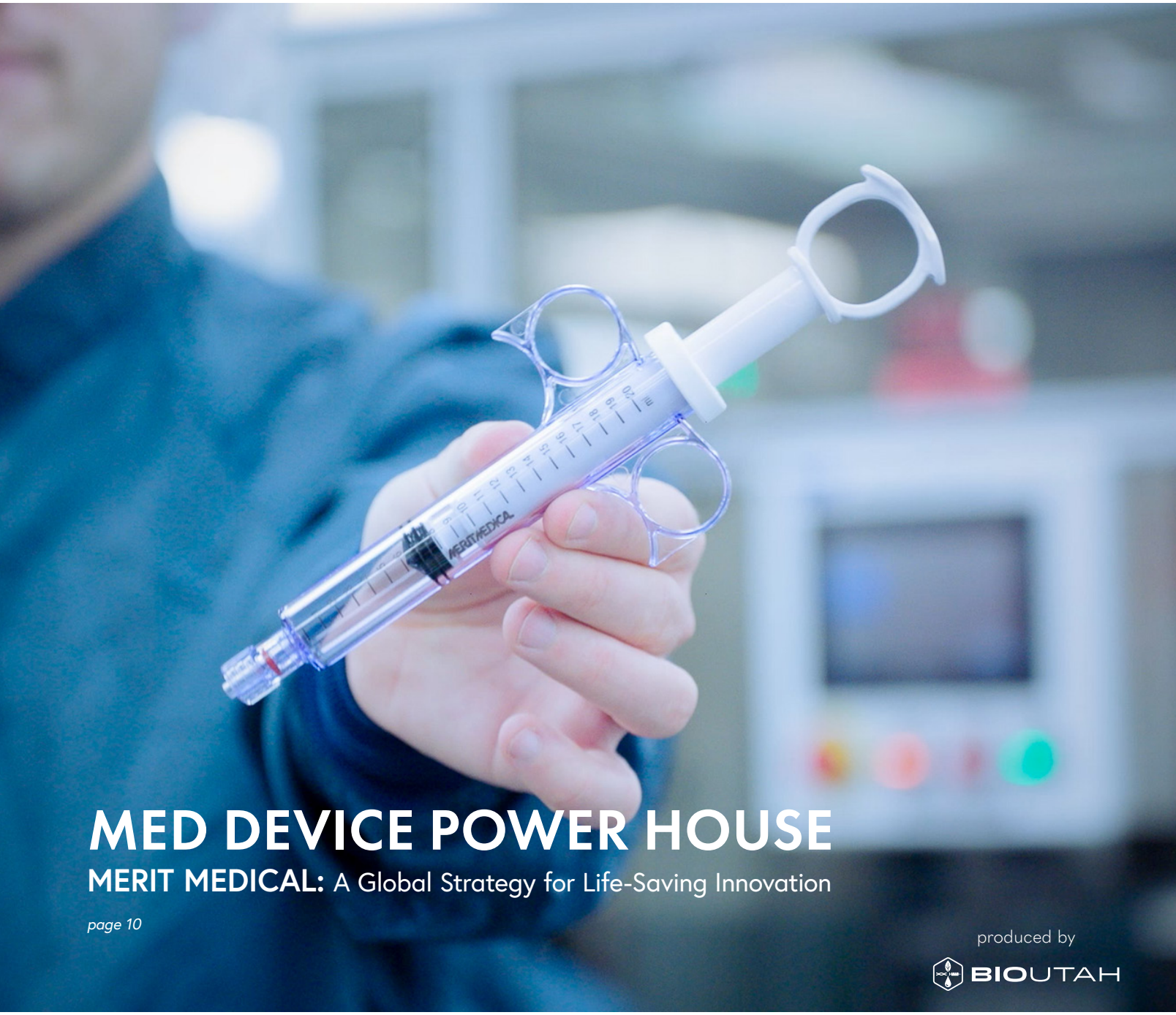
UTAH'S

LIFE SCIENCES INDUSTRY



MED DEVICE POWER HOUSE

MERIT MEDICAL: A Global Strategy for Life-Saving Innovation

page 10

produced by BIOUTAH

CAN A UTAH BIOREPOSITORY HELP CURE CANCER?

page 20

POLARITYTE, STRYKER CHOOSING UTAH

page 16

STARTUPS TAKING ON MS, SUPERBUGS, AND HELPING PATIENTS BREATHE EASY

page 26

THIS IS THE PLACE

FOR LIFE SCIENCES

Welcome to the second annual BioUtah Life Sciences Magazine. This year's theme — This is the Place - For Life Sciences — says it all. Consistently ranked among the top states for business, Utah boasts one of the fastest growing life sciences industries in the nation. The industry, which includes medical device manufacturing, diagnostics, biotechnology and biopharmaceuticals, is also among the fastest growing economic sectors in the state.

Inside you'll find a mix of features that showcase our dynamic life sciences community. From life-saving stroke technologies and replacement heart valves, to genomics, nanotechnology, drug discovery, and cutting-edge healthcare systems, it's happening right here in the Beehive State.

Each and every day, the products we produce save lives. It's why we're so passionate about what we do. Check out our cover story on Merit Medical, a home-grown success story. Explore the vast array of amazing companies that are innovating for the future and investing in the next-gen workforce. This is just a sampling of the fabulous companies that make up the life sciences ecosystem in Utah.

Utah's life sciences industry has a long tradition of discovery dating back to the first Jarvik artificial heart in 1973. That pioneering spirit and culture of innovation endures to this day, providing a robust foundation to build upon. We invite you to turn the page and take a closer look.

Sincerely,

Rob Etherington
President & CEO , Clene Nanomedicine;
Chair, Board of Directors, BioUtah

CONTENTS

UTAH'S LIFE SCIENCES INDUSTRY

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BIOUTAH PRESIDENT & CEO
Kelvyn Cullimore Jr.

BIOUTAH VP, PROGRAMMING & GOVERNMENT AFFAIRS
Denise Bell

SENIOR GRAPHIC DESIGNER
Amanda Nogales

CONTRIBUTORS
Michael Alder
Heather Bukant
Ryan Davies
Ivy Estabrooke
Rob Etherington
Annette Fiske
Elizabeth Fregulia
Nate Gibby
Howard Goldman
Andrew Hansen
Aden Hirtle
Christian Iverson
Michael Kimball
Brittany Manookin
Jim Ogilvie
Randy Rasmussen
Brandi Simpson
Michelle Stevens
Anne-Marie Wright

AN ECONOMIC FORCE

"UTAH'S LIFE SCIENCES INDUSTRY—MEDICAL DEVICES, DRUGS, AND DIAGNOSTICS— is a vital strategic sector, representing quality expansion through its life-saving innovation, exports, and high-paying employment. Years of strong growth have multiplied the economic opportunities for STEM workers and local businesses."

—Natalie Gochnour, Director, Kem C. Gardner Policy Institute, the University of Utah

