

Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.



2017 Portfolio of Startups Licensable Technology Platforms (LTP's) Regenerative Medtech – Organ Regeneration

Introduction

Leonhardt's Launchpads is an innovation and startup accelerator focused on regenerative medtech and regenerative economy startup launches. The accelerator nurtures a maximum of 30 startups in a given portfolio class.

All startups to date have originated from inventions coming from founder Howard J. Leonhardt and his venture creation lab Leonhardt Ventures LLC. A lions share of the startups in the current accelerator class are all based on the same core platform technology for organ regeneration and recovery. This patented and patent pending core platform is based on bioelectric stimulation controlled release of organ regeneration promoting proteins and when needed for serious recovery cases combined with a re-fillable micro infusion pump and a proprietary fifteen component mixed stem cell and growth factor based organ regeneration composition.



The Leonhardt team has been working on organ regeneration research since 1985.

History

The Leonhardt team has been working on organ regeneration and recovery since 1985 with a focus on heart recovery. The team completed the first stem cell repair of a dog heart in 1988 and the landmark first ever non-surgical living cell based repair of a human heart in 2001. The current organ regeneration product lineup is based on more than 33 years of experience and accumulated improvements.

In 2013 they formed an innovation accelerator in California to work to apply what they learned from all this experience in heart regeneration into treating additional body organs.

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The primary history of the organization follows the history of the founder. Howard J. Leonhardt the founder of Leonhardt's Launchpads is an inventor with 21 issued U.S. patents and numerous others patents pending. Over 400,000 patients have been treated to date with Leonhardt inventions generating billions of dollars in revenues.

In the 1980's Leonhardt pioneered the development of turn key cardiac cath labs and CCUs and patented a line of predictably compliant cardiovascular balloon catheters Poly-Cath. He collaborated with DMG and Labor in Brazil in the development and marketing of blood oxygenators and heart valves.

In the 1990's Leonhardt patented the first commercially successful endovascular stent graft systems for aortic aneurysm repair TALENT, the first percutaneous heart valve - StentValve, the first stem cell delivery catheters Pro-Cell and MyoCath, a radiation delivery catheter RADICATH and improvements to intravascular lungs PENSIL. His patented TALENT stent graft system now a part of Medtronic controls close to 50% of the world market share for endovascular repair of aortic aneurysms.

In 1985 Leonhardt began a dialogue with Dr. Robert Becker the author of the book The Body Electric and that led to research on bioelectric organ regeneration. In 1999 he helped lead the first of a series of publications and patents for bioelectric driven organ regeneration and recovery. That same year he founded Bioheart, Inc. the first company focused on stem cell repair of human hearts. This led to the historic first-in-man non-surgical stem cell based repair of a human heart in early 2001.

In 2000 Leonhardt set up operations in Northern California and began a long-standing collaboration with the University of Northern California Science & Technology Innovation Center.

In 2008 Leonhardt's Launchpads NorCal was formed, in 2013 Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. in Santa Monica, 2015 Leonhardt's Launchpads Utah, Inc. in Salt Lake City and 2017 Leonhardt's Launchpads Playa Vista, California.

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Business Model

Leonhardt's Launchpads accelerates each startup through first in man clinical results and then seeks a strategic partner/buyer preferably with a 3% royalty on net sales forward. Startups stay in the accelerator a maximum of 5 full years and then must exit.

Startups in the accelerator generally start with this ownership structure and valuation:

50.1% owned by Leonhardt Venture (non-dilutive)

9% owned by Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. (non-dilutive at base of 9% with pre-emptive right to acquire 20% during acceleration course).

40.9% owned by angel investors and management team members

Valuation: \$2.3 to \$5 million

Authorized Shares: 2,300,000 to 5,000,000

Share Price: \$1 per share

Typical Target Exit Price: \$240 to \$800 million

Target Goal Post 5 Year ROI for Accelerator Shares = 23X

Target Goal Post 5 Year ROI for Startup Shares = 63X

We seek as a goal to minimize dilution to 37% from year 1 investors to exit.

