



life

2018 Year in Review

Life.

It's a journey filled with opportunities and achievements, but also challenges and adversity. When people become patients, LivaNova is there, providing innovation that matters to improve quality of life.

We've transformed our business to focus on the head and the heart. We're working every day to advance the standard of care through neuromodulation and cardiovascular products and therapies, today and in the future.

We do it all for life—saving a life, extending a life, improving a life—one patient at time.

Dear Shareholder:

LivaNova is built on a relentless commitment to improve life for patients worldwide. We advanced that commitment in 2018, continuing the transformation of our company that began in 2017. We delivered strong operating performance, built our business through acquisition and reached important milestones in our strategic portfolio initiatives to drive long-term growth. We entered 2019 in an excellent position to shape our future through neuromodulation and cardiovascular leadership and innovation.

Transformation – a word that best describes LivaNova’s remarkable and busy 2018. We are a leading medical device innovator and remain focused on the “head and heart,” but we had a different look leaving 2018. We advanced our strategy of focusing our efforts on businesses where we have a competitive advantage, deprioritizing those where we do not, and investing in new areas where we can create a competitive advantage. We built on our 2017 acquisition of Caisson with the additions of ImThera and TandemLife in early 2018 to expand our market reach in both Neuromodulation and Cardiovascular, respectively. We initiated a U.S. pivotal trial for our VITARIA® System, which

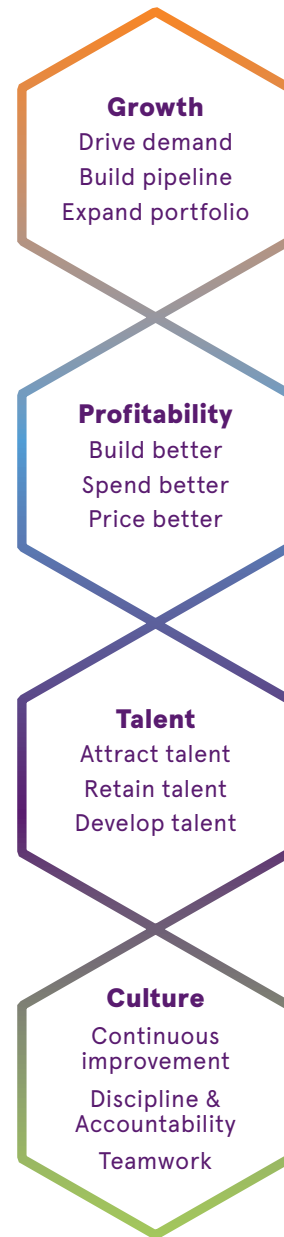
delivers autonomic regulation therapy (ART) using Vagus Nerve Stimulation (VNS) to treat heart failure. In May, after more than a decade since originally declining coverage, the U.S. Centers for Medicare and Medicaid Services (CMS) reopened its National Coverage Determination (NCD) for the use of VNS Therapy® in the treatment of Treatment-Resistant Depression (TRD). We plan to begin a clinical study to garner a favorable NCD in the coming months. We also completed our sale of the Cardiac Rhythm Management business to MicroPort in April 2018 and have exited some OEM agreements to better focus on developing our own innovative portfolio.

In 2019, we will move beyond transformation toward shaping our future as we continue to strengthen our near-term growth drivers within the Cardiovascular and Neuromodulation base businesses and further improve our profitability. This growth will allow us to continue to increase our significant investments in our Strategic Portfolio Initiatives (SPIs) to accelerate long-term growth. At LivaNova, we are committed to healthcare innovation that improves the lives of patients around the world, and our path to accomplishing this is guided by our Four Pillars: Growth, Profitability, Talent and Culture.