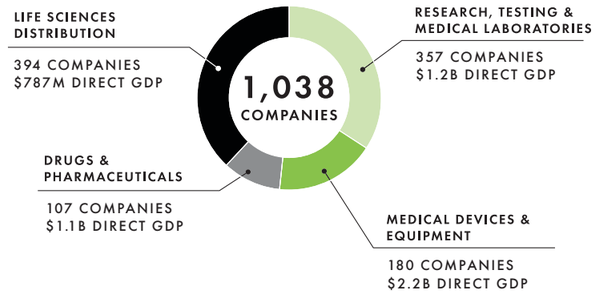
TOTAL ECONOMIC IMPACT

130,439
JOBS

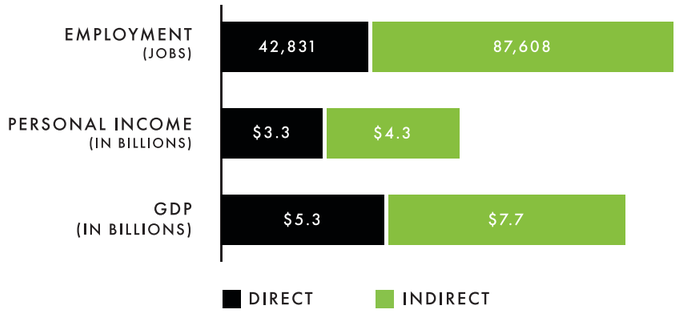
$13B
GDP

$7.6B
PERSONAL INCOME

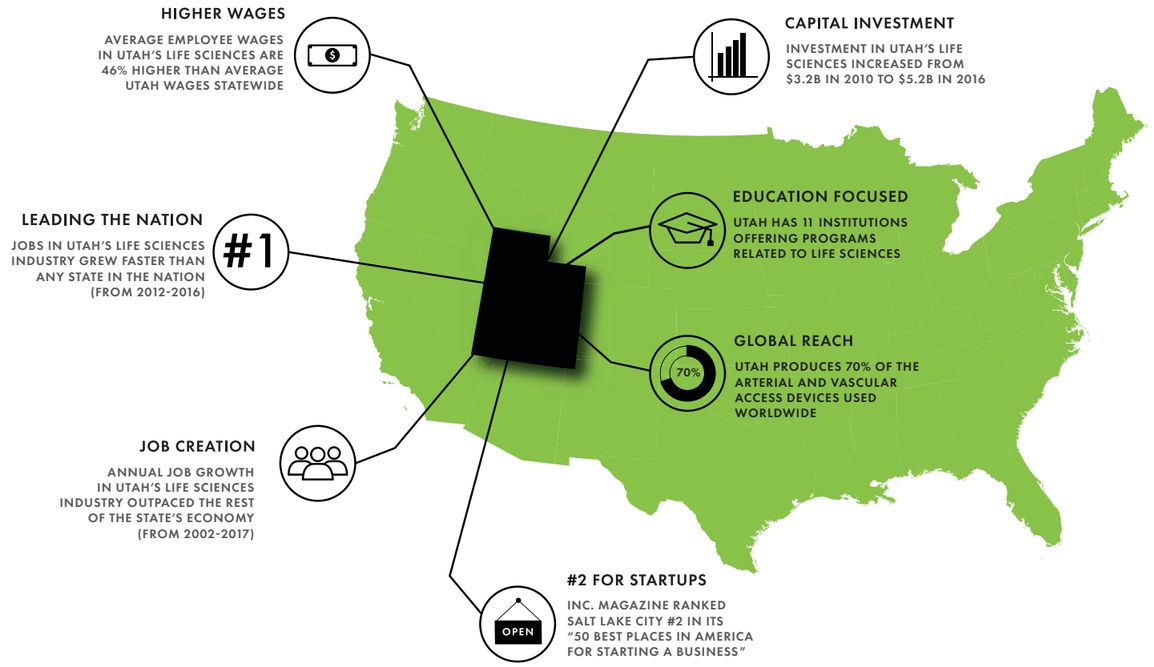
UTAH COMPANIES



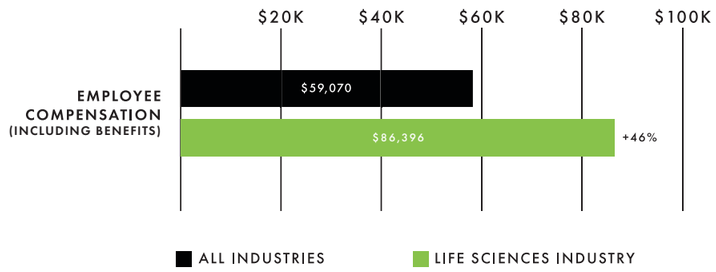
ECONOMIC IMPACT
(DIRECT AND INDIRECT)



UTAH'S LIFE SCIENCES LANDSCAPE



AVERAGE ANNUAL EARNINGS
(PER WORKER, 2017)



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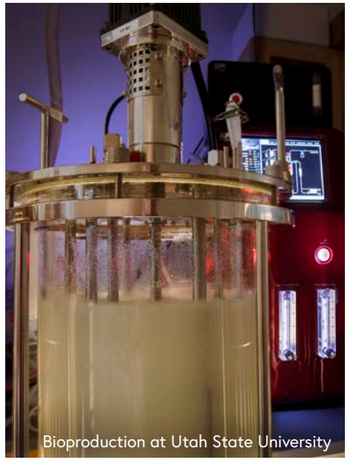
Inc., Surge Cities, Winter 2018/2019, *www.inc.com/surge-cities/best-places-start-business.html*
EDCUtah; Personalized Medicine, Medical Devices, World Class Research, *edcutah.org/industries/life-sciences*
Cambia Grove, 2019 Utah Health Care Innovation Landscape

WHERE INNOVATION HAPPENS

The award-winning, Axcend Focus LC from Axcend


Bioproduction at Utah State University

Utah's three premier universities are highly recognized for their technology transfer activities. They take ideas from early-stage research to the marketplace, fostering new startups, expansion and economic development. They play an important role in creating life-changing innovation.

BRIGHAM YOUNG UNIVERSITY

In the last decade, BYU has licensed patents to 24 biomedical/biotechnology companies including 22 startups. Past successful bio-related BYU startups include Sonic Innovations, a world-class digital hearing aid company and Moxtek, a company that continues to dominate the X-ray filter market. Current exciting growth companies from BYU include:

- Axcend, a portable liquid chromatography company
- G2 Products, a company that produces an over-the-counter cream to help with arthritis pain
- Nexus TDR, an artificial spinal disk replacement company
- Thunder Biotech, a cancer immunotherapy company
- Diamond Fork, CSA Biotech, and N8 Medical, all with a break-through antimicrobial technology focused on different market applications

The current range of opportunities for licensing includes new candidates for drug development, drug delivery technologies, natural products for human benefit, diagnostic devices, biomarkers for diagnosing diseases and methods for treating addiction without drugs.

New BYU biomedical innovations available for license include a kidney cancer drug, a pancreatic cancer therapy, a protein for opening tight membranes, a drug for muscular dystrophy and a natural compound that generates collagen in the skin to reduce wrinkles.

The biggest BYU bio-related discovery to date came from the Dan Simmons Laboratory over 20 years ago when Dan discovered how COX 2 (Cyclooxygenase 2) could be used as a target for a selective NSAID for the treatment of inflammation and pain in the body. This discovery led to the famous drug called Celebrex that has become one of the most widely used drugs to treat arthritis and other sources of pain and inflammation.

UTAH STATE UNIVERSITY

With discovery and innovation continuing to thrive at Utah State University, USU's Technology Transfer Services (TTS) office works with faculty, staff and students to protect and commercialize university discoveries and intellectual property.

When a new technology is discovered, TTS assesses its commercial viability and social impact and, after careful analysis, develops an intellectual property protection and commercialization strategy. This can include marketing, licensing, forming a startup, leveraging an extensive network of investors, and developing a strong viable business model. The office also provides assistance in identifying and applying for research and commercialization grants, and uses its network of connections to obtain incubator or start-up space for further technology development and commercialization.

In short, TTS helps USU inventors identify commercial value in their research and strategically transfer their discoveries out of the university laboratory and into the marketplace where they can have greater impact.

While TTS works with inventors throughout the university in all academic fields and all campuses, it has seen particular success in the life sciences. As a result, USU has successfully transferred a number of those technologies out of the university to companies which incorporate the technologies into consumer products and services. For instance, USU has seen success in licensing an anaerobic digestion system to convert agricultural, municipal and industrial waste into clean energy. USU has also seen significant long-term success licensing a technology for using whey protein in a variety of food products. The pipeline continues to fill with new biomaterials, crop protection chemicals, animal models of human disease, anti-inflammatory compounds and treatments, and many others.

UNIVERSITY OF UTAH

Utah's life sciences industry is booming, thanks in no small part to discoveries made at the state's flagship educational institution. "Some of Utah's most successful bioscience companies started as ideas in University of Utah laboratories," said Keith Marmer, executive director of the Center for Technology & Venture Commercialization, the U's technology transfer office. "TVC has been unlocking the potential of the university's research for more than 50 years, and we've played a crucial role in helping start some of the most prominent companies in the state."

Myriad Genetics, BioFire Diagnostics, and more recent spinout Recursion are cornerstones of the local life sciences industry, and each began as the brainchild of University of Utah professors or researchers. BioFire was founded in 1991 by pathology professor Carl Wittwer, who pioneered a method for rapid disease detection. Myriad was formed in 1992 by Mark Skolick, a professor of medical informatics whose groundbreaking research explored the role genes play in disease and how this understanding can inform treatment. Recursion, founded as a TVC spinout in 2014 by Chris Gibson, uses machine learning to advance drug discovery and personalized medicine.

"We were fortunate to recognize the potential of these emerging fields—especially genomics—when few others did," said Marmer. "But good ideas, even great ones, do not succeed on their own."