Leonhardt's Launchpads holds a pre-emptive right to acquire up to 20% of any startup in the accelerator during the 5-year maximum course of acceleration at market prices prevailing at the time.

Startups all begin in the accelerator as Licensable Technology Platforms (LTPs) until they are mature enough to financially stand on their own and then they are spun out into a separate C corporation. If someone owns 1% interest in an LTP they will own 1% interest in the C corporation once it is spun out.

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Investment Model

Investment is 2:1 if someone invests \$30,000 in Leonhardt's Launchpads they receive in return:

\$30,000 worth of shares of Cal-X Stars Business Accelerator, Inc.
DBA Leonhardt's Launchpads @ \$0.36585 a share =

A warrant to acquire at no further charge \$30,000 worth of shares
of any startup in our accelerator at market prices conversion.

The investor has until December 31st of the year they invested to decide their allocation amongst the 30 startups. They can decide \$1000 each in all 30 startups or can choose to put all \$30,000 in just one startup. Allocations must be at least \$1000 and should remain in \$1000 unit increments.

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Top Startups

Current Predicted Schedule for having minimum progress level to seek a Strategic Partner/Buyer by Startup (*SUBJECT TO CHANGE*).

Top 6 startups in our accelerator ripe for finding a strategic buyer in 2018

1. OrthodontiCell
2. VascuStim
3. Second Heart Assist, Inc.
4. Stem Cell Bra
5. HairCell
6. BioLeonhardt

Top 6 startups in accelerator ripe for finding a strategic partner/buyer in 2019

1. CancerCell
2. CerebraCell
3. MyoStim ED
4. SkinCell Stimulator by MyoStim Skin
5. PancreaCell
6. PressureStim

Top 6 startups in accelerator ripe for finding a strategic partner/buyer in 2020

1. Valvublator
2. LiverCell
3. BioPace
4. AortaCell
5. DentaCell
6. EyeCell

Top 6 startups in accelerator ripe for finding a strategic partner/buyer in 2021

1. InStim
2. CoroStim VibroCell
3. KidneyCell
4. BladderCell
5. RegenaLung

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6. MucosaCell

Top 6 startups in accelerator ripe for finding a strategic partner/buyer in 2022

1. BioLeonhardt Whole Body
2. The California Stock ExchangeTM
3. Leonhardt Food & Beverage
4. Kindheart Lionheart Media & Publishing
5. EarCell
6. HeartScore

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Our Companies – Short Updates

HEART AND CARDIOVASCULAR

BioLeonhardt - Heart Regeneration

BioLeonhardt has developed a programmable implantable stem cell pump and electrical stimulator combination for treating advanced heart failure.

Milestones:

- Completing rat and pig studies with USTAR and NSF SBIR Funding at University of Utah.
- Filed new patent application.
- Preparing for NIH application with Dr. Doris Taylor Texas Heart Institute.
- Completed lab and "heart in a dish" studies in our own lab and at University of Utah with our own team members.
- Adding HIF-1 alpha, PDGF, IL-6 to bioelectric signals estate.
- Secured sourcing for growth factors via amniotic fluid at University of Utah.
- Designed, developed, built and tested pacing infusion leads with corkscrew tip with Biomerics.
- Designed, developed and tested bioelectric stimulators and signal programs with Mettler, QIG Greatbatch, Grass Instruments, Ionoptix and Axion Ventura.
- Designed, developed and tested with NSF SBIR funding of > \$2 million micro infusion pumps for delivery of mixed stem cell based composition.
- Presented at CRT and International Academy of Cardiology.
- HFSA investigator meeting with 14+ heart failure leaders September 17th.
- Presenting at CHI Cardiovascular Regenerative Medicine conference in Houston September 15th and 16th.
- Secured \$150,000 grant award from USTAR and \$150,000 potential grant award from NSF SBIR working with Fluid Synchrony LLC.