Continued Strength and Innovation in Our Base Business

While the most visible part of our transformation has been the significant investments we are making in our long-term portfolio, we have remained laser-focused on accelerating the growth in our base business. In 2018, LivaNova’s sales grew by 8.8% on a constant-currency basis, which is more than twice the rate of growth we delivered in 2017.*

Four Pillars to Shape Our Future:



Our Neuromodulation business grew 12.5% in 2018.* Following a U.S. launch in late 2017 and a Europe launch in April 2018, SenTiva®, our newest generation VNS Therapy generator, has continued to drive adoption, especially in the pediatric Drug-Resistant Epilepsy (DRE) population. We estimate there are roughly 100,000 new patients identified with DRE in the U.S. each year, of which 90% remain confined to drug therapy. We believe a lack of awareness of alternatives, including VNS Therapy, contributes to this gap. Therefore, we initiated our direct-to-physician and direct-to-consumer marketing campaigns for VNS Therapy in the back-half of the year and expect to see these campaigns drive greater awareness of VNS Therapy as a treatment option for DRE in the future.

Beyond the U.S., we have been making investments in our Neuromodulation commercial organization across multiple geographies where our penetration rates remain low. In 2018, we saw a significant benefit from these investments as our Neuromodulation sales grew nearly 40% in our Rest of World markets.* We remain committed to advancing our VNS Therapy innovation by launching next-generation platforms approximately every two years with the next platform expected in 2020.

Our Cardiovascular business also had a strong year, growing 6.6% in 2018.* In our cardiopulmonary business, we remain the market leader in heart-lung machines (HLMs) with an estimated global share of approximately 70%. Our focus on upgrading customers’ HLMs from the older S3® HLM to our market-leading S5® HLM led to a record number of shipments in 2018 and double-digit year-over-year growth. We will continue to focus on additional S3 to S5 conversions over the next year while developing our next-generation HLM.

In 2018, we also celebrated an important milestone for our Inspire® oxygenator by treating the one-millionth patient with Inspire. As we continue to lead the HLM market, we will leverage this call point to further drive growth in oxygenators and other disposables.

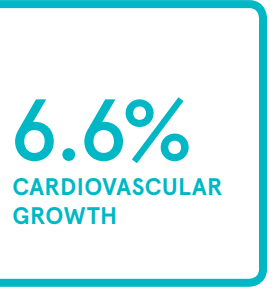
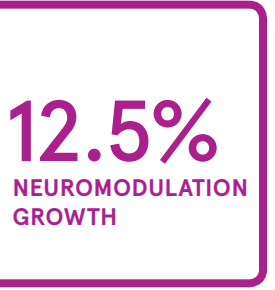
In our heart valve business, Perceval® has been clinically shown to achieve excellent safety and efficacy outcomes in both open heart and minimally invasive surgical approaches. Despite double-digit growth, our efforts to drive market adoption of Perceval faced some challenges in 2018. However, we believe our investments in training, the February 2019 reimbursement approval in Japan and additional clinical evidence will drive accelerated growth in 2019.

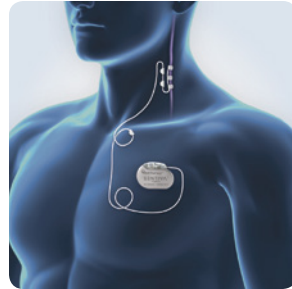
In April 2018, we added Advanced Circulatory Support to our Cardiovascular business with the acquisition of TandemLife. Advanced Circulatory Support is a high-growth market that exceeds \$1 billion globally, and TandemLife offers a competitive and broad portfolio to treat multiple cardiopulmonary conditions. This new LivaNova product offering had a strong start by growing more than 20% in 2018.* We have been investing in the U.S. commercial distribution of this business and plan on launching a next-generation pump and controller system in both the U.S. and Europe in 2019.

Improving Profitability Through Innovation and Discipline

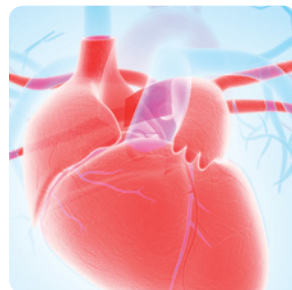
During the past year, we made it a priority to improve our pricing discipline and implement procurement and expense management initiatives. Internationally, we continue to move toward direct

Strong Sales Growth in 2018*





>30M
PEOPLE GLOBALLY
WITH TRD COULD
BENEFIT FROM
VNS THERAPY



>20%
GROWTH IN
ADVANCED
CIRCULATORY
SUPPORT*

distribution in a number of markets and have been exiting third-party, lower-margin OEM and distribution agreements.

We are already seeing the results from these initiatives along with a favorable mix benefit from SenTiva, as gross margin has expanded well above our annual goal. This gross profit improvement allowed us to meaningfully accelerate our innovation agenda and broaden our commercial footprint in the Rest of World region to lay the groundwork for further acceleration of our long-term growth. In 2018, we increased R&D spend, boosting it to one of the highest rates within the medical device industry, as we advance a pipeline that includes four high-profile SPIs.

Strategic Portfolio Initiatives

Treatment-Resistant Depression. We have been working for many years to provide VNS Therapy to patients with TRD, a condition which affects more than 30 million people across the world. These are patients who have failed at least four other depression treatments and have limited treatment alternatives. While VNS Therapy was approved by the U.S. Food and Drug Administration (FDA) for TRD in 2005, Medicare and commercial insurers have not provided reimbursement coverage for more than a decade. During this time, we have been working with clinicians to develop additional evidence to support payment coverage, with the intent to expand access to these patients in critical need of adjunctive therapies to supplement pharmaceuticals.

In February 2019, CMS changed its NCD for the use of VNS Therapy to treat TRD. CMS will initiate coverage for Medicare beneficiaries through Coverage with Evidence Development as an interim step when offered in a CMS-approved,

randomized control study, with an opportunity for broader coverage via a longitudinal study. In addition, CMS will provide VNS Therapy procedure reimbursement for Medicare beneficiaries who have an existing implant that needs to be replaced due to battery depletion. We view this NCD change as a huge step forward, and we look forward to working with CMS to finalize the clinical study protocol as we pursue full coverage approval. We are also continuing to enroll patients in our RESTORE-LIFE study for TRD to build clinical evidence and work toward expansion of approval and reimbursement in markets outside the U.S.

Heart Failure. In addition to treatment of epilepsy and TRD, specialized forms of VNS may also be used to deliver ART to regulate cardiovascular function and treat heart failure, a condition which affects more than 25 million people worldwide. LivaNova's VITARIA System received CE Mark approval in 2015 for the treatment of heart failure and was granted an Expedited Access Pathway designation by the FDA in 2017. In 2018, we made significant progress in enrolling patients in our U.S. ANTHEM-HFrEF (Heart Failure with reduced Ejection Fraction) pivotal trial.

Obstructive Sleep Apnea. In January 2018, we acquired ImThera, an early-stage company developing neuromodulation devices for the treatment of obstructive sleep apnea (OSA). OSA is a condition in which a patient's respiratory airway narrows or closes during sleep, causing them to wake frequently throughout the night. Patients with OSA can experience impaired daytime functionality, which is often accompanied by severe comorbidities such as heart failure and stroke. It is estimated that greater than 25% of adults have some form of sleep apnea in the U.S., though the vast majority

25 years
OF VNS
LEADERSHIP
IN TREATING
EPILEPSY

#1
MARKET LEADER
IN HEART-LUNG
MACHINES

"We have the most important pieces in place to advance our vision of being a leading medical device innovator"

of cases are untreated and standard treatment options have compliance rates as low as 50%. ImThera's technology is an implantable device that stimulates multiple tongue muscles via the hypoglossal nerve, opening the airway while a patient is sleeping. With our commercial and manufacturing capabilities, we believe we will be able to bring this technology to a broader market and improve the lives of the many patients who suffer from OSA.

In 2018, we concluded the enrollment of the THN-3 trial, while continuing to follow patients and analyze the interim data. We completed our evaluation of a new titration protocol and were pleased with the result that showed improved outcomes. Based on this positive result, we expect to move forward with a confirmatory trial.

Transcatheter Mitral Valve Replacement.

Throughout 2018, we continued to develop our Transcatheter Mitral Valve Replacement (TMVR) product, which we obtained through our acquisition of Caisson in 2017. Our TMVR product is designed to treat moderate to severe mitral regurgitation, a condition which affects more than 1.7 million patients in the U.S., of which only 2% are currently treated annually due to limited treatment options. TMVR procedures are inherently complex due to the characteristics of the medical condition and mitral valve anatomy, and we expect a multi-year effort to ensure the safety and clinical efficacy of our product.

In 2018, we completed our FDA early feasibility study, PRELUDE, but decided to stop our INTERLUDE study after experiencing serious adverse events in two patients. Through our root cause analysis, we have determined that the anchor system will require a design modification. Our current expectation is to restart trial enrollment in the first half of 2020.

Shaping our Future

As we enter 2019, I cannot be more optimistic about LivaNova's future. Through our transformation, we have the most important pieces in place to advance our vision of being a leading medical device innovator that can bring unique therapies to areas of severe and underserved medical conditions.

Our priority will always be to improve the lives of the patients we serve. Each of our nearly 4,000 teammates is dedicated to this mission, and I would like to extend my heartfelt appreciation for their ongoing effort in making this a reality every day. As we continue to invest in growth opportunities across our portfolio, we are confident that we will be able to deliver results to all our stakeholders and continue to transform the lives of patients around the world.

Thank you for your continued support.

Damien McDonald
Chief Executive Officer, LivaNova Plc



TRANSFORMING LIFE IN DRUG-RESISTANT EPILEPSY

Neuromodulation

SenTiva
The first choice in VNS Therapy
for patients with DRE



As pioneers and global leaders in VNS Therapy (Vagus Nerve Stimulation), we are transforming the lives of people with Drug-Resistant Epilepsy (DRE) across the world.

>120,000
implanted VNS Therapy
patients to date

A large and growing global population

Approximately 100,000 new cases of DRE are identified in the U.S. every year. LivaNova is committed to improving patient access to seizure control, with the goal of safely leading to fewer and shorter seizures and better recovery.

VNS Therapy leader and innovator in DRE

We have implanted more than 120,000 patients with VNS Therapy for DRE. Our latest generation VNS Therapy System, SenTiva, is the smallest and lightest responsive therapy for epilepsy and offers customizable therapy with smart technology.

New possibilities with connected health

LivaNova continues to innovate and build its next-generation VNS Therapy platform, which will feature Bluetooth capability, cloud-based software and smartphone applications, connecting the patient and clinician in new, insightful ways to enhance care and outcomes.



STARR
LivaNova VNS Therapy
for epilepsy patient,
Michigan, USA

“After VNS Therapy, I felt like I had stepped out of darkness and into the light.”

—Starr

Starr struggled her whole life with epilepsy, suffering through periods during which she had as many as 20 seizures a week. Drug therapy had little effect, and her work and social life suffered. Since receiving LivaNova VNS Therapy, Starr has been seizure free for 11 years. As a result, she says she’s experienced increased energy and mental sharpness that’s given her the confidence to go out and socialize again.

FOUR DECADES OF LIFE-CHANGING LEADERSHIP

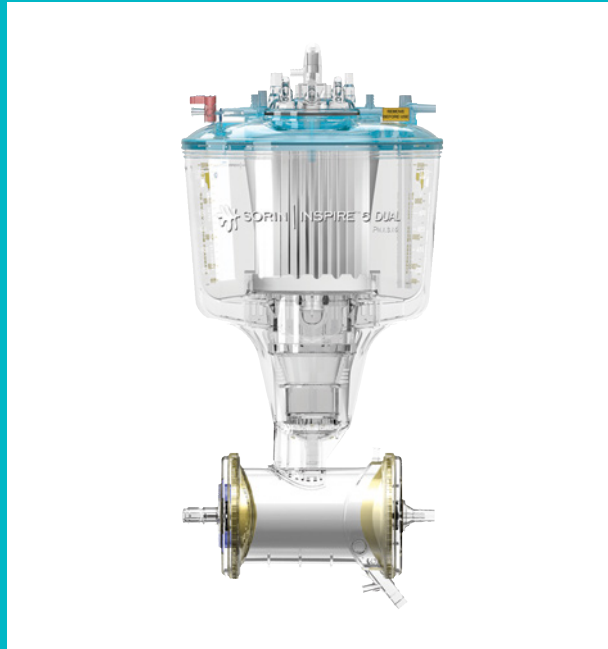
Cardiopulmonary

S5 HLM

Market-leading heart-lung machine designed to reduce transfusions and improve recovery

Inspire

Oxygenator offering safe, flexible and personalized perfusion



LivaNova's advanced solutions in heart-lung machines, oxygenators, autotransfusion systems, cannulae and other cardiopulmonary products have set the gold standard of performance to support positive outcomes in cardiac surgery for decades.

>1 million

Inspire oxygenator patients to date

The long-standing market leader

As the market leader in heart-lung machines for more than 40 years, we continue to deliver the world's leading perfusion system designed for years of demanding performance for patient use around the world.

An integral LivaNova business

After treating its one-millionth patient in 2018, the Inspire adult oxygenator continues to be a key product for the Company based on advanced manufacturing technologies and the highest quality standards.

Continued innovation and growth potential

To support the needs of our perfusion and cardiac surgery customers, we offer a comprehensive suite of cardiopulmonary systems. We continue to evolve these products, innovating to offer the optimal therapy and to ultimately improve patient outcomes.



RUTH
Inspire patient
London,
United Kingdom

"It's difficult to put into words how thankful I am. I have my life back."

—Ruth

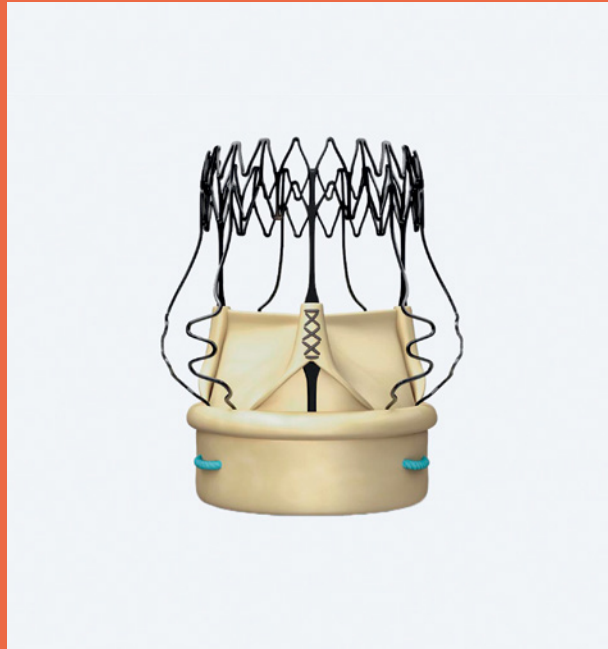
Ruth suffered from heart disease that increasingly limited her ability to enjoy life. She said she eventually "felt like a hermit." After years of increasing pain and deteriorating quality of life, Ruth made the decision to have corrective surgery. Thanks to the skill and dedication of her surgical and medical team—and the LivaNova Inspire oxygenator—she has made a complete recovery.

BRINGING INNOVATION TO LIFE

Heart Valves

Perceval

The market's only sutureless surgical aortic valve offering versatility across traditional and minimally invasive surgical approaches



With a product portfolio that spans the traditional to the leading edge, LivaNova's advanced heart valve products simplify even the most complex procedures, delivering both economic benefit and optimized outcomes for patients.

>10 years
of successful clinical
use of Perceval in aortic
valve replacement

An innovative heart valve

Our unique sutureless surgical aortic valve, Perceval, is the leading product in our heart valve portfolio, achieving double-digit growth in 2018. It is becoming an essential component for any valve program.

Offering versatility and efficacy

With more than 10 years of clinical experience and evidence, Perceval has shown positive safety and efficacy outcomes. It also provides high versatility and suitability for a wide range of surgical options.

Continued global expansion

LivaNova continues to broaden the reach of Perceval, receiving approvals and reimbursement in additional markets. Designed to reduce the physiological impact of aortic valve replacement, Perceval creates life-changing solutions for patients around the world.



MARIANO
Perceval patient
Montecatini,
Italy

"I was so happy to be able to return to the life I had before my heart issue."

—Mariano

Mariano is a master shoemaker in Montecatini, Italy, with a passion for his work, his family and life itself. His doctors told him at age 54 that he needed heart valve replacement surgery. The surgical team's recommendation: a minimally invasive approach, inserting LivaNova's time-tested Perceval sutureless surgical aortic valve through a small incision. Mariano was delighted to get back to his hammer and pliers within just a few months.

DELIVERING LIFE-SAVING SOLUTIONS

Advanced Circulatory Support

TandemHeart®

A pMCS solution providing the ultimate in left ventricular unloading and support



With the 2018 acquisition of TandemLife, LivaNova now offers a complete portfolio of Advanced Circulatory Support solutions, with products providing extracorporeal life support (ECLS), as well as both right ventricle and left ventricle percutaneous mechanical circulatory support (pMCS).

>20 years

providing life support simplified

Breadth of innovation in a critical area of need

During life-threatening events, LivaNova knows having an easy-to-use, temporary cardiopulmonary bypass system can be critical to success. We are committed to filling that need in an area where most systems are overly complex.

TandemLife: a strong addition to the product line

Providing more than just quick support, TandemLife gives first responders time to assess a patient's situation and determine a longer-term strategy, which can lead to improved patient outcomes and potentially save lives.

Forward momentum in 2019

After over 20% growth in 2018, the TandemLife product line will continue to transform advanced circulatory systems and grow with expanded commercial distribution and next-generation system launches planned in Europe and the U.S.



CINDY
TandemHeart
patient
Florida, USA

"I just thank everyone who worked so hard to save my life. It started with TandemHeart."

—Cindy

Cindy enjoyed good health until she was hospitalized from complications of a typically non-life-threatening illness. While in the ICU, she experienced multisystem organ failure, requiring dialysis, as her heart was too weak to provide her body with adequate blood flow and oxygen. Her doctor decided to use TandemHeart to support her heart function. Originally given just a 10% chance of survival, Cindy's life was saved, and she became a grandparent twice in the following year.

FUTURE GROWTH DRIVERS

Advancing innovation, transforming life

LivaNova is investing with discipline and focus in key strategic portfolio initiatives to drive future growth. We're leveraging our strengths in four important areas of unmet clinical need: Treatment-Resistant Depression (TRD), Transcatheter Mitral Valve Replacement (TMVR), Obstructive Sleep Apnea (OSA) and Heart Failure.

¹ World Health Organization. Depression Fact Sheet, March 2018
² American Heart Association. Heart disease and stroke statistics - 2010 update.
³ Mirabel M, et al. What are the characteristics of patients with severe, symptomatic, mitral regurgitation who are denied surgery? Eur Heart J. 2007
⁴ Continuous Positive Airway Pressure (CPAP) device is the established therapy for OSA
⁵ World Health Organization. Global surveillance, prevention and control of Chronic Respiratory Diseases. A comprehensive approach. 2007
⁶ Card Fail Rev. April 2017

TREATMENT-RESISTANT DEPRESSION

Exciting new potential for VNS Therapy

VNS Therapy has the potential to provide patients battling TRD with effective, sustainable results. During clinical trials, the treatment has been shown to improve patients' overall well-being. LivaNova is committed to providing access to this affordable, potentially life-altering treatment option.

CMS COVERAGE with Evidence Development; Study enrollment to begin in 2019

RESTORE-LIFE Initiated registry in 2018




>300M
people affected by depression worldwide¹

TRANSCATHETER MITRAL VALVE REPLACEMENT

Filling the treatment gap in mitral valve replacement

With a minimally invasive procedure and promising outcomes, our transeptal approach for TMVR offers hope to patients who are otherwise too sick for traditional treatments for moderate to severe mitral regurgitation.



1.7M
patients in the U.S. with only 2% treated^{2,3}

OBSTRUCTIVE SLEEP APNEA

Promising new HGNS Therapy alternative to CPAP⁴ and surgery

Our early-stage Hypoglossal Nerve Stimulation (HGNS) Therapy device has the potential to revolutionize the way OSA patients are treated.

NEW HGNS DEVICE through ImThera acquisition



>100M
people worldwide suffer from sleep apnea⁵

HEART FAILURE



Autonomic Regulation Therapy: new hope for a deadly disease

VITARIA delivers Autonomic Regulation Therapy using VNS to treat chronic, symptomatic heart failure. With this new technology, we are addressing a large and growing unmet need.

ANTHEM-HFrEF
U.S. pivotal trial underway

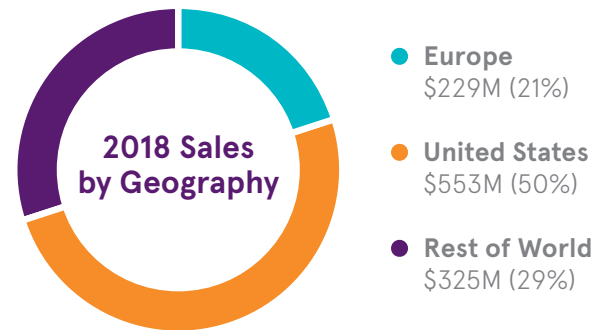
>25M
heart failure patients worldwide⁶

LIVANOVA AT A GLANCE

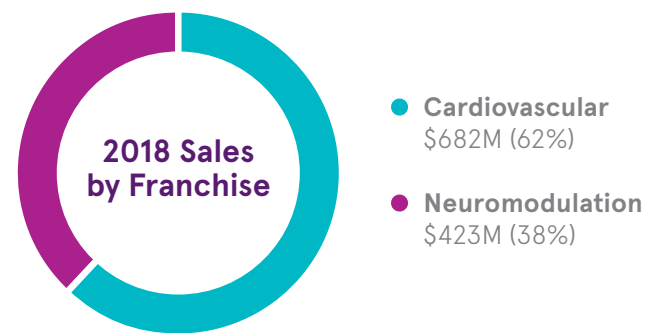
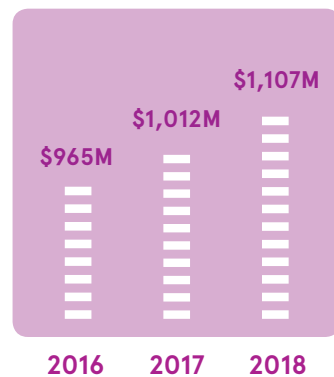
This is what leadership looks like

Consistent Growth and Performance

With a strong sales growth trajectory and an expanding global reach, we are well positioned in our Cardiovascular and Neuromodulation businesses to achieve success around the world.



Net Sales, 2016-2018



Dedicated to innovation that matters. Focused on the head and the heart. Driven to lead globally through advanced neuromodulation and cardiovascular solutions.

This is LivaNova. Improving quality of life for patients worldwide.

Strength in Core Businesses

Our key growth products drive our competitive edge with a history of excellent clinical outcomes.



~70% Market Share
in Heart-Lung Machines

>1 Million
Inspire Oxygenator Patients

>10 Years
Clinical Use of Perceval Aortic Valve

>20% Growth
in Advanced Circulatory Support in 2018*

Global Scale and Reach

Our global reach is broad with a presence in more than 100 countries and approximately 4,000 employees.



Serving Patients in
100+
Countries



Nearly
4,000
Employees

Investing in the Future

We are committed to continuous innovation. LivaNova invests heavily in its R&D and clinical trial activities to support a pipeline of new products and features.



Number of
Ongoing Clinical
Studies



LivaNova

Health innovation that matters