Rather than licensing these technologies to an existing company, TVC helped the scientists found their own companies, siting them down the street from the U so they could continue collaborating. "Startups are powerful vehicles for advancing a technology beyond the laboratory," said Marmer. The knock-on effects—preventing brain drain and attracting investment—are huge multipliers for the local economy.

However, startups are only successful if they are supported and nurtured in the right ways at the right times. "For a startup to succeed, it needs a strong management team, a clear path to market, and seasoned advisors," said Marmer. "This is where TVC comes in: we work to provide our companies with a full stable of resources and talent and help connect them to the broader innovation ecosystem."

The innovations coming out of the U also reflect another ever-growing trend in life sciences- interdisciplinary collaboration. The "LUKE Arm," a prosthesis named after Luke Skywalker's mechanical hand, taps into the wearer's nerves. An array of microelectrodes known as the "Utah Slanted Electrode Array" developed by biomedical engineering faculty, enables the user to move the arm's hand with just their thoughts. TVC is proud to help bring this and other technologies to market.


Biomedical Engineering Associate Professor Gregory Clark with the "LUKE" Arm.

Photo Credit: Dan Hixson/University of Utah College of Engineering

Merit's first product - the Coronary Control Syringe

BUILDING A **GLOBAL PRESENCE** WITH A MULTIFACETED STRATEGY

Authored by Michelle Stevens | Sr. Director of Marketing & Communications | Merit Medical

Medtech companies often start with a single product. For Merit Medical Systems, Inc., it was a simple polycarbonate control syringe. More than 30 years later, the company is a leading manufacturer of medical devices used in interventional, diagnostic, and therapeutic procedures, particularly in cardiology, radiology, oncology, critical care, and endoscopy.

Headquartered in South Jordan, Utah, Merit Medical now makes thousands of products, holds more than 1,500 global patents, and employs more than 6,600 people worldwide, with facilities on almost every continent. This expanding global presence can be attributed to its strategic foresight on a number of fronts, and a team of professionals dedicated to building something of lasting value.

INTERNAL RESEARCH AND DEVELOPMENT

Merit Medical invests heavily in research and development (R&D), a process the company operates in-house. At any given time, multiple facilities worldwide are working together to create or enhance products that meet customer needs.

Maintaining internal R&D has allowed the company to maintain tight control over the products it develops. Through design and process validation, as well as collaboration with many internal and external stakeholders, Merit Medical's R&D team can verify it is delivering a high-quality product that matches the customer's needs. Even after the manufacturing process, the company continues to monitor products and processes, as well as apply user feedback to address customer needs and obtain better outcomes.

This continuous improvement cycle is used for new products, product line extensions and to enhance existing products, which has resulted in double-digit growth in this area within the last year alone. Growth translates into more funds for R&D, with Merit Medical dedicating 7.5–8 percent of every sales dollar to R&D. This symbiotic relationship between research and sales has been a main driving force for continual company growth.

Internal R&D allows for quality control

People are the key to success

Capital is used to increase capacity

> **"MERIT MEDICAL USES** capital to continue expanding domestically and internationally, increasing its capacity to keep up with manufacturing demands."

STRATEGIC ACQUISITIONS

Acquisitions of products and companies is another strategy used by Merit Medical to expand the business. Adding products through acquisition quickly enhances the company's product portfolio and boosts its vertical channels. Some recent acquisitions include Brightwater Medical, Inc. (2019); Cianna Medical, Inc. (2018); and DFINE, Inc. (2018).

Merit Medical looks for acquisitions that complement its current areas of focus: cardiology, radiology, oncology, critical care, and endoscopy. For example, motivation behind last year's Cianna Medical acquisition, the largest to date, was the company's commitment to global women's health.

Merit Medical began investing in women's health nearly a decade ago with the acquisition of BioSphere Medical, Inc., and its embolotherapy product Embosphere® Microspheres, used to treat hypervascular tumors, such as uterine fibroids. It was this passion to improve the lives of women that led to acquiring Cianna Medical and its SCOUT® system, a patient-centric, wire-free radar breast cancer localization option. Each of these products is designed to improve patient outcomes and has transferred seamlessly into the company's already-existing business.

Another characteristic Merit Medical considers during acquisitions is the potential for growth. Whether this translates into geographic expansion or the presence of a receptive market, evidence of potential performance is required. Successful acquisitions have originated from a broad range of sources, including investment banks, private equity funds, smaller boutique firms, other medical device companies, and more.

A key to making acquisitions a success has been to invest in these companies and products the same way it has in other parts of the company. This starts with initiating the R&D process. Upon acquisition, Merit Medical immediately integrates the company or product by applying a percentage of its sales dollars to fund R&D, ensuring it meets the company's high standards for quality. Over time, the company has used its acquisitions, along with its R&D projects, to evolve singular products into more comprehensive therapies and product families, which has helped drive higher gross margins and increase profitability.

In addition to applying new strategies, Merit Medical also values existing knowledge and experience and looks to absorb or keep as much expertise about the acquired products and/or company as possible. Above all, Merit Medical uses acquisitions to carve a path to better patient care and improved patient outcomes.

STAYING AHEAD OF THE COMPETITION

In order to gain an edge on competition, Merit Medical not only launches new products, but also continually enhances existing ones. A prime example of this is Merit Medical's inflation syringe portfolio, a product that measures and deploys stents and balloons. While other companies have ignored improving such a foundational product, Merit Medical has continually launched new inflation innovations to continue to improve the user's experience, now offering at least half a dozen options with diverse sizes, features, and capabilities. This diligence has made Merit Medical the world leader of inflation devices.

Paying close attention to its customers is another way that Merit Medical has stayed ahead of its competition. Very early on, the company began offering customized kits and packs that include a range of tools that physicians use during procedures—a service of convenience that many larger competitors do not provide. Such products meet the unique needs of customers while optimizing procedural efficiency, reducing cost and waste, and saving storage space.

Anticipating customer needs also means investing in therapy and procedure trends that will place the company one step ahead. In 2017, Merit Medical announced that its product Embosphere® Microspheres had received 513(f)(2) (de novo) classification from the FDA to treat benign prostatic hyperplasia (BPH) through a minimally invasive procedure called prostatic artery embolization (PAE). PAE is an important minimally invasive treatment that has been clinically shown to reduce BPH symptoms, improve quality of life, and one that has become a viable alternative to surgical procedures. Merit Medical spent years working with physicians and collecting data so that Embosphere could be the first product approved for use, paving the way for PAE to become available to more patients.

Supply chain and market disruptions occur in healthcare as they do in many industries, and Merit Medical's preparedness has placed the company at a great advantage. When a market disruption occurs, Merit Medical can react quickly, with people and processes in place to ramp up manufacturing and step in to meet customer demands so that physicians and hospitals can continue treating their patients.

USING CAPITAL

As a global company with competing demands, balancing capital allocation is critical. From the beginning, Merit Medical knew the importance of spending money to build its infrastructure, a decision that resulted in global growth, expansion, distribution—and more bottom-line profits.

Outside of funding R&D projects and acquisitions, Merit Medical uses capital to continue expanding domestically and internationally, increasing its capacity to keep up with manufacturing demands. In 2018, the company announced a significant expansion of its headquarters in South Jordan, a $505 million capital investment that will add up to 1,010 jobs and $71 million in state revenue over the next 15 years.

Earlier this year, the company opened its first facility in South Africa to better support its hospital and healthcare customer base. A team covering operations, customer service, and sales support helped expand and develop Merit Medical's product and service reach across the continent and provide better healthcare for patients. Major growth is also happening in Tijuana, Mexico, and Galway, Ireland, where both facilities have reached more than 1,000 employees.

This type of global presence requires flexible financial planning and teamwork. To accomplish this, Merit Medical has embedded financial planning and analysis resources within its departments. Having a group that is dedicated to such tasks increases financial visibility and builds trust that facilitates true partnerships. Each department is able to understand the business better and the financial impact its decisions have upon limited resources.

Merit Sensor manufactures components used in Merit's blood pressure sensors

MERIT MEDICAL
STRATEGIES AT A GLANCE

- Continually invest in R&D.
- Pay attention and react to global health trends.
- Innovate in areas the competition has ignored.
- People are the keys to success.
- Assure quality through vertical integration whenever possible.

INTERNAL GROWTH

People are the keys to success at Merit Medical, and this philosophy is demonstrated by the numerous outstanding benefits that are offered to global employees. These benefits are meant to keep current employees happy and simultaneously attract potential employees in crowded and competitive job markets.

At its headquarters in South Jordan, UT, the company offers on-site health and dental clinics for employees and their families, making healthcare more convenient and affordable. Merit Medical has also recently expanded operator employment opportunities at South Jordan for non-English speakers by translating procedure and training documents into Spanish, which also helps to integrate Spanish-speaking employees into the company. In Tijuana, Mexico, Merit Medical employees are provided with safe company transportation to and from work as well as subsidized lunches in its award-winning, on-site cafeteria.

Merit Medical has built additional domestic and international facilities to match increasing manufacturing demands. The company recently increased its Richmond, VA, warehouse from 33,000 square feet to 76,000 square feet, making it Merit Medical's largest distribution facility globally. This expansion has increased order capacity by nearly 200 percent per day while reducing shipment times along the East Coast by approximately 60 percent.

The company also invests in ongoing manufacturing infrastructure, including state-of-the-art automation systems. If the return on investment for a product is adequate, the company calls upon its team of automation engineers to enhance production through automation. Results can be seen at the new Richmond warehouse, where an automated system consists of computer-assisted voice picking, wire-guided aisles, efficient flow racks for high volume SKUs, and computer-optimized pick sequencing. Furthermore, a print-and-apply system for attaching packing slips and shipping labels has reduced the time spent to manually process a package by about 93%.

INTERNATIONAL GROWTH

Healthcare is a global need, and paying attention to current and emerging health issues, such as rising rates of obesity and diabetes as well as the unique needs of aging populations, presents opportunities to better care for these individuals in ways that increase company growth and margins, and maintain a market presence.

Merit Medical maintains direct sales forces in many countries, including throughout Europe, in Canada, and Australia. Being direct in more countries allows the company to better service its healthcare customers and their patients. By maintaining close proximity and having its employees within the country, Merit Medical is better equipped to deliver products faster, manage nuances of each region, and market in ways that build awareness.

Merit Medical's wide reach also enables the company to manage regulatory processes and approvals of its products worldwide. Once a product is launched within the U.S., regulatory teams take the necessary steps to ensure the product receives approvals by each country's regulatory body.

QUALITY ASSURANCE THROUGH VERTICAL INTEGRATION

As a global company, Merit Medical has the resources and capabilities to engage in as many stages of its production process as possible. Outside of obtaining raw materials, the company controls its entire supply chain by manufacturing finished products as well as a significant number of their components, a set up that ensures quality across the entire spectrum.

Merit Medical also enhances its business by acquiring components that are difficult to source. Twenty years ago, the company acquired Sentir Semiconductor in order to have a reliable source of pressure sensors for its digital inflation systems and blood pressure transducers. In 2002, it was changed to Merit Sensor™ Systems. Under Merit Medical's wing, it was provided with a new and improved facility on the South Jordan campus that included a class 100 (ISO 5) cleanroom for wafer fabrication and on-site calibration equipment. To this day, Merit Sensor provides accurate and reliable pressure sensors to Merit Medical as well as other customers from various industries around the world.

Additionally, Merit Medical acquired a trusted wire and tube coating company in 2006 called MCTec based in Venlo, The Netherlands. At this facility, using a unique process that ensures a consistently smooth application, Merit Medical applies PTFE and hydrophilic coating to medical wires and tubes. These components are used in finished Merit Medical products, like guidewires as well as sold through our original equipment manufacturing division to other medical device companies.

The strategies Merit Medical has used to grow into a successful global company have translated into delivering medical products worldwide that improve the lives of 15,000 people every day.

Maastricht, NL is Merit's European Headquarters and a Distribution Center of Excellence

CHOOSING UTAH

Authored by Ivy V. Estabrooke, PhD | Vice President for Government & Community Programs, PolarityTE, Inc.
and Annette Fiske | Marketing Communications | Stryker's Neurovascular division

PolarityTE research specialist

PolarityTE has been in Utah since opening its doors in the University of Utah's Research Park. The company built a new Salt Lake City headquarters in 2018. Stryker has been manufacturing stroke technologies in the Salt Lake City area for nearly a decade and recently expanded. Both chose the state for its business-friendly climate, spirit of innovation and strong work ethic. It just doesn't get better than that.

POLARITYTE

THE PARADIGM SHIFT IN REGENERATIVE MEDICINE SHIFTS TO UTAH

The approach PolarityTE is taking is a deliberate attempt to advance how medicine is practiced. But what happens when our own healing process takes too long, or when there's a need to replace tissue that is too badly damaged or missing entirely? That's where PolarityTE has found the paradigm shift in disruptive biotechnology that could change the practice of medicine.

PolarityTE is focused on transforming the lives of patients by discovering, designing, and developing a range of regenerative tissue products that mirror the natural healing processes in the human body. The Salt Lake City startup's technology harnesses a patient's own cells and redeploys them to allow the body to regenerate itself on the site of the defect. The company's launch product, SkinTE, does this by taking a small sample of healthy skin from the patient and turning it into a paste that is reapplied to acute, traumatic, and chronic wounds, including burns and diabetic foot ulcers. By allowing the cells to grow directly on the injured area, those cells can communicate with surrounding tissue, which help it to grow to full-thickness, fully-functioning skin with sweat glands and hair.

SkinTE's approach is an alternative to the traditional skin graft treatment, which often has complications that leaves patients in the hospital for months and creates painful scars that limit mobility. The product has also been successful in recent pilot clinical studies to treat patients with diabetic foot ulcers.

The approach PolarityTE is taking is a deliberate attempt to advance how medicine is practiced. The company was born from a desire by doctors to help patients who have lost hope. PolarityTE was founded by physicians who left their residencies at The Johns Hopkins University School of Medicine to start the company.

Edward Swanson, MD, PolarityTE's co-founder and chief translational medicine officer, said of his decision to walk away from his clinical physician career path, "It became clear that as a physician, PolarityTE was a place I could bring solutions now, not in decades, to patients who have been told there are no other treatment options too many times."

And PolarityTE is on the path to doing just that.

In the three years since its inception, the company has grown from two to more than 150 employees, from 4,000 square feet to more than 200,000, taken a product from bench to bedside, registered a second product with the FDA, and progressed a product pipeline. The company's facilities include roughly 170,000 square feet of R&D and manufacturing space in Salt Lake City and Logan, as well as new corporate headquarters near the Salt Lake International Center.

Company leadership attributes much of the company's growth to the decision to headquarter in Utah, which happened almost by accident. During early talks with PolarityTE executives, a venture capital investor pitched Utah for its impressive business culture. The investor lost the deal, but sold the founders on the benefits of Utah, which convinced them to leave coastal biotech breeding grounds to begin their work in the Beehive State. Dr. Stephen Milner, who left his position as the director of the Johns Hopkins' Burn Center, soon followed to become PolarityTE's chief clinical officer.

Choosing Utah was a business decision for the entrepreneurs to enable them to launch the company with the greatest chance of success. The state's location and infrastructure facilitate distribution, which is key to PolarityTE's business model that requires quick access to customers across the country. They also recognized a growing and thriving life sciences industry already in place in Utah, and hoped to capitalize on the strong Utah economy, affordable cost of doing business, and supportive environment for new business.

"I spent many years of my career in Boston and saw first-hand the 'BioBoom' that the area has seen as one of the world's leading clusters of biotech," said Richard Hague, COO of PolarityTE. "But that explosive growth has also sent real estate and business costs soaring, and so Utah provides a great home for us to operate with the same innovative spirit but without the great expense."

Utah's enviable quality of life and low cost of living continue to be hooks to attract talent to the company's team. The state's universities are also churning out a homegrown, educated workforce that has helped propel the PolarityTE story. More than 35% of the company's employees hold a post-graduate degree.

"We believe that PolarityTE is not only unique in what we do, we are a unique addition to Utah's biotech landscape," said Nikolai Sopko, MD, PhD, chief scientific officer and vice president of research & development at PolarityTE. "We made a promise when we came here to build and cultivate an organization that allows technology innovation to propagate. By having our global headquarters here, we hope to help the state develop its biotech corridor."

PolarityTE recognizes that deep technology companies that are founded on scientific discovery and meaningful engineering innovation take time, and they are in it for the long haul. For them, that means cultivating their people along with the work by fostering a corporate culture where employees can build careers and compete at a global scale – while also building successful and fulfilling lives where their families can thrive. PolarityTE does this by incentivizing volunteerism, advancing diversity, and supporting patients.

But before all else, this physician-founded company aims to put the patient first by building great products and getting them to patients as quickly as possible. "In the end," Sopko said, "the most important outcome is the impact on the patient's life."

Central Campus Research & Manufacturing Center

> **"IT BECAME CLEAR** that as a physician, PolarityTE was a place I could bring solutions now, not in decades, to patients who have been told there are no other treatment options too many times."

—Edward Swanson, MD, Co-founder and Chief Translational Medicine Officer, PolarityTE

Mark Paul, President, Stryker's Neurovascular division

Stryker Neurovascular's Salt Lake City campus

STRYKER
BUILDING FOR THE LONG TERM IN UTAH

Stroke is the number one cause of disability in the U.S. and the fifth leading cause of death. Stryker's Neurovascular division has made it their mission to develop novel technologies in the fight against this catastrophic disease.

Stryker is one of the world's leading medical technology companies. Stryker offers a portfolio of innovative products and services in Orthopaedics, Medical and Surgical, and Neurotechnology and Spine that help improve patient and hospital outcomes.

Stryker first opened operations in the Salt Lake City area in 2011, recognizing the many benefits Utah offers the life sciences industry. In 2017, Stryker built a significant expansion in the state, opening a 137,000-square-foot facility to manufacture the latest technology to treat patients suffering from acute ischemic stroke. As part of the company's Neurovascular division, the facility provides over 400 jobs and includes space for an additional 50,000-square-foot expansion.

Technology produced in the facility include catheters, stent retrievers, balloons, and guidewires, all designed to traverse into the brain's vasculature to remove clots from the brain and restore oxygenated blood. Annually, 795,000 strokes occur in the U.S., which equates to one stroke every 40 seconds.

In addition to its manufacturing operations, Stryker has built a state-of-the-art neurotechnology training center in Salt Lake City. The center is outfitted with seven fully integrated operating rooms, including a high-definition audio and imaging system that enables global communications to enhance the training experience.

Having extended its footprint in Utah, Stryker believes that Utah is an ideal environment for business for several reasons.

First, the state's highly talented workforce, bolstered by numerous universities and technical colleges, provides Stryker a strong and steady pool for future talent recruitment. "We're seeing the university system develop the types of individuals we want to hire: results driven, passionate, innovative employees seeking to improve the lives of patients," said Mark Paul, president of Stryker's Neurovascular division.

Second, Salt Lake City is a major airline hub. This allows physicians from around the globe easy in-and-out access to Stryker's state-of-the-art training facility.

Finally, Salt Lake City has a growing number of local suppliers, machine shops, and high-tech vendors in the area that support the growing number of med-tech companies.

Stryker is well-positioned to continue serving the worldwide medical community for generations to come, and its dedicated Utah team will be key to that effort.

> **"AT STRYKER'S** Neurovascular division, it's our mission to develop the world's leading technologies in the fight against stroke."

CURE FOR CANCER?

THE FUTURE LOOKS BRIGHT

CAN A UTAH BIOREPOSITORY – HOME OF THE LARGEST TISSUE SAMPLE DATABASE IN THE WORLD – BE THE ANSWER TO FINDING A

Authored by David K. Crockett, PhD | Executive Director | Intermountain Healthcare Biorepository

The Intermountain Healthcare Biorepository, located in Salt Lake County, is home to one of the largest tissues sample databases in the world, and it's about to get a lot bigger. It will be a tremendous resource for researchers looking for breakthrough health discoveries or new therapies to treat chronic medical diseases and illnesses.

The Intermountain Biorepository has amassed a collection of tissue and blood samples that currently stands at more than five million samples that fills multiple numbers of 25-foot high shelves in the biorepository storage area. The exciting opportunity? Every single tissue and blood sample holds valuable information that has the potential for medical advancements that the world needs to help lead to potential cures for major diseases.

The foundation of all research is the need for usable data and the biorepository has been able to provide that for decades with hopes to accelerate medical research and discoveries that can improve patient care and health. These are some of the important reasons why the Intermountain Biorepository exists and continues to grow.

The biorepository has been providing this source of data since the early 1970s, when the hospitals that would later become Intermountain Healthcare were owned and operated by The Church of Jesus Christ of Latter-Day Saints. The church gifted the hospitals to the community, with Intermountain formed as a not-for-profit health system in 1975. Now, the healthcare system has grown with the region's population to include 24 hospitals, 215 clinics.

Last September, the biorepository outgrew its space at LDS Hospital and moved to a new, expanded location in South Salt Lake. The new facility has cabinet upon cabinet, shelf after shelf, all lined with samples, and with even more room to grow. Inside are specimens, including tissues sealed in paraffin wax, as well as an increasing number of vital blood samples.

The new center brings with it advanced technology that increases efficiencies in research. This includes the adoption of a sophisticated barcode and electronic inventory management system. The tracking includes de-identification methods that safeguard patient information and provide ways to streamline research processes.

Digital pathology technology allows the biorepository team to quickly create, view, and send slide images to researchers electronically. Data integration innovation gives more clinical context and history about the samples and outcomes for research than were initially available.

Additionally, the biorepository is adding new jobs in Utah, as the center has increased new staff members, for a total of 50 employees working at the biorepository. The team provides deep expertise in research design, bioinformatics, molecular pathology, histology, and in laboratory medicine.

The Intermountain Biorepository has been a key part of an important collaboration with Intermountain Healthcare's Precision Genomics program. The work at Intermountain Precision Genomics started a decade ago with a specific focus on researching how cancer treatments can be much better than the typical chemotherapy and radiation – which often brings harsh and painful side effects.

The research done at Intermountain Precision Genomics Program, with help from the biorepository, is vital in finding the best treatment plans possible that can be tailored specifically to a patient's individual genomic makeup. Researchers are finding that this helps with limiting side effects, improves prognosis, and leads to a better quality of life.

The genomics work has expanded to include more cancer stages, disease types, and even the aspect of behavioral health. Science is finding that DNA holds the keys to everything about us, even including how a medication metabolizes in individual bodies.

"The biorepository allows us to broaden our understanding of how to treat disease from one patient to five million patients," said Lincoln Nadauld, MD, PhD, Intermountain's chief of precision health and genomics. "Every biorepository sample contains a discovery waiting to be unlocked. This biorepository is an endowment from our predecessors, and this building allows us to embark on and execute their vision from years ago. Together, we'll create a foundation of understanding and knowledge that will inform everything we do in healthcare for the next hundred years."

A new initiative announced this summer was the formation of the HerediGene: Population Study. The study will be collecting and analyzing 500,000 samples from consenting participants in Utah and Southern Idaho. Study participants will be able to learn if they have gene variances that need to be addressed for potential cancer or cardiovascular diseases. In return, researchers will be able to build an extensive database for researching disease prevention and treatment.

This is why this large inventory growing at the biorepository is so important, not only to Utah, but to the world. These samples can help identify genetic markers that can be found in disease prevention.

"With the ability to detect chronic problems earlier, it gives caregivers better treatment options," said Dr. Nadauld. "Chronic illnesses can be easier to treat in early stages with higher success rates, easier on the body, and at a lower cost for the patient."

Major medical advancements have been made already, such as with breast cancer and also in advancements in diagnosing cancer with only small amounts of tissue needed.

This is research that is making significant progress in healthcare discoveries–and it starts with the massive collection of samples here in Utah and the researchers working with them.

Pathology tissue and slide prep for staining and pathology review

HEREDIGENE: POPULATION STUDY

The HerediGene: Population Study is a collaborative effort between Utah-based Intermountain Healthcare and deCODE genetics, located in Iceland. The samples collected constitute one of the largest and most comprehensive DNA mapping studies ever undertaken in North America.

Study participants who consent and register for the free study will have their blood analyzed by researchers. If there is a genetic concern for a specific cancer or heart condition that is detected by researchers, then Intermountain will have genetic counselors available to advise participants about their options.

The data will also be de-identified to ensure anonymity before being utilized in research projects that help medical professionals analyze the human genome. This will enhance their ability to predict and prevent diseases such as breast cancer, colon cancer, and heart disease.

The samples, which will be stored at the Intermountain Biorepository, will provide an extensive database that researchers will be able to utilize for many years, even as technology advances.

Intermountain will leverage its renowned precision genomics efforts to improve patient outcomes and transform medicine. More information about the study can be found at www.intermountainhealthcare.org/heredigene.

HOME GROWN

The BioFire® FilmArray® is faster, more accurate, and more comprehensive than traditional testing methods

Biomerics operates 11 cleanrooms, ISO 13485:2016 compliant

Dynatronics outfits Olympic U.S. Speedskating Training Room

"Life sciences is one of the fastest growing industries in Utah. BioFire Diagnostics, Biomerics and Dynatronics are wonderful examples of companies that got their start in the Beehive State, where we embrace a culture of innovation and collaboration. Companies like this aren't just successful monetarily - they make meaningful contributions to our communities as well. I'm grateful for the work they do to improve lives and advance healthcare in Utah."

—Gov. Gary Herbert

BIOFIRE DIAGNOSTICS

Many of the most common infections on earth, like respiratory and gastrointestinal infections, often prove very difficult for physicians to diagnose. Such infections are challenging because several different underlying pathogens can cause outwardly similar symptoms. The flu, walking pneumonia and the common cold may appear indistinguishable. One disease requires an antiviral, another requires an antibiotic, and the third cannot be treated. Physicians are in a similar bind with pneumonia, central nervous system infections and blood infections—many pathogens, yet one set of symptoms.

BioFire's FilmArray system is the first fast, easy-to-use molecular diagnostic system to test for all the reasonable causes of infections for the five most important infectious disease syndromes. The root cause of pneumonia, sepsis, gastrointestinal infections, meningitis and upper respiratory infections can all be easily determined in about an hour.

Each BioFire panel provides patient sample-to-answer, diagnostics using integrated sample preparation, highly multiplexed polymerase chain reaction and high resolution melting analysis. All of this high-tech biochemistry is hidden inside an easy-to-use test.

Instead of guessing, physicians can know the cause of an infection and get the patient on the right drug, quickly. This decreases the unnecessary use of antibiotics, increases the chance that the patient is on the right drug, diminishes the use of additional tests, and reduces the length of hospital stays for many patients. All this adds up to better care for patients and cheaper costs for the hospital.

The ability to help doctors become better doctors and hospitals become better hospitals has made BioFire one of the fastest growing molecular diagnostics companies in history.

BioFire Diagnostics is a fully-owned subsidiary of BioMerieux, a global leader in diagnostic microbiology. BioFire develops and manufactures its tests in Salt Lake City; employing over 2,000 Utahns in rewarding, high-tech jobs. BioFire offers incredible career opportunities in engineering, software, molecular biology, instrument manufacture, and biochemical test manufacturing.

BIOMERICS

Biomerics has roots here in Utah dating back to 1994, when the company first started as a leading custom injection molding facility, in the Intermountain West. In 2009, the company went through a re-branding initiative to reflect a new focus to become a vertically integrated contract manufacturer for the medical device industry known as "BIOMERICS." Biomerics' strategic direction to grow organically and through acquisitions came with a vision to become a mid-market medical device manufacturer that specialized in the design, development and production of medical devices for interventional procedures and markets in cardiovascular, structural heart, cardiac rhythm management, electrophysiology, neurovascular, vascular access, and gastrointestinal/urology. Biomerics focuses its wide range of capabilities into seven "centers of excellence" including injection molding, materials, metals processing, extrusion, machining, balloon and balloon catheters, as well as shafts, sheaths and steerables.

Today, Biomerics has experienced exponential growth, and executes on its strategic direction as a fully vertically integrated contract manufacturer. Biomerics recently merged with a metal processing facility in Monroe, Conn., to expand its capabilities in laser machining, swiss machining, and metal finishing. It now operates eight facilities in five states, including Costa Rica. All facilities are ISO-13485:2016 compliant, and the company employs over 1,300 people. In 2018, Biomerics opened its brand new 270,000 square feet headquarters facility in the Salt Lake International Center, just west of the Salt Lake City International Airport. The new building represents a significant investment in the Utah life sciences business community and its commitment to serving and supporting the industry here in the state.

DYNATRONICS

Dynatronics Corporation (NASDAQ: DYNT) is a leading medical device manufacturer of athletic training, physical therapy, and rehabilitation products with roots in Cottonwood Heights, near Salt Lake City. Originally founded in 1979 with a focus in physical therapy, Dynatronics has evolved into a business with $60+ million dollars in annual revenue and manufacturing sites across the U.S.. The company has approximately 300 employees focused on providing high-quality restorative products designed to accelerate optimal health.

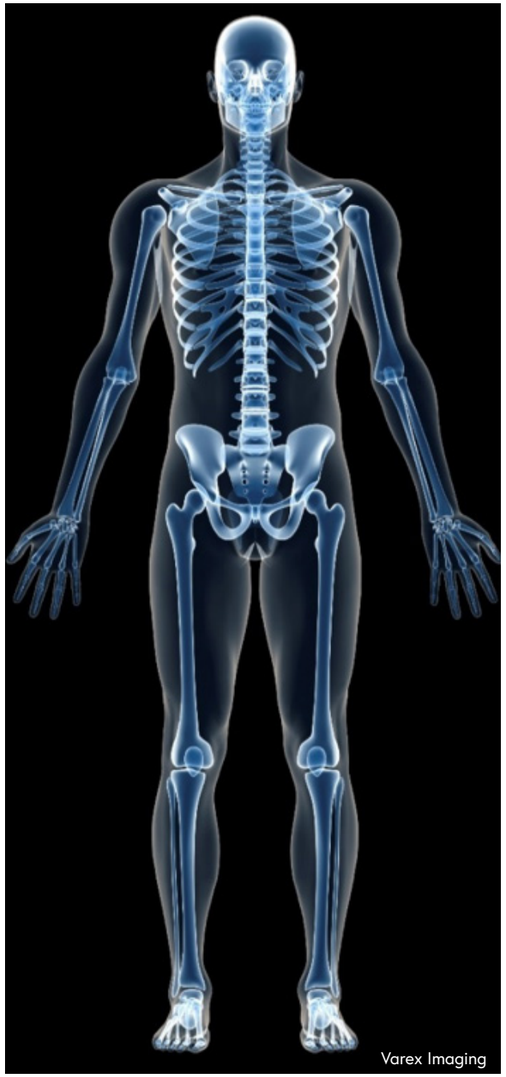
The business sells products under three marquee brands, Bird & Cronin®, HausmannTM, and Dynatronics®, known for high-quality, on-time delivery, and superior customer care. The company's comprehensive suite of restorative products includes treatment tables, therapeutic modalities, medical supplies and orthopedic soft bracing and support products.

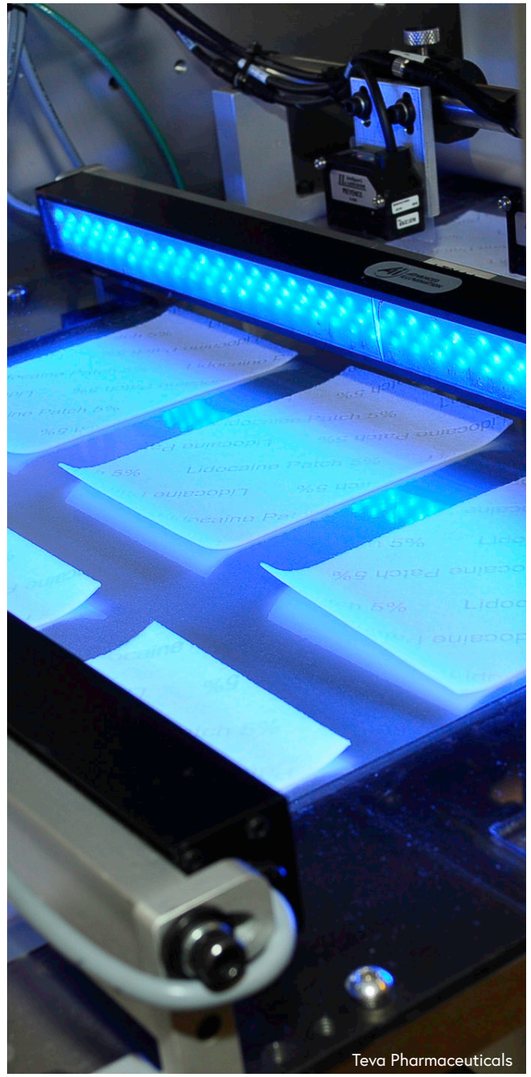
The company went public on the NASDAQ stock exchange in 1984 and trades under the ticker DYNT. In 2015, the company embarked on a new strategy to accelerate growth. Since that time annual revenues have increased from $30 million to over $60 million, raised a total of $20 million in equity financing, and completed two acquisitions. The growth has been aided through a relationship with Prettybrook Partners, a family office dedicated to investing in healthcare companies.

Dynatronics is committed to achieving its core strategic pillars of driving organic growth, margin expansion and focused business development as it serves its customers and patients.

DEEP ROOTS


Edwards Lifesciences


Varex Imaging


Teva Pharmaceuticals

Edwards Lifesciences, Teva Pharmaceuticals and Varex Imaging do business all over the world, but these companies go way back in Utah. Their commitment to their employees and local communities runs deep.

EDWARDS LIFESCIENCES

MEDICAL DEVICE LEADER EDWARDS DRIVES MEANINGFUL INNOVATION FOR PATIENTS

Edwards Lifesciences is a global leader in patient-focused medical innovations for structural heart disease and critical care monitoring. Driven by a passion to help patients, the company collaborates with the world's leading clinicians and researchers to address unmet healthcare needs, working to improve patient outcomes and enhance lives. Edwards' technologies address large and growing patient populations in which there are significant unmet clinical needs.

Edwards established its Utah roots in 1997 with the acquisition of Research Medical Inc., based in Midvale. In 2010, Edwards began manufacturing cardiac surgery systems products and accessories for its transcatheter heart valve systems in Draper, and transferred all existing operations and approximately 250 employees from its Midvale facility to Draper. Currently, there are approximately 1,000 employees in Draper.

Edwards' long-term growth is fueled by innovation and addressing unmet patient needs. Last year, the company invested 17 percent of sales in research & development (R&D), and product growth in recent years is directly related to the outputs of Edwards' R&D. Edwards has been proud to introduce several innovative products that have helped maintain strong global leadership positions and have enabled more patients to benefit from the company's life-saving technologies than ever before.

TEVA PHARMACEUTICALS

WITH RECENT ACQUISITIONS, TEVA CALLS SALT LAKE CITY HOME

Teva Pharmaceuticals is a relative newcomer to Salt Lake City, but the R&D and manufacturing sites it now operates have been part of the area's business economy for more than three decades.

Teva's local presence dates to 2011, when the Israel-based parent company acquired Cephalon and its manufacturing plant near Salt Lake City International Airport. Five years later, in 2016, Teva bought Allergan's generics business, Actavis Generics, and took over that company's R&D and manufacturing facility in Research Park at the University of Utah.

Today Teva produces a wide range of pharmaceutical products at the two manufacturing locations, including hormone replacement therapies; pain relief, hypertension and cold sore medications; and treatments for dermatitis and acne. Its Research Park site is one of just a few transdermal patch production facilities in the world.

The company's Salt Lake City R&D facility—the epicenter for more than 60 product development projects—will launch a number of new generic medicines this year. The Research Park site also houses packaging and warehouse facilities.

Teva's combined operations in Salt Lake City occupy approximately 700,000 square feet of floor space, where the company employs more than 600 highly-qualified people in manufacturing, quality and support services, and R&D.

Teva Pharmaceuticals is the world's leading provider of generic medicines. It produces 120 billion tablets and capsules a year in more than 70 pharmaceutical and active pharmaceutical ingredient facilities around the globe. Its R&D capabilities have expanded beyond tablets, capsules, liquids, ointments and creams to include a broad range of dosage forms and delivery systems.

VAREX IMAGING

A WORLD LEADER IN X-RAY IMAGING COMPONENTS

Salt Lake City has been home for Varex for more than 65 years. Varex is now in its third year as a new public company upon a successful spin-off in January 2017. The company is listed on Nasdaq and traded under the symbol VREX.

Varex is the world's largest innovator and manufacturer of X-ray imaging products that are key components for X-ray imaging systems used in medical imaging and industrial non-destructive testing and security applications. Global original equipment manufacturers incorporate Varex's CT and diagnostic X-ray tubes and high energy X-ray sources, digital detectors, connecting devices and software into their systems to detect, diagnose, inspect and protect.

More than 1,000 people work at Varex's headquarters and primary manufacturing facility in Salt Lake City. Globally, Varex employs approximately 2,200 people at more than 20 manufacturing and service center sites in North America, Europe, and Asia.

Each year Varex makes more than 25,000 X-ray tubes, 23,000 digital detectors and 100,000 high voltage cable assemblies. Over 90% of global medical OEM X-ray imaging system manufacturers are Varex customers that include numerous 40-plus year partnerships.

- Varex continues to see large and healthy end-user markets for its medical and industrial X-ray imaging products, particularly CT applications.
- Investments in R&D will allow the company to develop new technologies and bring new products to market that will further differentiate Varex from competitors.
- China and other emerging markets around the world are important to Varex's future growth.
- Conversion to digital imaging in industrial non-destructive testing and inspection is being driven by increased speed and performance of new detectors that enable quicker, higher resolution and 3D imaging.
- Conversion to digital imaging in medical systems is driving demand for both Varex's detectors and new high-performance X-ray tubes that enable more advanced 2D and 3D imaging.

STARTUP SCENE


Clene Manufacturing of Nanotherapeutic Drugs


Curza CEO, Ryan Davies being interviewed on Bloomberg News

Utah has a long tradition of medical innovation, so it's no wonder that these visionary startups, Clene Nanomedicine, Curza and Reddyport, are pioneering novel breakthrough therapies and technologies.

CLENE NANOMEDICINE
FOUNDED IN 2013

"Much larger pharmaceutical companies have failed in their quest to develop better drugs for MS, ALS and Parkinson's. If Clene succeeds, patients will benefit, while Utah will witness the rise of a new, global biopharmaceutical company."

—Rob Etherington, President & CEO, Clene Nanomedicine

Using a patented nano (super small) technology, called Clean-Surface Nanosuspension™, Clene Nanomedicine (Clene) is developing first-in-class, innovative drugs to help treat diseases like multiple sclerosis (MS), amyotrophic lateral sclerosis (ALS), and Parkinson's. These are nanocrystal drugs, which are in a much smaller form than traditional drugs, resulting in better absorption, potentially faster efficacy, and fewer side effects.

Clene's lead product, CNM-Au8, is the only nanocrystal drug to be studied in pre-clinical animal models of demyelination and neurodegeneration. It is also the only nanocrystal drug that's received FDA approval for both Phase 1 and Phase 2 human clinical trials, and has been granted orphan drug designation for ALS by the FDA.

Demyelination, the damage or loss of the myelin sheath surrounding nerve cells, is a critical component of major neurological disorders in the central nervous system, such as MS. Encouraging results for the repair of myelin have been achieved with CNM-Au8. For MS, this myelin repair could delay or reverse disease progression.

As a startup, Clene had a choice of where to locate. After a short initial beginning in California's Silicon Valley, Rob Etherington, president & CEO, moved the company to Holladay, near Salt Lake City, at the base of the Wasatch Mountains. He was impressed by Utah's business-friendly climate, thriving economy, talent, and wonderful quality of life.

Clene has a vision for a pharmaceutical future that will give new hope to patients with neurodegenerative diseases. That future could be closer than you think.

CURZA
FOUNDED IN 2013

"Curza is waging war on the worldwide superbug crisis - developing the first new class of antibiotics in over 20 years to fight drug-resistant bacteria, and we're proudly making it happen in Utah."

—Ryan Davies, CEO, Curza

Resistance is rapidly rising to commonly used antibiotics. In fact, the World Health Organization predicts drug-resistant infections could cause 10 million deaths a year (more than cancer) by 2050. In the U.S. alone at least two million people become infected with antibiotic-resistant bacteria each year.

Enter Curza - a startup targeting new antibiotics to kill drug-resistant bacteria, which cause hospital-associated and other deadly infections. Since the 1960's, most so-called "new" antibiotics have just been variations of existing antibiotics, and hence, largely ineffective. While big pharma are interested in new antibiotics, they have largely exited this area of research and development (R&D), creating an opportunity for innovative companies like Curza. Curza's business model is to do early-stage R&D through Phase 1 clinical trials, then license its drug assets to large pharmaceutical companies who complete clinical trials, and manufacture and distribute the drugs for patient use.

Ryan Davies, CEO, founded Curza in Salt Lake City, despite the opinion of many venture capital firms that Utah lacks the talent found in the biotechnology hubs of Boston, San Francisco, and San Diego. Davies believes Curza is proving them wrong, noting that Utah offers a highly skilled, intelligent workforce, and an exceptional quality of life for Curza employees. Curza has already raised $30 million and recently completed a new laboratory in the University of Utah's Research Park.

The future trend of drug-resistant infections is alarming. Curza's quest to turn the tide is more important than ever.

REDDYPORT
FOUNDED IN 2015

"ReddyPort is disrupting the medical device industry by developing products that raise the standard of care for patients requiring vital respiratory care."

—Andrew Hansen, CEO, ReddyPort

Increasingly, Non-Invasive Ventilation, or NIV, is the therapy of choice for patients with acute respiratory failure or progressive lung disease, such as Chronic Obstructive Pulmonary Disease. NIV, as the name implies, is non-invasive, providing ventilator support through a patient's upper airway using a mask connected to a machine. Artificial respirators, in contrast, involve intubation via the trachea. NIV offers patients an effective alternative that reduces complications and is suitable for in-home use.

That's the upside. The downside: patients need to remove their masks to talk clearly or receive treatment involving the mouth. Doing so disrupts critical therapy.

ReddyPort's novel oral access "Elbow" device is changing that. The Elbow has a valve that self-seals from ventilator pressure. This allows clinicians to easily access the mouth so patients can receive oral care, voice amplification, capnography, and endoscopy and keep their masks on.

ReddyPort manufactures a host of products for use with the Elbow. There's an oral care kit so clinicians can clean a patient's mouth, which cuts down on hospital acquired pneumonia. There's also an industry-first disposable microphone/speaker system that enables patients to speak clearly while wearing a mask.

ReddyPort, headquartered in Salt Lake City, sees tremendous advantages in doing business in Utah. They point to the state's med-tech talent pool and support for vigorous R&D that provides an entree to clinical experts and caregivers that help ReddyPort continue to advance its products.

NIV is a breakthrough technology. ReddyPort is making it even better.


Reddyport's Oral Access Device the "Elbow"

MEDICAL INNOVATIONS PATHWAYS
WORKFORCE

Keyana Besendorfer, MIP graduate and Production Associate at Stryker's Neurovascular division

The Utah Medical Innovations Pathways (MIP) program helps students, like Keyana Besendorfer interviewed here, land good-paying jobs with top-notch local life sciences companies right after high school. Students take special courses while still in high school and learn real-world skills. They shadow professionals in the field and earn a Medical Innovations Certificate. Program graduates are guaranteed job interviews with MIP partner companies, including BD, BioFire Diagnostics, Biomerics, Edwards Lifesciences, Fresenius Medical Care, Merit Medical Systems, Nelson Labs, Sintx, Stryker, Teva Pharmaceuticals and Varex Imaging. It's a fast track to promising careers in the industry, with the opportunity for paid college tuition. Just ask Keyana, a 2018 MIP graduate from Granite School District, who now works for Stryker's Neurovascular division.

Q. WHAT IS YOUR JOB AT STRYKER? HOW LONG HAVE YOU BEEN THERE?

I'm a production associate, with the Salt Lake City production team. I've been at Stryker for seven months now, and I'm part of a sub-assembly team responsible for producing the Trevo® XP Provue Retriever device used in the treatment of acute ischemic stroke. My job involves intricately weaving a 0.0015" platinum wire around a stent to make it visible for physicians under fluoroscopy during a thrombectomy procedure.

Q. DID YOU KNOW MUCH ABOUT THE LIFE SCIENCES INDUSTRY BEFORE YOU ENROLLED IN THE MIP PROGRAM?

I've always been interested in science and math, and initially started pursuing a career as a pharmacy tech—receiving my certification here in Utah. However, I later found out about the MIP program, and after exploring it, decided to start the program in my senior year, requiring me to complete two and a half years of study in one semester. I just loved it!

Q. WHAT EXCITED YOU THE MOST ABOUT WHAT YOU LEARNED?

As part of the MIP program, we got a chance to tour and job shadow at various companies. I started researching more about each of the companies to see if it was a good fit for me.

Q. WHAT DO YOU LOVE ABOUT WORKING AT STRYKER?

I love the environment here, and I connected with Stryker's mission to help people and make healthcare better. I love what I'm doing right now, and it's exciting that I get the opportunity to work side by side with the engineers and research and development teams to help shape "what's next" for the medical technology industry.

Q. WHAT'S YOUR VISION FOR CAREER ADVANCEMENT AT THE COMPANY?

Stryker has a great tuition reimbursement program that I hope to utilize in the future. I want to look at material or quality engineering, and instead of giving feedback to the engineers, be the one receiving feedback.

Q. WHAT ADVICE WOULD YOU GIVE STUDENTS THAT ARE CONSIDERING MIP?

Use your opportunity wisely to research all the companies that support the MIP program. There are so many companies with hundreds of products and thousands of different things you could do. While looking into different opportunities, consider the company and the people you will be working alongside. It's fantastic to work in an environment where you enjoy those you work with. Being an MIP program graduate opens doors.

Q. TELL US SOMETHING ABOUT YOURSELF THAT'S NOT ON YOUR RESUME.

I love living in Utah because I'm a big outdoors person. I love camping, hiking and fishing.

This past March, I lost my Mom due to complications from a past surgery, and she was a huge inspiration for me to work hard and complete the MIP program. This experience has made me extremely patient-driven. She was my hero.

> **"IT'S EXCITING** that I get the opportunity to [...] help shape 'what's next' for the medical technology industry."

BIOUTAH

A VOICE FOR UTAH'S LIFE SCIENCES

Authored by Denise Bell | Vice President | Programming & Government Affairs | BioUtah

CONVENE.
PARTNER.
BUILD.

- We **CONVENE** for a robust exchange of ideas.
- We **PARTNER** to find solutions.
- We **BUILD** capacity for innovation, investment and growth.

"BioUtah is a powerful advocate for the life sciences. There's tremendous value in its ability to leverage our collective voices and tell our story before government, media, the public and investment community."

—Fred P. Lampropoulos, Founder, Chairman & CEO, Merit Medical

ABOUT BIOUTAH

Utah has the fastest growing life sciences industry in the nation, and BioUtah is spreading the word. The trade association is working to raise the industry's profile in the state and across the nation. Launched in 2012, BioUtah is the state's only trade association dedicated solely to the life sciences.

Members of BioUtah reflect the industry's diversity, from research and medical device manufacturing to diagnostics, biotechnology and biopharmaceuticlas. They include Fortune 500 companies, startups, and everything in between, including service providers and academic centers.

"Our members represent all aspects of Utah's life sciences ecosystem," said Brandi Simpson, CEO of Navigen, and vice chair of the BioUtah board of directors. "As an association, we're focused on uniting our growing industry and positioning the state to become an epicenter for medical innovation."

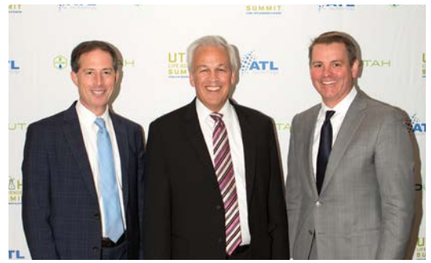
ADVOCACY AND PARTNERSHIPS

Legislation and regulation at both the federal and state level impact the industry. "We actively engage in policy debates and partner with other organizations, such as the Governor's Office of Economic Development, to advance a pro-innovation agenda," said Kelvyn Cullimore Jr., president & CEO of BioUtah. "Our ultimate goal is to support the industry's mission to help people lead longer, healthier lives."

As a startup, it's important to stay connected," said Tod Schulthess, COO of Thunder Biotech. "BioUtah is one of the best sources of industry news and information, offering a weekly e-newsletter direct to my inbox."

The Utah Life Sciences Summit, as well as the Entrepreneur and Investor Summit, are among the many events that BioUtah organizes each year, allowing its members to network and hear from key leaders and influencers.

BioUtah is a state affiliate of several national counterparts, including the Biotechnology Innovation Organization, AdvaMed, PhRMA and the Medical Device Manufacturers Association.



From left to right: Dr. Jeffrey Shuren, CDRH Director, FDA; Kelvyn Cullimore Jr., President & CEO, BioUtah; and Rob Etherington, President & CEO, Clene Nanomedicine, and Chair, BioUtah Board of Directors, at 2018 Utah Life Sciences Summit

BIOUTAH

THERE'S STRENGTH IN NUMBERS.

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