AortaCell - Aorta Regeneration

Microcurrent Directed Stem Cell Repair of Aortic Aneurysms

Microcurrent energy signal waveform causes aortic tissue to release SDF-1 the universal stem cell homing signal which causes stem cells to migrate from a patient's bone marrow, fat and circulating blood to the tissue where the signal energy is focused. After recruitment of stem cells, the polarity of the signal is reversed and voltage dropped and this triggers differentiation of the cells into smooth muscle.

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Milestones:

- Seeking research institution for large animal studies.
- Filed new patent application. Completed animation video.
- Updated web site with related scientific references.

BioPace - Biological Pacemaker Regeneration

A process for providing a biological pacemaker for the human heart wherein the sino-atrial (S-A) node cells are removed from the heart and cultured to generate a critical mass of S-A node cells of sufficient quantity to generate a depolarization wave capable of stimulating the cells of the myocardium to ensure normal or near-normal pumping action in the heart. The critical mass of S-A node cells are then implanted in the myocardial tissue of the right ventricle to provide biological pacing for the heart which is sensitive to and variable with normal increase and decrease of output demands on the heart.

Milestones:

- Filed NIH grant at University of Utah with Dr. Alonso Moreno.
- Filed new patent applications.
- Arranged licensing agreement and sponsored research agreement with the University of Utah.
- Updated web site with related scientific references.

Valvublator - Heart Valve Regeneration

The Valvublator is an 8FR deflecting tip catheter with a special tip for decalcifying and cell sodding heart valve leaflets so a patient may keep their own heart valve instead of getting an implant.

Milestones:

- Filed patent application.
- Getting quote from Biomerics and designing, building and testing prototypes.
- Presented at CRT D.C. Annual Meeting.
- Signed up Dr. Ron Waksman as an advisor.
- Completed animation video. VibroCell (includes CoroStim) – vibrational energy to prevent clots, plaque, calcification.
- Filed patent application.
- Getting quote from Biomerics to design, build and test prototypes.

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- Filed \$175,000 grant application with USTAR. Passed through to final round for funding approval.
- Updated web site with related scientific references.

HeartScore - Genomics & Bioelectric based HF and stroke management

Milestones:

- Developed research collaboration with Pacific NeuroScience Institute and NeuroDirect.
- Secures research lab space in Santa Monica.
- Filed patent on "stroke brain saving helmet and brain saving protocol".
- Developed research collaboration with NeuroDirect for "Time is brain. Time saving is brain saving." collaborative research related to brain scanning helmet and program.

Vascustim – (formerly MyoStim Peripheral, includes EndoCell)

Limb salvage regeneration, blood flow improvement for critical limb ischemia, diabetic leg and foot ulcer treatment, artery regeneration

Milestones:

Completed 7 successful patients in Mexico with just two signals. Working with collaborators in Europe completed 47 bioelectric and 16 stem cell patients with success. Sourced exclusive supply of amniotic fluid and membranes in Utah. Preparing for 510K submission to full commercial approval for bioelectric stimulator working with Mettler Electronics in Anaheim, CA. Updated web site with related scientific references.

Second Heart Assist, Inc. – Wireless Powered Chronic or Temporary Circulatory Assist Pump in Aortic Stent.

Second Heart is developing a minimally invasive circulatory support platform based on proprietary aortic stent pump technology. The platform will be deployed using low profile catheter-based techniques and will provide either temporary or chronic circulatory support, depending on the specific needs of the patient.

Milestones:

- Completed full development of catheter device and all lab performance testing with Biomerics Advanced Catheter in Minnesota.

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- Complete first Phase of large animal studies at Tufts Medical Center with successful results.
- Phase II scheduled for October.
- Expect to move to first-in-man studies under Early Feasibility Study FDA pathway in December or early next year.
- Licensed 4 patents from Caltech.
- File 2 of our own patents.
- File grant application for \$175,000 with USTAR and passed through first phase to award and are now in final grant review round for award.
- HFSA investigator meeting with 14+ heart failure leaders September 17th in Dallas.
- Recruited key personnel including Jeff Donofrio, former Cardiac Assist, Inc. foundational team leader, as President.

PressureStim - Bioelectric treatment of high blood pressure via improved arterial elasticity and bioelectric membrane potentials management

Milestones:

- Filed patent application.
- Announced launch of startup.
- Contracted with QIG Greatbatch to build device.
- Completed animation video segment.
- Updated web site with related scientific references.
- Arranged licensing of issued patents from Neuro Code Tech Holdings LLC.

BRAIN

CerebraCell (includes CerebraCell Brain-N-Hance and CerebraCell Concussion) – Brain Regeneration, Cognitive Function Improvement, Concussion Recovery

Milestones:

- Completed helmet prototypes. Developed stimulator.
- Signed up Dr. Santosh Kesari as Chief Medical Advisor.
- Set up lab at Pacific NeuroScience Institute Santa Monica, CA.
- Launching lab and animal studies in Los Angeles in collaboration with LABiomed Harbor UCLA and Pacific Neuroscience Institute.
- Filed patent applications. Met with Kernel about collaboration.
- Developed multiple slide decks.
- Presented to concussion recovery research groups.
- Received \$2 million funding term sheet.
- Developed collaboration with NeuroDirect.

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- Signed by Warren Merrifield, Ph.D. as an advisor.
- Developed research plan with Dr. Michael Levin at Tufts University.
- Signed Dr. Levin into a consulting contract.
- Updated web site with related scientific references.
- Developed multiple slide decks by ailment application.
- Presented at Neuro Tech Leaders' Summit.

COSMETIC and PERSONAL CARE

Stem Cell Bra – Breast Regeneration

Completed successful 3 sheep study in Argentina. 20 to 30% breast tissue growth with only 1-hour stimulation every other day for 4 weeks. Completing tumorigenicity and toxicity studies at Charles River and other labs to be ready to enter first-in-man studies later this year or early next year. Developed consulting agreement with Dr. Joel Aronowitz Cedars Sinai UCLA.

DentaCell – Dental Gum Regeneration + Tooth Pulp Storage

Developed tooth pulp storage program with FDA certified blood bank. Developing with Dr. Val Kanter in Beverly Hills, CA root canal treatment product. Hired Tom Newman as President. Developing tooth bone height.

OrthodontiCell – Bioelectric Stimulator for Accelerated Tooth Movement and Freezing Teeth Positions Straight

Completed small animal protein expression studies in Argentina, in our lab in Utah and at University of Utah. Filed protocol at Forysth Institute Boston for controlled full scale GLP animal study. Preparing for first-in-man studies at UCSF. Updated web site with related scientific references. Hired Biomerics Utah to make conductive mouthpieces. Secured significant investment capital. Hired Mettler Electronics of Anaheim, California to build stimulators.

SkinCell Stimulator by MyoStim Skin – Skin Regeneration

Secured source for face mask. Completing safety and tumorigenicity tests. Filed patent application. Developed multiple animation videos. Sourced stimulator supply.

MyoStim ED – Bioelectric Erectile Dysfunction Treatment

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Filed grant application with USTAR. Filing grant application with NIH STTR with Harbor UCLA LABioMed. Recruited Dr. Nestor Gonzalez-Cadavid as Chief Scientific Officer. Filed patent application. Posted supporting scientific articles on web site.

HairCell – Hair Regeneration

Preparing for first-in-man studies in Canada. Developed collaboration with Tesla HairBrush team in Canada. Recruited Dr. Bernhard Rudert inventor of TeslaBrush as advisor. Held meetings with Probitry Medical Canada for site management for multi-center trial. Getting quotes from 3 vendors for all basic safety tests including tumorigenicity. Developed slide deck.

MAJOR ORGAN REGENERATION

EyeCell – Eye Regeneration

Completed lab and human cadaver eye studies. Successful protein expression results. Preparing for animal studies at U of Utah. Secured \$62,500 in grant funding so far. Filed patent application. Created animation video. Created slide deck. Created web site.

PancreaCell – Pancreas Regeneration

Preparing NIH STTR grant application with Diabetes Research Institute in Miami. Hired Dr. Harish Kapoor as President. Created English and Chinese animation videos. Presented and Pancreas Annual Meeting in Chicago.

RegenaLung (includes ECMO-Cath) – Lung Regeneration (includes 50% owned subsidiary RegenaLung COPD) cannula for infusing oxygen directly into the blood using an oxygenator, a medical device that acts as an artificial lung.

Developed research dialogues with Mayo Clinic, Cedars Sinai UCLA and team in Canada. Filed patent applications. Designed lung cannula. Launched spin out ECMO-Cath.

LiverCell – Liver Regeneration

Filed patent application. Developed animation video. Hire Ben Boytor as President. Developed research collaboration with Duke University. Created web site. Posted supporting scientific studies on web site.

KidneyCell – Kidney Regeneration

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Filed patent application. Updated web site with related scientific references. Created animation video.

EarCell – Ear Hearing Regeneration

Recruited Ken Evans as President. Filed patent application. Updated web site with related scientific references.

BladderCell – Bladder Regeneration

Recruited Laurelle Johnson as President. Filed patent application. Updated web site with related scientific references.

MucosaCell – Sub-Mucosa Regeneration

Recruited Dr. Stuart Williams as Chief Scientific Officer. Developed research collaboration at U of Louisville. Filed patent application.

BioLeonhardt Whole Body Regeneration – Whole Body Regeneration

Held meeting with NSF SBIR director of Regenerative Medicine Dr. Ruth Shuman. Filed patent application. Developed animation video.

CANCER TREATMENT

CancerCell – Bioelectric Cancer Tumor Treatment + Regeneration

Licensed 4 patents from Neuro Code Tech Holdings. Secured lab space at John Wayne Cancer Institute and Pacific NeuroScience Institute. Launched research plan with Pacific NeuroScience Institute and LABioMed and Tufts University.

Regenerative Economy

The California Stock Exchange™ (includes Cal-X Crowdfund Connect) – Alternative financing tools for social good impact and life science companies

Launched Cal-X 30 Social Good Impact Fund. Published Leonhardt's Top 20 Tips for Crowdfunding Success. Registered Trademark.

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Kindheart Lionheart Media & Publishing – Social good impact and life science media

Launched The Kindheart Lionheart TV Network > over 3 billion views across all programs. Developed 4 original programs. Launched Kindheart Lionheart Startup Media Support Services. Completed 12 videos for Leonhardt's Launchpads startups.

Leonhardt Food & Beverage – Social good impact and life science research fund raising via beverage, food and related support services

2012 Cabernet Sauvignon Leonhardt Vineyards 90 cases in stock. Secured western states distribution for Lionheart Cider. Arranged western states distribution for Lionheart Lager. Arranging western states distribution Lionheart Kombucha, Lionheart and Lion Coffees. Developed full franchise package for Lucille's American Cafe's. Built and tested first mini electric food truck. Held 8th Annual Wine Country Baseball Classic in Napa.

Leonhardt Accelerators & Incubators – Social good impact and life science innovation & startup incubators and accelerators in California and Utah

Leonhardt's Launchpads Utah, Inc. secured more than \$500,000 in grant awards and is in final round for another \$150,000.

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Patents & Clinical Data

Patents

- Filed dozens of patent claims for bioelectric organ regeneration. Now up to 17+ regenerative protein signals discovered = SDF-1 (stem cell homing), IGF-1 (DNA repair), HGF, EGF, PDGF, VEGF, HIF 1 Alpha, eNOS, Activin A+B, RANKL, OPG, TNF A, IL-6, Follistatin, Tropoelastin, Stem Cell Proliferation and Stem Cell Differentiation Control.
- Filed dozens of patent claims for combination bioelectric stimulator + micro infusion pump + mixed stem cell + growth factor composition for organ regeneration and recovery.
- Filed patent claims for heart valve decalcification and regeneration.
- Filed patents claims for bioelectric treatment of cancer = (1) read bioelectric communication signals of cancer tumor, (2) jam cancer tumor communication ability, (3) change surface protein expression of cancer tumor so body attacks it - immunotherapy, (4) starve cancer tumor of blood supply, (5) delivery signals to stop cell division and (6) after cancer tumor is eradicated then regenerate organ back to full function and health.
- Filed patent claims for vibrational harmonic energy device to prevent blood clot, calcification and plaque formation on blood contact surfaces.
- Filed patent for 1st generation circulatory assist catheter with wide area open stent and reliable impeller, high flow at low RPMs.
- Option Licensed 6+ patents from Caltech for 2nd generation wireless circulatory assist pump within a stent.
- Filing patent application for 2nd generation combination circulatory assist device with super low RPMs combination pulsatile and continuous pump.
- Filed patent application for accelerated tooth movement and stabilization.
- Filing patent application for bioelectric stimulation to increase milk production in mammals.
- Option licensed in numerous patents from Neuro Code Tech Holdings LLC for bioelectric reading and stopping communication and growth of cancer tumors for CancerCell.
- Option licensed in patents from Neuro Code Tech Holdings LLC for bioelectric blood pressure management.

Clinical Data

- Vascustim completed 7 successful limb salvage patients in Mexico with bioelectric stimulation two signals only SDF-1 and VEGF. Side effect noted was increased hair growth on stimulated healthy legs compared to controls validating HairCell protocol.
- This followed previous Leonhardt Ventures sponsored 16 patient study in Czech Republic with adipose derived cells. Study demonstrated limb salvage in 12 of 16 patients previously on short term amputation list. Vascustim is now planning to conduct a new trial with this team. This team on their own published a new animal study demonstrating growth factors with cells is superior to cells alone.

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- Vascustim collaborative researchers in Denmark completed 47 patient clinical study for diabetic leg ulcers with wireless microcurrent stimulation. 95% healing of previous non-healing ulcers @ 8 weeks.
- Vascustim's amniotic fluid and amniotic membrane partner in Utah completed hundreds of successful accelerated wound healing cases including previous non-healing diabetic foot and leg ulcers.

Pre-Clinical Data

- Sheep study in Argentina with Dr. Jorge Genovese demonstrated 20 to 30% breast tissue growth with only 1-hour stimulation every other day with only two signals (SDF-1 + VEGF with Stem Cell Bra. No adverse events.
- Sheep study in Argentina demonstrated increased milk production in bioelectric stimulated animals.
- Completed EyeCell human cadaver eye stimulation studies with successful protein expression results with USTAR grant support. Moving now to small animal studies at University of Utah.
- Completed OrthodontiCell protein expression studies in small animals and in lab dishes with successful results for RANKL average of 44% increase over baseline and OPG average 1038% increase over baseline.
- Completed development of OrthodontiCell controlled animal study at Forsyth Institute and submitted for animal ethics committee approval.
- Completed outline for OrthodontiCell clinical protocol to start at USCF and Tufts Medical Center.
- Complete BioLeonhardt "heart in a dish" pre-clinical studies at University of Utah with USTAR grant support.
- Completed Second Heart Assist catheter bench top performance studies with successful results in Minnesota.
- Completed Second Heart Assist catheter Phase I large animal study at Tufts Medical Center with successful results.
- About to launch "brain in a dish" studies for CerebraCell at the Pacific NeuroScience Institute.
- About to launch "cancer in a dish" studies for CancerCell at the Pacific NeuroScience Institute.
- Developed heart regeneration protocol outline for future grant application submission with Dr. Doris Taylor at Texas Heart Institute.
- Developed pancreas regeneration protocol outline for future grant application submission with Dr. Camillo Ricordi at the University of Miami Diabetes Research Institute.

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Major Milestones

REGENERATIVE MEDTECH

Heart & Cardiovascular

- Second Heart Assist, Inc. Phase II Large Animal Studies Tufts Medical Center.
- 1Q 2018 application to FDA for Early Feasibility Study Second Heart Assist.
- Second Heart first tests wireless powered chronic implant. Grant funding anticipated.
- BioLeonhardt completion of small animal studies for heart regeneration at U of Utah 1Q 2018. Grant funded.
- BioLeonhardt completion of large animal studies. NSF SBIR grant funded. 1H 2018.
- BioPace NIH grant applications for biological pacing - multiple filings.
- Valvublator prototype build and testing 1A 2018.
- Vascustim clinical trial completion 2018.
- PressureStim patent application filings 4Q 2017.

Brain

- Completion of lab and animal studies with Pacific Neurosciences Institute, Santa Monica, California 1H 2018.

Cosmetic and Personal Care

- Stem Cell Bra – breast regeneration 2nd round of sheep studies Argentina. 4Q 2017.
- DentaCell – bioelectric dental treatments innovation accelerator. Patent filings. Launch of tooth pulp storage service. 1H 2018.
- OrthodontiCell – bioelectric stimulator for accelerated tooth movement and freezing teeth positions straight. Definitive animal studies at Forsyth Institute 2018. Launch of pilot clinical studies UCSF and Tufts Medical Center 2018.
- SkinCell Stimulator by MyoStim Skin – skin regeneration launch of OUS clinical studies 2018.
- MyoStim ED – bioelectric erectile dysfunction treatment studies in small animals at UCLA. 2018.
- HairCell – hair regeneration. Launch of clinical studies in Canada, Argentina and Mexico. 1H 2018.

MAJOR ORGAN REGENERATION

- EyeCell – eye regeneration. Completion of partially grant funded animal studies at U of Utah Cardiovascular Innovation and Training Institute. 1Q 2018.
- PancreaCell – pancreas regeneration. Launch of studies at U of Miami Diabetes Research Institute. 1H 2018.

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- RegenaLung (includes ECMO-Cath) – lung regeneration (includes 50% owned subsidiary RegenaLung COPD) cannula for infusing oxygen directly into the blood using an oxygenator, a medical device that acts as an artificial lung. Launch of pre-clinical studies. 2018.
- LiverCell – liver regeneration. Launch of pre-clinical studies at Duke University. 2018.
- BioLeonhardt Whole Body Regeneration – whole body regeneration. NSF SBIR grant application 1H 2018.

CANCER TREATMENT

- CancerCell – bioelectric cancer tumor treatment + regeneration. Filing of patent applications 4Q 2017. Completion of lab and animal studies Pacific Neurosciences Institute, Santa Monica, CA 2018.

REGENERATIVE ECONOMY

- The California Stock Exchange™ (includes Cal-X Crowdfund Connect) – Alternative financing tools for social good impact and life science cos. Launch of collaboration with Toronto TSX Venture Exchange 2018.
- Kindheart Lionheart Media & Publishing – Social good impact and life science media. Launch of advertisement sales for online TV network. 2018.
- Leonhardt Food & Beverage – Social good impact and life science research fund raising via beverage, food and related support services. Launch of Lionheart Cooperative Marketing 2018.

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Finance

- Raised over \$1 million in past 12 months for our accelerator and its startups.
- Secured over \$500,000 in research and lab grant awards.
- