and Contingencies. "

- Taxes.

  We prepare and file our tax returns based on an interpretation of tax laws and regulations and record estimates based on these judgements and interpretations. Critical accounting judgments and estimates include such items as unrecognised deferred tax assets and the determination of uncertain tax positions. Our tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. See "Note 26. Income Taxes."

- Exceptional Items.

  Exceptional items are expense or income items which have been determined by management as being material by their size or incidence and are presented separately within the results of the group. The determination of which items are disclosed as exceptional items will affect the presentation of profit measures and requires a degree of judgement. Details relating to exceptional items reported during the year are set out in "Note 33. Exceptional Items."

Note 3. Revenue Recognition

We generate our revenue through contracts with customers that primarily consist of hospitals, healthcare institutions, distributors and other organizations. Revenue is measured based on consideration specified in a contract with a customer, and excludes amounts collected on behalf of third parties. We measure the consideration based upon the estimated amount to be received. The amount of consideration we ultimately receive varies depending upon the return terms, sales rebates, discounts, and other incentives that we may offer, which are accounted for as variable consideration when estimating the amount of revenue to recognise. The recognition of variable consideration associated with product returns and sales discounts requires estimation. We estimate expected sales returns based on historical data. Sales discounts and rebates are applied to customer purchases based on anticipated sales during the discount period.

We have historically experienced a low rate of product returns and the total dollar value of product returns has not been significant to our consolidated financial statements.

We recognise revenue when a performance obligation is satisfied by transferring the control of a product or providing service to a customer. Some of our contracts include the purchase of multiple products and/or services. In such cases, we allocate the transaction price based upon the relative estimated stand-alone price of each product and/or service sold. We record state and local sales taxes net: that is, we exclude sales tax from revenue. Typically, our contracts do not have a significant financing component. We did not apply the practical expedient under IFRS 15 which provides that an entity is not required to adjust the transaction price for the effects of a significant financing component if, at contract inception, it expects the period between customer payment and the transfer of goods or services to be one year or less.

We incur incremental commission fees paid to the sales force associated with the sale of products. We apply the practical expedient within IFRS 15 and have elected to recognise the incremental costs of obtaining a contract as an expense when incurred if the amortisation period of the asset the entity would otherwise recognise is one year or less. As a result, no commissions have been capitalized as contract costs since adoption of IFRS 15.

The following is a description of the principal activities (separated by reportable segments) from which we generate our revenue. For more detailed information about our reportable segments including disaggregated revenue results by operating segment, major product line and primary geographic market, see "Note 29. Segment and Geographic Information."

Cardiovascular Products and Services

Our Cardiovascular segment has three primary product lines: cardiopulmonary products, heart valves and advanced circulatory support.

Cardiopulmonary products include oxygenators, HLM, autotransfusion systems, perfusion tubing systems, cannulae and other related accessories. Heart valves include mechanical heart valves, tissue heart valves, related repair products and minimally invasive surgical instruments. Advanced circulatory support includes temporary life support product kits that can include a combination of pumps, oxygenators, and cannulae.

Cardiopulmonary products may include performance obligations associated with assembly and installation of equipment. Accordingly, we allocate a portion of the sales prices to installation obligations and recognise that revenue when the service is provided. We recognise revenue for equipment and accessory product sales when control of the equipment or product passes to the customer.

Technical services include installation, repair and maintenance of cardiopulmonary equipment under service contracts or upon customer request. Technical service agreements generally provide for upfront payments in advance of rendering services or periodic billing over the contract term. Amounts billed in advance are deferred and recognised as revenue when the performance obligation is satisfied. Technical services are not a significant component of Cardiovascular revenue and have been presented with the related equipment and accessories revenue.

Heart valve revenue is recognised when control passes to the customer, usually at the point of surgery.

Advanced circulatory support revenue is recognised when control passes to the customer, usually at the point of shipment.

Neuromodulation Products

Neuromodulation segment products are comprised of Neuromodulation therapy systems for the treatment of drug-resistant epilepsy, DTD and obstructive sleep apnea. Our Neuromodulation product line includes the VNS Therapy System, which consists of an implantable pulse generator, a lead that connects the generator to the vagus nerve, and other accessories. Our Neuromodulation product line also includes an implantable device for the treatment of obstructive sleep apnea that stimulates multiple tongue muscles via the hypoglossal nerve, which opens the airway while a patient is sleeping. We recognise revenue for Neuromodulation product sales when control passes to the customer.

Contract Balances

Due to the nature of our products and services, revenue producing activities may result in the recognition of contract assets and contract liabilities. These activities relate primarily to Cardiovascular technical services contracts for short-term and multi-year service agreements. Contract assets are primarily comprised of unbilled revenues, which occur when a performance obligation has been completed, but not billed to the customer. Contract liabilities are made up of deferred revenue, which occurs when a customer pays for a service, before a performance obligation has been completed. Contract assets are included within prepaid expenses and other current assets on the consolidated balance sheet and were insignificant at 31 December 2020 and 31 December 2019. At 31 December 2020 and 31 December 2019, contract liabilities of $8.6 million and $8.6 million, respectively, were included within accrued liabilities and other and other long-term liabilities on the consolidated balance sheet.

Note 4. Financial Risk Management

Management of Financial Risk

Increasing market fluctuations may result in significant earnings and cash flow volatility risk for LivaNova. The Company’s operating business as well as its investment and financing activities are affected particularly by changes in foreign exchange rates, interest rates and concentration of procurement suppliers and customers. In order to optimize the allocation of the financial resources across LivaNova's segments and entities, as well as to achieve its aims, LivaNova identifies, analyses and manages the associated market risks. The Company seeks to manage and control these risks primarily through its regular operating and financing activities, and uses derivative financial instruments when deemed appropriate.

The Company’s CFO oversees the management of these risks. The CFO is supported by a senior financial management team that advises on financial risks and the appropriate financial risk governance framework for the Company. The senior financial management team provides assurance to the Company’s senior management that the Company’s financial risk activities are governed by appropriate policies and procedures and that financial risks are identified, measured and managed in accordance with policies and risk appetite. All derivative activities for risk management purposes are carried out by teams that have the appropriate skills, experience and supervision. It is the Company’s policy that no trading in derivatives for speculative purposes may be undertaken. Intercompany financing or investments of operating units are preferably carried out in their functional currency or on a hedged basis. The Board reviews and agrees to policies for managing each of these risks.

Liquidity Risk

Liquidity risk results from the Company’s inability to meet its financial liabilities. LivaNova follows a financing policy that is aimed towards a balanced financing portfolio, a diversified maturity profile and a comfortable liquidity cushion. LivaNova mitigates liquidity risk by the implementation of an effective working capital and centralized cash management and arranged credit facilities with highly rated financial institutions. In addition, LivaNova constantly monitors funding options available in the capital markets, as well as trends in the availability and costs of such funding, with a view to maintaining financial flexibility and limiting repayment risks.

The following tables reflect the undiscounted cash outflows related to settlement and repayments, of the Company’s financial liabilities at a balance sheet date. The disclosed expected undiscounted net cash outflows from derivative financial liabilities are determined based on each particular settlement date of an instrument and based on the earliest date on which LivaNova could be required to pay. Cash outflows for financial liabilities without fixed amount or timing are based on the conditions existing at the respective balance sheet date.

Contractual undiscounted cash outflows were as follows (in thousands):

	31 December 2020				
	Due Within 1 Year	1-2 Years	2-5 Years	Over 5 Years	Total
Non-derivative financial instruments					
Trade payables	$ 73,099	$ -	$ -	$ -	$ 73,099
Financial liabilities	13,343	1,913	741,561	360	757,177
Total	$ 86,442	$ 1,913	$ 741,561	$ 360	$ 830,276
Financial derivative liabilities					
- on exchange rate risk	$ 3,192	$ -	$ -	$ -	$ 3,192
- on interest rate risk	74	-	-	-	74
- on equity price risk[(1)]	-	-	121,756	-	121,756
Total	$ 3,266	$ -	$ 121,756	$ -	$ 125,022

[(1)] Refer to the section titled “Equity Price Risk” below..

	31 December 2019				
	Due Within 1 Year	1-2 Years	2-5 Years	Over 5 Years	Total
Non-derivative financial instruments					
Trade payables	$ 85,038	$ -	$ -	$ -	$ 85,038
Financial liabilities	77,414	111,370	125,540	24,261	338,585
Total	$ 162,452	$ 111,370	$ 125,540	$ 24,261	$ 423,623
Financial derivative liabilities					
- on exchange rate risk	$ 2,860	$ -	$ -	$ -	$ 2,860
- on interest rate risk	313	61	-	-	374
Total	$ 3,173	$ 61	$ -	$ -	$ 3,234

Foreign Currency Exchange Rate Risk

FX risk is the risk that reported financial performance of the fair value of future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. LivaNova operates in many countries and currencies and therefore currency fluctuations may impact LivaNova's financial results. In the ordinary course of business LivaNova is exposed to foreign currency exchange rate fluctuations, particularly between the USD, Euro, Canadian Dollar, GBP and Japanese Yen. LivaNova is exposed to currency risk in the following areas:

- Transaction exposures, related to anticipated sales and purchases and on-balance-sheet receivables/payables resulting from such transactions
- Translation exposure of foreign-currency intercompany and external debt
- Translation exposure of net income in foreign entities
- Translation exposure of foreign-currency denominated equity invested in consolidated companies

It is LivaNova's policy to reduce the potential year on year volatility caused by foreign-currency movements on its net earnings by hedging the anticipated net exposure of foreign currencies resulting from foreign-currency sales and purchases. Intercompany financing or investments of operating units are preferably carried out in their functional currency or on a hedged basis. Additionally, foreign currency exchange rate exposure is partly balanced by purchasing of goods, commodities and services in the respective currencies, as well as production activities in the local markets. LivaNova's operating units are prohibited from borrowing or investing in foreign currencies on a speculative basis. The target is to keep up to 80% of consolidated EBITDA denominated in material currencies, hedged against USD, LivaNova's reporting currency. At 31 December 2020, designated cash flow hedges carried out for FX net risk positions are denominated in Euro, GBP and Japanese Yen.

Based on our exposure to foreign currency exchange rate risk, a sensitivity analysis indicates that if the USD had uniformly strengthened by 10% against the GBP, EUR and the Japanese Yen, in the year ended 31 December 2020, the effect on our unrealised income, for our derivatives outstanding at 31 December 2020, would have been approximately $3.7 million; if the USD had uniformly weakened by 10% against the same currencies, the effect on our unrealised expenses for our derivatives outstanding at 31 December 2020 would have been approximately $4.6 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.

With regard to financial instruments denominated in currencies other than the currency of account of the companies holding them, the currencies involving the greatest exposure are the USD, Euro, GBP and Japanese Yen as indicated below (in thousands):

	31 December 2020					
	EUR	USD	JPY	GBP	Other	Total
Assets						
Cash and cash equivalents denominated in foreign currency	$ -	$ 96,484	$ 6,668	$ 6,854	$ 15,045	$ 125,051
Trade receivables denominated in foreign currency	368	33,868	-	-	5,481	39,717
Other assets denominated in foreign currency	104	453	-	244	-	801
Total assets	472	130,805	6,668	7,098	20,526	165,569
Liabilities						
Trade payables denominated in foreign currency	435	2,190	18	3,581	345	6,569
Financial liabilities denominated in foreign currency	-	-	-	708	12	720
Other liabilities denominated in foreign currency	66	177	-	1,840	778	2,861
Total liabilities	501	2,367	18	6,129	1,135	10,150
Net exposure	$ (29)	$ 128,438	$ 6,650	$ 969	$ 19,391	$ 155,419
Financial derivative assets						
- for hedging	$ 2,687	$ -	$ (517)	$ 709	$ -	$ 2,879
Total assets	2,687	-	(517)	709	-	2,879
Financial derivative liabilities						
- not for hedging[(1)]	-	2,747	80	31	1,161	4,019
Total liabilities	-	2,747	80	31	1,161	4,019
Net exposure	$ 2,687	$ (2,747)	$ (597)	$ 678	$ (1,161)	$ (1,140)

[(1)] For hedging transactions that do not meet the requirements for hedge accounting.

	31 December 2019					
	EUR	USD	JPY	GBP	Other	Total
Assets						
Cash and cash equivalents denominated in foreign currency	$ -	$ 7,204	$ 1,501	$ 1,757	$ 4,880	$ 15,342
Trade receivables denominated in foreign currency	133	35,015	-	-	12,800	47,948
Other assets denominated in foreign currency	476	565	-	1,282	35	2,358
Total assets	609	42,784	1,501	3,039	17,715	65,648
Liabilities						
Trade payables denominated in foreign currency	624	2,665	125	1,256	198	4,868
Financial liabilities denominated in foreign currency	89,536	2	-	3,908	12	93,458
Other liabilities denominated in foreign currency	605	10	-	2,588	811	4,014
Total liabilities	90,765	2,677	125	7,752	1,021	102,340
Net exposure	$ (90,156)	$ 40,107	$ 1,376	$ (4,713)	$ 16,694	$ (36,692)
Financial derivative assets						
- not for hedging[(1)]	$ -	$ -	$ -	$ (32)	$ (1)	$ (33)

	31 December 2019					
	EUR	USD	JPY	GBP	Other	Total
- for hedging	-	-	49	99	-	148
Total assets	-	-	49	67	(1)	115
Financial derivative liabilities						
- not for hedging[(1)]	-	-	(92)	(10)	3,180	3,078
- for hedging	122	-	(80)	(260)	-	(218)
Total liabilities	122	-	(172)	(270)	3,180	2,860
Net exposure	$ (122)	$ -	$ 221	$ 337	$ (3,181)	$ (2,745)

(1) For hedging transactions that do not meet the requirements for hedge accounting.

Interest Rate Risk

The Company's main interest rate risk arises from long-term debt with variable rates, which expose the Company to cash flow interest rate risk. LivaNova's policy is to hedge, case by case, medium-long term loans from a floating to a fixed rate, to avoid the impact on net earnings of any potential increase of interest rates. During the years ended 31 December 2020, the Company's debt at variable rates was denominated both in EUR and in USD.

As at 31 December 2020, LivaNova Group had the following variable rate financing denominated in USD:

- a $450.0 million Senior Secured Term Loan, and
- a local credit facility in favour of LivaNova Colombia Sas for an amount of $2.0 million.

As at 31 December 2020, LivaNova Group had the following variable rate financing denominated in Euro:

- medium-long term loan from Mediocredito Italiano to Sorin Group Italia S.r.l. of $ 1.1 million.

As at 31 December 2019, LivaNova Group had the following variable rate financing denominated in USD:

- a local credit facility in favour of LivaNova Colombia Sas for an amount of $2.0 million,
- a medium-long term loans from EIB (2017 European Investment Bank) totalling $ 103.6 million, and
- a medium-long term loans (2019 Debt Facility) totalling $ 124.0 million.

As at 31 December 2019, LivaNova Group had the following variable rate financing denominated in Euro:

- a medium-long term loans from EIB (2014 European Investment Bank) totalling $28.1 million,
- a medium-long term loan from Mediocredito Italiano to Sorin Group Italia S.r.l. of $ 1.0 million.

As at 31 December 2020, non-US Dollar-denominated floating rate debt was immaterial.

As at 31 December 2019, the Group had outstanding derivative contracts to hedge against the risk of interest rate fluctuations in the notional amount of $22.4 million, equal to about 7% of consolidated financial liabilities. If interest rates on Euro-denominated floating rate debt had been 10 basis points higher or lower with all other variables held constant, the calculated pre-tax profit for the year would have been approximately $0.3 million lower or higher, mainly as a result of higher or lower interest expense on the debt. Other components of equity would have been $0.1 million lower as a result of an increase in the interest rate curve with a positive impact on the fair value of our fixed interest rate swaps (derivative designated for hedge accounting) or $8,000 higher as a result of a decrease in the interest rate curve with a negative impact on the fair value of our fixed interest rate swaps (derivatives designed for hedge accounting).

The following assumptions were used for the sensitivity analysis as at 31 December 2019:

- Unhedged financial liabilities: change of +0.10% - (0.10)% in the rate curve at 31 December 2019 relative to Euro and USD rates;
- Hedged financial liabilities: change of +0.50% - (0.05)% in the rate curve at 31 December 2019 relative to Euro rates.

Equity Price Risk

In June 2020, the Company issued $287.5 million in cash exchangeable senior notes and entered into related capped call transactions. The cash exchangeable senior notes include an embedded exchange feature that is bifurcated from the cash exchangeable senior notes. Please refer to "Note 19. Financial Liabilities" for further details. The embedded exchange feature derivative is measured at fair value using a binomial lattice model and discounted cash flows that utilize observable and unobservable market data. The capped call derivative is measured at fair value using the Black-Scholes model utilizing observable and unobservable market data, including stock price, remaining contractual term, expected volatility, risk-free interest rate and expected dividend yield, as applicable.

In general, an increase in our stock price or stock price volatility would increase the fair value of the embedded exchange feature and capped call derivatives which would result in an increase in expense. As time to the expiration of the derivatives decreases with passage of time, the fair value of the derivatives would decrease. The future impact on net income depends on how significant inputs such as stock price, stock price volatility and time to the expiration of the derivatives change in relation to other inputs.

The stock price volatility as at 31 December 2020 was 34%. As of 31 December 2020, a 10% lower volatility, holding other inputs constant, would result in approximate fair value for the embedded exchange feature derivative of $103.1 million and a 10% higher volatility, holding other inputs constant, would result in approximate fair value of $141.1 million. As at 31 December 2020, a 10% lower volatility, holding other inputs constant would result in approximate fair value for the capped call derivatives of $70.0 million and a 10% higher volatility, holding other inputs constant, would result in approximate fair value of $69.3 million.

Credit Risk

Our trade receivables 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, the use of credit approvals and credit limits. Refer to "Note 16. Trade Receivables and Other Receivables" for more details. 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.

The maximum theoretical credit risk exposure for LivaNova is an aggregate carrying amount of financial assets at each reporting year date (in thousands):

	31 December 2020	31 December 2019
Financial assets	$ 38,284	$ 31,281
Other assets	3,664	2,881
Trade receivables	184,356	257,769
Other receivables	19,218	25,253
Financial derivative assets	74,355	-
Other financial assets	3,522	3,236
Cash and cash equivalents	252,832	61,137
Guarantees	36,416	40,447
Total	$ 612,647	$ 422,004

The risk related to cash and cash equivalents, financial assets and financial derivatives assets is limited since all bank and financial counter-parties have a high rating.

The guarantees issued by LivaNova are primarily due to unconditional bank guarantees, irrevocable letters of credit, bid bonds, guarantees to the governmental tax authorities and tenancy guarantees, and thus, the related credit risk is remote and has been remote as viewed on a historical basis.

Since LivaNova operates in the medical technology sector, there is not a significant risk of customer insolvency, a significant portion of which is related to government agencies, but they are subject to the risk related to cash requirements due to the high level of trade receivables owing to average collection periods (days of sales outstanding) and the ageing of these receivables.

Credit risk is managed on a group basis. For banks and financial institutions, only independently rated parties with a minimum investment grade credit rating are accepted.

For customers, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external information in accordance with limits set by the Company's Treasury Group. The compliance with and authorization of credit limits by customers is regularly monitored by line management. Additionally, the Company established a policy for expected credit loss provisions based on lifetime expected credit losses, which provides the methodology to be used to calculate an addition to the provision for uncollectible receivables for past-due receivables for each LivaNova entity and the ageing of each receivable.

Changes in provisions for uncollectible receivables are explained in "Note 16. Trade Receivables and Other Receivables."

For the purposes of disclosing the credit risk to which LivaNova is exposed, below is a breakdown of trade receivables by due dates (in thousands):

	Expected Loss Rate[(1)]	31 December 2020	31 December 2019
Trade receivables			
Performing	0.04% - 6.0%	$ 161,244	$ 202,210
Less than 30 days past due	0.38% - 12.0%	14,662	21,440
31-120 days past due	0.38% - 30.0%	11,591	20,930
121-365 days past due	0.38% - 30.0%	10,561	11,686
366-730 days past due	20.0% - 50.0%	5,590	1,257
Over 730 days past due	30.0% - 100%	767	246
		204,415	257,769
Less: Trade receivables reclassified to assets held for sale		(20,059)	-
Total		$ 184,356	$ 257,769

(1) Expected loss rates are applied based upon risk-ranked groupings of countries where the underlying sales are made.

Trade receivables that are past due were $43.2 million and $55.6 million at 31 December 2020 and 31 December 2019, respectively. Of this amount, 24.6% and 26.9% at 31 December 2020 and 31 December 2019, respectively, were receivables from certain government hospitals that pay their suppliers in 1-2 years on average, and the remaining are receivables from private customers, clinics and distributors, some of which have agreed to repayment plans through the renegotiation of payment terms.

At 31 December 2020 and 31 December 2019, the amount of performing receivables that were from government (public) hospitals were 10.8% and 11.3% of total performing receivables, respectively, as indicated in the following table (in thousands):

	31 December 2020			31 December 2019		
	Total	Performing	Past Due	Total	Performing	Past Due
By Sector						
Public	$ 28,005	$ 17,372	$ 10,633	$ 37,752	$ 22,791	$ 14,961
Private	176,410	143,872	32,538	220,017	179,419	40,598
Total	$ 204,415	$ 161,244	$ 43,171	$ 257,769	$ 202,210	$ 55,559

Concentrations of risk by region are provided below to further assess the risk related to the trade receivables (in thousands except days of sales outstanding D.S.O.):

	31 December 2020				31 December 2019			
	D.S.O.	Total	Performing	Past Due	D.S.O.	Total	Performing	Past Due
By Region								
Italy	140	$ 9,633	$ 8,896	$ 737	142	$ 14,422	$ 12,141	$ 2,281

	31 December 2020				31 December 2019			
	D.S.O.	Total	Performing	Past Due	D.S.O.	Total	Performing	Past Due
Spain	104	5,071	3,828	1,243	118	6,901	4,735	2,166
France	60	6,262	5,561	701	52	5,930	5,286	644
Germany	25	2,606	2,938	(332)	41	4,865	4,422	443
Rest of Europe	42	11,324	9,957	1,367	43	13,008	11,210	1,798
North America	52	70,160	57,112	13,048	54	84,814	71,104	13,710
Japan	99	13,117	13,153	(36)	100	13,687	13,717	(30)
Rest of World	147	86,242	59,799	26,443	152	114,142	79,595	34,547
Total	77	$ 204,415	$ 161,244	$ 43,171	81	$ 257,769	$ 202,210	$ 55,559

Revenues are derived from a large number of customers with no customers being individually material.

The average collection period decreased from 81 days at 31 December 2019 to 77 at 31 December 2020. The D.S.O., or average collection period, is calculated as the ratio of total receivables at the end of the year to revenues generated in the 12 preceding months. D.S.O. = (Trade receivables/Revenues) * 365.

For comparability the revenue amounts include VAT.

For the purposes of the disclosure of credit risk, there were no past-due balances of a significant amount related to other assets, other receivables and financial assets.

Capital management

LivaNova maintains a sufficient amount of capital to meet its development needs, fund the business units' operations and ensure the Company continues to be a going concern. The equilibrium of sources of funding, which is also aimed at minimising overall capital costs, is achieved by balancing risk capital contributed on a permanent basis by shareholders, and debt capital, which is in turn diversified and structured with several due dates and in other currencies. To this end, changes in debt levels in relation to both equity and operating profit, and the generation of cash by the business units are constantly kept under control. Please refer to the sections above titled "Management of Financial Risk," "Liquidity Risk," "Foreign Currency Exchange Rate Risk," "Interest Rate Risk," "Credit Risk" and "Note 19. Financial Liabilities."

Note 5. Fair Value Measurements

Fair value is defined as the price 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 guidance also establishes a hierarchy for inputs used in measuring fair value that maximises the use of observable inputs and minimises 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

No assets or liabilities are classified as Level 1. Financial assets and liabilities that are classified as Level 2 include derivative instruments, primarily forward and option currency contracts, which are valued using standard calculations and models that use readily observable market data as their basis. At 31 December 2020, Level 3 assets include investments in private companies, the capped call derivatives associated with our 2020 cash exchangeable senior notes and convertible notes receivable primarily associated with our investment in ALung. At 31 December 2020, level 3 liabilities include the embedded exchange feature of our cash exchangeable senior notes and contingent consideration recognised as a result of the acquisitions of Im Thera, TandemLife and Miami Instruments.

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

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

	Fair Value as at 31 December 2020	Fair Value Measurements Using Inputs Considered as: Level 1	Level 2	Level 3
Assets:				
Financial assets at fair value	$ 30,701	$ -	$ -	$ 30,701
Derivative Assets - for hedging (exchange rates)	2,893	-	2,893	-
Derivative Assets - not for hedging (exchange rates)	55	-	55	-
Derivative Assets - capped call derivatives	72,302	-	-	72,302
Convertible notes receivable	2,775	-	-	2,775
Total assets	$ 108,726	$ -	$ 2,948	$ 105,778
Liabilities:				
Derivative Liabilities - for hedging (exchange rates)	$ 14	$ -	$ 14	$ -
Derivative Liabilities - not for hedging (interest rates)	74	-	74	-
Derivative Liabilities - not for hedging (exchange rates)	4,073	-	4,073	-
Derivative Liabilities - embedded exchange feature	121,756	-	-	121,756

	Fair Value as at 31 December 2020	Fair Value Measurements Using Inputs Considered as: Level 1	Level 2	Level 3
Derivative Liabilities - other	4,290	-	-	4,290
Earnout for contingent payments	103,818	-	-	103,818
Total Liabilities	$ 234,025	$ -	$ 4,161	$ 229,864

	Fair Value as at 31 December 2019	Fair Value Measurements Using Inputs Considered as: Level 1	Level 2	Level 3
Assets:				
Financial assets at fair value	$ 26,805	$ -	$ -	$ 26,805
Derivative Assets - for hedging (exchange rates)	535	-	535	-
Derivative Assets - not for hedging (exchange rates)	26	-	26	-
Total assets	$ 27,366	$ -	$ 561	$ 26,805
Liabilities:				
Derivative Liabilities - for hedging (exchange rates)	$ 169	$ -	$ 169	$ -
Derivative Liabilities - for hedging (interest rates)	374	-	374	-
Derivative Liabilities - not for hedging (exchange rates)	3,137	-	3,137	-
Earnout for contingent payments	137,349	-	-	137,349
Total Liabilities	$ 141,029	$ -	$ 3,680	$ 137,349

Level 2

To measure the fair value of its 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. In particular, for forward exchange rate transactions, fair value is calculated using the forward market exchange rate on the reporting date for each contract. The difference calculated between this amount and the contractual forward rate is discounted (present value) to the same reporting date.

The derivative valuation models incorporate the credit quality of counterparts, adjustments for counterparts' credit risk and the Company's own non-performance risk.

Level 3

Financial assets at fair value consist of investments in equity shares, convertible preferred shares and convertible notes receivable of privately held companies for which there are no quoted market prices. These investments fall within Level 3 of the fair value hierarchy due to the use of significant unobservable inputs to determine fair value as the investments are privately held entities without quoted market prices. To determine the fair value of these investments management used all pertinent financial information available related to the entities including valuation reports prepared by third parties. Refer to "Note 14. Financial Assets" for a further discussion of our investments.

The embedded exchange feature and capped call derivatives are classified as Level 3 as the Company uses historical volatility and implied volatility from options traded to determine expected stock price volatility which is an unobservable input that is significant to the valuation.

Earnout for contingent payments related to our acquisitions of ImThera, TandemLife and Miami Instruments represents our contingent consideration liability. This liability falls within Level 3 of the fair value hierarchy due to the use of significant unobservable inputs to determine fair value as the liability is estimated as the probability of future cash flows, discounted to present value in accordance with accepted valuation methodologies. The discount rate used is determined at the time of measurement. Refer to "Note 22. Contingent Consideration, Litigation Provision Liability and Other Provisions" for a reconciliation of the changes in the fair value of our contingent consideration liability.

The following table provides the fair value of our Level 3 contingent consideration arrangements by acquisition (in thousands):

	31 December 2020	31 December 2019
ImThera	$ 89,436	$ 113,503
TandemLife	8,809	17,311
Miami Instruments	5,573	5,338
Drilltex	-	294
Other	-	903
	$ 103,818	$ 137,349

The ImThera business combination involved contingent consideration arrangements composed of potential cash payments upon the achievement of a certain regulatory milestone and a sales-based earnout associated with sales of products. The sales-based earnout is valued using projected sales from our internal strategic plan. Both arrangements are Level 3 fair value measurements and include the following significant unobservable inputs as of 31 December 2020:

ImThera Acquisition	Valuation Technique	Unobservable Input	Ranges
Regulatory milestone-based payment	Discounted cash flow	Discount rate	6.3%
		Probability of payment	85%
		Projected payment year	2024

ImThera Acquisition	Valuation Technique	Unobservable Input	Ranges
Sales-based earnout	Monte Carlo simulation	Risk-adjusted discount rate	11.7% - 12.1%
		Credit risk discount rate	6.6% - 7.3%
		Revenue volatility	32.5%
		Probability of payment	85%
		Projected years of earnout	2025 - 2028

The TandemLife business combination involved a contingent consideration arrangement composed of potential cash payments upon the achievement of certain regulatory milestones. The arrangement is a Level 3 fair value measurement and includes the following significant unobservable inputs as of 31 December 2020:

TandemLife Acquisition	Valuation Technique	Unobservable Input	Ranges
Regulatory milestone-based payment	Discounted cash flow	Discount rate	5.4%
		Probability of payments	70%
		Projected payment years	2021

The Miami Instruments business combination involved a contingent consideration arrangement composed of potential cash payments upon the achievement of certain regulatory milestones. The arrangement is a Level 3 fair value measurement and includes the following significant unobservable inputs as of 31 December 2020:

Miami Instruments Acquisition	Valuation Technique	Unobservable Input	Ranges
Regulatory milestone-based payments	Discounted cash flow	Discount rate	5.3% - 5.7%
		Probability of payment	90% - 100%
		Projected payment year	2021 - 2022

Transfers

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. Our policy is to recognise transfers into and out of levels within the fair value hierarchy at the end of the fiscal quarter in which the actual event or change in circumstances that caused the transfer occurs. There were no transfers between Level 1, Level 2 or Level 3 during the years ended 31 December 2020 and 31 December 2019. 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.

Assets and Liabilities that are Measured at Fair Value on a Non-recurring Basis

Non-financial assets such as goodwill, intangible assets and property, plant and equipment are measured at fair value computed using the value in use method when there is an indicator of impairment and recorded at fair value only when impairment is recognised. Financial assets such as investments in shares are held at cost, which we believe it is an appropriate estimate of fair value unless more recent information is available sufficient to measure fair value. The fair values of these non-financial assets are based on our own judgements about the assumptions that market participants would use in pricing the asset and on observable market data, when available. We classify these measurements as Level 3 within the fair value hierarchy.

Financial Instruments Not Measured at Fair Value

The carrying values of our cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value due to the short-term nature of these items.

The carrying value of our long and short-term debt as of 31 December 2020 and 31 December 2019 was $655.6 million and $337.4 million, respectively, which we believe approximates fair value.

Note 6. Financial Instruments

The Group uses several instruments to fund its operating activities including short and long-term debt from credit institutions and other lenders and short-term bank loans. The Group's other financial instruments consist of trade payables and receivables resulting from operating activities, investments in other companies, assets and liabilities for financial derivatives (primarily interest rate swaps and forward foreign currency contracts) and other receivables and payables other than those related to staff, tax authorities and welfare agencies.

Classification of financial instruments

The classification of financial instruments measured at fair value changed from being measured through OCI to being measured in the profit or loss. With regard to classification of financial instruments on the basis of the types as specified in IFRS 9, the following should be noted:

- Assets and liabilities for financial derivatives related to contracts entered into to mitigate exchange risk on imports and exports are classified under "Financial assets/liabilities at fair value through OCI" when they meet the requirements for being recognised as hedge accounting instruments, and under "Financial assets/liabilities at fair value through profit or loss" when these requirements are not met.
- Assets and liabilities for financial derivatives related to contracts entered into to mitigate interest rate risk are classified under "Financial assets/liabilities at fair value through OCT" when they meet the requirements for being recognised as hedge accounting instruments, and under "Financial assets/liabilities at fair value through profit or loss" when these requirements are not met.

	Classification of Financial Instruments at 31 December 2020								
	Classification						Carrying Amount		
(in thousands)	Financial Assets/ Liabilities at Fair Value Through Profit or Loss	Receivables and Loans Measured at Amortised Cost	Financial Assets Measured at Amortised Cost	Financial Liabilities at Amortised Cost	Financial Assets/ Liabilities at Fair Value Through OCI	Total	Current Portion	Non-Current Portion	Fair Value
Assets									

Classification of Financial Instruments at 31 December 2020

	Classification					Carrying Amount			
(in thousands)	Financial Assets/ Liabilities at Fair Value Through Profit or Loss	Receivables and Loans Measured at Amortised Cost	Financial Assets Measured at Amortised Cost	Financial Liabilities at Amortised Cost	Financial Assets/ Liabilities at Fair Value Through OCI	Total	Current Portion	Non-Current Portion	Fair Value
Financial assets	$ 30,701	$ 2,051	$ 5,532	$ -	$ -	$ 38,284	$ -	$ 38,284	$ 38,284
Other assets	-	3,664	-	-	-	3,664	-	3,664	3,664
Trade receivables	-	184,356	-	-	-	184,356	184,356	-	184,356
Other receivables	-	18,485	-	-	-	18,485	18,485	-	18,485
Financial derivative assets	72,357	-	-	-	1,998	74,355	2,053	72,302	74,355
Other financial assets	-	3,522	-	-	-	3,522	3,522	-	3,522
Cash and cash equivalents	-	252,832	-	-	-	252,832	252,832	-	252,832
Total financial assets	$ 103,058	$ 464,910	$ 5,532	$ -	$ 1,998	$ 575,498	$ 461,248	$ 114,250	$ 575,498
Liabilities									
Financial liabilities	$ -	$ -	$ -	$ 650,675	$ -	$ 650,675	$ 8,377	$ 642,298	$ 752,211
Lease liabilities	-	-	-	53,501	-	53,501	11,271	42,230	53,501
Other liabilities	-	-	-	3,357	-	3,357	-	3,357	3,357
Trade payables	-	-	-	73,099	-	73,099	73,099	-	73,099
Other payables	-	-	-	50,647	-	50,647	50,647	-	50,647
Financial derivative liabilities	130,193	-	-	-	(881)	129,312	7,372	121,940	129,312
Other financial liabilities	-	-	-	4,966	-	4,966	4,966	-	4,966
Total financial liabilities	$ 130,193	$ -	$ -	$ 836,245	$ (881)	$ 965,557	$ 155,732	$ 809,825	$ 1,067,093

Classification of Financial Instruments at 31 December 2019

	Classification					Carrying Amount			
(in thousands)	Financial Assets/ Liabilities at Fair Value Through Profit or Loss	Receivables and Loans Measured at Amortised Cost	Financial Assets Measured at Amortised Cost	Financial Liabilities at Amortised Cost	Financial Assets/ Liabilities at Fair Value Through OCI	Total	Current Portion	Non-Current Portion	Fair Value
Assets									
Financial assets	$ 26,805	$ -	$ 4,476	$ -	$ -	$ 31,281	$ -	$ 31,281	$ 31,281
Other assets	-	2,881	-	-	-	2,881	-	2,881	2,881
Trade receivables	-	257,769	-	-	-	257,769	257,769	-	257,769
Other receivables	-	25,005	-	-	-	25,005	25,005	-	25,005
Financial derivative assets	(33)	-	-	-	148	115	115	-	115
Other financial assets	-	3,236	-	-	-	3,236	3,236	-	3,236

Classification of Financial Instruments at 31 December 2019

	Classification					Carrying Amount			
(in thousands)	Financial Assets/ Liabilities at Fair Value Through Profit or Loss	Receivables and Loans Measured at Amortised Cost	Financial Assets Measured at Amortised Cost	Financial Liabilities at Amortised Cost	Financial Assets/ Liabilities at Fair Value Through OCI	Total	Current Portion	Non-Current Portion	Fair Value
Cash and cash equivalents	-	61,137	-	-	-	61,137	61,137	-	61,137
Total financial assets	$ 26,772	$ 350,028	$ 4,476	$ -	$ 148	$ 381,424	$ 347,262	$ 34,162	$ 381,424
Liabilities									
Financial liabilities	$ -	$ -	$ -	$ 333,215	$ -	$ 333,215	$ 73,112	$ 260,103	$ 334,372
Lease liabilities	-	-	-	57,534	-	57,534	11,316	46,218	57,534
Other liabilities	-	-	-	4,737	-	4,737	-	4,737	4,737
Trade payables	-	-	-	85,038	-	85,038	85,038	-	85,038
Other payables	-	-	-	70,007	-	70,007	70,007	-	70,007
Financial derivative liabilities	3,078	-	-	-	156	3,234	3,173	61	3,234
Other financial liabilities	-	-	-	4,214	-	4,214	4,214	-	4,214
Total financial liabilities	$ 3,078	$ -	$ -	$ 554,745	$ 156	$ 557,979	$ 246,860	$ 311,119	$ 559,136

Note 7. Business Combinations

Miami Instruments

On 12 June 2019, we acquired the minimally invasive cardiac surgery instruments business from Miami Instruments for cash consideration of up to $17.0 million. The related operations have been integrated into our Cardiovascular segment as part of our Heart Valves portfolio. Cash of $10.8 million was paid at closing with up to $6.0 million in contingent consideration based on achieving certain milestones. In connection with this acquisition, we recognised $14.7 million in developed technology and IPR&D intangible assets and $1.5 million in goodwill. Pro forma financial information, assuming the Miami Instruments acquisition had occurred as of the beginning of the calendar year prior to the year of acquisition, was not material for disclosure purposes.

Note 8. Assets and Liabilities Held for Sale

Heart valves

On 2 December 2020, LivaNova entered into a Share and Asset Purchase Agreement (HV Purchase Agreement) with Mitral Holdco S.à r.l. (Mitral), a company incorporated under the laws of Luxembourg and wholly owned and controlled by funds advised by Gyrus Capital S.A., a Swiss private equity firm. The HV Purchase Agreement provides for the divestiture of certain of LivaNova's subsidiaries as well as certain other assets and liabilities relating to the Company's Heart Valve business and site management operations conducted by the Company's subsidiary LivaNova Site Management S.r.l. (LSM) at the Company's Saluggia campus. The purchase price of €60.0 million (approximately $73.6 million as of 31 December 2020) will be payable in two tranches: €50.0 million (approximately $61.3 million as of 31 December 2020) payable at closing, subject to customary trade working capital and net indebtedness adjustments, as set forth in the HV Purchase Agreement, and an additional €10.0 million (approximately $12.3 million as of 31 December 2020) payable on 30 December 2022.

On 9 April 2021, LivaNova and Mitral entered into an Amended and Restated Share and Asset Purchase Agreement (the HV A&R Purchase Agreement) which amends and restates the original HV Purchase Agreement to, among other things, defer the closing of the sale and purchase of LSM by up to two years and include or amend certain additional terms relating to such deferral, including certain amendments relating to the potential hazardous substances liabilities of LSM, the related expense reimbursement provisions, and transfer of certain heart valve-related employees and information technology assets.

In addition, the HV A&R Purchase Agreement includes certain amendments relating to mechanics and timing for the initial closing of the transaction and subsequent closings of the local businesses. The initial closings of the transaction with respect to the Heart Valve business is expected to occur in the first half of 2021.

As a result of entering into the HV Purchase Agreement, the Company concluded that the assets and liabilities of the Heart Valve business being sold meet the criteria to be classified as held for sale, which is included in our Cardiovascular reportable segment. As a result, we recognised an impairment of long-lived assets totalling $89.9 million to record heart valves at fair value less estimated cost to sell.

The major classes of assets and liabilities held for sale on the consolidated balance sheet as at 31 December 2020 were as follows (in thousands):

	During the Year Ended 31 December 2020

	During the Year Ended 31 December 2020		Assets and Liabilities Held for Sale as at 31 December 2020
	Reclassified from Held and Used	Impairment of Long-Lived Assets	Assets and Liabilities Held for Sale as at 31 December 2020
Property, plant and equipment	$ 24,691	$ (22,476)	$ 2,215
Intangible assets	72,331	(65,847)	6,484
Right-of-use assets	1,698	(1,546)	152
Deferred tax assets	2,968	-	2,968
Inventories	45,082	-	45,082
Trade receivables	20,059	-	20,059
Other receivables	2,436	-	2,436
Tax receivables	577	-	577
Total assets held for sale	$ 169,842	$ (89,869)	$ 79,973
Long-term lease liabilities	$ 841	$ -	$ 841
Provisions	1,981	-	1,981
Other liabilities	323	-	323
Provision for employee severance and other employee benefit provisions	4,990	-	4,990
Trade payables	9,389	-	9,389
Other payables	10,055	-	10,055
Tax payable	363	-	363
Current lease liabilities	980	-	980
Total liabilities held for sale	$ 28,922	$ -	$ 28,922

Note 9. Discontinued Operations

In November 2017, we concluded that the sale of CRM represented a strategic shift in our business that would have a major effect on future operations and financial results. Accordingly, the operating results of CRM are classified as discontinued operations on our consolidated statement of (loss) income for all the years presented.

We completed the CRM Sale on 30 April 2018 to MicroPort Cardiac Rhythm B.V. and MicroPort Scientific Corporation for total cash proceeds of $195.9 million, less cash transferred of $9.2 million, less a closing working capital adjustment. In March 2020, we finalized the working capital adjustment and, as a result, made a $16.4 million payment to MicroPort during the first quarter of 2020 of which $14.9 million was included within other payables as at 31 December 2019, resulting in a loss on sale of CRM of $1.6 million during the year ended 31 December 2020. In conjunction with the sale, we entered into transition services agreements to provide certain support services generally for up to twelve months from the closing date of the sale. The services include, among others, accounting, information technology, human resources, quality assurance, regulatory affairs, supply chain, clinical affairs and customer support. During the years ended 31 December 2020 and 2019 we recognised income of nil and $0.9 million, respectively, for providing these services. Income recognised related to the transition services agreements is recorded as a reduction to the related expenses in the associated expense line items on our consolidated statement of (loss) income.

The following table represents the financial results of CRM presented as net income (loss) from discontinued operations, net of tax on the consolidated statement of (loss) income (in thousands):

	Year Ended 31 December	
	2020	2019
Net sales	$ -	$ -
Costs and expenses:		
Cost of sales	-	(43)
Selling, general and administrative expenses	-	(161)
Research and development	-	(161)
Loss on sale of CRM	1,578	-
Operating (loss) income	(1,578)	365
(Loss) income before tax	(1,578)	365
Income tax benefit	85	-
Net (loss) income from discontinued operations	$ (1,493)	$ 365

Note 10. Restructuring

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. A restructuring provision is recorded when a plan is approved and communicated to employees. Costs associated with these plans were reported as restructuring expenses in the operating results of our consolidated statement of (loss) income.

In December 2018, we initiated a reorganization plan (the "2018 Plan") in order to reduce manufacturing and operational costs associated with our Cardiovascular facilities in Saluggia and Mirandola, Italy and Arvada, Colorado. The 2018 Plan resulted in a net reduction of approximately 75 personnel and was completed at the end of 2019.

In November 2019, we initiated a reorganization plan (the "2019 Plan") to streamline our organizational structure in order to address new regulatory requirements, create efficiencies, improve profitability and ensure business continuity. As a result, we incurred restructuring expenses of $1.9 million and $4.4 million during the years ended 31 December 2020 and 31 December 2019, respectively, primarily associated with severance costs for approximately 35 impacted employees. The 2019 Plan was completed during 2020.

Additionally, we ended our Caisson TMVR program effective 31 December 2019 after determining that it was no longer viable to continue to invest in the program. As a result, we recognised restructuring expenses of $0.3 million and $3.5 million during the years ended 31 December 2020 and 31 December 2019, respectively, primarily associated with severance costs for approximately 50 impacted employees. The Caisson TMVR restructuring plan was completed during 2020.

During the fourth quarter of 2020, we initiated a reorganization plan (the "2020 Plan") to reduce our cost structure. As a result, we incurred restructuring expenses of $5.3 million during the year ended 31 December 2020, primarily associated with severance costs for approximately 54 employees.

The following table provides a reconciliation of the beginning and ending balance of the accruals and other reserves in connection with our restructuring plans included within provisions and other payables on the consolidated balance sheet (in thousands):

	Employee Severance and Other Termination Costs	Other	Total
Balance 31 December 2018	$ 10,195	$ 3,069	$ 13,264
Charges	11,472	782	12,254
Cash payments	(17,570)	(2,451)	(20,021)
Balance 31 December 2019	4,097	1,400	5,497[1]
Charges	7,571	-	7,571
Cash payments	(5,919)	(854)	(6,773)
Balance 31 December 2020	$ 5,749	$ 546	$ 6,295[2]

[1] The restructuring plans' liabilities are recorded in the Consolidated Balance Sheet as $2.5 million within provisions and $3.0 million within other payables as of 31 December 2019.
[2] The restructuring plans' liabilities are recorded in the Consolidated Balance Sheet as $4.9 million within provisions and $1.4 million within other payables as of 31 December 2020.

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

	Year Ended 31 December	
	2020	2019
Cardiovascular	$ 1,570	$ 3,592
Neuromodulation	3,223	1,082
Other[1]	2,778	7,580
Total	$ 7,571	$ 12,254

[1] Other restructuring expense for the year ended 31 December 2019 included $3.5 million of Caisson restructuring expenses.

Note 11. Property, Plant and Equipment

(in thousands)	Land	Buildings and Building Improvements	Equipment, Other, Furniture, Fixtures	Capital Investment in Process	Total
At 31 December 2020					
Gross amount	$ 15,750	$ 77,061	$ 177,482	$ 19,531	$ 289,824
Accumulated depreciation and impairment	-	(20,348)	(113,201)	-	(133,549)
Net amount	$ 15,750	$ 56,713	$ 64,281	$ 19,531	$ 156,275
At 31 December 2019					
Gross amount	$ 15,165	$ 86,814	$ 177,756	$ 15,760	$ 295,495
Accumulated depreciation and impairment	-	(18,668)	(107,906)	-	(126,574)
Net amount	$ 15,165	$ 68,146	$ 69,850	$ 15,760	$ 168,921

Changes during the year in the net amount of each category of property, plant and equipment are indicated below (in thousands):

	Land	Buildings and Building Improvements	Equipment, Other, Furniture, Fixtures	Capital Investment in Process	Total
Net Amount at 31 December 2018	$ 15,866	$ 66,791	$ 77,467	$ 20,228	$ 180,352
Additions	-	2,359	8,847	13,389	24,595
Disposals	-	(279)	(902)	(98)	(1,279)
Impairment[1]	-	-	(1,643)	(1,564)	(3,207)
Depreciation	-	(4,727)	(20,218)	-	(24,945)
Currency translation loss	(164)	(634)	(849)	(134)	(1,781)
Assets held for sale	(537)	(148)	-	-	(685)
Reclassifications[2]	-	4,784	7,148	(16,061)	(4,129)
Net Amount at 31 December 2019	15,165	68,146	69,850	15,760	168,921
Additions	-	1,225	11,738	16,921	29,884
Disposals	-	(23)	(503)	(355)	(881)
Impairment	-	-	(20)	3	(17)
Depreciation	-	(5,378)	(18,271)	-	(23,649)

	Land	Buildings and Building Improvements	Equipment, Other, Furniture, Fixtures	Capital Investment in Process	Total
Currency translation gain	753	3,724	3,067	791	8,335
Assets held for sale	(168)	(13,470)	(10,118)	(935)	(24,691)
Reclassifications[3]	-	2,489	8,538	(12,654)	(1,627)
Net Amount at 31 December 2020	$ 15,750	$ 56,713	$ 64,281	$ 19,531	$ 156,275

[1] In November 2019, we announced that we would be ending our Caisson TAMR program, which was included within Other. The announcement triggered an evaluation of finite-lived assets for impairment. Impairment primarily consists of the impairment of certain assets of Caisson.
[2] Total reclassifications of capital investment in process represents reclassifications of $2.8 million to intangible assets and $1.3 million to inventories as assets were placed into service.
[3] Total reclassifications of capital investment in process represents reclassification of $1.6 million to intangible assets as assets were placed into service.

Note 12. Goodwill and Intangible Assets

(in thousands)	Goodwill	Developed Technology	Customer Relationships	Trade Names	In-Process R&D	Other Intangible Assets	Software	Total
At 31 December 2020								
Gross amount	$ 591,639	$ 227,247	$ 202,546	$ 26,261	$ 112,000	$ 1,041	$ 32,527	$ 601,622
Accumulated amortisation and impairment	-	(56,933)	(56,787)	(16,837)	-	(903)	(24,996)	(156,456)
Net amount	$ 591,639	$ 170,314	$ 145,759	$ 9,424	$ 112,000	$ 138	$ 7,531	$ 445,166
At 31 December 2019								
Gross amount	$ 582,324	$ 293,785	$ 320,023	$ 25,004	$ 115,800	$ 974	$ 39,055	$ 794,641
Accumulated amortisation and impairment	-	(87,593)	(126,849)	(14,811)	-	(711)	(26,913)	(256,877)
Net amount	$ 582,324	$ 206,192	$ 193,174	$ 10,193	$ 115,800	$ 263	$ 12,142	$ 537,764

The changes in the net carrying value of each class of intangible assets during the year are indicated below (in thousands):

	Goodwill	Developed Technology	Customer Relationships	Trade Names	In-Process R&D	Other Intangible Assets	Software	Total
Net Amount at 31 December 2018	$ 960,437	$ 137,331	$ 259,942	$ 13,820	$ 358,785	$ 561	$ 11,048	$ 781,487
Measurement period adjustments[1]	(3,326)	-	-	-	-	-	-	$ -
Acquisition of Miami Instruments	1,550	10,900	-	-	3,813	-	-	14,713
Additions	-	-	4,502	-	-	418	3,603	8,523
Disposals	-	-	-	-	-	-	(242)	(242)
Amortisation	-	(18,445)	(18,006)	(3,554)	-	(369)	(5,326)	(45,700)
Impairment	(379,493)	(30,231)	(51,693)	-	(139,295)	-	(15)	(221,234)
Currency translation gains	3,156	(866)	(1,571)	(73)	-	(1)	(70)	(2,581)
Reclassifications[2]	-	107,503	-	-	(107,503)	(346)	3,144	2,798
Net Amount at 31 December 2019	582,324	206,192	193,174	10,193	115,800	263	12,142	537,764
Additions	-	-	3,366	-	-	36	6,021	9,423
Amortisation	-	(18,186)	(14,292)	(769)	-	(167)	(5,384)	(38,798)
Impairment[3]	-	-	-	-	-	-	(6,745)	(6,745)
Currency translation gains	9,315	7,047	6,951	-	-	2	226	14,226
Assets held for sale		(24,739)	(43,440)	-	(3,800)	-	(352)	(72,331)
Reclassifications	-	-	-	-	-	4	1,623	1,627
Net Amount at 31 December 2020	$ 591,639	$ 170,314	$ 145,759	$ 9,424	$ 112,000	$ 138	$ 7,531	$ 445,166

[1] During the first quarter of 2019, measurement period adjustments related to finalising our tax attributes were recorded, which resulted in an increase of $3.3 million in deferred tax assets and a commensurate decrease to goodwill.
[2] During the third quarter of 2019, upon receiving FDA approval of the LifeSPARC system, we reclassified the IPR&D asset of $107.5 million from the acquisition of TandemLife to finite-lived developed technology intangible assets and began amortising the intangible asset over a useful life of 15 years.
[3] During the fourth quarter of 2020, the Company recorded an impairment of $6.7 million associated with certain capitalized software development costs in the Neuromodulation reportable segment.

Amortisation of intangible assets charged to the consolidated statement of (loss) income totalled $38.8 million and $45.7 million for the year ended 31 December 2020 and 31 December 2019, respectively, and is included within cost of sales, selling, general and administrative and research and development.

The amortisation periods for our finite-lived intangible assets as at 31 December 2020 were as follows:

	Minimum Life in Years	Maximum Life in Years
Developed technology[1]	14	17
Customer relationships[1]	10	18
Trade names	15	15
Other intangible assets	7	8
Software	3	10

[1] As at 31 December 2020, developed technology-from the Merger had a remaining useful life of 12 years to 13 years, customer relationships from the Merger had a remaining useful life of 10 years and developed technology from the TandemLife acquisition had a remaining useful life of 9 years.

The amortisation periods for our finite-lived intangible assets as at 31 December 2019 were as follows:

	Minimum Life in Years	Maximum Life in Years
Developed technology[1]	2	19
Customer relationships[l]	15	18
Trade names	15	15
Other intangible assets	5	10
Software	5	10

[1] As at 31 December 2019, developed technology from the Merger had a remaining useful life of 13 years to 14 years, customer relationships from the Merger had a remaining useful life of 11 years and developed technology from the TandemLife acquisition had a remaining useful life of 10 years.

Impairment of Goodwill and Intangible Assets

Our CGUs consist of Cardiopulmonary, Advanced Circulatory Support, Obstructive Sleep Apnea, and Neuromodulation. The carrying amount of goodwill by CGU (in thousands):

	31 December 2020	31 December 2019
Cardiopulmonary	$ 74,765	$ 65,450
Advanced Circulatory Support	118,120	118,120
Obstructive Sleep Apnea	82,595	82,595
Neuromodulation	316,159	316,159
Total	$ 591,639	$ 582,324

We performed quantitative assessments of our CGUs as of 31 December 2020 in accordance with IAS 36 "Impairment of Assets." The methodology applied to our CGUs value in use calculations, reflecting past experience and external sources of information, including Board approved budgets based on pre-tax cash flows with discount rates between 9% and 19% derived from the Company’s benchmarked weighted average cost of capital (WACC) and a long-term nominal growth rate of 2% for all CGUs. The discount rates utilized in the assessments of our Cardiopulmonary and Neuromodulation CGUs were 9% and 10%, respectively. The discount rates utilized in the assessments of our Advanced Circulatory Support and Obstructive Sleep Apnea CGUs were 17.5% and 19.0%, respectively. The goodwill associated with our Cardiopulmonary, Advanced Circulatory Support, Obstructive Sleep Apnea and Neuromodulation CGU's was not determined to be impaired.

Additionally, as of 31 December 2020, we performed a quantitative assessment of the IPR&D recognised in conjunction with the acquisition of Im Thera. The value in use calculation have been based on a projection period of 22 years. The assessment included a discounted cash flow model test that included a discount rate of 18% and a long-term growth rate of 2%. Based on the assessment performed, we determined that the IPR&D asset was not impaired. The fair value of the IPR&D asset recognised in conjunction with the acquisition of Im Thera exceeded its carrying value by approximately 56% or $62.9 million as of 31 December 2020.

We performed quantitative assessments of our CGUs as of 31 December 2019 in accordance with IAS 36 "Impairment of Assets." The methodology applied to our CGUs value in use calculations, reflecting past experience and external sources of information, including Board approved budgets based on pre-tax cash flows with discount rates between 10% and 24% derived from the Company’s benchmarked weighted average cost of capital (WACC) and a long-term nominal growth rate of 2% for all CGUs. The discount rates utilized in the assessments of our Cardiopulmonary, Heart Valves and Neuromodulation CGUs were 13.5%, 10.0%, and 10.5%, respectively. The discount rates utilized in the assessments of our Advanced Circulatory Support and Obstructive Sleep Apnea CGUs were 24.0% and 19.0%, respectively. Based on the quantitative assessments performed, we determined that our Heart Valves CGU was impaired and accordingly recorded impairments of $335.0 million, $51.7 million and $30.2 million to goodwill, customer relationships and developed technology offset by a reduction in deferred tax liabilities of $22.1 million. The carrying values of customer relationships and developed technology associated with our Heart Valves CGU at 31 December 2019 was $45.3 million and $26.6 million, respectively. The goodwill associated with our Cardiopulmonary, Advanced Circulatory Support, Obstructive Sleep Apnea and Neuromodulation CGU's was not determined to be impaired.

The value in use models used for calculating the recoverable amount is most sensitive to the discount rate as well as the expected revenue growth rate and the terminal growth rate for extrapolation purposes. We performed a sensitivity analysis, as at 31 December 2020, for each of these assumptions for each CGU and determined that an increase of 0.5% in forecasted selling, general and administrative expenses or the discount rate used, or a decrease of 0.5% in the expected revenue growth rate or terminal growth rate would not result in an impairment of goodwill associated with our Cardiopulmonary, Obstructive Sleep Apnea, Advanced Circulatory Support, and Neuromodulation CGU's.

In November 2019, we announced that we would be ending our Caisson TMVR program, which was included within Other. The announcement triggered an evaluation of finite and indefinite lived assets for impairment. As a result, we fully impaired the IPR&D asset and goodwill of $89.0 million and $44.5 million, respectively.

During the second quarter of 2019, we determined that there would be a 12 month delay in the estimated commercialization date of our obstructive sleep apnea product currently under development, which was acquired in the Im Thera acquisition. This delay

constituted a triggering event that required an evaluation of the IPR&D asset arising from the ImThera acquisition for impairment. Based on the assessment performed, we determined that the IPR&D asset was impaired and as a result, recorded an impairment of $50.3 million, which is included in our Neuromodulation segment. The carrying value of the IPR&D asset as of 31 December 2019 was $112.0 million. The estimated fair value of IPR&D was determined using the income approach. Estimating the fair value of the IPR&D asset requires various assumptions, including revenue growth rates, timing and probability of commercialization and the discount rate. Future delays in commercialization, the probability of commercialization or changes in management estimates could result in further material impairment.

Note 13. Investments in Subsidiaries

Subsidiaries. The Company had the following subsidiaries as at 31 December 2020:

	Registered Office	Country of Incorporation	% Consolidated Group Ownership
LivaNova PLC (Italian Branch)	Via Benigno Crespi 17 20159 Milan, Italy	Italy	100
Caisson Interventional, LLC	6500 Wedgwood Rd., Maple Grove, MN 55311	U.S.	100
CardiacAssist, Inc. Dba TandemLife	620 Alpha Drive, Ste 200, Pittsburgh, PA 15238	U.S.	100
Corcym S.r.l.	Via Benigno Crespi, 17 - 20159 Milano, Italy	Italy	100
Cyberonics Holdings LLC	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100
Cyberonics Latam SRL	Edificio B49, 51 Ave O, Zona Franca Coyo, Coyo-Alajeuela, Costa Rica 20113	Costa Rica	100
Cyberonics Netherlands CV	100 Cyberonics Boulevard, Houston, TX 77058 USA	Netherlands	100
Cyberonics Spain SL	100 Cyberonics Boulevard, Houston, TX 77058 USA	Spain	100
ImThera Medical, Inc.	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100
LivaNova Australia PTY Limited	Tower 2, 123 St Georges Terrace Perth, WA 6000	Australia	100
LivaNova Austria GmbH	Millennium Tower, Handelskai 94-96, 1200 Wien	Austria	100
LivaNova Belgium NV	Ikaroslaan 83, 1930 Zaventem, Belgium	Belgium	100
LivaNova Brasil Comércio e Distribuição de Equipamentos Médico-hospitalares Ltda	Rua Liege, 54 - Vila Vermelha, 04298-070 - São Paulo - SP - Brasil	Brazil	100
LivaNova Canada Corp.	280 Hillmount Road, Unit 8, Markham, ON L6C 3A1, Canada	Canada	100
LivaNova Cayman Limited	Cannon Place, Grand Cayman, Cayman Islands	Cayman Islands	100
LivaNova Chile SpA	Santiago, Chile	Chile	100
LivaNova Colombia Sas	Avenida Calle 80 No. 69-70 Bodega 37, Bogota, Colombia	Colombia	100
LivaNova Deutschland GmbH	Lindberghstrasse 25, D - 80939 München, Germany	Germany	100
LivaNova España, S.L.	Avenida Diagonal 123, planta 10, 08005, Barcelona, Spain	Spain	100
LivaNova Finland OY	c/o Kalliolaw Asianajotoimisto Oy, Södra kajen 12, 00130 Helsinki, Finland	Finland	100
LivaNova Holding S.r.l.	Via Benigno Crespi, 17 - 20159 Milano, Italy	Italy	100
LivaNova Hong Kong Limited	9/F, Wah Yuen Bldg, 149 Queen's Road, Central, Hong Kong, Hong Kong	Hong Kong	100
LivaNova Hungary Limited Liability Company	H-1062 Budapest, Vácî út 1-3, A épület, 6. em.	Hungary	100
LivaNova, Inc.	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100
LivaNova India Private Limited	603-A, Copia Corporate Suites, Building #09, Jasola District Centre, New Delhi, India 110025	India	100
LivaNova IP Limited	20 Eastbourne Terrace, London, England W2 6LG, United Kingdom	United Kingdom	100
LivaNova Japan K.K.	11-1 Nagatacho 2 chome, Chiyoda-ku, Tokyo, 100-6110 Japan	Japan	100
LivaNova (Thailand) Ltd	4,4/5 Zen World Tower Level 12, Rajdamri Road, Pathumwan, Pathumwan, Bangkok, 10330, Thailand	Thailand	100
LivaNova (China) Medical Technology Co. Ltd	Room 3006, 30F, C Building, SML Centre, No. 610 Xujiahui Road, Huangpu District, Shanghai, 200025, China	China	100
LivaNova Malaysia Sdn. Bhd.	Level 10, Meara LGB 1Jalan Wan Kadir Taman Tun Dr. Ismail 60000, Kuala Lumpur, Malaysia	Malaysia	100
LivaNova Nederland N.V.	Westerdoksdijk 423, 1013 BX, Amsterdam, Netherlands	Netherlands	100
LivaNova Norway AS	c/o AmestoAccounthouse AS, Smeltedigelen 1, 0195 Oslo, Norway	Norway	100
LivaNova Poland Sp. Z o.o.	Park Postepu Bud A Ul. Postepu 21 PL-02 676 Warszawa, Poland	Poland	100
LivaNova SAS	200 Avenue de Paris, Châtillon, 92320, France	France	100
LivaNova Scandinavia AB	Djupdalsvägen 16, 192 51 Sollentuna, Sweden	Sweden	100
LivaNova Singapore Pte Ltd	The Adelphi, 1 Coleman Street, #10-07, Singapore 179803	Singapore	100

	Registered Office	Country of Incorporation	% Consolidated Group Ownership
LivaNova Site Management S.r.l.	Via Benigno Crespi 17 20159 Milan, Italy	Italy	100
LivaNova Switzerland SA	Rue du Grand-Pont 12, 1003 Lausanne	Switzerland	100
LivaNova Taiwan Co. Ltd	2F., No. 101, Songren Rd., Xinyi Dist., Taipei City, 11073, Taiwan (R.O.C.)	Taiwan	100
LivaNova Turkey Medikal Limited Sirketi	Nart E-office, Pol Center Ecza Sok. No.4 Levent Istanbul	Turkey	100
LivaNova UK Limited	1370 Montpellier Court, Gloucester Business Park, Gloucester, Gloucestershire, GL3 4AH, United Kingdom	United Kingdom	100
LivaNova USA, Inc.	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100
LIVN Irishco 2 UC	Deloitte, 6 Lapps Quay, Cork, T12 TA48, Ireland	Ireland	100
LIVN Irishco Unlimited Company	Deloitte, 6 Lapps Quay, Cork, T12 TA48, Ireland	Ireland	100
LIVN Luxco 2 sarl	15 Rue Edward Steichen L-2540 Luxembourg	Luxembourg	100
LIVN UK 2 Co Limited	20 Eastbourne Terrace, London, England W2 6LG, United Kingdom	United Kingdom	100
LIVN UK 3 Co Limited	No. 1 Colmore Square, Birmingham, B4 6HQ, United Kingdom	United Kingdom	100
LIVN UK Holdco Limited	20 Eastbourne Terrace, London, England W2 6LG, United Kingdom	United Kingdom	100
LIVN US 3, LLC	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100
LIVN US 5, LLC	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100
LIVN US, LP	14401 West 65th Way, Arvada, CO 80004	U.S.	100
Sorin Group Czech Republic s.r.o	Na poriçi 1079/3a Nové Mesto Praha 110 00 Praha 1, Czech Republic	Czech Republic	100
Sorin Group Italia S.r.l.	Via Benigno Crespi, 17 - 20159 Milano, Italy	Italy	100
Sorin Group Rus LLC	Marshal Proshlyakov str. 30 office 304 123458 Moscow, Russia	Russia	100

All subsidiary undertakings are included in the consolidation. The proportion of the voting rights in the subsidiary undertakings held directly by the parent company do not differ from the proportion of Ordinary Shares held.

Operating performance of the main group companies:

Sorin Group Italia S.r.l.	For the Year Ended 31 December	
(thousands of Euros)	2020	2019
Net sales	254,154	308,132
Earnings before interest and taxes	(30,763)	(12,549)
Net loss	(28,324)	(14,340)
LivaNova Deutschland GmbH[(1)]	For the Year Ended 31 December	
(thousands of Euros)	2020	2019
Net sales	94,805	122,878
Earnings before interest and taxes	(10,898)	(2,511)
Net loss	(7,909)	(1,312)

[(1)] LivaNova Deutschland GmbH is a 100% consolidated LivaNova group company that is formally exempt for FS 2020 from GERMAN GAAP auditing and publishing.

LivaNova Canada Corp.	For the Year Ended 31 December	
(thousands of Canadian Dollars)	2020	2019
Net sales	61,143	74,114
Earnings before interest and taxes	9,243	7,978
Net profit	2,088	859
LivaNova USA, Inc.	For the Year Ended 31 December	
(thousands of USD)	2020	2019
Net sales	547,366	671,295
Earnings before interest and taxes	(10,922)	(36,025)
Net loss	(95,013)	(9,765)

Note 14. Financial Assets

Non-Current Financial Assets

(in thousands)	31 December 2020	31 December 2019
Investments in equity instruments in private-held companies	$ 30,701	$ 26,805
Corporate owned life insurance policies	5,532	4,476
Prepaid finance costs	1,791	-
Financial receivable due from equity investment	260	-
Total non-current financial assets	$ 38,284	$ 31,281

The table below lists our non-current financial assets of investments in equity instruments in privately-held companies held at cost, which we believe it is an appropriate estimate of fair value unless more recent information is available sufficient to measure fair value, in the consolidated balance sheet (in thousands):

	Fair Value

	Percent Ownership 31 December 2020	Percent Ownership 31 December 2019	Security	Address	Fair Value 31 December 2020	31 December 2019
Respicardia, Inc.[1]	19.5%	19.5%	Series D Preferred Shares	12400 Whitewater Dr #150, Minnetonka, MN 55343	$ 17,706	$ 17,706
ALung Technologies, Inc.[2]	3.0%	0.0%	Series C Preferred Shares	2500 Jane St., Pittsburgh, PA 15203	3,000	-
Ceribell, Inc.[3]	3.0%	3.0%	Series B Preferred Shares	2483 Old Middlefield Way #120, Mountain View, CA 94043	3,000	3,000
ShiraTronics, Inc.[4]	13.4%	14.5%	Series A Preferred Shares	9210 Wyoming Ave. N., Suite 275, Brooklyn Center, MN 55445	2,045	2,045
MD Start II[5]	9.3%	9.3%	Series A Shares	7-11 bd Haussmann, 75009 Paris, France	1,227	1,121
Rainbow Medical Ltd.[6]	1.6%	1.6%	Ordinary Shares	85 Medinat Hayehudim St., Business Park, G Building, Herzeliya Pituach, Israel	1,201	1,099
Highlife SAS[7]	7.0%	7.0%	Series A Preferred Shares	168 rue de Grenelle, 75007 Paris, France	1,163	1,064
Noctrix Investment Fund	12.0%	12.0%	Series A Preferred Shares	724 Brannan St., San Francisco, CA 94103	1,359	770
					$ 30,701	$ 26,805

[1] Respicardia, Inc. (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 by transvenously stimulating the phrenic nerve. We have a loan outstanding to Respicardia with a carrying amount of $0.8 million and $0.6 million as at 31 December 2020 and 31 December 2019, respectively, which is included in current financial assets on the consolidated balance sheet. Refer to "Note 36. Subsequent Events" for additional information.

[2] During the first quarter of 2020, we invested in ALung Technologies, Inc. (ALung). ALung is a privately held medical device company focused on creating advanced medical devices for treating respiratory failure. ALung's Hemolung Respiratory Assist System is a dialysis-like alternative or supplement to mechanical ventilation which removes carbon dioxide directly from the blood in patients with acute respiratory failure. As of 31 December 2020, we have a convertible note receivable due from ALung of $2.5 million, which is included in current financial assets on the consolidated balance sheet.

[3] On 7 September 2018, we acquired 1,007,319 shares of Series B Preferred Stock of Ceribell, Inc. (Ceribell). Ceribell is focused on utilizing electroencephalography to improve the diagnosis and treatment of patients at risk for seizures.

[4] ShiraTronics, Inc. (ShiraTronics) is a privately held early-stage medical device company located in the U.S. and Ireland and is focused on developing neuromodulation technologies for the treatment of debilitating migraine headaches. We are required to invest up to a total of $5 million dependent upon ShiraTronics achieving certain milestones.

[5] MD Start II is a private venture capital collaboration for the development of medical device technology in Europe.

[6] Rainbow Medical Ltd. is an Israeli company that seeds and grows companies developing medical devices in a diverse range of medical fields.

[7] Highlife S.A.S. (Highlife) is a privately held clinical-stage medical device company located in France and is focused on the development of a unique TMVR replacement system to treat patients with MR.

The table below lists our non-current equity investments in associates as at 31 December 2020:

	Percent Ownership 31 December 2020	Percent Ownership 31 December 2019	Address
MD Start I K.G.	23.4%	23.4%	7-11 bd Haussmann, 75009 Paris, France
Enopace Biomedical Ltd.	34.5%	34.5%	15 Alon ha-Tavor Street, Caesarea, Haifa District, Israel
Cardiosolutions, Inc.	35.3%	35.3%	375 West Street, West Bridgewater, MA 02379
La Bouscarre S.C.I.	50.0%	50.0%	Route de Revel, 31450 Fourquevaux, France
MD Start III[1]	10.4%	10.4%	7-11 bd Haussmann, 75009 Paris, France

[1] We are required to fund up to a total of approximately €5.0 million (approximately $6.1 million as of 31 December 2020) based on cash calls. There were no outstanding cash calls as at 31 December 2020 and 2019.

Current Financial Assets:

(in thousands)	31 December 2020	31 December 2019
Financial receivables due from equity investments	$ 3,306	$ 642
Other receivables	216	2,594
Total current financial assets	$ 3,522	$ 3,236

Note 15. Inventories

Inventories consisted of the following (in thousands):

	31 December 2020	31 December 2019
Raw materials	$ 43,257	$ 45,225
Work-in-process	8,055	14,581
Finished goods	75,363	104,348

	31 December 2020	31 December 2019
Total	$ 126,675	$ 164,154

Inventories are reported net of the provision for obsolescence which totalled $6.6 million and $12.7 million as at 31 December 2020 and 31 December 2019, respectively. The provisions for obsolescence at 31 December 2020 and 2019 reflect normal obsolescence and includes components that are phased out or expired.

Note 16. Trade Receivables and Other Receivables

Trade receivables, net, consisted of the following (in thousands):

	31 December 2020	31 December 2019
Trade receivables from third parties	$ 194,666	$ 270,874
Expected credit loss provision	(10,310)	(13,105)
Total	$ 184,356	$ 257,769

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.

Trade receivables are reported net of the expected credit loss provision, the changes in which are provided below (in thousands):

	31 December 2020	31 December 2019
Beginning of year	$ (13,105)	$ (11,598)
Additions to provision	(6,421)	(1,848)
Utilisation	1,103	169
Reclassified to assets held for sale	8,913	-
Currency translation gains (losses)	(800)	172
End of year	$ (10,310)	$ (13,105)

Below is a summary of other receivables (in thousands):

	31 December 2020	31 December 2019
Prepaid assets	$ 15,972	$ 18,678
Deposit and advances to suppliers	2,366	5,147
Guarantee deposits	880	556
Receivable from MicroPort Scientific Corporation	-	872
Total	$ 19,218	$ 25,253

Note 17. Derivative Financial Instruments

Due to the global nature of our operations, we are exposed to foreign currency exchange rate fluctuations. We enter into foreign FX derivative contracts to reduce the impact of foreign currency exchange rate fluctuations on earnings and cash flow. We are also exposed to equity price risk in connection with our Notes, including exchange and settlement provisions based on the price of our Ordinary Shares at exchange or maturity of the Notes. In addition, the capped call transactions associated with the Notes also include settlement provisions that are based on the price of our Ordinary Shares, subject to a capped price per share.

We measure all outstanding derivatives each period end at fair value and report the fair value as either financial assets or liabilities on the consolidated balance sheets. We do not enter into derivative contracts for speculative purposes. At inception of the contract, the derivative is designated as either a freestanding derivative or a hedge. Derivatives that are not designated as hedging instruments are referred to as freestanding derivatives with changes in fair value included in earnings.

If the derivative qualifies for hedge accounting, changes in the fair value of the derivative will be recorded in AOCI until the hedged item is recognised in earnings upon settlement/termination. FX derivative gains and losses in AOCI are reclassified to our consolidated statements of (loss) income as shown in the tables below. We evaluate hedge effectiveness at inception. Cash flows from derivative contracts are reported as operating activities on our consolidated statements of cash flows.

Freestanding FX Derivative Contracts

The gross notional amount of FX derivative contracts not designated as hedging instruments, outstanding at 31 December 2020 and 31 December 2019, was $352.6 million and $338.0 million, respectively. These derivative contracts are designed to offset the FX effects in earnings of various intercompany loans and trade receivables. We recorded net (losses)/gains for these freestanding derivatives of $(16.6) million and $3.1 million for the years ended 31 December 2020 and 2019, respectively. These (losses) and gains are included in FX and other losses on our consolidated statements of (loss) income.

Counterparty Credit Risk

We are exposed to credit risk in the event of non-performance by the counterparties to our derivatives.

The two counterparties to the capped call transactions are financial institutions. To limit our credit risk, we selected financial institutions with a minimum long-term investment grade credit rating. Our exposure to the credit risk of the counterparties is not secured by any collateral. If a counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings, with a claim equal to our exposure at that time under the capped call transactions with that counterparty.

To manage credit risk with respect to our other derivatives, the Company selects and periodically reviews counterparties based on credit ratings, limits its exposure with respect to each counterparty, and monitors the market positions. However, if one or more of these counterparties were in a liability position to the Company and were unable to meet their obligations, any transactions with the counterparty could be subject to early termination, which could result in substantial losses for the Company.

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 U.S. dollar forecasts of revenues and costs denominated in British Pound, Japanese Yen and the Euro. We transfer to earnings from AOCI, the gain or loss realized on the FX derivative contracts at the time of invoicing.

There was no hedge ineffectiveness or component of the FX derivative contracts excluded in the measurement of hedge effectiveness during the years ended 31 December 2020 and 31 December 2019.

The gross notional amounts of open derivative contracts designated as cash flow hedges as of 31 December 2020 and 31 December 2019 were as follows (in thousands):

Description of Derivative Contract	31 December 2020	31 December 2019
FX derivative contracts to be exchanged for British Pounds	$ 9,545	$ 10,128
FX derivative contracts to be exchanged for Japanese Yen	18,637	25,342
FX derivative contracts to be exchanged for Euros	47,444	48,838
Interest rate swap contracts[(1)]	-	22,442
	$ 75,626	$ 106,750

[(1)] Interest rate swap contracts were de-designated upon the repayment of the 2014 European Investment Bank loan. Refer to "Note 19. Financial Liabilities."

After-tax net gain associated with derivatives designated as cash flow hedges recorded in the ending balance of AOCI and the amount expected to be reclassified to earnings over the next 12 months as at 31 December 2020 and 2019 were as follows (in thousands):

Description of Derivative Contract	After-Tax Net Gain in AOCI as at 31 December 2020	Amount Expected to be Reclassified to Earnings Over the Next 12 Months
FX derivative contracts	$ 2,319	$ 2,319

Description of Derivative Contract	After-Tax Net Gain in AOCI as at 31 December 2019	Amount Expected to be Reclassified to Earnings Over the Next 12 Months
FX derivative contracts	$ 600	$ 600
Interest rate swap contracts	(86)	(57)
Total	$ 514	$ 543

Presentation in Financial Statements

Pre-tax gains (losses) for derivative contracts designated as cash flow hedges recognised in OCI and the amount reclassified to earnings from AOCI were as follows (in thousands):

		Year Ended 31 December 2020	
Description of Derivative Contract	Location in Earnings of Reclassified Gain or Loss	Gains Recognised in OCI	(Losses) Gains Reclassified from AOCI to Earnings:
FX derivative contracts	Foreign exchange and other losses	$ 1,724	$ (1,522)
FX derivative contracts	SG&A	-	980
Interest rate swap contracts	Interest expense	-	(113)
Total		$ 1,724	$ (655)

		Year Ended 31 December 2019	
Description of Derivative Contract	Location in Earnings of Reclassified Gain or Loss	Gains Recognised in OCI	Gains (Losses) Reclassified from AOCI to Earnings:
FX derivative contracts	Foreign exchange and other losses	$ 2,757	$ 3,003
FX derivative contracts	SG&A	-	(2,071)
Interest rate swap contracts	Interest expense	-	(92)
Total		$ 2,757	$ 840

We offset fair value amounts associated with our derivative instruments on our consolidated balance sheets that are executed with the same counterparty under master netting arrangements. Our netting arrangements include a right to set off or net together purchases and sales of similar products in the settlement process.

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

31 December 2020	Asset Derivatives		Liability Derivatives	
Derivatives Designated as Hedging Instruments	Balance Sheet Location	Fair Value[(1)]	Balance Sheet Location	Fair Value[(1)]
FX derivative contracts	Current financial derivative assets	$ 1,998	Current financial derivative liabilities	$ 14
FX derivative contracts	Current financial derivative liabilities	895		
Total derivatives designated as hedging instruments		2,893		14

31 December 2020	Asset Derivatives		Liability Derivatives	
Derivatives Not Designated as Hedging Instruments				
Interest rate swap contracts			Current financial derivative liabilities	74
FX derivative contracts	Current financial derivative assets	55	Current financial derivative liabilities	4,073
Capped call derivatives	Long-term financial derivative asset	72,302		
Embedded exchange feature			Long-term financial derivative liability	121,756
Other derivatives			Current financial derivative liabilities	4,106
Other derivatives			Long-term financial derivative liability	184
Total derivatives not designated as hedging instruments		72,357		130,193
Total derivatives		$ 75,250		$ 130,207

(1) For the classification of input used to evaluate the fair value of our derivatives, refer to "Note 5. Fair Value Measurements. "

31 December 2019	Asset Derivatives		Liability Derivatives	
Derivatives Designated as Hedging Instruments	Balance Sheet Location	Fair Value(1)	Balance Sheet Location	Fair Value(1)
Interest rate swap contracts			Current financial derivative liabilities	$ 313
Interest rate swap contracts			Non-current financial derivative liabilities	61
FX derivative contracts	Current financial derivative assets	$ 148	Current financial derivative liabilities	169
FX derivative contracts	Current financial derivative liabilities	387		
Total derivatives designated as hedging instruments		535		543
Derivatives Not Designated as Hedging Instruments				
FX derivative contracts	Current financial derivative liabilities	26	Current financial derivative liabilities	3,104
FX derivative contracts			Current financial derivative assets	33
Total derivatives not designated as hedging instruments		26		3,137
Total derivatives		$ 561		$ 3,680

(1) For the classification of inputs used to evaluate the fair value of our derivatives, refer to "Note 5. Fair Value Measurements. "

Note 18. Shareholders' Equity

LivaNova is incorporated in England and Wales as a public company limited by shares. The principal legislation under which LivaNova operates is the Companies Act 2006, and regulations made thereunder. LivaNova Ordinary Shares were registered under the U.S. Securities Act, pursuant to the Registration Statement on Form S-4 (File No. 333-203510), as amended, filed with the SEC by LivaNova and declared effective on 19 August 2015. LivaNova's Ordinary Shares are listed on Nasdaq under the ticker symbol "LIVN."

The Company's authorised share capital is as follows:

(in number of shares)	31 December 2020	31 December 2019
Authorised share capital, Ordinary Shares of £1 each, unlimited shares authorised		
Issued(1)	49,447,473	49,411,016
Outstanding	48,655,863	48,443,830

(1) Allotted, fully paid and issued.

Preferred shares.

LivaNova may issue preferred shares by special resolution or by determination by the Board of LivaNova.

Treasury shares.

Shares held by the Employee Benefit Trust (EBT) are issued to employees and directors at exercise of stockbased compensation grants. The balance of shares in the EBT are reported as treasury shares. We did not issue any additional shares to our EBT during the years ended 31 December 2020 or 31 December 2019.

Group reconstruction reserve.

The 'Group reconstruction reserve' represents the excess of value attributed to shares and share appreciation rights issued during the acquisition of Sorin S.p.A on 19 October 2015 over the nominal value of those shares and share rights.

Comprehensive income (loss).

The table below presents the change in each component of AOCI (loss), net of tax and the reclassifications out of AOCI (loss) into retained deficit.

Taxes were not provided for foreign currency translation adjustments for the years ended 31 December 2020 and 2019 as translation adjustment related to earnings are intended to be reinvested in the countries where earned.

(in thousands)	Change in Unrealised Gain (Loss) on Derivatives	Foreign Currency Translation Adjustments	Revaluation of Net Liability (Asset) for Defined Benefits	Total
Beginning Balance - 31 December 2018	$ (944)	$ (23,629)	$ (1,074)	$ (25,647)
Other comprehensive income (loss) before reclassifications, before tax	2,757	3,608	(1,337)	5,028
Tax (expense) benefit	(662)	-	328	(334)
Other comprehensive income (loss) before reclassifications, net of tax	2,095	3,608	(1,009)	4,694
Reclassification of income from accumulated other comprehensive income, before tax	(840)	-	-	(840)
Tax effect	202	-	-	202
Reclassification of income from accumulated other comprehensive income, after tax	(638)	-	-	(638)
Net other comprehensive income (loss), net of tax	1,457	3,608	(1,009)	4,056
Ending Balance - 31 December 2019	513	(20,021)	(2,083)	(21,591)
Other comprehensive income (loss) before reclassifications, before tax	1,724	23,780	(1,321)	24,183
Tax (expense) benefit	(415)	-	339	(76)
Other comprehensive income (loss) before reclassifications, net of tax	1,309	23,780	(982)	24,107
Reclassification of loss from accumulated other comprehensive income, before tax	655	-	-	655
Tax effect	(158)	-	-	(158)
Reclassification of loss from accumulated other comprehensive income, after tax	497	-	-	497
Net other comprehensive income (loss), net of tax	1,806	23,780	(982)	24,604
Ending Balance - 31 December 2020	$ 2,319	$ 3,759	$ (3,065)	$ 3,013

Note 19. Financial Liabilities

The outstanding principal amount of our unsecured long-term debt at 31 December 2020 and at 31 December 2019 was as follows (in thousands, except interest rates):

	31 December 2020	31 December 2019	Maturity	Interest Rate	
2020 Senior Secured Term Loan	$ 424,002	$ -	June 2025	LIBOR (1% Floor)	+ 6.50%
2020 Cash Exchangeable Senior Notes	212,073	-	December 2025	3.00%	
Bank of America Merrill Lynch Banco Múltiplo S.A.	6,515	8,422	July 2021	4.81%	
Mediocredito Italiano	5,406	6,222	December 2023	0.50%	- 2.94%
Bank of America, U.S.	2,019	2,004	January 2023	2.08%	
2019 Debt Facility	-	184,275			
2017 European Investment Bank	-	103,570			
2014 European Investment Bank	-	28,053			
Other	660	669			
Total long-term facilities	650,675	333,215			
Less current portion of long-term debt	8,377	73,112			
Total long-term debt	$ 642,298	$ 260,103			-

Movements associated with the outstanding principal amounts of our long-term debt for the year ended 31 December 2020 included the following (in thousands):

	Beginning of Fiscal Year 2020	Borrowing	Scheduled Principal Reductions	Early Extinguishment	Amortisation of Prepaid Loan Fees	FX - Translation and Other	End of Fiscal Year 2020
2020 Senior Secured Term Loan	$ -	$ 421,542	$ -	$ -	$ 2,460	$ -	$ 424,002
2020 Cash Exchangeable Senior Notes	-	205,509	-	-	6,564	-	212,073
Bank of America Merrill Lynch Banco Múltiplo S.A.	8,422	-	(5)	-	-	(1,902)	6,515
Mediocredito Italiano	6,222	-	(1,457)	-	61	580	5,406
Bank of America, U.S.	2,004	-	-	-	-	15	2,019
2019 Debt Facility	184,275	162,899	-	(348,924)	1,623	127	-

	Beginning of Fiscal Year 2020	Borrowing	Scheduled Principal Reductions	Early Extinguishment	Amortisation of Prepaid Loan Fees	FX - Translation and Other	End of Fiscal Year 2020
2017 European Investment Bank	103,570	-	-	(103,570)	-	-	-
2014 European Investment Bank	28,053	-	-	(28,049)	-	(4)	-
Other	669	-	(60)	-	-	51	660
Totals	$ 333,215	$ 789,950	$ (1,522)	$ (480,543)	$ 10,708	$ (1,133)	$ 650,675

Movements associated with the outstanding principal amounts of our long-term debt for the year ended 31 December 2019 included the following (in thousands):

	Beginning of Fiscal Year 2019	Borrowing	Scheduled Principal Reductions	Amortisation of Prepaid Loan Fees	FX - Translation and Other	End of Fiscal Year 2019
2019 Debt Facility	$ -	$ 185,738	$ -	$ (1,156)	$ (307)	$ 184,275
2017 European Investment Bank	103,570	-	-	-	-	103,570
2014 European Investment Bank	47,606	-	(18,678)	14	(889)	28,053
Mediocredito Italiano	7,623	-	(1,327)	68	(142)	6,222
Bank of America Merrill Lynch Banco Múltiple S.A.	-	8,422	-	-	-	8,422
Bank of America, U.S.	-	3,000	(1,029)	-	33	2,004
Banca del Mezzogiomo	2,718	-	(2,667)	-	(51)	-
Other	1,324	-	(509)	-	(146)	669
Totals	$ 162,841	$ 197,160	$ (24,210)	$ (1,074)	$ (1,502)	$ 333,215

Revolving Credit

The outstanding principal amount of our short-term unsecured revolving credit agreements and other agreements with various banks was $5.0 million and $4.2 million at 31 December 2020 and 31 December 2019, respectively, with interest rates ranging from 3.06% to 7.65% and loan terms ranging from overnight to 364 days.

On 30 December 2020, we entered into the $50.0 million 2020 Revolving Credit Facility for working capital needs. The 2020 Revolving Credit Facility has a maturity of 30 June 2024 and borrowings bear interest at either LIBOR (subject to a 1% floor) plus 5.0% or ABR (subject to a 2% floor) plus 4.0%. There were no borrowings under the 2020 Revolving Credit Facility during 2020. The 2020 Revolving Credit Facility has financial covenants consistent with those of the Term Loan described below.

2020 Senior Secured Term Loan

On 10 June 2020, we entered into a $450.0 million five-year Term Loan through our wholly owned subsidiary LivaNova USA, Inc., with funds managed by affiliates of Ares Management Corporation, as administrative agent and collateral agent, resulting in cash proceeds of approximately $421.5 million, net of discounts and issuance costs. The obligations under the Term Loan are guaranteed by LivaNova and its existing and future wholly owned material subsidiaries, and are secured by a perfected security interest in substantially all tangible and intangible assets of LivaNova and certain U.S. and UK subsidiaries of LivaNova, subject in each case to certain exceptions contained in the Term Loan. Borrowings under the Term Loan bear interest at a variable annual rate equal to the three-month LIBOR rate (subject to a 1% floor), plus an applicable margin of 6.5% per annum. The EIR of the Term Loan at 31 December 2020 was 9.0%. The Term Loan will mature on 30 June 2025 and includes certain affirmative, negative and financial covenants. The financial covenants under the Term Loan state (i) the net revenue of LivaNova PLC, LivaNova USA, Inc. and any restricted subsidiaries on a consolidated basis shall not be lower than $700 million for each trailing 12 month period, such threshold to decrease pro rata (not below $550 million) upon prepayments of the Term Loan made by LivaNova USA, Inc. out of the proceeds of certain asset sales, and (ii) the total secured leverage ratio (as defined in the debt agreement) for LivaNova PLC, LivaNova USA, Inc. and any restricted subsidiaries on a consolidated basis shall not be greater than the applicable ratio set forth below:

Test Period	Total Secured Leverage Ratio[(1)]	
4 Quarters ending 30 June 2020 through each fiscal quarter thereafter until (and including) the fiscal quarter ending 30 June 2021	5.625	1.00
4 Quarters ending 30 September 2021 and ending each fiscal quarter thereafter	4.5	1.00

(1) On 24 February 2021, the Company entered into Amendments to the Term Loan and the 2020 Revolving Credit Facility. Pursuant to the Amendments, the definition of "Consolidated EBITDA " for purposes of calculating the total secured leverage ratio was amended to add back an accrual in an amount not to exceed $43.0 million as a loss contingency liability as required under GAAP in connection with the clean-up of a hazardous waste storage site and contaminated areas located in Saluggia, Italy, solely in the case of the periods ending 31 December 2020, 31 March 2021, 30 June 2021 and 30 September 2021. The Company was in compliance with all financial covenants as of 31 December 2020, as amended.

Debt discounts and issuance costs related to the Term Loan were approximately $28.5 million and included various legal, bank and accounting fees. Amortisation of debt discount and issuance costs was $2.5 million for the year ended 31 December 2020, and was included in finance expense on the consolidated statement of income (loss). The unamortised discount related to the Term Loan, as of 31 December 2020, was $26.0 million.

2020 Cash Exchangeable Senior Notes

On 17 June 2020, our wholly-owned subsidiary, LivaNova USA, Inc., issued $287.5 million aggregate principal amount of 3.00% cash exchangeable senior notes (the Notes) by private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended. The sale of the Notes resulted in approximately $278.0 million in net proceeds to the Company after deducting issuance costs. Interest is payable semiannually in arrears on 15 June and 15 December of each year, beginning on 15

December 2020. The EIR of the Notes at 31 December 2020 was 9.9%. The Notes mature on 15 December 2025 unless earlier exchanged, repurchased, or redeemed.

Debt discounts and issuance costs related to the Notes were approximately $82.0 million and included $75.0 million of discount attributable to the embedded exchange feature, discussed below, and $7.0 million of allocated issuance costs to the Notes related to legal, bank and accounting fees. Amortisation of debt discount and issuance costs was $6.6 million for the year ended 31 December 2020 and is included in finance expense on the consolidated statement of income (loss). The unamortised discount related to the Notes as of 31 December 2020 was $75.4 million.

Holders of the Notes are entitled to exchange the Notes at any time during specified periods, at their option, and are entitled to exchange the Notes during any calendar quarter, if the last reported sale price of LivaNova's Ordinary Shares, with a nominal value of £1.00 per share for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the exchange price, or $79.27 per share, on each applicable trading day. The Notes are exchangeable solely into cash and are not exchangeable into Ordinary Shares of LivaNova or any other security under any circumstances. The initial exchange rate for the Notes is 16.3980 Ordinary Shares per $1,000 principal amount of Notes (equivalent to an initial exchange price of approximately $60.98 per share). The exchange rate is subject to adjustment in certain circumstances, as set forth in the indenture governing the Notes.

The Company may redeem the Notes at its option, on or after 20 June 2023 and prior to the 51st scheduled trading day immediately preceding the maturity date, in whole or in part, if the last reported sale price per ordinary share has been at least 130% of the exchange price then in effect for at least 20 trading days (whether or not consecutive), including the trading day immediately preceding the date on which the Company provides notice of redemption, during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides notice of redemption, at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date. Additionally, the Company may redeem the Notes at its option, prior to their stated maturity, in whole but not in part, in connection with certain tax-related events.

Embedded Exchange Feature

The embedded exchange feature of the Notes requires bifurcation from the Notes and is accounted for as a derivative liability. The fair value of the Notes' embedded exchange feature derivative at the time of issuance was $75.0 million and was recorded as debt discount on the Notes. This discount is amortised as interest expense using the effective interest method over the term of the Notes. The Notes' embedded exchange feature derivative is carried on the consolidated balance sheets at its estimated fair value and is adjusted at the end of each reporting period, with unrealized gain or loss reflected in the consolidated statements of income (loss). The fair value of the embedded exchange feature derivative liability was $121.8 million as of 31 December 2020.

Capped Call Transactions

In connection with the pricing of the Notes, the Company entered into privately negotiated capped call transactions with certain of the initial purchasers of the Notes or their respective affiliates. The capped call transactions cover, subject to anti-dilution adjustments substantially similar to those applicable to the Notes, the number of LivaNova's Ordinary Shares underlying the Notes and are expected generally to offset any cash payments the Company is required to make upon exchange of the Notes in excess of the principal amount thereof in the event that the market value per ordinary share, as measured under the capped call transactions, is greater than the strike price of the capped call transactions, with such offset being subject to an initial cap price of $100.00 per share. The aggregate cost of the capped calls derivative assets was $43.1 million. The capped call transactions expire on 15 December 2025 and must be settled in cash. The capped calls are carried on the consolidated balance sheets as a derivative asset at their estimated fair value and are adjusted at the end of each reporting period, with unrealized gain or loss reflected in the consolidated statement of income (loss). The fair value of capped call derivative assets was $72.3 million as of 31 December 2020.

The current and non-current classification is evaluated at each balance sheet date and may change depending on whether any exchange conditions are met. As of 31 December 2020, no exchange conditions have been met and the Notes, embedded exchange feature derivative liability, and the capped call derivative assets are classified as non-current. Please refer to "Note 5. Fair Value Measurements" for details on the valuation of the embedded exchange feature derivative liability and capped call derivative assets.

Extinguishment of Debt

The Company used the net proceeds from the Term Loan, together with a portion of the net proceeds of the Notes, after fees, discounts, commissions and other expenses, to repay outstanding indebtedness under the Company's 2017 European Investment Bank loan, 2014 European Investment Bank loan, Banca Nazionale del Lavoro S.p.A loan, and 2019 Debt Facility and related expenses. The Company repaid approximately $528.0 million in aggregate outstanding principal, accrued interest and associated fees, including breakage fees and legal fees. The Company recognised a loss on debt extinguishment of $1.4 million during the year ended 31 December 2020. The loss on debt extinguishment was recognised in FX and other losses in the consolidated statements of income (loss).

The remainder of the proceeds from the concurrent financing transactions were used to pay the cost of capped call transactions and for general corporate purposes.

Note 20. Leases

We have leases primarily for (i) office space, (ii) manufacturing, warehouse and research and development facilities and (iii) vehicles. Our leases have remaining lease terms up to 11 years, some of which include options to extend the leases, and some of which include options to terminate the leases at our sole discretion.

Reconciliation of Lease Commitment and Lease Liability

The following table presents the reconciliation of total operating lease commitments disclosed in the consolidated financial statements for the year ended 31 December 2018 and the lease liabilities recognised at 1 January 2019 on adoption of IFRS 16 (in thousands).

Operating lease commitments disclosed at 31 December 2018	$ 68,958
Less: Short-term and low-value leases recognised on a straight-line basis as expense	(5,016)
Undiscounted lease liability	63,942
Discounting (weighted average incremental borrowing rate of 2.3%)	(2,192)
Lease liabilities recognised on adoption of IFRS 16 at 1 January 2019	$ 61,750

Right-of-Use Assets and Lease Liabilities

The movement in the ROU assets and lease liabilities since adoption by class of assets is as follows (in thousands):

	Real Estate	Vehicles	Others	Total ROU Assets	Lease Liabilities
Balance as of 1 January 2019	$ 57,388	$ 3,598	$ 420	$ 61,406	$ 61,750
Additions	4,322	4,390	-	8,712	8,712
Depreciation expense[1]	(9,959)	(2,880)	(215)	(13,054)	-
Impairments[2]	(853)	-	-	(853)	-
Disposals, modifications and other	(265)	(65)	(254)	(584)	(282)
Interest expense	-	-	-	-	1,315
Lease payments	-	-	-	-	(13,522)
Currency translation adjustments	(378)	(50)	(5)	(433)	(439)
Balance as of 31 December 2019	50,255	4,993	(54)	55,194	57,534
Additions	5,277	2,387	1,069	8,733	8,719
Depreciation expense[1]	(11,462)	(2,753)	(214)	(14,429)	-
Disposals, modifications and other	(273)	(108)	(416)	(797)	(783)
Assets held for sale	(1,049)	(649)	-	(1,698)	(1,821)
Interest expense	-	-	-	-	1,398
Lease payments	-	-	-	-	(15,043)
Currency translation adjustments	3,106	269	-	3,375	3,497
Balance as of 31 December 2020	$ 45,854	$ 4,139	$ 385	$ 50,378	$ 53,501

[1] Depreciation expense is included in the consolidated statement of (loss) income in cost of sales or other operating expenses.

[2] In November 2019, we announced that we would be ending our Caisson TMVR program. The announcement triggered an evaluation of finite and indefinite lived assets for impairment. As a result, we recognised an impairment of the related ROU asset.

Contractual maturities of our lease liabilities as of 31 December 2020 were as follows (in thousands):

2021	$ 13,414
2022	12,051
2023	8,901
2024	6,902
2025	4,343
Thereafter	14,037
Total lease payments	59,648
Less: Amount representing finance charges	(6,147)
Net present value of lease liabilities	$ 53,501

Contractual maturities of our lease liabilities as of 31 December 2019 were as follows (in thousands):

2020	$ 12,399
2021	10,402
2022	9,224
2023	7,524
2024	5,975
Thereafter	16,907
Total lease payments	62,431
Less: Amount representing finance charges	(4,897)
Net present value of lease liabilities	$ 57,534

Lease Payments not Recognised as a Liability

We have elected not to recognise a lease liability for short-term leases (leases with an expected term of 12 months or less) or for leases of low value assets. Payments made under such leases are expensed on a straight-line basis. In addition, certain variable lease payments (i.e., variable maintenance and utility expenses) are not permitted to be recognised as lease liabilities and are expensed as incurred. Expenses recognised during 2020 and 2019 relating to payments not included in the measurement of lease liabilities is as follows (in thousands):

	31 December 2020	31 December 2019
Short-term leases	$ 415	$ 788
Lease of low value	396	558
Variable lease payments	1,097	873
	$ 1,908	$ 2,219

At 31 December 2020 and 2019, we were committed to future lease payments of approximately $2.0 million and $3.0 million, respectively, relating to short-term leases and leases of low value assets that are not reflected in the measurement of lease liabilities. These payments will generally be made ratably over the next 3 to 5 years.

Furthermore, lessor lease revenue constituted less than 0.6% and less than 0.5% of total net sales for the year ended 31 December 2020 and 2019, respectively.

Note 21. Other Non-Current Liabilities

(in thousands)	31 December 2020	31 December 2019
Amounts due to employees	$ 6,008	$ 4,475
Other	3,357	4,737
Total	$ 9,365	$ 9,212

Note 22. Contingent Consideration, Litigation Provision Liability and Other Provisions

Current Provisions

(in thousands)	31 December 2020	31 December 2019
Litigation provision liability	$ 31,625	$ 146,026
Contingent consideration	13,968	22,953
Product remediation	1,056	3,251
Restructuring reserve	4,856	2,542
Contractual warranty reserve	879	1,004
Decommissioning provision	539	-
Other[(1)]	6,781	8,070
Total	$ 59,704	$ 183,846

[(1)] Other includes an Italian tax provision and other individually immaterial items.

Non-Current Provisions

(in thousands)	31 December 2020	31 December 2019
Litigation provision liability	$ 7,878	$ 24,378
Decommissioning provision	49,871	-
Contingent consideration	89,850	114,396
Liability for uncertain tax provisions (inclusive of penalties and interest)	3,871	10,332
Restructuring reserve	37	-
Other	-	252
Total	$ 151,507	$ 149,358

Product Remediation and Litigation Provision Liability.

On 29 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 13 October 2016, the Centers for Diseases Control and Prevention (CDC) and FDA separately released safety notifications regarding 3T devices in response to which we issued a Field Safety Notice Update for U.S. users of our 3T devices to proactively and voluntarily contact facilities to facilitate implementation of the CDC and FDA recommendations.

On 31 December 2016, we recognised a liability for a product remediation plan related to our 3T device. The remediation plan consisted primarily of a modification of the 3T device design to include internal sealing and the addition of a vacuum system to new and existing devices to address regulatory actions and to reduce further the risk of possible dispersion of aerosols from 3T devices in the operating room. 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.

In April 2017, we obtained CE Mark in Europe for the design change of the 3T device, and in October 2018, the FDA concluded that we could commence the vacuum canister and internal sealing upgrade program in the U.S. On 25 February 2020, LivaNova received clearance for K191402, a 510(k) for the 3T devices that addressed issues contained in the 2015 Warning Letter along with design changes that further mitigate the potential risk of aerosolization. Concurrent with this clearance, (1) 3T devices manufactured in accordance with K191402 will not be subjected to the import alert and (2) LivaNova initiated a correction to distribute the updated Operating Instructions cleared under K191402. We are in the process of completing and closing out all recall activities with the FDA. While our vacuum canister and internal sealing upgrade program and deep cleaning service in the U.S. are substantially complete, these services will continue as a servicing option outside of the U.S.

We recognised product remediation expenses during the years ended 31 December 2020 and 2019 of $7.9 million and $15.8 million, respectively. In addition to changes to the estimated product remediation liability, product remediation expenses include internal labour costs, costs to remediate certain inspectional observations made by the FDA at our Munich facility and costs associated with the incorporation of the modification of the 3T device design into the next generation 3T device. These costs and related legal costs are expensed as incurred and are not included within the product remediation liability presented above. During the fourth quarter of 2018, we recognised a $294.1 million liability related to the litigation involving the 3T device. As of 31 December 2020 and 2019, the liability was $39.5 million and $170.4 million, respectively. Our related legal costs are expensed as incurred. For further information, please refer to "Note 27. Commitments and Contingencies."

Restructuring reserve. Refer to "Note 10. Restructuring" for more details.

Decommissioning Provision.

Refer to "Note 27. Commitments and Contingencies" for more details.

The changes in the carrying value of current provisions during the year are indicated below (in thousands):

	Litigation Provision Liability[(1)]	Contingent Consideration[(2)]	Product Remediation	Restructuring Reserve	Contractual Warranty Reserve	Decommissioning Provision	Other Reserves	Total
31 December 2018	$ 161,852	$ 18,530	$ 13,945	$ 9,393	$ 892	$ -	$ 8,778	$213,390
Acquisitions[(3)]	-	4,259	-	-	-	-	-	4,259
Change in fair value	-	(5,149)	-	-	-	-	-	(5,149)
Additions to provision	33,233	-	3,663	2,096	131	-	857	39,980
Utilisation	(156,928)	(20,204)	(14,909)	(6,699)	(6)	-	(1,329)	(200,075)
Release of provisions	-	-	-	(2,143)	-	-	(79)	(2,222)

	Litigation Provision Liability[1]	Contingent Consideration[2]	Product Remediation	Restructuring Reserve	Contractual Warranty Reserve	Decommissioning Provision	Other Reserves	Total
Reclassifications from non-current	107,832	25,611	785	-	-	-	-	134,228
Currency translation gains (losses)	37	(94)	(233)	(105)	(13)	-	(157)	(565)
31 December 2019	146,026	22,953	3,251	2,542	1,004	-	8,070	183,846
Change in fair value	-	3,635	-	-	-	-	-	3,635
Additions to provision	6,919	-	3,199	2,325	(77)	-	1,371	13,737
Utilisation	(138,178)	(12,868)	(5,743)	-	(109)	-	(939)	(157,837)
Release of provision	-	-	-	(122)	-	-	-	(122)
Reclassification	-	-	-	-	-	491	(491)	-
Reclassifications from non-current	16,500	448	-	(37)	-	48	-	16,959
Reclassified to liabilities held for sale	-	-	-	-	-	-	(1,981)	(1,981)
Currency translation gains (losses)	358	(200)	349	148	61	-	751	1,467
31 December 2020	$ 31,625	$ 13,968	$ 1,056	$ 4,856	$ 879	$ 539	$ 6,781	$ 59,704

[1] For additional information refer to "Note 27. Commitments and Contingencies. "

[2] For utilization during 2019, in July 2019, we achieved a regulatory milestone upon receiving FDA approval of the LifeSPARC system, triggering the payment of $19.0 million during the third quarter of 2019 to settle the related contingent consideration liability in connection with our TandemLife acquisition. For utilization during 2020, we paid $11.8 million under the contingent consideration arrangement for the acquisition of TandemLife. Additionally, we made final payments under contingent consideration arrangements resulting from the acquisitions of two distributors.

[3] For additional information refer to "Note 7. Business Combinations. "

The changes in the carrying value of non-current provisions during the year are indicated below (in thousands):

	Litigation Provision Liability[1]	Decommissioning Provision[1]	Contingent Consideration	Liability for Uncertain Tax Provisions	Product Remediation	Restructuring Reserve	Other Reserves	Total
31 December 2018	$ 132,210	$ -	$ 161,381	$ 17,878	$ 800	$ -	$ 449	$ 312,718
Acquisitions[2]	-	-	2,925	-	-	-	-	2,925
Change in fair value[3].	-	-	(24,257)	-	-	-	-	(24,257)
Additions to provision	-	-	-	434	-	-	-	434
Utilisation	-	-	-	(2,104)	-	-	-	(2,104)
Release of provisions	-	-	-	(5,664)	-	-	(187)	(5,851)
Reclassifications to current	(107,832)	-	(25,611)	-	(785)	-	-	(134,228)
Currency translation losses	-	-	(42)	(212)	(15)	-	(10)	(279)
31 December 2019	24,378	-	114,396	10,332	-	-	252	149,358
Change in fair value[3]	-	-	(24,098)	-	-	-	-	(24,098)
Additions to provision	-	49,549	-	-	-	-	-	49,549
Release of provisions	-	-	-	(7,348)	-	-	(247)	(7,595)
Reclassifications (to) from current	(16,500)	(48)	(448)	-	-	37	-	(16,959)
Currency translation losses	-	370	-	887	-	-	(5)	1,252

	Litigation Provision Liability[1]	Decommissioning Provision[1]	Contingent Consideration	Liability for Uncertain Tax Provisions	Product Remediation	Restructuring Reserve	Other Reserves	Total
31 December 2020	$ 7,878	$ 49,871	$ 89,850	$ 3,871	$ -	$ 37	$ -	$ 151,507

[1] For additional information refer to "Note 27. Commitments and Contingencies. "

[2] For additional information refer to "Note 7. Business Combinations."

[3] The change in fair value during 2019 reflects a delay in the timing of anticipated regulatory approval and commercialization for ImThera. While the probability of payment remains unchanged from the time of acquisition, the projected years of payment for the regulatory milestone-based payment and the sales-based earnout have been updated to occur between 2023-2024 and 2024-2028, respectively. Additionally, in November 2019, we announced that we would be ending our Caisson TMVR program effective 31 December 2019. As such, we released the contingent consideration provision associated with the acquisition of Caisson during 2019. At 31 December 2018, the fair value of the Caisson contingent consideration provision was $27.9 million. The contingent consideration change in fair value during the year ended 31 December 2020 is primarily due to a one-year delay in the projected achievement of a certain regulatory milestone and timing of sales-based earnout payments for ImThera, and the impact of an increase in discount rates utilized in the valuation of contingent consideration.

Note 23. Other Payables

(in thousands)	31 December 2020	31 December 2019
Accrued expenses- employee-related charges	$ 30,036	$ 42,864
Other accrued expenses	19,250	21,103
Amounts due to employees	17,155	19,966
Legal and administrative expenses	10,076	9,043
Other current liabilities	9,182	10,837
Contract liabilities	6,929	6,728
Other amounts due to health and social security institution	4,689	6,185
R&D costs	3,861	5,160
Provisions for agents, returns and other	780	1,456
Current advances from customers	569	854
CRM purchase price adjustments payable to MicroPort	-	14,891
Other amounts payable to MicroPort	-	1,340
Total	$ 102,527	$ 140,427

Note 24. Share-Based Incentive Plans

Share-Based Incentive Plans

On 16 October 2015, we approved the adoption of the Company's 2015 Incentive Award Plan (2015 Plan), which was previously approved by the Board of the Company on 14 September 2015 subject to such shareholder approval. The 2015 Plan was adopted in order to facilitate the grant of cash and equity incentives to non-employee directors, employees (including our named executive officers) and consultants of the Company and certain of our affiliates and to enable the Company and certain of our affiliates to obtain and retain services of these individuals. The Plan became effective as of 19 October 2015. Incentive awards may be granted under the 2015 Plan in the form of share options, share appreciation rights, restricted share, restricted share units, other share and cash-based awards and dividend equivalents.

During the year ended 31 December 2020, we issued stock-based compensatory awards with terms approved by the Compensation Committee of our Board. The awards with service conditions generally vest ratably over four years, subject to forfeiture unless service conditions are met. Market performance-based awards cliff vest after three years, subject to the rank of our TSR for the three-year period ending 31 December 2022 relative to the TSRs for a peer group of companies. Operating performance-based awards cliff vest after three years subject to the achievement of certain thresholds of cumulative adjusted FCF for the three-year period ending 31 December 2022.

As of 31 December 2020 and 2019, there were approximately 3,575,752 and 4,904,000 shares available for future grants under the 2015 Plan, respectively.

On 1 January 2019, we initiated the LivaNova Global Employee Share Purchase Plan ("ESPP"). Compensation expense related to the ESPP for the years ended 31 December 2020 and 2019 was $1.2 million and $1.3 million, respectively.

Share-Based Compensation

Amounts of share-based compensation recognised in the consolidated statement of (loss) income, by expense category are as follows (in thousands):

	Year Ended 31 December	
	2020	2019
Cost of sales	$ 1,964	$ 1,539
Selling, general and administrative	30,705	29,242
Research and development	3,654	6,438
Total share-based compensation	$ 36,323	$ 37,219

Amounts of share-based compensation expense recognised in the consolidated statement of (loss) income, by type of arrangement are as follows (in thousands):

	Year Ended 31 December	
	2020	2019
Service-based stock appreciation rights	$ 13,220	$ 12,309
Service-based restricted stock units	19,049	16,819
Market performance-based restricted stock units	3,200	2,900

	Year Ended 31 December	
	2020	2019
Operating performance-based restricted stock units	(370)	3,918
ESPP	1,224	1,273
Total share-based compensation expense from continuing operations	$ 36,323	$ 37,219

The expense for the years ended 31 December 2020 and 31 December 2019 related to awards that were accounted for as equity settled.

Share Appreciation Rights and Share Options

We use the Black-Scholes option pricing methodology to calculate the grant date fair market value of SARs. The following table lists the assumptions we utilized as inputs to the Black-Scholes model:

	Year Ended 31 December	
	2020	2019
Weighted average share price	$43.63	$96.60
Exercise price	$43.57	$71.93 - $97.25
Dividend yield[(1)]	-	-
Risk-free interest rate - based on grant date[(2)]	0.4%	1.4% - 2.2%
Expected option term - in years per group of employees/consultants[(3)]	5.4	5.0-5.1
Expected volatility at grant date[(4)]	39.5%	32.2% - 35.7%

(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 Preparation, Use of Accounting Estimates and Significant Accounting Policies - Share-Based Compensation" for further information regarding expected volatility.

The following tables detail the activity for service-based SARs and stock option awards:

	Year Ended 31 December			
	2020		2019	
SARs and Stock Options	Number of Optioned Shares	Wtd. Avg. Exercise Price	Number of Optioned Shares	Wtd. Avg. Exercise Price
Outstanding - at beginning of year	2,215,056	$ 74.41	1,941,587	$ 67.33
Granted	1,132,742	$ 43.63	591,845	$ 96.60
Exercised	(58,768)	$ 48.65	(121,534)	$ 61.50
Forfeited	(173,923)	$ 73.05	(171,282)	$ 83.44
Expired	(231,087)	$ 70.99	(25,560)	$ 72.60
Outstanding - end of year	2,884,020	$ 63.20	2,215,056	$ 74.41
Fully vested and exercisable - end of year	1,131,868	$ 66.28	951,797	$ 61.45
Fully vested and expected to vest - end of year[(1)]	2,815,269	$ 63.39	2,173,525	$ 74.08

(1) Includes the impact of expected future forfeitures.

The weighted average remaining contractual life for the share options and SARs outstanding at 31 December 2020 and 31 December 2019 is 7.45 years and 7.02 years, respectively.

The aggregate intrinsic value of the options and SARs outstanding at 31 December 2020 and 31 December 2019 is $34.8 million and $22.2 million, respectively. The aggregate intrinsic value of options and SARs is based on the difference between the fair market value of the underlying share at the end of the year using the market closing share price, and exercise price for in-the- money awards.

The range of exercise prices for stock options and SARs outstanding year end are categorized in exercise price ranges as follows:

	31 December	31 December
Outstanding Options	2020	2019
$10-30	3,334	13,496
$31-50	1,230,945	164,855
$51-70	701,881	952,150
$71-90	409,027	474,810
$91-110	531,004	600,666
$111-130	7,829	9,079
Total	2,884,020	2,215,056

	Year Ended 31 December	
	2020	2019
Weighted average grant date fair value of SARs granted during the year (per share)	$ 15.73	$ 31.22
Aggregate intrinsic value of SARs and stock options exercised during the year (in thousands)	$ 773	$ 2,064

Restricted Share and Restricted Share Units Awards

The following tables detail the activity for service-based RSU awards:

	Year Ended 31 December			
	2020		2019	
	Number of Shares	Wtd. Avg. Grant Date Fair Value	Number of Shares	Wtd. Avg. Grant Date Fair Value
Non-vested shares at beginning of year	523,833	$ 84.98	450,297	$ 78.70
Granted	609,076	$ 44.28	294,460	$ 92.54

	Year Ended 31 December			
	2020		2019	
	Number of Shares	Wtd. Avg. Grant Date Fair Value	Number of Shares	Wtd. Avg. Grant Date Fair Value
Vested	(221,314)	$ 75.51	(147,969)	$ 74.53
Forfeited	(63,136)	$ 75.46	(72,955)	$ 92.62
Non-vested shares at end of year	848,459	$ 58.00	523,833	$ 84.98

	Year Ended 31 December	
	2020	2019
Weighted average grant date fair value of service-based RSUs issued during the year (per share)	$ 44.28	$ 92.54
Aggregate fair value of RSUs that vested during the year (in thousands)	$ 13,674	$ 12,710

The following tables detail the activity for performance-based and market-based RSU awards:

	Year Ended 31 December			
	2020		2019	
	Number of Shares	Wtd. Avg. Grant Date Fair Value	Number of Shares	Wtd. Avg. Grant Date Fair Value
Non-vested shares at beginning of year	285,669	$ 71.02	295,364	$ 56.48
Granted	185,940	$ 41.70	88,453	$ 98.50
Vested	(63,305)	$ 41.79	(69,646)	$ 41.52
Forfeited	(27,505)	$ 64.35	(28,502)	$ 75.97
Non-vested shares at end of year	380,799	$ 56.55	285,669	$ 71.02

	Year Ended 31 December	
	2020	2019
Weighted average grant date fair value of performance and market-based restricted share units granted during the year (per share)	$ 41.70	$ 98.50
Aggregate fair value of performance and market-based restricted share units that vested during the year (in thousands)	$ 4,106	$ 6,697

Note 25. Employee Retirement Plans

We sponsor 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 a severance payment 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. Certain members of our key management participate in the Company's defined benefit pension plans. Please refer to “Note 30. Related Parties”

As at 31 December 2020 and 2019 the net underfunded status of our U.S. and non-U.S. defined benefit pension plans was $14.6 million and $18.3 million, respectively.

Risks Related to Defined-benefit Plans

The defined benefit plans expose the Group to various demographic and economic risks such as longevity risk, investment risks, currency and interest rate risk and in some cases inflation risk. The latter plays a role in the assumed wage increase and in some smaller plans where indexation is mandatory. Pension fund Trustees are responsible for and have full discretion over the investment strategy of the plan assets. In general Trustees manage pension fund risks by diversifying the investments of plan assets and by (partially) matching interest rate risk of liabilities.

The Company has an active de-risking strategy in which it constantly looks for opportunities to reduce the risks associated with its defined benefit plans. The plans are governed by Trustees who have a legal obligation to evenly balance the interests of all stakeholders and operate under the local regulatory framework.

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

	U.S. Pension Benefits					
	2020			2019		
	Present Value of Benefit Obligation	Fair Value of Plan Assets	Net Liability	Present Value of Benefit Obligation	Fair Value of Plan Assets	Net Liability
Accumulated benefit obligation at end of year	$ 13,085			$ 11,232		
Beginning of year	$ 11,232	$ (7,574)	$ 3,658	$ 10,591	$ (6,767)	$ 3,824
Interest cost	290	-	290	382	-	382
Total amount recognised in the profit and loss	290	-	290	382	-	382
Actuarial loss (gain)	2,225	-	2,225	871	-	871
Actual return on plan assets	-	(646)	(646)	-	(628)	(628)
Total amount recognised in other comprehensive income	2,225	(646)	1,579	871	(628)	243
Employer contributions	-	(1,130)	(1,130)	-	(546)	(546)
Payments from plan:						
Plan settlements	(384)	384	-	(366)	366	-
Benefits paid	(278)	278	-	(246)	1	(245)

	U.S. Pension Benefits					
	2020			2019		
	Present Value of Benefit Obligation	Fair Value of Plan Assets	Net Liability	Present Value of Benefit Obligation	Fair Value of Plan Assets	Net Liability
End of year	$ 13,085	$ (8,688)	$ 4,397	$ 11,232	$ (7,574)	$ 3,658

	Non-U.S. Pension Benefits[1]					
	2020			2019		
	Value of Benefit Obligation	Fair Value of Plan Assets	Net Liability	Value of Benefit Obligation	Fair Value of Plan Assets	Net Liability
Accumulated benefit obligation at end of year	$ 12,091			$ 17,744		
Beginning of year	$ 18,087	$ (3,423)	$ 14,664	$ 18,975	$ (3,341)	$ 15,634
Current service cost	691	-	691	478	-	478
Interest cost	121	-	121	232	-	232
Total amount recognised in the profit and loss	812	-	812	710	-	710
Actuarial loss (gain)	(208)	-	(208)	1,071	-	1,071
Actual return on plan assets	-	(50)	(50)	-	34	34
Total amount recognised in other comprehensive income	(208)	(50)	(258)	1,071	34	1,105
Foreign currency exchange rate changes and other	1,605	(197)	1,408	(289)	(65)	(354)
Employer contributions	-	(454)	(454)	-	(383)	(383)
Benefits paid	(1,245)	290	(955)	(2,380)	332	(2,048)
Reclassified to liabilities held for sale[2]	(6,012)	1,018	(4,994)	-	-	-
End of year[3]	$ 13,039	$ (2,816)	$ 10,223	$ 18,087	$ (3,423)	$ 14,664

[1] In certain non-U.S. countries, fully funding pension plans is not a common practice. Consequently, certain pension plans have been partially funded.

[2] Refer to "Note 8. Assets and Liabilities Held for Sale."

[3] These amounts are included within provision for employee severance indemnities and other employee benefit provisions on the consolidated balance sheet as well as social security taxes payable associated with our share-based incentive plans.

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 as weighted averages:

	Year Ended 31 December			
	2020		2019	
	U.S. Pension Benefits	Non-U.S. Pension Benefits	U.S. Pension Benefits	Non-U.S. Pension Benefits
Actuarial assumptions used to determine benefit obligation:				
Discount rate	1.91%	0.23 %- 0.35 %	2.88%	0.20% - 0.71%
Rate of compensation increase	N/A	2.50% - 3.00%	N/A	2.50% - 3.00%
Actuarial assumptions used to determine net periodic benefit cost:				
Discount rate	2.88%	0.23% - 0.35%	3.97%	0.20% - 0.71%
Rate of compensation increase	N/A	2.50% - 3.00%	N/A	2.50% - 3.00%
Expected return on plan assets	5.00%	N/A	5.00%	N/A

To determine the discount rate for our U.S. benefit plan, we used the FTSE Above Median Pension Discount Curve. For the discount rate used for the other non-U.S. benefit plans we consider local market expectations of long-term returns, primarily utilizing the Iboxx Corporate Index Bond rating AA, duration higher than 10 years. The resulting discount rates are consistent with the duration of plan liabilities.

The expected long-term rate of return on plan assets assumption for our U.S. benefit plan was derived from a study conducted by our investment managers. The study includes a review of anticipated future long-term performance of individual asset classes and consideration of the appropriate asset allocation strategy given the anticipated requirements of the plan to determine the average rate of earnings expected on the funds invested to provide for the pension plan benefits.

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 (Plan Committee) sets investment guidelines for U.S. pension plans with the assistance of an external consultant. 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. These guidelines are established based on market conditions, risk tolerance, funding requirements and expected benefit payments. 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. and Non-U.S. pension plans target allocations as of 31 December 2020 and 31 December 2019, by asset category, are as follows:

	U.S. Pension Benefits		Non-U.S. Pension Benefits	
	31 December 2020	31 December 2019	31 December 2020	31 December 2019
Equity Securities	29%	30%	1%	1%
Debt Securities	70%	69%	84%	85%
Other	1%	1%	15%	14%

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 and we classify these investments as Level 2.

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 IFRS (in thousands). Refer to "Note 5. Fair Value Measurements" for discussion of the fair value measurement terms of Levels 1, 2, and 3.

		Fair Value Measurement Using Inputs Considered as		
(in thousands)	Fair value as at 31 December 2020	Level 1	Level 2	Level 3
Equity mutual funds	$ 2,405	$ -	$ 2,405	$ -
Fixed income mutual funds	5,788	-	5,788	-
Money market funds	94	94	-	-
Total	$ 8,287	$ 94	$ 8,193	$ -

		Fair Value Measurement Using Inputs Considered as		
(in thousands)	Fair value as at 31 December 2019	Level 1	Level 2	Level 3
Equity mutual funds	$ 2,262	$ -	$ 2,262	$ -
Fixed income mutual funds	5,225	-	5,225	-
Money market funds	74	74	-	-
Total	$ 7,561	$ 74	$ 7,487	$ -

Retirement Benefit Funding Plan

We have the policy to 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.

We contributed $1.6 million and $0.9 million to the pension plans (U.S. and non-U.S.) during the years ended 31 December 2020 and 2019, respectively. We anticipate that we will make contributions to the U.S. pension plan of approximately $0.9 million during fiscal year 2021. Contributions to the non-U.S. pension plans in fiscal year 2021 are not expected to be material. The weighted average duration of the defined benefit plans is approximately 8 years and 10 years for U.S. plan and Non-U.S. plans respectively.

Benefit payments, including amounts to be paid from our assets, and reflecting expected future service, as appropriate, as of 31 December 2020, were expected to be paid as follows (in thousands):

(in thousands)	U.S. Plan	Non-U.S. Plans
2021	$ 4,003	$ 600
2022	1,175	881
2023	680	1,129
2024	774	837
2025	940	898
2026 - 2030	3,159	6,205
Above 2030	2,354	2,489
Total	$ 13,085	$ 13,039

Benefit payments, including amounts to be paid from our assets, and reflecting expected future service, as appropriate, as of 31 December 2019, were expected to be paid as follows (in thousands):

(in thousands)	U.S. Plan	Non-U.S. Plans
2020	$ 3,026	$ 894

(in thousands)	U.S. Plan	Non-U.S. Plans
2021	812	723
2022	994	966
2023	612	1,066
2024	707	889
2025 - 2029	3,262	5,327
Above 2029	1,819	8,222
Total	$ 11,232	$ 18,087

Sensitivity Analysis

The sensitivity of the defined benefit obligation as of 31 December 2020 and 31 December 2019 to significant changes in actuarial assumptions are as follows (in thousands):

	31 December 2020		31 December 2019	
	Increase +0.50%	Decrease -0.50%	Increase +0.50%	Decrease -0.50%
Discount rate	$309	$2,859	$(1,222)	$1,337

The above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method (present value of the defined benefit obligation calculated with the projected until credit method at the end of the reporting year) has been applied as when calculating the defined benefit liability recognised in the consolidated balance sheet.

Defined Contribution Plans. We sponsor defined contribution plans, including the Cyberonics, Inc. Employee Retirement Savings Plan, which qualifies under Section 401(k) of the IRC, covering U.S. employees, the Cyberonics, Inc. Non-Qualified Deferred Compensation Plan, covering certain U.S. middle and senior management and the Belgium Defined Contribution Pension Plan for Cyberonics's Belgium employees. We incurred expenses for our defined contribution plans of $11.8 million and $12.4 million for the years ended 31 December 2020 and 31 December 2019, respectively.

Note 26. Income Taxes

Income tax benefit consists of the following (in thousands):

	Year Ended 31 December	
	2020	2019
Current tax	$ (38,108)	$ 4,282
Deferred tax	(22,714)	46,945
Income tax expense	$ (60,822)	$ 51,227

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 31 December	
	2020	2019
Statutory tax rate at UK rate	19.0 %	19.0 %
Effect of changes in tax rate	5.2	(1.0)
Change in unrecognised deferred tax assets	(5.9)	(6.0)
U.S. state and local tax provision, net of federal benefit	22	2.4
Foreign tax rate differential	5.3	3.0
Exempt income	-	0.4
U.S. tax on non U.S. operations	(1.5)	(0.5)
Research and development tax credits	1.3	0.7
Reserve for uncertain tax positions	1.2	0.8
Base erosion anti-abuse tax	(1.1)	0.5
UK CFC tax	-	0.6
Impairment of goodwill and intangible assets	(0.3)	(11.4)
Other, net	-	(0.1)
Effective tax rate	25.4 %	8.4 %

In the Spring Budget 2021, the UK Government announced that the corporation tax rate would increase to 25% The new law will be substantively enacted in July 2021. As the proposal to raise the rate from 19% to 25% had not been substantively enacted at the balance sheet date, its effects are not included in these financial statements. However, it is likely that the overall effect of the change, had it been substantively enacted by the balance sheet date, would be to increase the tax benefit for the period by $24.1 million and increase the deferred tax asset by $24.1 million.

Deferred Tax Assets and Liabilities

The change in net deferred tax assets (liabilities), inclusive of discontinued operations, as recognised in the balance sheet can be analysed as follows (in thousands):

	Year Ended 31 December	
	2020	2019
At the beginning of the year	$ 57,969	$ 14,755
Deferred tax benefit for the year, net	14,211	46,945
Deferred tax recorded in equity	(3,774)	(3,630)
Changes from divestitures	2,961	-
Currency translation and other	-	(101)
At the end of the year	$ 71,367	$ 57,969

Deferred tax assets and liabilities, inclusive of discontinued operations, on a gross basis are summarised as follows (in thousands):

		Activity During the Year Ended 31 December 2020			
	31 December 2020	Consolidated Statement of Loss) Income	Tax Rate Change[1]	Shareholders' Equity	31 December 2019
Deferred tax assets					
Net operating loss carryforwards (NOLs)	$ 106,985	$ 31,287	$ 2,401	$ -	$ 73,297
Tax credit carryforwards	4,180	(361)	-	-	4,541
Deferred compensation	11,079	1,110	340	(1,845)	11,474
Accruals and reserves	59,461	(10,102)	-	1	69,562
Depreciation and amortisation	-	(273)	-	273	-
Inventory	1,923	(9,684)	-	-	11,607
Investments	512	44	-	-	468
Other	16,237	7,235	390	(3,214)	11,826
Gross deferred tax assets[2]	200,377	19,256	3,131	(4,785)	182,775
Deferred tax liabilities					
Gain on sale of intellectual property	(41,068)	12,023	-	-	(53,091)
Property, equipment & intangible assets	(87,942)	(21,337)	4,099	1,011	(71,715)
Gross deferred tax liabilities	(129,010)	(9,314)	4,099	1,011	(124,806)
Deferred tax assets (liabilities), net	$ 71,367	$ 9,942	$ 7,230	$ (3,774)	$ 57,969
Reported in the consolidated balance sheet (after jurisdictional netting)					
Net deferred tax assets	$ 82,551				$ 76,151
Deferred tax liabilities	(11,184)				(18,182)
Deferred tax assets, net[3]	$ 71,367				$ 57,969

[1] In the Spring Budget 2020, the UK Government announced that from 1 April 2020 the corporation tax rate would remain at 19% (rather than reducing to 17%, as previously enacted). This new law was substantively enacted on 17 March 2020.

[2] During the year ended 31 December 2020, the Company had a change in prior unrecognised deferred tax assets of $10.6 million for Italy in the deferred tax expense.

[3] During the year ended 31 December 2020, the Company recognized $3.0 million of Canadian deferred taxes allocated to assets and liabilities held for sale.

		Activity During the Year Ended 31 December 2019		
	31 December 2019	Consolidated Statement of Loss) Income	Shareholders' Equity	31 December 2018
Deferred tax assets				
Net operating loss carryforwards (NOLs)	$ 73,297	$ 9,538	$ 2,652	$ 61,107
Tax credit carryforwards	4,541	(8,305)	650	12,196
Deferred compensation	11,474	7,530	(7,080)	11,024
Accruals and reserves	69,562	(26,944)	23	96,483
Depreciation and amortisation	-	6,592	-	(6,592)
Inventory	11,607	(1,883)	-	13,490
Investments	468	(3,325)	-	3,793
Other	11,826	9,475	125	2,226
Gross deferred tax assets	182,775	(7,322)	(3,630)	193,727
Deferred tax liabilities				
Gain on sale of intellectual property	(53,091)	6,158	-	(59,249)
Investments	-	3,114	-	(3,114)
Property, equipment & intangible assets	(71,715)	44,175	-	(115,890)
Other	-	719	-	(719)
Gross deferred tax liabilities	(124,806)	54,166	-	(178,972)
Deferred tax assets (liabilities), net	$ 57,969	$ 46,844	$ (3,630)	$ 14,755
Reported in the consolidated balance sheet (after jurisdictional netting)				
Net deferred tax assets	$ 76,151			$ 70,581
Deferred tax liabilities	(18,182)			(55,826)
Deferred tax assets, net	$ 57,969			$ 14,755

We remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future.

We periodically assess the recoverability of our deferred tax assets by considering whether it is probable that some or all of the actual benefit of those assets will be realized. To the extent that realization does not meet the "probable" criterion, we do not recognise a deferred tax asset. We periodically review the adequacy and necessity of unrecognised deferred tax assets by considering significant positive and negative evidence relative to our ability to recover deferred tax assets and to determine the timing and amount of the unrecognised deferred tax assets that should be released. This evidence includes: profitability in the most recent quarters; internal forecast profitability and expected utilization period; size of deferred tax asset relative to estimated profitability; the potential effects on future profitability from increasing competition, healthcare reforms and overall economic conditions; limitations and potential limitations on the use of our NOLs due to ownership changes; and the implementation of prudent and feasible tax planning strategies, if any.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

Net Operating Loss Carryforwards

We had the following NOL carryforwards as of 31 December 2020 which can be used to reduce our income tax payable in future years (in thousands):

Region	Gross Amount	Tax Effected Amount Without Expiration	Tax Effected Amount With Expiration	Starting Expiration Year
Europe	$ 329,587	$ 69,477	$ 98	2026
U.S. Federal	$ 190,347	$ 4,865	$ 35,108	2021
U.S. State	$ 325,979	$ 2,944	$ 14,883	2021
Rest of World	$ 17,930	$ 5,327	$ 571	2025

Included in the table above are deferred tax assets that have not been recognised with respect of the following items (in thousands):

	31 December 2020	31 December 2019
Tax loss carryforwards	$ 26,288	$ 52,587
U.S. tax credits	35,210	23,731
Rest of World tax credits	1,321	-
Total	$ 62,819	$ 76,318

As a result of the business combination during the transitional period to 31 December 2015, the historic NOL's of Sorin U.S. are limited by IRC section 382. The annual limitation is approximately $18.3 million, which is sufficient to absorb the U.S. NOLs prior to their expiration. As a result of the April 2018 acquisition of TandemLife, there is an IRC section 382 annual limitation of approximately $17.2 million, which is sufficient to absorb the U.S. NOLs prior to their expiration.

For losses incurred after April 2017 in the UK, the Company anticipates a recoverability of these operating loss carryforwards beginning in 2025 as the Company expects an increase in taxable income due to the full amortization of certain intangible assets. The Company is relying on estimated future income projections and judgement on the growth of the projected income for the recoverability of the deferred tax assets corresponding the NOLs. The Company estimates it will be able to recover its tax loss in less than 12 years through UK Group relief, as the UK Group will realize substantially an increase of taxable income as a result of increased revenues from royalty income and decreased amortization of intangible assets beginning in 2025.

A significant portion of our worldwide net deferred tax liability relates to the tax effect of the step-up in value of the assets acquired with the acquisition of Sorin S.p.A. on 19 October 2015.

No provision has been made for income taxes on undistributed earnings of foreign subsidiaries as of 31 December 2020 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 31 December 2020, it was not practicable to determine the amount of the deferred income tax liability related to those investments.

Uncertain Tax Positions

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 unrecognised tax benefits as of 31 December 2020 were recognised, $3.4 million would impact our effective tax rate. We believe our gross unrecognised tax benefits will not be reduced over the next 12 months as a result of the resolution of tax matters in various global jurisdictions and the lapses of statutes of limitations.

Accrued interest and penalties related to uncertain tax positions totalled $0.4 million and $5.7 million as of 31 December 2020 and 31 December 2019, respectively, and were included in non-current provisions on our consolidated balance sheet.

Brexit

On 31 January 2020, the UK departed from the EU (in a move commonly referred to as "Brexit"), and the UK entered a transition period that ended on 31 December 2020. During the transition period, the UK ceased being an EU member but the trading relationship remained the same under the EU's rules.

Various tax reliefs and exemptions that apply to transactions between EU Member States under existing tax laws ceased to apply to transactions between the UK and EU Member States at the end of the transition period. It is unclear at this stage if or when any new tax treaties between the UK and the EU or individual EU Member States will replace those reliefs and exemptions.

We and several of our wholly owned subsidiaries that are resident for tax purposes either in the UK, various EU Member States, or in the U.S., are party to intercompany transactions and agreements under which we receive various tax reliefs and exemptions in accordance with applicable international tax laws, treaties and regulations. As it is our intention to indefinitely reinvest undistributed earnings of our foreign subsidiaries, there is no immediate tax impact.

We will not account for the impact of Brexit in our income tax provisions until there are material changes in tax laws or treaties between the UK and other countries.

European Union State Aid Challenge

On 2 April 2019, the European Commission (EC) concluded that "when financing income from a foreign group company, channeled through an offshore subsidiary, derives from UK activities, the group finance exemption is not justified and constitutes State aid under EU rules." Based upon our assessment of the technical arguments as to whether the UK group exemption is State aid, together with no material UK activities involved in our financing, no uncertain tax position reserve has been recognised related to this matter. Furthermore, in December 2019, we amended our 2017 tax return filing to avail ourselves of different rules to determine UK taxation, which are not subject to the EU decision. We filed our 2018 tax return similarly, and therefore, we do not believe that the EU state aid decision will result in a material liability.

Other Matters

LivaNova PLC is domiciled and resident in the UK. 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, and the changes in tax laws, our consolidated effective income tax rate may vary from one reporting year to another.

The major jurisdictions where we are subject to income tax examinations are as follows:

Jurisdiction	Earliest Year Open
U.S. - federal and state	2017
Italy	2015
Germany	2014
England and Wales	2017
Canada	2016

Note 27. Commitments and Contingencies

FDA Warning Letter

On 29 December 2015, the FDA issued a Warning Letter alleging certain violations of FDA regulations applicable to medical device manufacturers at our Munich, Germany and Arvada, Colorado facilities.

The FDA inspected the Munich facility from 24 August 2015 to 27 August 2015 and the Arvada facility from 24 August 2015 to 1 September 2015. On 27 August 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 related to the manufacture of our 3T Heater- Cooler device that were not previously included in the Form 483.

The Warning Letter further stated that our 3T devices and other devices we manufactured at our Munich facility were subject to refusal of admission into the U.S. until resolution of the issues set forth by the FDA in the Warning Letter. The FDA had informed us that the import alert was limited to the 3T devices, but that the agency reserved the right to expand the scope of the import alert if future circumstances warranted such action. The Warning Letter did not request that existing users cease using the 3T device, and manufacturing and shipment of all of our products other than the 3T device were 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 devices to existing U.S. users pursuant to a certificate of medical necessity program.

Finally, the Warning Letter stated that premarket approval applications for Class III devices to which certain QSR deviations identified in the Warning Letter were reasonably related would not be approved until the violations had been corrected; however, this restriction applied only to the Munich and Arvada facilities, which do not manufacture or design devices subject to Class III premarket approval.

On 25 February 2020, LivaNova received clearance for K191402, a 510(k) for the 3T devices that addressed issues contained in the 2015 Warning Letter along with design changes that further mitigate the potential risk of aerosolization. Concurrent with this clearance, (1) 3T devices manufactured in accordance with K191402 will not be subjected to the import alert and (2) LivaNova initiated a correction to distribute the updated Operating Instructions cleared under K191402. With this 510(k) clearance, all actions to remediate the FDA's inspectional observations in the Warning Letter are complete, and at this time, LivaNova is awaiting the FDA's close-out inspection.

CDC and FDA Safety Communications and Company Field Safety Notice Update

On 13 October 2016, the CDC and the FDA separately released safety notifications regarding the 3T devices. The CDC's Morbidity and Mortality Weekly Report ("MMWR") and Health Advisory Notice ("HAN") reported that tests conducted by the CDC and its affiliates indicate that there appears to be genetic similarity between both patient and 3T device 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 devices manufactured prior to 18 August 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 3T devices and provide guidance for providers and patients. The CDC notification states that the decision to use the 3T device 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 3T devices are critical medical devices and enable doctors to perform life-saving cardiac surgery procedures.

Also on 13 October 2016, concurrent with the CDC's HAN and FDA's Safety Communication, we issued a Field Safety Notice Update for U.S. users of 3T devices to proactively and voluntarily contact facilities to aid in implementation of the CDC and FDA recommendations. In the fourth quarter of 2016, we initiated a program to provide existing 3T device users with a new loaner 3T device at no charge pending regulatory approval and implementation of additional risk mitigation strategies worldwide, including a vacuum canister and internal sealing upgrade program and a deep disinfection service. In April 2017, we obtained CE Mark in Europe for the design change of the 3T device, and in October 2018, the FDA concluded that we could commence the vacuum canister and internal sealing upgrade program in the U.S. On 25 February 2020, LivaNova received clearance for K191402, a 510(k) for the 3T devices that addressed issues contained in the 2015 Warning Letter along with design changes that further mitigate the potential risk of aerosolization. Concurrent with this clearance, (1) 3T devices manufactured in accordance with K191402 will not be subjected to the import alert and (2) LivaNova initiated a correction to distribute the updated Operating Instructions cleared under K191402. We are in the process of completing and closing out all recall activities with the FDA. While our vacuum canister and internal sealing upgrade program and deep cleaning service in the U.S. are substantially complete, these services will continue as a servicing option outside of the U.S.

On 31 December 2016, we recognised a liability for our product remediation plan related to our 3T 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. At 31 December 2020 and 2019, the product remediation liability was $1.1 million and $3.3 million, respectively. Refer to "Note 22. Contingent Consideration, Litigation Provision Liability and Other Provisions" for additional information.

Saluggia Site Hazardous Substances

LivaNova Site Management S.r.l. (LSM), formerly a subsidiary of Sorin, one of the companies that merged into LivaNova PLC in 2015, manages site services for the campus in Saluggia, Italy. In addition to a LivaNova manufacturing facility, the Saluggia campus is also the location of manufacturing facilities of third parties, a cafeteria for workers, and storage facilities for hazardous substances and

equipment previously used in a nuclear research centre, later turned nuclear medicine business, between the 1960s and the late 1990s. Pursuant to authorization from the Italian government, LSM has, and continues to, perform ordinary maintenance, secure the facilities, monitor air and water quality and file applicable reports with the competent environmental authorities.

During 2020, LSM received correspondence from ISIN (a sub-body of the Italian Ministry of Economic Development) requesting that within five years, LSM demonstrate the financial capacity to meet its obligations under Italian law to clean and dismantle any contaminated buildings and equipment as well as to deliver hazardous substances to a national repository. This repository will be built by the Italian government at a location and time yet to be determined. ISIN subsequently published Technical Guide n. 30, which identifies the technical criteria, and general safety and protection requirements for the design, construction, operation and dismantling of temporary storage facilities for the hazardous substances. Most recently, in January 2021, a list of 67 potential sites for the national repository was published. There is no legal obligation to begin any work or deliver the hazardous substances, as the performance of these obligations is contingent on the construction of the as-yet unbuilt national repository. As such, there is significant uncertainty regarding the timing of our obligations to clean and dismantle any contaminated buildings and equipment and to deliver the hazardous substances to a national repository.

However, as a result of the above correspondence and publication from ISIN and the publication of potential sites for the national repository, some of the substantial uncertainties regarding the obligation became more certain. In connection with developing the plan required by ISIN, we retained a third party specialist to assist in the estimation of the potential costs. Based on the aforementioned factors, the Company concluded its obligation to clean, dismantle, and deliver any hazardous substances to a national repository, is probable and reasonably estimable as of 31 December 2020. Accordingly, in the fourth quarter of 2020, we recognised a $49.5 million provision for this matter. The liability as of 31 December 2020 is $50.4 million which was determined utilizing the middle of the estimated range of loss of $43.0 million to $55.0 million. The timing of any cash outflows associated with this provision is uncertain given the factors noted above, however we do not currently expect to incur significant cash outflows associated with this matter in the next four years. Refer to "Note 22. Contingent Consideration, Litigation Provision Liability and Other Provisions" for additional information.

Litigation

Product Liability

The Company is currently involved in litigation involving our 3T device. The litigation includes a class action complaint in the U.S. District Court for the Middle District of Pennsylvania, federal multi-district litigation in the U.S. District Court for the Middle District of Pennsylvania, various U.S. state court cases and cases in jurisdictions outside the U.S. The class action, filed in February 2016, consists 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 currently are asymptomatic for NTM infection. Members of the class seek declaratory relief that the 3T devices are defective and unsafe for intended uses, medical monitoring, damages, and attorneys' fees.

On 29 March 2019, we announced a settlement framework that provides for a comprehensive resolution of the personal injury cases pending in the multi-district litigation in U.S. federal court, the related class action pending in federal court, as well as certain cases in state courts across the U.S. The agreement, which makes no admission of liability, is subject to certain conditions, including acceptance of the settlement by individual claimants and provides for a total payment of up to $225 million to resolve the claims covered by the settlement. Per the agreed-upon terms, the first payment of $135 million was paid into a qualified settlement fund in July 2019 and the second payment of $90 million was paid in January 2020. Cases covered by the settlement are being dismissed as amounts are disbursed to individual plaintiffs from the qualified settlement fund.

Cases in state courts in the U.S. and in jurisdictions outside the U.S. continue to progress. As of 28 April 2021, including the cases encompassed in the settlement framework described above that have not yet been dismissed, we are aware of approximately 85 filed and unfiled claims worldwide, with the majority of the claims in various federal or state courts throughout the U.S. This number includes cases that have settled but have not yet been dismissed. The complaints generally seek damages and other relief based on theories of strict liability, negligence, breach of express and implied warranties, failure to warn, design and manufacturing defect, fraudulent and negligent misrepresentation or concealment, unjust enrichment, and violations of various state consumer protection statutes.

In the fourth quarter of 2018, we recognised a $294.1 million provision for these matters. In the 2019 and 2020, we recorded additional liabilities of $33.2 million and $6.9 million, respectively, due to additional information obtained, including but not limited to: the nature and quantity of filed and unfiled claims; certain settlement discussions with plaintiffs' counsel; and the current stage of litigation in our remaining filed and unfiled claims. At 31 December 2020 and 2019, the provision was $39.5 million and $170.4 million, respectively. While the amount accrued represents our best estimate for those filed and unfiled claims that are both probable and estimable, the actual liability for resolution of these matters may vary from our estimate. In 2019, we recovered $33.8 million from our insurance carriers under our product liability insurance policies related to the litigation involving our 3T device. The insurance recovery was recorded in litigation provision, net on the consolidated statements of income (loss) during 2019.

Environmental Liability

Sorin was created as a result of a spin-off (the Sorin spin-off) from SNIA in January 2004, and in October 2015, Sorin was merged into LivaNova. SNIA subsequently became insolvent and 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 approximately $4 billion for remediation costs relating to the environmental damage at chemical sites previously operated by SNIA's other subsidiaries.

In September 2011 and July 2014, the Bankruptcy Court of Udine and the Bankruptcy Court of Milan held (in proceedings to which we are not parties) that the Italian Ministry of the Environment and other Italian government agencies (the Public Administrations) were not creditors of either SNIA or its subsidiaries in connection with their claims in the Italian insolvency proceedings. The Public Administrations appealed and in January 2016, the Court of Udine rejected the appeal. The Public Administrations have also appealed that decision to the Supreme Court. In addition, the Bankruptcy Court of Milan's decision has been appealed.

In January 2012, SNIA filed a civil action against Sorin in the Civil Court of Milan asserting joint liability of a parent and a spun-off company; the Public Administrations entered voluntarily into the proceeding, asking Sorin, as jointly liable with SNIA, to pay compensation for SNIA's environmental damages. On 1 April 2016, the Court of Milan dismissed all legal actions of SNIA and of the Public Administrations further requiring the Public Administrations to pay Sorin approximately €292,000 (approximately $358,000 as of 31 December 2020) for legal fees. The Public Administrations appealed the 2016 Decision to the Court of Appeal of Milan. On 5 March 2019, the Court of Appeal issued a partial decision on the merits declaring Sorin/LivaNova jointly liable with SNIA for SNIA's environmental liabilities in an amount up to the fair value of the net worth received by Sorin because of the Sorin spin-off, an estimated €572.1 million (approximately $701.9 million as of 31 December 2020). Next the Court will evaluate a report delivered by a panel of three experts assessing the environmental damages, including the costs of clean-up and compensatory damages; conduct a hearing;

and review briefs from the parties. Thereafter, the Court will issue its ruling on the amount of damages attributable to LivaNova. In the interim, we have appealed the partial decision on liability to the Italian Supreme Court (Corte di Cassazione).

In 2011, Caffaro, a SNIA subsidiary, sold its Brescia chemical business to Caffaro Brescia, a third party belonging to the Todisco group, and as part of the acquisition, Caffaro Brescia agreed to secure hydraulic barriers at the site and maintain existing environmental security measures. In September 2020, Caffaro Brescia declared it was withdrawing from its agreement to maintain the environmental measures. In January 2021, we (in addition to Caffaro Brescia, and other non-LivaNova entities) received an administrative order ("Order") from the Italian Ministry of the Environment requiring us to ensure the maintenance of the environmental measures and to guarantee that such works remain fully operational, the annual management and maintenance for which is estimated at approximately €1 million per year. LivaNova's receipt of the Order appears to be based on the aforementioned Court of Appeals decision regarding our alleged joint liability with SNIA for SNIA's environmental liabilities. Our response, dated 16 February 2021, disputes the grounds upon which the Order is based.

We have not recognised a liability in connection with these related matters matter because any potential loss is not currently probable or reasonably estimable.

Patent Litigation

On 11 May 2018, Neuro and Cardiac Technologies LLC (NCT), a non-practicing entity, filed a complaint in the U.S. District Court for the Southern District of Texas asserting that the VNS Therapy System, when used with the SenTiva Model 1000 generator, infringes the claims of U.S. Patent No. 7,076,307 owned by NCT. The complaint requests damages that include a royalty, costs, interest, and attorneys' fees. On 13 September 2018, we petitioned the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office (the Patent Office) for an inter partes review ("IPR") of the validity of the '307 patent, and on 18 May 2020, the Patent Office issued a Final Written Decision determining that all challenged claims are unpatentable. NCT is appealing the Final Written Decision. On 24 March 2020 we were granted our request for an ex parte reexamination of the '307 patent, and in April 2021, the Patent Office issued a Non-Final Rejection of all the '307 claims. The Court has stayed the litigation pending the outcome of the IPR appeal proceeding. We have not recognised a liability in connection with this matter because any potential loss is not currently probable or reasonably estimable.

Contract Litigation

On 25 November 2019, LivaNova received notice of a lawsuit initiated by former members of Caisson Interventional, LLC, a subsidiary of the Company acquired in 2017. The lawsuit, Todd J. Mortier, as Member Representative of the former Members of Caisson Interventional, LLC v. LivaNova USA, Inc., is currently pending in the U.S. District Court for the District of Minnesota. The complaint alleges (i) breach of contract, (ii) breach of the covenant of good faith and fair dealing and (iii) unjust enrichment in connection with the Company's operation of Caisson's TMVR program and the Company's 20 November 2019 announcement that it was ending the TMVR program at the end of 2019. The lawsuit seeks damages arising out of the 2017 acquisition agreement, including various regulatory milestone payments. We intend to vigorously defend this claim. The Company has not recognised a liability related to this matter because any potential loss is not currently probable or reasonably estimable.

Other Matters

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 liquidity.

Note 28. Earnings Per Share

Basic EPS is calculated by dividing the profit for the year attributable to owners of the parent by the weighted average number of Ordinary Shares outstanding during the year. Diluted EPS is calculated by dividing the net profit attributable to attributable to owners of the parent by the weighted average number of Ordinary Shares outstanding during the year plus the weighted average number of Ordinary Shares that would be issued on conversion of all the dilutive potential Ordinary Shares into Ordinary Shares.

The following table sets forth the basic and diluted weighted-average shares outstanding used in the computation of basic and diluted EPS (in thousands of shares):

	Year Ended 31 December	
	2020	2019
Numerator:		
Net loss from continuing operations	$ (179,055)	$ (559,231)
Net income (loss) from discontinued operations	(1,493)	365
Loss attributable to owners of the parent	$ (180,548)	$ (558,866)
Denominator:		
Basic weighted average shares outstanding	48,592	48,349
Add effects of stock-based compensation instruments[(1)]	-	-
Diluted weighted average shares outstanding.	48,592	48,349
Basic (loss) earnings per share:		
Continuing operations	$ (3.68)	$ (11.57)
Discontinued operations	(0.04)	0.01
	$ (3.72)	$ (11.56)
Diluted (loss) earnings per share:		
Continuing operations	$ (3.68)	$ (11.57)
Discontinued operations	(0.04)	0.01
	$ (3.72)	$ (11.56)

[(1)] Excluded from the computation of diluted EPS for the years ended 31 December 2020 and 31 December 2019 were stock options, SARs and RSUs totalling 4.1 million and 2.9 million because to include them would have been anti-dilutive.

Note 29. Segment and Geographic Information

Segment Information

We identify operating segments based on the way we manage, evaluate and internally report our business activities to our chief operating decision maker (CODM), who is the CEO of LivaNova, for purposes of allocating resources and assessing performance. We

have two operating segments: Cardiovascular and Neuromodulation.

The Cardiovascular segment generates its revenue from the development, production and sale of cardiopulmonary products, heart valves and related products and advanced circulatory support. Cardiopulmonary products include oxygenators, HLMs, autotransfusion systems, perfusion tubing systems, cannulae and other related accessories. Heart valves include mechanical heart valves, tissue heart valves, related repair products and minimally invasive surgical instruments. Advanced circulatory support includes temporary life support product kits that can include a combination of pumps, oxygenators, and cannulae. On 12 June 2019, we acquired the minimally invasive cardiac surgery instruments business from Miami Instruments, which are integrated into our Cardiovascular segment as part of our Heart Valves portfolio.

Our Neuromodulation segment generates its revenue from the design, development and marketing of neuromodulation therapy systems for the treatment of drug-resistant epilepsy, DTD and obstructive sleep apnea. Neuromodulation products include the VNS Therapy System, which consists of an implantable pulse generator, a lead that connects the generator to the vagus nerve, and other accessories.

Other corporate activities include corporate shared service expenses for finance, legal, human resources, information technology and corporate business development.

Net sales of our operating segments include revenues from the sale of products they each develop and manufacture or distribute. We define segment income as operating income before exceptional items. This measurement is included in the reporting package prepared for and used by the CODM in evaluating performance and allocating resources. An analysis of assets and liabilities by segment is not included in the reporting package prepared for and used by the CODM in evaluating performance and allocating resources, and therefore is not presented below.

Geographic Information

We operate under three geographic regions: United States, Europe, and Rest of World.

As further described in "Note 3. Revenue Recognition," our Cardiovascular segment has three primary product lines: cardiopulmonary, heart valves and advanced circulatory support. The table below presents revenue disaggregated by operating segment, major product line and primary geographic market (in thousands):

	Year Ended 31 December	
	2020	2019
Cardiopulmonary		
United States	$ 132,543	$ 161,471
Europe	122,062	135,632
Rest of World	192,127	207,613
	446,732	504,716
Heart Valves		
United States	12,488	18,900
Europe	31,259	40,548
Rest of World	44,283	60,559
	88,030	120,007
Advanced Circulatory Support		
United States	41,094	30,781
Europe	1,027	741
Rest of World	200	401
	42,321	31,923
Cardiovascular		
United States	186,125	211,152
Europe	154,348	176,921
Rest of World	236,610	268,573
	577,083	656,646
Neuromodulation		
United States	282,509	335,332
Europe	39,019	46,262
Rest of World	32,916	42,953
	354,444	424,547
Other	2,714	2,977
Totals		
United States	468,634	546,484
Europe[(1)]	193,367	223,183
Rest of World	272,240	314,503
Total[(2)(3)]	$ 934,241	$ 1,084,170

(1) Europe sales include those countries in which we have a direct sales presence, whereas European countries in which we sell through distributors are included in Rest of World.

(2) Revenue with external customers includes $29.7 million and $37.7 million in the United Kingdom, our country of domicile, for the years ended 31 December 2020 and 2019, respectively.

(3) No single customer represented over 10% of our consolidated net sales. No country's net sales exceeded 10% of our consolidated sales except for the U.S.

The table below presents a reconciliation of segment income from continuing operations before exceptional items to operating loss from continuing operations (in thousands):

	Year Ended 31 December	
	2020	2019

	Year Ended 31 December	
	2020	2019
Operating (loss) profit before exceptional items		
Cardiovascular	$ (21,974)	$ (10,925)
Neuromodulation	115,091	133,042
Other	(90,963)	(80,568)
Total operating income before exceptional items	2,154	41,549
Exceptional items	168,004	635,837
Operating loss from continuing operations	$ (165,850)	$ (594,288)

The following table presents capital expenditures by operating segment (in thousands):

	Year Ended 31 December	
	2020	2019
Capital expenditures		
Cardiovascular	$ 24,892	$ 21,691
Neuromodulation	10,684	7,506
Other	3,737	3,921
Total	$ 39,313	$ 33,118

The following table presents non-current assets, net of accumulated depreciation, amortisation and impairment, by primary geographic market. Non-current assets for this purpose consist of property, plant and equipment, intangible assets, goodwill and ROU assets (in thousands):

	31 December 2020	31 December 2019
United States	$ 770,687	$ 803,204
Europe	421,390	467,089
Rest of World	51,381	73,910
Total	$ 1,243,458	$ 1,344,203

Note 30. Related Parties

Interests in subsidiaries are set out in "Note 13. Investments in Subsidiaries." Transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note.

The following receivable balance arose from financing transactions with equity investments (in thousands):

Consolidated Balance Sheet	31 December 2020	31 December 2019
Financial assets - non-current		
Noctrix	$ 260	$ -
Other financial assets - current		
ALung	$ 2,515	$ -
Respicardia, Inc.	791	642
	$ 3,306	$ 642

The following financing transaction was entered into with an equity investment during the years as follows (in thousands):

	Year Ended 31 December	
Consolidated Statement of (Loss) Income	2020	2019
Finance income		
ALung	$ 74	$ -
Noctrix	10	-
Respicardia, Inc.	149	45
	$ 233	$ 45

Total compensation in respect of key management, who are defined as the Board and certain members of senior management, is considered to be a related party transaction.

The total compensation in respect of key management was as follows (in thousands):

	Year Ended 31 December	
	2020	2019
Salaries and short term benefits	$ 6,313	$ 6,502
Post-employment long-term benefits	547	502
Termination benefits	594	-
Share-based compensation	8,380	9,417
Total	$ 15,834	$ 16,421

Amounts received or receivable under share-based payment arrangements were $4.8 million and $6.8 million during the years ended 31 December 2020 and 2019.

There were no other material related party transactions in the year.

Details of directors' remuneration are included in pages 50 to 70 of the Directors' Remuneration Report, which forms part of these financial statements.

Note 31. Consolidated Statement of (Loss) Income - Expenses by Nature

	Year Ended 31 December	
(in thousands)	2020	2019

	Year Ended 31 December	
(in thousands)	2020	2019
Net sales	$ 934,241	$ 1,084,170
Other revenues and income	2,876	5,831
Cost of materials, service used and change in inventory	(421,346)	(508,054)
Personnel expense	(433,829)	(454,687)
Litigation provision, net	(6,919)	601
Other operating costs	(12,168)	(23,898)
Amortisation of intangibles and other assets	(38,798)	(46,476)
Depreciation and impairment of property, plant and equipment	(23,666)	(28,152)
Depreciation of right-of-use assets	(14,429)	(13,054)
Additions to provisions	(55,180)	(7,995)
Impairment of goodwill	-	(379,493)
Impairment of long-lived assets	(96,632)	(221,234)
Interest expense	(59,827)	(16,402)
Interest income	131	803
Foreign exchange and other losses	(14,067)	(571)
Impairment of financial assets	-	(1,847)
Share of loss from equity accounted investments	(264)	-
Loss from continuing operations before tax	(239,877)	(610,458)
Income tax benefit	60,822	51,227
(Loss) income from discontinued operations, net of tax	(1,493)	365
Loss attributable to owners of the parent	$ (180,548)	$ (558,866)

Note 32. Employee and Key Management Compensation Costs

	Year Ended 31 December	
(in thousands)	2020	2019
Wages and salaries	$ 338,197	$ 362,147
Share-based payments[(1)]	36,323	37,219
Other employee costs	59,309	55,321
	$ 433,829	$ 454,687

[(1)] Represents share-based payments included in personnel expense. Refer to "Note 24. Share-Based Incentive Plans" for total share-based compensation expense.

Employee numbers

The monthly average number of employees by geographic region during the years ended 31 December 2020 and 31 December 2019 are as follows (in thousands):

	Year Ended 31 December	
	2020	2019
U.S.	1,179	1,223
Europe	2,136	2,084
Rest of World	581	561
Total	3,896	3,868

Note 33. Exceptional Items

The following exceptional items are included within operating (loss) income (in thousands):

	Year Ended 31 December	
	2020	2019
Exceptional items:		
Merger and integration expenses	$ 7,333	$ 23,457
Restructuring expenses	7,571	12,254
Impairment of goodwill	-	379,493
Impairment of long-lived assets	96,632	221,234
Decommissioning provision	49,549	-
Litigation provision, net	6,919	(601)
Total exceptional items	168,004	635,837
Other non-recurring items:		
Product remediation expenses	7,860	15,777
Acquisition costs	467	(717)
Non-recurring legal, contingent consideration and other reserves	11,427	37,079
Impairment of plant, property and equipment	-	3,207
Total exceptional items and other non-recurring items	$ 187,758	$ 691,183

Merger and integration expenses.

Merger and integration expenses consist of costs associated with our Merger and business combinations. Such costs primarily include computer systems integration efforts, organizational structure integration, synergy and tax planning. While Merger and integration costs continue into fiscal year 2021, these costs will continue to decline over time.

Refer to "Note 7. Business Combinations" for more details.

Restructuring expenses.

We have initiated several restructuring plans to leverage economies of scale, streamline distribution and logistics and strengthen operational and administrative effectiveness in order to reduce overall costs. We identify costs incurred and liabilities assumed for the restructuring plans. Refer to "Note 10. Restructuring" for more details.

Impairment of goodwill.

Refer to "Note 12. Goodwill and Intangible Assets" for more details.

Impairment of long-lived assets.

Refer to "Note 8. Assets and Liabilities Held for Sale" and "Note 12. Goodwill and Intangible Assets" for more details.

Decommissioning provision.

Refer to "Note 27. Commitments and Contingencies" for more details.

Litigation provision, net.

Refer to "Note 27. Commitments and Contingencies" for more details.

Note 34. Auditors' Remuneration

	Year Ended 31 December	
(in thousands)	2020	2019
Total audit fees payable to the Company's Auditor	$ 6,250	$ 7,510
Audit-related services	260	-
Taxation advisory services	448	443
Other non-audit services	1	1
Total fees payable to the Company's Auditor	$ 6,959	$ 7,954

Note 35. New Accounting Pronouncement

IFRS 3 Business Combinations.

IFRS 3 'Business Combinations' relating to the definition of a business was endorsed by the EU in April 2020 with an effective date of 1 January 2020, which the Group has adopted from the effective date. The change would not have resulted in a different accounting treatment for any transactions undertaken during the prior year when compared with the previous version of IFRS 3.

There are no other standards and interpretations in issue but not yet adopted that the management anticipate will have a material effect on the reported income or net assets of the Company.

Note 36. Subsequent Events

In April 2021, Zoll Medical Corporation acquired Respicardia. As a result of the acquisition we received proceeds of $23.1 million for our investment and loan receivable with carrying values of $17.7 million and $0.8 million as of 31 December 2020, respectively. The Company recorded a gain of $4.6 million to be recorded during fiscal year 2021 to adjust the investment and loans receivable to fair value.

On 9 April 2021, LivaNova and Mitral entered into an Amended and Restated Share and Asset Purchase Agreement (the HV A&R Purchase Agreement) which amends and restates the original HV Purchase Agreement to, among other things, defer the closing of the sale and purchase of LSM by up to two years and include or amend certain additional terms relating to such deferral, including certain amendments relating to the potential hazardous substances liabilities of LSM, the related expense reimbursement provisions, and transfer of certain heart valve-related employees and information technology assets. In addition, the HV A&R Purchase Agreement includes certain amendments relating to mechanics and timing for the initial closing of the transaction and subsequent closings of the local businesses.

LIVANOVA PLC

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Company Statement of (Loss) Income

(In thousands)

	Note	Year Ended 31 December 2020	Year Ended 31 December 2019
Revenue		$ 34,909	$ 17,773
Costs and expenses:			
Operating expenses		(89,824)	(73,129)
Exceptional items	19	(140,684)	(158,713)
Operating loss		(195,599)	(214,069)
Income from subsidiary undertakings		47,606	158,090
Interest income		8,419	6,178
Interest expense	10	(15,042)	(18,063)
Foreign exchange gain (loss), net		2,458	(1,425)
Loss before tax		(152,158)	(69,289)
Income tax benefit	14	17,781	20,006
Loss for the financial year		$ (134,377)	$ (49,283)

Company Statement of Comprehensive Income

(In thousands)

	Note	Year Ended 31 December 2020	Year Ended 31 December 2019
Loss for the financial year		$ (134,377)	$ (49,283)
Items of other comprehensive income (loss) that will subsequently be reclassified under profit:			
Cash flow hedges for interest rate fluctuations	8	113	92
Tax impact		(27)	(21)
Foreign currency translation differences		43,267	(8,732)
Total items of other comprehensive income (loss) that will subsequently be reclassified under profit.		43,353	(8,661)
Items of other comprehensive loss that will not subsequently be reclassified under profit:			
Remeasurements of net assets for defined benefits		(4)	(16)
Tax impact		-	3
Total items of other comprehensive loss that will not subsequently be reclassified under profit		(4)	(13)
Total other comprehensive income (loss), net of taxes		43,349	(8,674)
Total comprehensive loss for the year, net of taxes		$ (91,028)	$ (57,957)

Company Balance Sheet

(In thousands)

	Note	31 December 2020	31 December 2019
ASSETS			
Non-current assets			
Property, plant and equipment	3	$ 1,085	$ 1,043
Intangible assets	4	857	3,519
Right-of-use assets	11	6,001	6,302
Investments in subsidiaries	5	2,939,233	2,866,406
Other financial assets	6	17,706	105,517
Deferred tax assets	14	45,356	26,080
Other assets		35,771	30,621
Total non-current assets		3,046,009	3,039,488
Trade receivables	7	4,439	6,374
Other receivables		9,447	15,818
Derivative financial instruments	8	2,053	350
Other financial assets	6	169,136	214,397
Tax receivable		13,799	13,085
Cash and cash equivalents		228,229	35,776
Total current assets		427,103	285,800

	Note	31 December 2020	31 December 2019
Total assets		$ 3,473,112	$ 3,325,288
LIABILITIES AND EQUITY			
Equity			
Share capital	9	$ 76,300	$ 76,257
Merger relief reserve	9	66,446	66,446
Share premium	9	27,361	23,243
Capital redemption reserve	9	1,897	1,897
Treasury shares	9	(1,034)	(1,263)
Accumulated other comprehensive income	9	48,872	5,523
Retained earnings		2,320,553	2,436,130
Total equity		$ 2,540,395	$ 2,608,233
Non-current liabilities			
Derivative financial instruments	8	$ -	$ 61
Financial liabilities	10	595,077	329,415
Provision for employee severance indemnities and other employee benefit provisions		2,470	2,464
Lease liabilities	11	4,313	4,547
Other liabilities		1,601	-
Deferred tax liabilities	14	1,176	1,183
Total non-current liabilities		604,637	337,670
Current liabilities			
Trade payables		10,741	16,093
Other payables	12	10,824	24,100
Provisions		-	380
Derivative financial instruments	8	3,266	3,173
Lease liabilities	11	1,806	1,636
Other financial liabilities	10	299,213	333,977
Tax payable		2,230	26
Total current liabilities		328,080	379,385
Total liabilities and equity		$ 3,473,112	$ 3,325,288

Registration number 09451374

The financial statements on pages 153 to 182 were approved by the Board and were signed on its behalf on 29 April 2021 by:

DAMIEN MCDONALD, CHIEF EXECUTIVE OFFICER & DIRECTOR

Company Statement of Changes in Equity

(In thousands)

		Ordinary Shares								
	Note	Number of Shares	Share Capital	Merger Relief Reserve	Share Premium	Capital Redemption Reserve	Treasury Shares	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Equity
Balance at 31 December 2018		49,323	$ 76,144	$ 66,446	$ 18,516	$ 1,897	$ (1,462)	$ 14,197	$ 2,459,442	$ 2,635,180
Share-based compensation plans	13	88	113	-	4,727	-	199	-	25,971	31,010
Total transactions with owners, recognised directly in shareholders' equity		88	113	-	4,727	-	199	-	25,971	31,010
Loss for the year		-	-	-	-		-	-	(49,283)	(49,283)
Other comprehensive loss		-	-	-	-	-	-	(8,674)	-	(8,674)
Total comprehensive loss for the year		-	-	-	-	-	-	(8,674)	(49,283)	(57,957)
Balance at 31 December 2019		49,411	76,257	66,446	23,243	1,897	(1,263)	5,523	2,436,130	2,608,233
Share-based compensation plans	13	109	140	-	4,021	-	229	-	18,800	23,190
Cancellation of shares		(73)	(97)	-	97	-	-	-	-	-

	Note	Ordinary Shares Number of Shares	Share Capital	Merger Relief Reserve	Share Premium	Capital Redemption Reserve	Treasury Shares	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Equity
Total transactions with owners, recognised directly in shareholders' equity		36	43	-	4,118	-	229	-	18,800	23,190
Loss for the year		-	-	-	-	-	-	-	(134,377)	(134,377)
Other comprehensive income		-	-	-		-	-	43,349	-	43,349
Total comprehensive income (loss) for the year		-	-	-	-	-	-	43,349	(134,377)	(91,028)
Balance at 31 December 2020		49,447	$ 76,300	$ 66,446	$ 27,361	$ 1,897	$ (1,034)	$ 48,872	$ 2,320,553	$ 2,540,395

Notes to the Financial Statements

Note 1. Nature of Operations

Company information.

LivaNova PLC (LivaNova PLC, the Company, Group, we or our) is a public limited company incorporated in the United Kingdom under the Companies Act 2006 (Registration number 09451374). The Company is domiciled in the England and Wales and its registered address is 20 Eastbourne Terrace, London, W2 6LG, United Kingdom.

Background.

LivaNova PLC was organized under the laws of England and Wales on 20 February 2015 for the purpose of facilitating the business combination of Cyberonics, Inc., a Delaware corporation and Sorin S.p.A., a joint stock company organized under the laws of Italy. As a result of the business combination, LivaNova PLC, headquartered in London, became the holding company of the combined businesses of Cyberonics and Sorin. The business combination became effective in October 2015. LivaNova's Ordinary Shares are listed for trading on Nasdaq under the symbol "LIVN."

As part of the Mergers, Sorin undertook a cross-border legal entity merger with LivaNova (the Sorin merger) under which LivaNova was the surviving ultimate holding company. The Company elected to apply predecessor accounting to this common control business combination and as a result of the Sorin merger the assets and liabilities of Sorin were transferred to LivaNova and recorded in the Company's books using the predecessor book values in the amount of $903.0 million as at the date of the transfer. All shares of Sorin were cancelled and LivaNova issued 22,673 thousand shares to the Sorin shareholders. In respect of both of these share issues, the Company took Merger relief in line with the Companies Act 2006 and recorded a Merger relief reserve instead of share premium in the amount of $867.9 million.

Description of the business.

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 cardiovascular disease and neuromodulation, 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 minimise healthcare costs.

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

Basis of Preparation.

The separate financial statements of LivaNova PLC have been prepared on a going concern basis under the historical cost convention, except for derivative financial instruments and share based payments awards that have been measured at fair value in accordance with the Companies Act 2006 as applicable to companies using FRS 101. The financial statements are presented in U.S. dollars and all values are rounded to the nearest thousands, except when otherwise indicated. Our accounting policies have been applied consistently in 2020 as compared to 2019, other than where new policies have been adopted.

The LivaNova PLC Consolidated Group (Consolidated Group) conditions may impact the value of the Company's investments in its subsidiaries and the Company's ability to recover amounts due from subsidiaries. Refer to "Note 2. Basis of Preparation, Use of Accounting Estimates and Significant Accounting Policies" to the Consolidated Group financial statements in this UK Annual Report for recent developments regarding COVID-19.

The financial statements for the years ended 31 December 2020 and 31 December 2019 of LivaNova have been prepared in accordance with Financial Reporting Standard 101 'Reduced Disclosure Framework' (FRS 101). The following exemptions from the requirements of IFRS have been applied in the preparation of these financial statements, in accordance with FRS 101:

Standard Disclosure	Exemption
The following paragraphs of IAS 1, 'Presentation of financial statements'	10(d) - statement of cash flows; 16 - statement of compliance with all IFRS; 38A - requirement for minimum of two primary statements, including cash flow statements; 38B-D - additional comparative information; 111 - statement of cash flow information; and 134 to136 - capital management disclosures.
IFRS 7, 'Financial Instruments: Disclosures'	Full exemption.
The following paragraphs of IFRS 13, 'Fair Value Measurement'	91 to 99 - disclosure of valuation techniques and inputs used for fair value measurement of assets and liabilities.

Standard Disclosure	Exemption
IAS 7, 'Statement of Cash Flows'	Full exemption.
The following paragraphs of IFRS 2, 'Share-based Payment'	45(b) and 46 to 52 - details of the number and weighted average exercise prices of share options, and the fair value of services received is determined.
The following paragraphs of IAS 8, 'Accounting policies, changes in accounting estimates and errors'	30 and 31 - requirement for the disclosure of information when an entity has not applied a new IFRS that has been issued but is not yet effective.
The following paragraphs of IAS 24, 'Related Party Disclosures'	17 - key management compensation; 18A - key management services provided by a separate management entity; and the requirements to disclose related party transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by such a member.

New Accounting Pronouncements.

- IFRS 3 Business Combinations. IFRS 3 'Business Combinations' relating to the definition of a business was endorsed by the EU in April 2020 with an effective date of 1 January 2020, which LivaNova PLC has adopted from the effective date. The change would not have resulted in a different accounting treatment for any transactions undertaken during the prior year when compared with the previous version of IFRS 3.

Investments in Subsidiaries.

Investments in subsidiaries are accounted for at cost less any provision for impairment. We assess at each reporting date, whether there is an indication that an investment may be impaired. If any indication exists, we estimate the investment's recoverable amount. Where the carrying amount of an investment exceeds its recoverable amount, the investment is considered impaired and is written down to its recoverable amount.

Foreign Currency.

Our functional currency is the U.S. dollar; however, a portion of the revenues earned, and expenses incurred are denominated in currencies other than the U.S. dollar. We determine the functional currency of our subsidiaries that exist and operate in different economic and currency environments based on the primary economic environment in which the subsidiary operates, that is, the currency of the environment in which an entity primarily generates and expends cash.

The euro is the functional currency of LivaNova PLC - Italian Branch, a subsidiary of LivaNova PLC, and the assets, liabilities and equity of this branch are translated into U.S. dollars based on a combination of both current and historical exchange rates, while their revenues earned and expenses incurred are translated into U.S. dollars at average period exchange rates. Translation adjustments are included as AOCI on the Company balance sheet. Gains and losses arising from transactions denominated in a currency different from an entity's functional currency are included in FX and other losses on our Company statement of (loss) income. Taxes are not provided on cumulative translation adjustments, as substantially all translation adjustments are related to earnings which are intended to be indefinitely reinvested in the countries where earned.

The Euro exchange rate to the USD used in preparing the Company financial statements was as follows:

	Weighted Average Rate Euro	Closing Rate Euro
Year ended 31 December 2020	0.877417	0.815100
Year ended 31 December 2019	0.893318	0.891190

Financial Instruments.

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. Financial assets and financial liabilities are offset with the net amount reported in the Company balance sheet only if there is a current enforceable legal right to offset the recognised amounts and intent to settle on a net basis, or to realise the assets and settle the liabilities simultaneously.

(a) Financial Assets

Initial Recognition and Measurement.

Financial assets are classified, at initial recognition, as financial assets at fair value through profit or loss, loans and receivables, investments, financial assets, or as derivatives designated as hedging instruments in an effective hedge, as appropriate. The Company determines the classification of its financial assets at initial recognition. All financial assets are recognised initially at fair value plus, in the case of assets not at fair value through profit or loss, transaction costs that are attributable to the acquisition of the financial asset. Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognised on the trade date, i.e., the date on which the Company commits to purchase or sell the asset.

The subsequent measurement and impairment of financial assets depends on their classification as described below:

Financial Assets at Fair Value through Profit or Loss.

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held-for trading if they are acquired for the purpose of selling or re-purchasing in the near term. This category includes derivative financial instruments entered into by the Company that are not designated as hedging instruments in hedge relationships as defined by IFRS 9. 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 recognised in the Company statement of (loss) income, thereby offsetting the current net income (loss) effect of the related change in value of foreign currency denominated assets and liabilities. Changes in the fair value of our derivatives designated as hedges are recognised through OCI.

Loans and Receivables.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, such financial assets are subsequently measured at amortised cost using the EIR method, less impairment. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in interest income in the Company statement of (loss) income. The receivable balance consists primarily of trade receivables from our subsidiaries as a result of intercompany recharges, services and management fees. We maintain an expected credit loss provision for expected credit losses based on our estimates of the ability of our subsidiaries and third-party customers to make required payments, historical credit experience, existing economic conditions and expected future trends. We write off uncollectable accounts against the provision when all reasonable collection efforts have been exhausted. Loans, together with the associated provision are written off when there is no realistic prospect of future recovery and all collateral has been realised or has been transferred to the Company. The losses arising from impairment are recognised in the Company statement of (loss) income in cost of sales or other operating expenses. Refer to "Note 7. Trade Receivables and Expected Credit Loss Provision" for further information.

Financial Asset Derecognition.

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is derecognised when:

- The rights to receive cash flows from the asset have expired, or
- The Company has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through arrangement, and either (a) the Company has transferred substantially all the risks and rewards of the asset, or (b) the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

(b) Financial Liabilities

Initial Recognition and Measurement.

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings (bank debt), payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate. All financial liabilities are recognised initially at fair value and, in the case of loans, borrowings and payables, net of directly attributable transaction costs. The Company's financial liabilities include trade and other payables, loans and bank debt including bank overdrafts, and derivative financial instruments.

The measurement of financial liabilities depends on their classification, as follows:

Financial Liabilities at Fair Value through Profit or Loss.

Financial liabilities at fair value through profit or loss include financial liabilities held-for-trading and financial liabilities designated upon initial recognition as at fair value through profit or loss. Financial liabilities are classified as held-for-trading if they are acquired for the purpose of selling in the near term. This category includes derivative financial instruments entered into by the Company that are not designated as hedging instruments in hedge relationships as defined by IAS 39, which the Company has elected to apply. Gains or losses on liabilities held-for-trading are recognised in the Company statement of (loss) income. Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in IAS 39 are satisfied. The Company has not designated any financial liabilities as at fair value through profit or loss.

Loans and Borrowings (bank debt).

After initial recognition, interest bearing loans and borrowings are subsequently measured at amortised cost using the EIR method. Gains and losses are recognised in the Company statement of (loss) income when the liabilities are de-recognised as well as through the EIR method amortisation process. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in interest expense in the Company statement of (loss) income.

Financial Guarantee Contracts.

Financial guarantee contracts issued by the Company are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. Financial guarantee contracts are recognised initially as a liability at fair value, and then adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequently, the liability is measured through profit or loss at the higher of the best estimate of the expenditure required to settle the present obligation at the reporting date and the amount recognised less cumulative amortisation.

Financial Liability Derecognition.

A financial liability is de-recognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the Company statement of (loss) income.

Derivative financial instruments and hedge accounting.

We use currency exchange rate derivative contracts to manage the impact of currency exchange rate changes on the Company statement of (loss) income and cash flows. Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. 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 the Company statement of (loss) income. Cash flows from derivative contracts are reported as operating activities in the consolidated statement of cash flows.

When a hedging instrument expires, sold or is terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the Company statement of (loss) income. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately reclassified to profit or loss.

In order to minimise income statement 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 and of some revenue. At inception of the forward contract, the derivative is designated as either a freestanding derivative or a cash flow hedge. 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 AOCI and reclassified to the Company statement of (loss) income to offset exchange differences originated by the hedged item or to adjust the value of loss from continuing operations. We do not enter into currency exchange rate derivative contracts for speculative purposes.

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. Cash equivalents are carried on the Company balance sheet at cost, which approximated their fair value.

Non-monetary Assets. Property, Plant and Equipment.

PP&E is carried at cost, less accumulated depreciation and any accumulated impairment losses. Maintenance and repairs, and minor replacements are charged to expense as incurred, while significant renewals and improvements are capitalised. We compute depreciation using the straight-line method over estimated useful lives. Where an item of PP&E comprises several parts with different useful lives, each part is recognised as a separate item and depreciated over its useful life. Useful life and residual value of PP&E are reviewed at each year-end. As necessary, the occurrence of changes to the useful life or residual value is recognised prospectively as a change in accounting estimates.

Leasehold improvements are depreciated over the shorter of the useful life of an asset or the lease term.

The estimated useful lives for all classes of depreciable PP&E, as of 31 December 2020 and 2019 are as follows:

	31 December 2020	31 December 2019
Leasehold improvements	up to 10	up to 10
Equipment, furniture, fixtures	up to 3	up to 7

Where there are any internal or external indications that the value of an item of PP&E may be impaired, the recoverable amount of the group of CGUs to which it belongs is calculated. If the recoverable amount is less than the carrying amount of the group of CGUs, a provision for impairment is recorded. PP&E is reviewed for impairment annually on 31st of December.

Impairment of Long-Lived Assets.

The Company assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Company estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's CGU's fair value less costs of disposal and its value in use. It is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

Revenue.

Revenue largely consists of intercompany re-charges, services and management fees. Revenue is measured at the fair value of the consideration received or receivable. The Company recognises revenue when the amount of revenue can be reliably measured, it is probable that future economic benefits will flow to the entity and specific criteria have been met.

Lease Accounting.

On 1 January 2019, we adopted IFRS 16, Leases, which replaced IAS 17, Leases, and introduces new or amended requirements with respect to lease accounting. It introduces significant changes to lessee accounting by removing the distinction between operating and finance lease and requiring the recognition of a ROU asset and lease liability at commencement for all leases with certain exceptions discussed below. We adopted the standard using the modified retrospective approach with an effective date of 1 January 2019. We recognised $7.7 million of ROU assets and $7.6 million of lease liabilities upon initial adoption on 1 January 2019. We have leases primarily for (i) real estate, including office space and manufacturing, warehouse and research and development facilities and (ii) vehicles. The fiscal year 2018 financial statements were not recast under the new standard. As a practical expedient, no reassessment was performed of contracts that were previously identified as leases and contracts that were not previously identified as containing a lease applying IAS 17 and IFRIC 4 - 'Determining whether an Arrangement contains a Lease.' At the adoption date, additional lease liabilities were recognised for leases previously classified as operating leases applying IAS 17. These lease liabilities were measured at the present value of the remaining lease payments and discounted using entity-specific incremental borrowing as discussed further below. In general, a corresponding ROU asset was recognised for an amount equal to each lease liability, adjusted by the amount of any prepaid or accrued lease payment relating to the specific lease contract, as recognised on the balance sheet at 31 December 2018. In addition, we elected the practical expedient to account for lease and non-lease components together as a single combined lease component, which is applicable to all asset classes. We did not, however, elect the practical expedient related to using hindsight in determining the lease term as this was not relevant following our election of the modified retrospective approach.

In addition, we elect certain practical expedients on an ongoing basis, including the practical expedient for short-term leases and leases of low-value assets pursuant to which a lessee is permitted to make an accounting policy election by class of underlying asset not to recognise a lease liability and lease asset. A short-term lease is defined as a lease with a term of 12 months or less and does not include an option to purchase the underlying asset that the lessee is reasonably certain to exercise. We have applied these accounting policies to all asset classes in our portfolio and will recognise the lease payments for such short-term leases and leases of low-value assets within profit and loss on a straight-line basis over the lease term.

The standard has no impact on the actual cash flows. However, the standard requires the capitalisation, and subsequent depreciation, of costs that were previously expenses as paid, which impacts disclosures of cash flows within the cash flow statement. From 1 January 2019, the payments of leases representing the principal portion is classified as financing activities and the interest portion is classified in operating activities along with payments for short-term leases and leases of low-value assets.

Furthermore, from a lessor perspective, certain of our agreements that allow the customer to use, rather than purchase, our medical devices meet the criteria of being a lease in accordance with the new standard. While the amount of revenue and expenses recognised over the contract term will not be impacted, the timing of revenue and expense recognition will be impacted depending upon lease classification. We enacted appropriate changes to our business processes, systems and internal controls to support identification, recognition and disclosure of leases under the new standard.

We determine if an arrangement is or contains a lease at inception or when the terms and conditions of a contract are significantly changed. ROU assets and lease liabilities are recognised based on the present value of the future minimum lease payments over the lease term at the latter of our lease standard effective date for adoption or the lease commencement date. Variable lease payments that do not depend on an index or rate, such as variable common area rent maintenance charges and utility fees not known upon lease

commencement, are not included in determination of the minimum lease payments and will be expensed in the period in which the obligation for those payments is incurred. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement in determining the present value of future payments. The incremental borrowing rate represents an estimate of the interest rate we would incur at lease commencement to borrow the funds necessary to obtain an asset of similar value to the ROU asset over the term of a lease within a particular currency environment. We used the incremental borrowing rate available nearest to our adoption date for leases that commenced prior to that date. The ROU lease asset also includes any lease payments made in advance and excludes lease incentives. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. ROU assets are depreciated over the shorter of the asset's useful life or the lease term on a straight-line basis. Lease payments are allocated between the liability and finance costs. Finance costs are recorded as an expense in the Company statement of (loss) income over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability.

For additional information refer to "Note 11. Leases."

Prior to the adoption of IFRS 16, Leases, on 1 January 2019, we accounted for leases that transfer substantially all risks and rewards incident 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 ROU assets and amortised, using the straight-line method, over the life of the lease. In addition, scheduled rent increases and rent holidays are recognised on a straight-line basis over the term of the lease.

Share-Based Compensation.

We grant share-based incentive awards to directors, officers, key employees and consultants during each fiscal year. 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. The cost of equity-settled transactions is recognised in employee benefits expense, together with a corresponding increase in equity over the period in which the service and the performance conditions are fulfilled (the vesting period). The cumulative expense recognised for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Company's best estimate of the number of equity instruments that will ultimately vest. We issue new shares upon stock option exercises, otherwise issuance of stock for vesting of restricted stock, restricted stock units or exercises of stock appreciation rights 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. The social security contributions on employee share-based payment awards are accrued over the service period.

The following share-based incentive awards are offered by the Company:

- Share Appreciation Rights. A SAR confers upon an employee the contractual right to receive an amount of cash, share, or a combination of both that equals the appreciation in the Company's common share 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 share. The SARs may be settled in LivaNova shares and/or cash, as determined by LivaNova and as set forth in the individual award agreements. 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 on historical volatility.

- Restricted Share and Restricted Share Units. We may grant RS and RSUs at no purchase cost to the grantee. The grantees of unvested RSUs have no voting rights or rights to dividends. Sale or transfer of the stock and stock units is restricted until they are vested. The fair market value of service-based RS and RSUs is 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. We have the right to elect to pay the cash value of vested restricted share units in lieu of the issuance of new shares. Under our sharebased compensation plans we re-purchase a portion of these shares from our employees to permit our employees to meet their minimum statutory tax withholding requirements on vesting of their restricted share.

- Market and Performance-Based Restricted Share and Performance-Based Restricted Share Units. We may grant restricted share and restricted share units subject to market or performance conditions that vest based on the satisfaction of the conditions of the award. The fair market values of market condition-based awards are determined using the Monte Carlo simulation method. The Monte Carlo simulation method is subject to variability as several factors utilised must be estimated, including the derived service period, which is estimated based on our judgement of likely future performance and our share price volatility. The fair value of performance-based awards is determined using the market closing price on the grant date. Derived service periods and the periods charged with compensation expense for performance-based awards are estimated based on our judgement of likely future performance and may be adjusted in future periods depending on actual performance.

Income Taxes. The tax expense for the year comprises current and deferred tax. Current and deferred tax is recognised in profit or loss, except to the extent that it relates to items recognised in OCI or directly in equity. In this case, the tax is also recognised in OCI or directly in equity, respectively.

The income tax expense or benefit for the year is the tax payable on the current year's taxable income based on the applicable income tax rate adjusted by changes in deferred tax assets and liabilities attributable to temporary differences and to unused tax losses.

The current income tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting year. Management establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred taxes are recognised by the liability method for temporary differences between the carrying amount of assets and liabilities in the balance sheet and their tax base. They are measured at the tax rates that are expected to apply to the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date. Adjustments to deferred taxes resulting from changes in tax rates are recognised in profit or loss. A deferred tax asset is recognised for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilized. At each year-end, the Company reviews the recoverable value of deferred tax assets of tax entities holding significant loss carryforwards. This value is based, by tax entity, on the strategy for recoverability of the tax loss carryforwards. Deferred taxes are charged or credited directly to equity when the tax relates to items that are recognised directly in equity, such as gains and losses on cash flow hedges and actuarial gains and losses on defined benefit plan obligations. Deferred tax assets and liabilities are set off when they are levied on the same taxable entity by the same taxation authority and the entity has a legally enforceable right of set off. Deferred taxes are recognised for all temporary differences associated with investments in subsidiaries and associates, except to the extent that the Company is able to control the timing of the reversal of the temporary

difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax balances are not discounted.

Equity.

Ordinary Shares are classified as equity. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Where any group company purchases the Company's equity instruments, for example as the result of a share buy-back or a sharebased payment plan, the consideration paid, including any directly attributable incremental costs (net of income taxes) is deducted from equity attributable to the owners of LivaNova as treasury share until the shares are cancelled or reissued. Where such Ordinary Shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction costs and the related income tax effects, is included in equity attributable to the owners of LivaNova.

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 Company statement 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 judgement regarding future events.

Critical Estimates and Judgements.

The preparation of our financial statements in conformity with FRS 101 requires management to make judgements that affect the amounts reported in such financial statements and accompanying notes. These estimates and judgements are based on management's best knowledge of current events and actions we may undertake in the future. Actual results could differ materially from those estimates. Application of the following accounting policies requires certain judgements and estimates that have the potential for the most significant impact on our financial statements:

- Commitments and Contingencies. Due to the fact that legal proceedings and other contingencies are inherently unpredictable, our assessments involve significant judgement regarding future events. See "Note 15. Commitments and Contingencies."
- Taxes. We prepare and file our tax returns based on an interpretation of tax laws and regulations and record estimates based on these judgements and interpretations. Critical accounting judgments and estimates include such items as unrecognised deferred tax assets and the determination of uncertain tax positions. Our tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. See "Note 14. Income Tax (Expense) Benefit" and "Note 15. Commitments and Contingencies."
- Exceptional Items. Exceptional items are expense or income items which have been determined by management as being material by their size or incidence and are presented separately within the results of the Company. The determination of which items are disclosed as exceptional items will affect the presentation of profit measures and requires a degree of judgement. Details relating to exceptional items reported during the year are set out in "Note 19. Exceptional Items."
- Impairment of Investments in Subsidiaries. We performed impairment trigger assessments wherein we compared the net assets of our subsidiaries with their respective carrying values as of 31 December 2020. Where a trigger was identified, we performed impairment assessments utilizing the discounted cash flow models used in the assessment of our group CGUs for impairment. Refer to the consolidated financial statements "Note 12. Goodwill and Intangible Assets" under section "Impairment of Goodwill and Intangible Assets" for key assumptions.

Note 3. Property, Plant and Equipment

(in thousands)	Leasehold Improvements	Equipment, Furniture & Fixtures	Total
At 31 December 2020			
Gross amount	$ 1,667	$ 3,570	$ 5,237
Accumulated depreciation	(644)	(3,508)	(4,152)
Net amount	$ 1,023	$ 62	$ 1,085
At 31 December 2019			
Gross amount	$ 1,422	$ 3,241	$ 4,663
Accumulated depreciation	(466)	(3,154)	(3,620)
Net amount	$ 956	$ 87	$ 1,043

Changes during the year in the net amount of each category of property, plant and equipment are indicated below:

(in thousands)	Leasehold Improvements	Equipment, Furniture & Fixtures	Total
Net Amount at 31 December 2018	$ 1,062	$ 142	$ 1,204
Additions with currency translation	28	20	48
Depreciation	(134)	(75)	(209)
Net Amount at 31 December 2019	956	87	1,043
Additions with currency translation	230	39	269
Depreciation	(163)	(64)	(227)
Net Amount at 31 December 2020	$ 1,023	$ 62	$ 1,085

Depreciation costs charged to the Company statement of (loss) income, within operating expenses, totalled $0.2 million for the years ended 31 December 2020 and 31 December 2019.

Note 4. Intangible Assets

(in thousands)	Patents	Licenses	Software and Other	Total

(in thousands)	Patents	Licenses	Software and Other	Total
At 31 December 2020				
Gross amount	$ 8,170	$ 1,423	$ 8,148	$ 17,741
Accumulated amortisation	(8,170)	(1,395)	(7,319)	(16,884)
Net amount	$ -	$ 28	$ 829	$ 857
At 31 December 2019				
Gross amount	$ 7,472	$ 1,274	$ 9,876	$ 18,622
Accumulated amortisation	(7,472)	(1,274)	(6,357)	(15,103)
Net amount	$ -	$ -	$ 3,519	$ 3,519

The changes in the net carrying value of each class of intangible assets during the year are indicated below:

(in thousands)	Licenses	Software and Other	Total
Net amount at 31 December 2018	$ -	$ 971	$ 971
Additions with currency translation	-	2,931	2,931
Amortisation	-	(383)	(383)
Net Amount at 31 December 2019	-	3,519	3,519
Additions with currency translation	31	5,611	5,642
Impairment	-	(6,745)	(6,745)
Amortisation	(3)	(1,556)	(1,559)
Net Amount at 31 December 2020	$ 28	$ 829	$ 857

For information related to the impairment of software refer to "Note 12. Goodwill and Intangible Assets" in the consolidated financial statements.

Impairment of software was charged to the Company statement of (loss) income, within exceptional items, totalled $6.7 million for the year ended 31 December 2020.

Amortisation costs charged to the Company statement of (loss) income, within operating expenses, totalled $1.6 million and $0.4 million for the years ended 31 December 2020 and 31 December 2019, respectively.

Amortisation is charged on a straight-line basis. The amortisation periods for our finite-lived intangible assets as of 31 December 2020 were as follows:

	Minimum Life in Years	Maximum Life in Years
Licenses	5	5
Software and other	5	5

The amortisation periods for our finite-lived intangible assets as of 31 December 2019 were as follows:

	Minimum Life in Years	Maximum Life in Years
Software and other	3	5

Note 5. Investments in Subsidiaries

(in thousands)	Cost
Net amount at 31 December 2018	$ 3,029,177
Additions	77
Capital reimbursement	(3,000)
Impairment	(150,078)
Other	1,255
Currency translation	(11,025)
Net Amount at 31 December 2019	2,866,406
Additions	91,342
Impairment	(73,793)
Other	1,191
Currency translation	54,087
Net Amount at 31 December 2020	$ 2,939,233

(in thousands)	31 December 2020	31 December 2019
Gross amount	$ 3,163,104	$ 3,016,484
Accumulated impairment	(223,871)	(150,078)
Net book value	$ 2,939,233	$ 2,866,406

During 2020, we increased our investment in LivaNova Nederland N.V. by $47.7 million, included in additions in the table above. We also increased our investment in Sorin Group Italia S.r.l. by $43.6 million, included in additions in the table above, by purchasing shares from LivaNova Site Management S.r.l., which increased our ownership by 6%.

During 2020, we recorded an impairment of $73.8 million of our investment in LivaNova Canada Corp, based upon the current indication of fair value as of 31 December 2020 and taking into consideration the promissory note due from LivaNova Canada Corp. In the determination of fair value, we valued the Canada HV business at fair value less cost to sell and alternatively, valued the Canada business unrelated to HV that will not be sold at value in use. Refer to "Note 6. Financial Assets" for further information regarding the promissory note.

During 2019, we impaired our investment in LIVN UK Holdco Limited by $150.1 million, which is reflected in the table above and included in exceptional items in the Company statement of (loss) income. The impairment was due to a LIVN UK Holdco dividend that

resulted in a distribution of reserves and a consequential reduction in the value of our investment.

During 2019, we reduced our investments in LIVN US, 1 LLC, LIVN Luxco sarl and LivaNova Holding USA, Inc. and increased our investment in LivaNova USA, Inc., which resulted in a $3.0 million capital reimbursement shown in the table above.

The detail of investments in subsidiary undertakings as at 31 December 2020 is shown as follows (in thousands, except ownership percent):

	% Ownership[1]	31 December 2020	31 December 2019
LIVN UK Holdco Limited	42.07	$ 36,985	$ 36,985
LIVN Irischo Unlimited Company	100.00	401	401
LivaNova Canada Corp	100.00	-	73,733
LivaNova USA, Inc.	100.00	1,035,481	1,034,670
LivaNova Nederland N. V.	100.00	109,135	61,333
LivaNova Switzerland SA	100.00	6,318	6,315
Cyberonics Nederland CV	99.00	23,153	23,153
Cyberonics Holdings LLC	100.00	93	93
LivaNova Cayman Limited	100.00	950,020	950,020
LivaNova Hungary Limited Liability Company	100.00	100,202	100,202
Sorin Group Italia S.r.l.	98.98	657,589	561,340
LivaNova Site Management S.r.l.	86.42	19,856	18,161
		$ 2,939,233	$ 2,866,406

[1] The Company's voting right percentage is equal to its ownership percentage.

The Company had the following directly and indirectly owned subsidiaries as of 31 December 2020:

	Registered Office	Country of Incorporation	% Consolidated Group Ownership	Parent Name	Parent % Ownership
LivaNova PLC (Italian Branch)	Via Benigno Crespi 17 20159 Milan, Italy	Italy	100		
Caisson Interventional, LLC	6500 Wedgwood Rd., Maple Grove, MN 55311	U.S.	100	LivaNova USA, Inc.	100
CardiacAssist, Inc. Dba TandemLife	620 Alpha Drive, Ste 200, Pittsburgh, PA 15238	U.S.	100	LivaNova USA, Inc.	100
Corcym S.r.l.	Via Benigno Crespi, 17 - 20159 Milano, Italy	Italy	100	Sorin Group Italia S.r.l.	100
Cyberonics Holdings LLC	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100	LivaNova PLC	100
Cyberonics Latam SRL	Edificio B49, 51 Ave O, Zona Franca Coyo, Coyo-Alajeuela, Costa Rica 20113	Costa Rica	100	Cyberonics Spain S.L	100
Cyberonics Netherlands CV	100 Cyberonics Boulevard, Houston, TX 77058 USA	Netherlands	100	LivaNova PLC	99
				Cyberonics Holdings LLC	1
Cyberonics Spain SL	100 Cyberonics Boulevard, Houston, TX 77058 USA	Spain	100	CYBX Netherlands C.V.	100
Im Thera Medical, Inc.	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100	LivaNova USA, Inc.	100
LivaNova Australia PTY Limited	Tower 2, 123 St Georges Terrace Perth, WA 6000	Australia	100	LivaNova Nederland N.V.	100
LivaNova Austria GmbH	Millennium Tower, Handelskai 94-96, 1200 Wien	Austria	100	LivaNova Nederland N. V.	100
LivaNova Belgium NV	Ikaroslaan 83, 1930 Zaventem, Belgium	Belgium	100	LivaNova Nederland N.V.	100
LivaNova Brasil Comércio e Distribuição de Equipamentos Médico-hospitalares Ltda	Rua Liege, 54 - Vila Vermelha, 04298-070 - São Paulo - SP - Brasil	Brazil	100	Sorin Group Italia S.r.l.	100
LivaNova Canada Corp.	280 Hillmount Road, Unit 8, Markham, ON L6C 3A1, Canada	Canada	100	LivaNova PLC	100
LivaNova Cayman Limited	Cannon Place, Grand Cayman, Cayman Islands	Cayman Islands	100	LivaNova PLC	100
LivaNova Chile SpA	Santiago, Chile	Chile	100	LivaNova UK Limited	100
LivaNova Colombia Sas	Avenida Calle 80 No. 69-70 Bodega 37, Bogotá, Colombia	Colombia	100	Sorin Group Italia S.r.l.	100

	Registered Office	Country of Incorporation	% Consolidated Group Ownership	Parent Name	Parent % Ownership
LivaNova Deutschland GmbH	Lindberghstrasse 25. D - 80939 München, Germany	Germany	100	Sorin Group Italia S.r.l.	100
LivaNova España. S.L	Avenida Diagonal 123, planta 10, 08005, Barcelona, Spain	Spain	100	LivaNova Nederland N. V.	100
LivaNova Finland OY	c/o Kalliolaw Asianajotoimisto Oy, Södra kajen 12, 00130 Helsinki, Finland	Finland	100	Sorin Group Italia S.r.l.	100
LivaNova Holding S.r.l.	Via Benigno Crespi, 17 - 20159 Milano, Italy	Italy	100	Sorin Group Italia S.r.l.	100
LivaNova Hong Kong Limited	9/F, Wah Yuen Bldg, 149 Queen's Road, Central, Hong Kong, Hong Kong	Hong Kong	100	LivaNova Nederland N.V.	100
LivaNova Hungary Limited Liability Company	H-1062 Budapest, Váci út 1-3, A épüplet, 6. em.	Hungary	100	LivaNova PLC	100
LivaNova, Inc	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100	LivaNova USA, Inc.	100
LivaNova India Private Limited	603-A, Copia Corporate Suites, Building #09, Jasola District Centre, New Delhi, India 110025	India	100	LivaNova Nederland N.V.	100
LivaNova IP Limited	20 Eastbourne Terrace, London, England W2 6LG, United Kingdom	United Kingdom	100	LivaNova PLC	100
LivaNova Japan K.K.	11-1 Nagatacho 2 chome, Chiyodaku, Tokyo, 100-6110 Japan	Japan	100	LivaNova Nederland N.V.	100
LivaNova (Thailand) Ltd	4,4/5 Zen World Tower Level 12, Rajdamri Road, Pathumwan, Pathumwan, Bangkok, 10330, Thailand	Thailand	100	LivaNova Nederland N.V.	100
LivaNova (China) Medical Technology Co. Ltd	Room 3006, 30F, C Building, SML Centre, No. 610 Xujiahui Road, Huangpu District, Shanghai, 200025, China	China	100	LivaNova Holding S.r.l	100
LivaNova Malaysia Sdn. Bhd.	Level 10, Meara LGB 1Jalan Wan Kadir Taman Tun Dr. Ismail 60000, Kuala Lumpur, Malaysia	Malaysia	100	LivaNova Nederland N.V.	100
LivaNova Nederland N.V.	Westerdoksdijk 423, 1013 BX, Amsterdam, Netherlands	Netherlands	100	LivaNova PLC	100
LivaNova Norway AS	c/o AmestoAccounthouse AS, Smeltedigelen 1, 0195 Oslo, Norway	Norway	100	Sorin Group Italia S.r.l.	100
LivaNova Poland Sp. Z o.o.	Park Postepu Bud A UI. Postepu 21 PL-02 676 Warszawa, Poland	Poland	100	LivaNova Nederland N.V.	100
LivaNova SAS	200 Avenue de Paris, Châtillon, 92320, France	France	100	LivaNova Nederland N.V.	100
LivaNova Scandinavia AB	Djupdalsvägen 16, 192 51 Sollentuna, Sweden	Sweden	100	Sorin Group Italia S.r.l.	100
LivaNova Singapore Pte Ltd	The Adelphi, 1 Coleman Street, #10-07, Singapore 179803	Singapore	100	LivaNova Nederland N. V.	100
LivaNova Site Management S.r.l.	Via Benigno Crespi 17 20159 Milan, Italy	Italy	100	LivaNova PLC	86
				Sorin Group Italia S.r.l.	14
LivaNova Switzerland SA	Rue du Grand-Pont 12, 1003 Lausanne	Switzerland	100	LivaNova PLC	100
LivaNova Taiwan Co. Ltd	2F., No. 101, Songren Rd. Xinyi Dist., Taipei City, 11073, Taiwan (R.O.C.)	Taiwan	100	LivaNova Nederland N. V.	100
LivaNova Turkey Medikal Limited Sirketi	Nart E-office, Pol Center Ecza Sok. No.4 Levent Istanbul	Turkey	100	LivaNova Nederland N.V.	100
LivaNova UK Limited	1370 Montpellier Court, Gloucester Business Park, Gloucester, Gloucestershire, GL3 4AH, United Kingdom	United Kingdom	100	LivaNova Nederland N.V.	100
LivaNova USA, Inc.	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100	LivaNova PLC	100

	Registered Office	Country of Incorporation	% Consolidated Group Ownership	Parent Name	Parent % Ownership
LIVN Irishco 2 UC	Deloitte, 6 Lapps Quay, Cork, T12 TA48, Ireland	Ireland	100	LIVN UK Holdco Limited	100
LIVN Irishco Unlimited Company	Deloitte, 6 Lapps Quay, Cork, T12 TA48, Ireland	Ireland	100	LivaNova PLC	100
LIVN Luxco 2 sarl	15 Rue Edward Steichen L-2540 Luxembourg	Luxembourg	100	LIVN UK Holdco Limited	100
LIVN UK 2 Co Limited	20 Eastbourne Terrace, London, England W2 6LG, United Kingdom	United Kingdom	100	LIVN US 5, LLC	100
LIVN UK 3 Co Limited	No. 1 Colmore Square, Birmingham, B4 6HQ, United Kingdom	United Kingdom	100	LIVN US, LP	100
LIVN UK Holdco Limited	20 Eastbourne Terrace, London, England W2 6LG, United Kingdom	United Kingdom	100	LivaNova PLC	42
				LIVN UK 2 Co Limited	51
				LivaNova UK Limited	7
LIVN US 3, LLC	100 Cyberonics Boulevard. Houston, TX 77058 USA	U.S.	100	LivaNova USA, Inc.	100
LIVN US 5, LLC	100 Cyberonics Boulevard, Houston, TX 77058 USA	U.S.	100	LIVN US 3, LLC	100
LIVN US, LP	14401 West 65th Way, Arvada, CO 80004	U.S.	100	LivaNova, Inc.	83
				LIVN US 3, LLC	17
Sorin Group Czech Republic s.r.o	Na poriçi 1079/3a Nové Mesto Praha 110 00 Praha 1, Czech Republic	Czech Republic	100	Sorin Group Italia S.r.l.	100
Sorin Group Italia S.r.l.	Via Benigno Crespi, 17 - 20159 Milano, Italy	Italy	100	LivaNova PLC	99
				LivaNova Holding S.r.l.	1
Sorin Group Rus LLC	Marshal Proshlyakov str. 30 office 304 123458 Moscow, Russia	Russia	100	Sorin Group Italia S.r.l.	100

(1) As of 31 December 2020 the following subsidiaries were in liquidation: LIVN UK 3 Co Limited, LIVN Irishco Unlimited Company and Cyberonics Latam SRL.

Note 6. Financial Assets

The table below lists our non-current financial assets, including our investment in the equity instruments of Respicardia. Respicardia, a privately funded U.S. company, is held at cost, which we believe it is an appropriate estimate of fair value unless more recent information is available sufficient to measure fair value (in thousands):

(in thousands)	31 Dezember 2020	31 Dezember 2019
Due in more than 12 months:		
Investment in Respicardia	$ 17,706	$ 17,706
Note due from subsidiary(1)		87,811
	$ 17,706	$ 105,517

(1) Note due from subsidiary was classified as current at 31 December 2020.

Our current financial assets in the balance sheet include the following:

(in thousands)	31 December 2020	31 December 2019
Due in less than 12 months		
Due from subsidiaries(l)	$ 135,132	$ 213,286
Note due from subsidiary(2)	89,733	-
Due from Respicardia Inc.	791	642
Other	10	469
Expected credit loss provision(2)	(56,530)	-
	$ 169,136	$ 214,397

(1) LivaNova PLC, in the management of LivaNova centralized treasury and acting as in-house bank of the Group, loans excess cash to subsidiaries. Interest accrues and is paid quarterly at LIBOR plus 1.5% per annum. Principal is due on demand with 10 days notice.

(2) Note due from subsidiary represents a 6% promissory note, plus accrued interest, due from LivaNova Canada Corp. The note matures 27 November 2025. However, the note is presented as current as of 31 December 2020 as the note is expected to be settled within 12 months from 31 December 2020 as a result of entering into the HV Purchase Program. During 2020 we recorded an expected credit loss provision of $56.5 million to the note receivable based on our assessment of LivaNova Canada Corp.'s ability to repay the note.

Note 7. Trade Receivables and Expected Credit Loss Provision

Trade receivables consisted of the following:

(in thousands)	31 December 2020	31 December 2019
Trade receivables due from third parties	$ 291	$ 266
Trade receivables due from LivaNova subsidiaries[(1)]	4,439	6,374
Expected credit loss provision	(291)	(266)
Total	$ 4,439	$ 6,374

[(1)] Trade receivables due from subsidiaries are paid within 90 day's and no interest is charged

Trade receivables are reported net of the expected credit loss provision, the changes in which are provided below:

(in thousands)	Year ended 31 December 2020	Year ended 31 December 2019
Beginning of year	$ 266	$ 264
Additions	-	8
Currency translation gains/losses	25	(6)
End of year	$ 291	$ 266

Note 8. Derivative Financial Instruments

We enter into FX derivative contracts and entered into interest rate swap contracts to reduce the impact of foreign currency exchange rate and interest rate fluctuations on earnings and cash flow, for additional details refer to our accounting policy "Derivatives" included within "Note 2. Basis of Preparation, Use of Accounting Estimates and Significant Accounting Policies."

Freestanding FX Derivative Contracts

The gross notional amount of FX derivative contracts, not designated as hedging instruments, outstanding at 31 December 2020 and 31 December 2019 was $352.6 million and $338.0 million, respectively. These derivative contracts are designed to offset the FX effects in earnings of various intercompany loans and trade receivables.

The amount and location of the gains (losses) in the Company statement of (loss) income related to derivative instruments, not designated as hedging instruments, are as follows (in thousands):

		Year Ended 31 December	
Derivatives Not Designated as Hedging Instruments	Location	2020	2019
Foreign currency exchange rate contracts	Foreign exchange and other gains (losses)	$ (16,600)	$ 3,061

Presentation in Financial Statements

The amount of gains (losses) and location of the gains (losses) in the Company statement of (loss) income and AOCI related to interest rate swap derivative instruments designated as cash flow hedges are as follows (in thousands):

		Year Ended 31 December 2020	
	Gross Gains Recognised in OCI on Effective Portion of Derivative	Effective Portion of Losses on Derivative Reclassified from:	
Derivatives in Cash Flow Hedging Relationships	Amount	Location	Amount
Interest rate swap contracts	$ -	Interest expense	$ (113)

		Year Ended 31 December 2019	
	Gross Gains Recognised in OCI on Effective Portion of Derivative	Effective Portion of Losses on Derivative Reclassified from:	
Derivatives in Cash Flow Hedging Relationships	Amount	Location	Amount
Interest rate swap contracts	$ -	Interest expense	$ (92)

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

31 December 2020	Asset Derivatives		Liability Derivatives	
Derivatives Designated as Hedging Instruments	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
FX derivative contracts	Current financial derivative assets	$ 1,998	Current financial derivative liability	$ 14
FX derivative contracts	Current financial derivative liability	895		
Total derivatives designated as hedging instruments		2,893		14
Derivatives Not Designated as Hedging Instruments				

31 December 2020	Asset Derivatives		Liability Derivatives	
Derivatives Designated as Hedging Instruments	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Interest rate swap contracts			Current financial derivative liabilities	74
FX derivative contracts	Current financial derivative assets	55	Current financial derivative liabilities	4,073
Total derivatives not designated as hedging instruments		55		4,147
Total derivatives		$ 2,948		$ 4,161

31 December 2019	Asset Derivatives		Liability Derivatives	
Derivatives Designated as Hedging Instruments	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Interest rate swap contracts			Current financial derivative liabilities	$ 313
Interest rate swap contracts			Non-current financial derivative liabilities	61
Total derivatives designated as hedging instruments				374
Derivatives Not Designated as Hedging Instruments				
FX derivative contracts	Current financial derivative assets	$ 383	Current financial derivative liabilities	3,273
FX derivative contracts	Current financial derivative liabilities	413	Current financial derivative assets	33
Total derivatives not designated as hedging instruments		796		3,306
Total derivatives		$ 796		$ 3,680

Note 9. Equity

Share capital

Our authorised share capital is as follows:

(in number of shares)	31 December 2020	31 December 2019
Authorised share capital, Ordinary Shares of £1 each, unlimited shares authorised		
Issued[(1)]	49,447,473	49,411,016
Outstanding	48,655,863	48,443,830

(1) Allotted, fully paid and issued.

Preferred shares

LivaNova may issue preferred shares by special resolution or by determination by the Board of LivaNova.

Treasury shares

Shares held by the EBT are issued to employees and directors at exercise of stock-based compensation grants. The balance of shares in the EBT are reported as treasury shares. We did not issue any additional shares to our EBT during the years ended 31 December 2020 or 31 December 2019.

Reserves

Merger relief reserve.

On 19 October 2015 pursuant to the Mergers, the merger relief reserve was recognised in the amount of $2,649.6 million as a result of the share exchange transaction of the Sorin and Cyberonics Mergers with and into the Company. During the year ended 31 December 2016, the Company capitalised $2,583.1 million of the reserves in order to create distributable reserves in the accounts the Company. The reserves may be used for any corporate purpose of the Company for which realized profits are required. Further information relating to the Mergers is detailed in "Note 1. Nature of Operations."

Accumulated Other Comprehensive Income (Loss)

The table below presents the change in each component of AOCI, net of tax and the reclassifications out of AOCI into net earnings:

(in thousands)	Change in unrealised gain (loss) on derivatives	Foreign currency translation adjustments	Revaluation of net liability (asset) for defined benefits	Total
Ending Balance - 31 December 2018	$ (157)	$ 14,372	$ (18)	$ 14,197
Reclassification of loss from accumulated other comprehensive income, before tax	-	(8,732)	(16)	(8,748)
Tax effect	-	-	3	3
Reclassification of loss from accumulated other comprehensive income, after tax	-	(8,732)	(13)	(8,745)
Reclassification of gain from accumulated other comprehensive income, before tax	92	-	-	92
Ending Balance - Tax effect	(21)	-	-	(21)

(in thousands)	Change in unrealised gain (loss) on derivatives	Foreign currency translation adjustments	Revaluation of net liability (asset) for defined benefits	Total
Ending Balance - Reclassification of gain from accumulated other comprehensive income, after tax	71	-	-	71
Ending Balance - Net other comprehensive income (loss), net of tax	71	(8,732)	(13)	(8,674)
Ending Balance - 31 December 2019	(86)	5,640	(31)	5,523
Reclassification of gain (loss) from accumulated other comprehensive income, before tax	-	43,267	(4)	43,263
Tax effect	-	-	-	-
Reclassification of gain (loss) from accumulated other comprehensive income, after tax	-	43,267	(4)	43,263
Reclassification of gain from accumulated other comprehensive income, before tax	113	-	-	113
Tax effect	(27)	-	-	(27)
Reclassification of gain from accumulated other comprehensive income, after tax	86	-	-	86
Net other comprehensive income (loss), net of tax	86	43,267	(4)	43,349
Ending Balance - 31 December 2020	$ -	$ 48,907	$ (35)	$ 48,872

Note 10. Financial Liabilities

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

	31 December 2020	31 December 2019
2019 Debt Facility[1]	$ -	$ 184,275
2017 European Investment Bank[1]	-	103,570
2014 European Investment Bank[1]	-	28,053
Notes payable to LivaNova subsidiaries[2]	595,077	85,239
Total long-term facilities	595,077	401,137
Less current portion of long-term debt	-	(71,722)
Total long-term debt	$ 595,077	$ 329,415

[1] On 10 June 2020, our wholly owned subsidiary, LivaNova USA, Inc., entered into a senior secured term loan (the Term Loan) with funds managed by affiliates of Ares Management Corporation. In addition, on 17 June 2020, LivaNova USA, Inc., issued 3.00% cash exchangeable senior notes (the Notes) by private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended The Company used the net proceeds from the Term Loan, together with a portion of the net proceeds of the Notes, to repay outstanding indebtedness under the Company's 2017 European Investment Bank loan, the 2014 European Investment Bank loan, and the 2019 Debt Facility.

[2] On 15 October 2020, LivaNova PLC entered into a $509.8 million Promissory Note with LivaNova USA, Inc. at 4.75% fixed interest rate per annum with accrued interest and principal due 14 October 2030. This note was subsequently assigned to. LivaNova Hungary Limited Liability Company. On 3 July 2020 LivaNova PLC entered into a $85.3 million Promissory Note with LIVN UK Holdco Limited at 0.56% fixed interest rate per annum with accrued interest and principal due 30 September 2025.

The outstanding principal amount of current debt consisted of the following (in thousands):

	31 December 2020	31 December 2019
Due to LivaNova subsidiaries[1]	$ 299,192	$ 262,182
Short-term facilities	21	73
Total short-term facilities	299,213	262,255
Current portion of long-term debt	-	71,722
Total current debt	$ 299,213	$ 333,977

[1] LivaNova PLC, in the management of LivaNova centralized treasury and acting as in-house bank of the Group, holds cash on deposit from subsidiaries. Interest accrues and is paid quarterly on balances at LIBOR less 0.5%.

On 10 June 2020, the Company entered into a $450.0 million five-year Term Loan through our wholly owned subsidiary LivaNova USA, Inc., with funds managed by affiliates of Ares Management Corporation, as administrative and collateral agent. The obligations under the Term Loan are guaranteed by LivaNova PLC and we are subject to the Term Loan's covenants. Refer to "Note 19. Financial Liabilities" in the consolidated financial statements for further information regarding the Term Loan and the covenants.

For information regarding cash movements associated with the consolidated group accounts' third party long-term debt for the year ended 31 December 2020 and 2019 refer to "Note 19. Financial Liabilities" in the consolidated financial statements.

Interest expense.

Interest expense of $15.0 million and $18.1 million for the years ended 31 December 2020 and 31 December 2019, respectively, consisted primarily of interest on our debt facilities. Refer to the Company statement of (loss) income. Interest expense associated with subsidiary debt amounted to $6.9 million and $7.1 million for the years ended 31 December 2020 and 31 December 2019, respectively.

Note 11. Leases

We have leases primarily for (i) real estate, including office space and manufacturing, warehouse and research and development facilities and (ii) vehicles. Our leases have remaining lease terms up to 4 years, some of which include options to extend the leases, and some of which include options to terminate the leases at our sole discretion.

Reconciliation of Lease Commitment and Lease Liability

The following table presents the reconciliation of total operating lease commitments disclosed in the Company financial statements for the year ended 31 December 2018 and the lease liabilities recognised at 1 January 2019 on adoption of IFRS 16 (in thousands).

Operating lease commitments disclosed at 31 December 2018	$ 6,752
Add: Impact of practical expedient to account for lease and non-lease components as a single combined lease component	1,160
Undiscounted lease liability	7,912
Discounting (weighted average incremental borrowing rate of 1.6%)	(362)
Lease liabilities recognised on adoption of IFRS 16 at 1 January 2019	$ 7,550

Right-of-Use Assets and Lease Liabilities

The movement in the ROU assets and lease liabilities since adoption by class of assets is as follows (in thousands):

	Real Estate	Vehicles	Right-of-Use Assets	Lease Liabilities
Balance as of 1 January 2019	$ 7,612	$ 64	$ 7,676	$ 7,550
Additions	-	181	181	181
Depreciation expense	(1,564)	(77)	(1,641)	-
Interest expense	-	-	-	109
Lease payments	-	-	-	(1,739)
Currency translation adjustments	85	1	86	82
Balance as of 31 December 2019	6,133	169	6,302	6,183
Additions	1,329	165	1,494	1,494
Depreciation expense	(1,886)	(88)	(1,974)	-
Interest expense	-	-	-	119
Lease payments	-	-	-	(1,978)
Currency translation adjustments	172	7	179	301
Balance as of 31 December 2020	$ 5,748	$ 253	$ 6,001	$ 6,119

Contractual maturities of our lease liabilities as of 31 December 2020 are as follows (in thousands):

2021	$ 2,114
2022	1,401
2023	969
2024	1,150
2025	632
Thereafter	190
Total lease payments	6,456
Less: Amount representing finance charges	(337)
Net present value of lease liabilities	$ 6,119

Lease Payments not Recognised as a Liability

We have elected not to recognise a lease liability for short- term leases (leases with an expected term of 12 months or less) or for leases of low value assets. Payments made under such leases are expensed on a straight-line basis. In addition, certain variable lease payments are not permitted to be recognised as lease liabilities and are expensed as incurred. Expenses recognised during 2019 relating to payments not included in the measurement of lease liabilities is as follows (in thousands):

Short-term leases	$ 53
Lease of low value	32
Variable lease payments	69
	$ 154

Lease payments of approximately $2.0 million were made during the year ended 31 December 2020 in connection with lease agreements of which $1.9 million represents the principal portion classified in financing activities and $0.1 million for interest classified in operating activities.

Note 12. Other Payables

(in thousands)	31 December 2020	31 December 2019
Other accrued expenses	$ 3,753	$ 4,839
Other current liabilities with subsidiaries	2,303	140
Other liabilities	1,798	361
Accrued expenses- employee-related charges	1,724	2,886
Other amounts due to health and social security institution	674	886
Amounts due to employees	572	97
CRM purchase price adjustments payable to MicroPort Scientific Corporation	-	14,891
Total	$ 10,824	$ 24,100

Note 13. Share-Based Incentive Plans

Share-Based Incentive Plans

On 16 October 2015, we approved the adoption of the Company's 2015 Plan, which was previously approved by the Board of the Company on 14 September 2015 subject to such shareholder approval. The 2015 Plan was adopted in order to facilitate the grant of cash and equity incentives to non-employee directors and employees (including our named executive officers) of the Company and certain of our affiliates and to enable the Company and certain of our affiliates to obtain and retain services of these individuals. The Plan became effective as of 19 October 2015. Stock-based awards may be granted under the 2015 Plan in the form of stock options,

SARs, RS, RSUs and other stock-based awards. As of 31 December 2020, there were approximately 3,575,752 shares available for future grants under the 2015 Plan.

Share Options and Share Appreciation Rights

	Year Ended 31 December			
	2020		2019	
Options and SARs	Number of Optioned Shares	Wtd. Avg. Exercise Price	Number of Optioned Shares	Wtd. Avg. Exercise Price
Exercised	5,552	$ 49.38	8,652	$ 62.91
Outstanding - end of year	807,630	$ 61.23	693,813	$ 69.99

The weighted average remaining contractual life for the share options and SARs outstanding at 31 December 2020 and 31 December 2019 was 7.0 years and 6.4 years, respectively.

The aggregate intrinsic value of the options and SARs outstanding at 31 December 2020 and 31 December 2019 was $10.4 million and $8.5 million. respectively. The aggregate intrinsic value of options and SARs is based on the fair market value of the underlying share at the end of the year using the difference between the market closing share price, and exercise price for in-the-money awards.

The range of exercise prices for options and SARs outstanding at year end are categorised in exercise price ranges as follows:

Outstanding Options	31 December 2020	31 December 2019
$41-50	383,638	136,021
$51-60	176,337	192,560
$61-70	7,653	91,004
$71-80	11,050	11,050
$81-90	107,552	122,946
$91-100	118,129	135,521
$101-110	2,295	3,500
$121-130	976	1,211
Total	807,630	693,813

Restricted Share and Restricted Share Units Awards

The following tables detail the activity for service-based restricted share and restricted share unit awards:

	Year Ended 31 December			
	2020		2019	
	Number of Shares	Wtd. Avg. Grant Date Fair Value	Number of Shares	Wtd. Avg. Grant Date Fair Value
Non-vested at end of year	222,527	$ 55.46	163,344	$ 78.47

	Year Ended 31 December	
(in thousands)	2020	2019
Aggregate fair value of service-based share grants that vested during the year (in thousands)	$ 5,878	$ 5,082

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

	Year Ended 31 December			
	2020		2019	
	Number of Shares	Wtd. Avg. Grant Date Fair Value	Number of Shares	Wtd. Avg. Grant Date Fair Value
Non-vested at end of year	275,841	$ 54.16	175,211	$ 75.39

	Year Ended 31 December	
(in thousands)	2020	2019
Aggregate fair value of performance-based share grants that vested during the year	$ 886	$ 795

Note 14. Income Tax (Expense) Benefit

Income tax (expense) benefit consists of the following:

	Year Ended 31 December	
(in thousands)	2020	2019
Current tax		
United Kingdom	$ 881	$ 8,821
Non-United Kingdom	740	(594)
	1,621	8,227
Deferred tax		
United Kingdom	(19,142)	11,701
Non-United Kingdom	(260)	78
	(19,402)	11,779
	$ (17,781)	$ 20,006

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 tax (expense) benefit:

	Year Ended 31 December	
	2020	2019
Statutory tax rate at UK rate	19.0 %	19.0 %

	Year Ended 31 December	
	2020	2019
Change in tax rate[1]	1.7	(1.5)
Permanent differences	(0.3)	(1.0)
Distribution of subsidiary earnings	5.9	43.4
Change in uncertain tax positions	-	1.7
Tax on UK CFC interest	0.1	5.7
Impairment	(9.3)	(41.3)
Reserves for credit losses	(7.1)	-
Equity compensation	-	1.6
Other, net	1.7	1.3
Effective tax rate	11.7 %	28.9 %

[1] The change in tax rate for 2020 was primarily due to NOLs generated during 2020 net of group relief being remeasured to a tax rate of 17% from 19%.

Deferred income tax assets and liabilities are summarised as follows:

		Activity During the Year Ended 31 December 2020			
(in thousands)	31 December 2020	Company Statement of (Loss) Income	Tax Rate Change[1]	Shareholders' Equity	31 December 2019
Net operating loss carryforwards	$ 35,410	$ 12,427	$ 2,401	$ -	$ 20,582
Accruals and reserves	66	7	-	-	59
Share-based compensation	4,702	760	328	(115)	3,729
Lease assets and other	5,178	3,408	87	(27)	1,710
Total deferred tax assets	45,356	16,602	2,816	(142)	26,080
Lease liabilities and other	1,176	(167)	207	(47)	1,183
Total deferred tax liabilities	1,176	(167)	207	(47)	1,183
Total deferred tax assets, net	$ 44,180	$ 16,769	$ 2,609	$ (95)	$ 24,897

[1] In the Spring Budget 2020, the UK Government announced that from 1 April 2020 the corporation tax rate would remain at 19% (rather than reduced to 17%, as previously enacted). The new law was substantively enacted on 17 March 2020.

		Activity During the Year Ended 31 December 2019		
(in thousands)	31 December 2019	Company Statement of (Loss) Income	Shareholders' Equity	31 December 2018
Net operating loss carryforwards	$ 20,582	$ 9,438	$ -	$ 11,144
Accruals and reserves	59	[1]	-	60
Share-based compensation	3,729	2,183	(2,132)	3,678
Lease assets and other	1,710	1,350	(29)	389
Total deferred tax assets	26,080	12,970	(2,161)	15,271
Lease liabilities and other	1,183	1,183	-	-
Total deferred tax liabilities	1,183	1,183	-	-
Total deferred tax assets, net	$ 24,897	$ 11,787	$ (2,161)	$ 15,271

Deferred tax assets have not been recognised with respect of the following items:

(in thousands)	31 December 2020	31 December 2019
Tax loss carryforwards (tax effected)	$ 8,125	$ 10,531

For losses incurred after April 2017 in the UK, the Company anticipates a recoverability of these operating loss carryforwards beginning in 2025 as the Company expects an increase in taxable income due to the full amortization of certain intangible assets. The Company is relying on estimated future income projections and judgement on the growth of the projected income for the recoverability of the deferred tax assets corresponding the NOLs. The Company estimates it will be able to recover its tax loss in less than 12 years through UK Group relief, as the UK Group will realize substantially an increase of taxable income as a result of increased revenues from royalty income and decreased amortization of intangible assets beginning in 2025.

In the Spring Budget 2021, the UK Government announced that the corporation tax rate would increase to 25% The new law will be substantively enacted in July 2021. As the proposal to raise the rate from 19% to 25% had not been substantively enacted at the balance sheet date, its effects are not included in these financial statements. However, it is likely that the overall effect of the change, had it been substantively enacted by the balance sheet date, would be to increase the tax benefit for the period by $12.7 million and increase the deferred tax asset by $12.7 million. In addition to deferred tax items in the UK measured at 19%, there are Italian deferred tax items measured at 24%.

Uncertain Tax Positions

Tax authorities may disagree with certain positions we have taken and assess additional taxes. We regularly assess the likely outcome 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 Company statement of (loss) income, financial position or cash flows. As of 31 December 2018, we had UK uncertain tax positions, including penalty and interest, of $1.2 million. This uncertain tax position was released as of 31 December 2019.

Note 15. Commitments and Contingencies

Refer to “Note 27. Commitments and Contingencies” of the LivaNova consolidated financial statements in this UK Annual Report.

Note 16. Related Parties

Interests in subsidiaries are set out in "Note 5. Investments in Subsidiaries." Receivables from subsidiaries are set out in "Note 6. Financial Assets." Refer to the consolidated financial statements "Note 30. Related Parties" for key management personnel and related parties. Refer to consolidated financial statements "Note 14. Financial Assets" for related party financial assets.

Note 17. Company Statement of (Loss) Income - Expenses by Nature

	Year Ended 31 December	
(in thousands)	2020	2019
Revenue	$ 34,909	$ 17,773
Cost of materials and services used	(55,485)	(44,436)
Personnel expense	(34,221)	(35,121)
Expected credit loss provision[(1)]	(56,530)	-
Impairments of investments[(2)]	(73,793)	(150,078)
Amortisation and depreciation	(3,733)	(2,208)
Impairment of intangible assets[(3)]	(6,745)	-
Interest expense	(15,042)	(18,063)
Income from subsidiary undertakings	47,606	158,090
Interest income	8,419	6,178
Foreign exchange and other gains (losses)	2,457	(1,424)
Loss before taxes	(152,158)	(69,289)
Income tax benefit	17,781	20,006
Loss for the year	$ (134,377)	$ (49,283)

(1) During 2020, we recorded an expected credit loss provision of $ 56.5 million to the promissory note receivable from LivaNova Canada Corp. refer to "Note 6. Financial Assets" for further information.

(2) During 2020, we impaired our investment in LivaNova Canada Corp. by $73.8 million, and during 2019, we impaired our investment in LIVN UK Holdco Limited by $150.1 million, refer to "Note 5. Investments in Subsidiaries" for further information.

(3) For information related to the impairment of intangible assets refer to "Note 12. Goodwill and Intangible Assets" in the consolidated financial statements.

Note 18. Employee and Key Management Compensation Costs

Details of directors' remuneration are included in the Directors' Remuneration Report on pages 50 to 70, which forms part of these financial statements.

	Year Ended 31 December	
(in thousands)	2020	2019
Wages and salaries	$ 14,919	$ 13,309
Share-based payments	9,197	13,060
Other employee costs	10,105	8,752
	$ 34,221	$ 35,121

Employee numbers

The average monthly employee numbers on a full-time equivalent basis, including executive directors were 92 and 68 for the years ended 31 December 2020 and 31 December 2019. Our employees are principally engaged in Corporate activities.

Note 19. Exceptional Items

The following exceptional items are included within operating loss (in thousands):

	Year Ended 31 December	
(in thousands)	2020	2019
Expected credit loss provision	$ 56,530	$ -
Investment write-down	73,793	150,078
Impairment of long-lived assets	6,745	-
Merger and integration expenses	2,419	5,536
Restructuring expenses	1,197	3,099
	$ 140,684	$ 158,713

Expected credit loss provision.

During 2020, we recorded an expected credit loss provision of $56.5 million to the promissory note receivable from LivaNova Canada Corp., refer to "Note 6. Financial Assets" for further information.

Investment write-down.

During 2020, we impaired our investment in LivaNova Canada Corp, by $73.8 million based upon the current indication of fair value as of 31 December 2020, which is shown in the table above and included in exceptional items in the Company statement of (loss) income. During 2019, we impaired our investment in LIVN UK Holdco Limited by $150.1 million, which is shown in the table above and included in exceptional items in the Company statement of (loss) income. The impairment was due to a LIVN UK Holdco Limited dividend that resulted in a distribution of reserves and a consequential reduction in the value of our investment.

Impairment of long-lived assets.

Refer to "Note 12. Goodwill and Intangible Assets" in the consolidated financial statement for an explanation of the impairment.

Merger and integration Expenses.

Merger and integration expenses consist of costs associated with our Merger and business combinations. Such costs primarily include computer systems integration efforts, organizational structure integration, synergy and tax planning. While Merger and integration costs continue into fiscal year 2021, we expect these costs to decline over time.

Restructuring Expenses.

We have initiated several restructuring plans to leverage economies of scale, streamline distribution and logistics and strengthen operational and administrative effectiveness in order to reduce overall costs. We identify costs incurred and liabilities assumed for the restructuring plans. Refer to "Note 10. Restructuring" of the LivaNova consolidated financial statements in this UK Annual Report for more details.

Note 20. Auditors' Remuneration

	Year Ended 31 December	
(in thousands)	2020	2019
Fees payable to the Company's Auditors and its associates for the audit of parent company financial statements	$ 80	$ 74

Note 21. Subsequent Events

In April 2021, Zoll Medical Corporation acquired Respicardia. As a result of the acquisition we received proceeds of $23.1 million for our investment and loan receivable with carrying values of $17.7 million and $0.8 million as of 31 December 2020, respectively. The Company recorded a gain of $4.6 million to be recorded during fiscal year 2021 to adjust the investment and loans receivable to fair value.

The following definitions apply throughout this UK Annual Report (other than in the Financial Statements) unless the context requires otherwise:

ACS	Advanced Circulatory Support
AGM	Annual General Meeting
Anti-Kickback Statute	the U.S. federal Anti-Kickback Statute
Auditor	PricewaterhouseCoopers LLP, the Company's independent UK statutory auditor
Audit Committee	Audit and Compliance Committee
Award Value	the equity award value
BPF	Business Performance Factor
Brexit	the UK government's process to withdraw from the EU
business unit	LivaNova's two principal business units, Neuromodulation and Cardiovascular
Caisson	Caisson Interventional, LLC.
CARES Act	Coronavirus Aid, Relief and Economic Security Act
CCPA	California Consumer Privacy Act
CDC	Centers for Diseases Control and Prevention
CECs	Comprehensive Epilepsy Centers
CEO	Chief Executive Officer
CE Mark	certification demonstrating 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)
CFC	the UK's Controlled Foreign Company
CFO	Chief Financial Officer
CGUs	Cash Generating Units
closing price	the most recent closing price of an ordinary share of our stock on the Nasdaq as of the grant date
CMS	the Centers for Medicare and Medicaid Services
CODM	the Chief Operating Decision Maker
Company	LivaNova PLC, a company incorporated in England and Wales
Companies Act	the Companies Act 2006 of England and Wales
CRM	Cardiac Rhythm Management business
Cyberonics	Cyberonics, Inc., a Delaware corporation, including (whether the context requires) its subsidiaries and subsidiary undertakings
Cyberonics merger	the merger of Merger Sub with and into Cyberonics, with Cyberonics continuing as the surviving company and a wholly owned subsidiary of the Company
Data Protection Directive	the Directive 95/46/EC
DEFRA	UK Department for Environment, Food and Rural Affairs
D.S.O.	Days of Sales Outstanding
DTC	Depository Trust & Clearing Corporation
DTD	Difficult-to-Treat Depression
€	the Euro
EC	the European Commission
eGRID	U.S. Emissions & Generation Resource Integrated Database
E&I	Ethics & Integrity
EIB	European Investment Bank

EIR	Effective Interest Rate
EPA	the U.S. Environmental Protection Agency
EPS	Earnings Per Share
ESG	Environmental, Social and Governance
ESG Task Force	a cross-functional team of leaders focused on establishing a comprehensive program optimizing our environmental, social and governance efforts
EU	the European Union
False Claims Act	the U.S. Federal False Claims Act
FCF	Free Cash Flow
FCPA	the U.S. Foreign Corrupt Practices Act of 1977
FDA	Food and Drug Administration
FIFO	First-In First-Out
FX	Foreign Exchange
GBP	British Pound Sterling
£	British Pound Sterling
GDPR	General Data Protection Regulation
GHG	Greenhouse Gas
GROUP	LivaNova PLC, a company incorporated in England and Wales
HAN	Health Advisory Notice
HCP	Healthcare Provider
Highlife	Highlife S.A.S.
HIPAA	the U.S. Health Insurance Portability and Accountability Act of 1996
HITECH	the U.S. Health Information Technology and Clinical Health Act
HLM	Heart-Lung Machine
HV Purchase Agreement	Purchase Agreement, as amended, with Mitral Holdco S.à r.l., controlled by funds advised by Gyrus Capital S.A., a Swiss private equity firm, provides for the divestiture of LivaNova's Heart Valve business
IDE	Investigational Device Exemption
IEA	International Energy Agency
IFRS	International Financial Reporting Standards, as adopted by the EU
ImThera	ImThera Medical, Inc.
IRC	the U.S. Internal Revenue Code
IPR&D	In process research and development
ISO	the International Standards Organisation
IRS	the U.S. Internal Revenue Service
ISDA	International Swaps and Derivatives Association, Inc.
KPI	Key Performance Indicator
LIFE	LivaNova International Fellowship (LIFE) Corporate Social Initiative Program
LivaNova	the Company and its subsidiaries and subsidiary undertakings, including (where the context so requires) Cyberonics and Sorin prior to the Mergers becoming effective
LSE	the London Stock Exchange plc
LSM	LivaNova Site Management S.r.l.
LTIP	Long Term Incentive Plan
LWN	LivaNova Women's Network
MADRS	Montgomery-Asberg Depression Rating Scale
MDR	Medical Device Reporting regulations
measurement dates	the end of the three-year phase-in period and on the last day of each financial year thereafter
Medical Devices Regulation	proposals for the revision of the EU regulatory framework for medical devices which would replace the Medical Devices Directive and the Active Implantable Medical Devices Directive
Merger	the business combination of Cyberonics and Sorin
MICS	minimally invasive cardiac surgery
MRI	Magnetic Resonance Imaging
MHLW	the Ministry of Health, Labour and Welfare of Japan
MMWR	Morbidity and Mortality Weekly Report
Nasdaq	the Nasdaq Global Market
NCD	CMS non-coverage determination
NCG	Nominating and Corporate Governance Committee
NEOs	Non-executive Officers
NOLs	the Net Operating Losses

NTM	NonTuberculous Mycobacterium
OCI	Other Comprehensive Income
Ordinary Shares	Ordinary Shares of £1,00 each in the capital of the Company
OSA	Obstructive Sleep Apnea
our	LivaNova Plc collectively with its subsidiaries
PAL	the Pharmaceutical Affairs Law of Japan
Pearl Meyer	Pearl Meyer & Partners, LLC, an independent compensation consultant with an international scope
PMA	Pre-Market Approval
PP&E	Property, Plan & Equipment
PRT	Phospholipid Reduction Treatment
PSU	Performance Stock Units
QSR	the U.S. FDA's Quality System Regulation under section 520 of the U.S. FDCA
REACH	European Union Registration, Evaluation, Authorisation and Restriction of Chemicals
Restructuring Plan	any of the restructuring plans initiated by LivaNova after consummation of the Mergers in October 2015
R&D	Research and Development
ROIC	return on investment capital
ROU	right-of-use
RSUs	Restricted Stock Units;
rTSR	relative Total Shareholder Return
SARs	Stock Appreciation Rights
SDRT	the UK stamp duty reserve tax
SEC	the U.S. Securities and Exchange Commission
SECR	Streamlined Energy and Carbon Reporting
SG&A	Selling, General and Administrative
shares	LivaNova's Ordinary Shares of £1 per share
Sorin	Sorin S.p.A., a joint stock company organised under the laws of Italy, including (where the context so requires), its subsidiaries and subsidiary undertakings
Sorin merger	the merger of Sorin with and into the Company, with the Company continuing as the surviving company
STIP	Short Term Incentive Plan
TAU	Treatment as Usual
TFR	severance indemnity
the Company	• LivaNova Plc collectively with its subsidiaries
the Plans	LivaNova's 2015 and 2016 Reorganization Plans initiated October 2015 and March 2016, respectively, in conjunction with the completion of the Cyberonics and Sorin merger;
the Public Administrations	the Italian Ministry of the Environment and other Italian government agencies
Third Party Code of Conduct	minimum standards LivaNova requires of all LivaNova third parties when doing business with us
TMVR	Transcatheter Mitral Valve Replacement
TRBD	Treatment-resistant bipolar depression
TSR	Total shareholder return
UK	the United Kingdom
UK Bribery Act	• the UK Bribery Act of 2010
U.S.	the United States of America
USD	the U.S. dollar
US GAAP	the accounting principles generally accepted in the U.S.
VNS	Vagus Nerve Stimulation
WACC	Weighted Average Cost of Capital
we	LivaNova Plc collectively with its subsidiaries
WRI	World Resource Institute
$	U.S. dollars
2015 Plan	the LivaNova PLC 2015 Incentive Award Plan
2020 LTIP	2020 Long-Term Incentive Program
2020 rTSR Peer Group	peer group of 30 companies selected by the Committee's compensation consultant
3T device	3T Heater-Cooler device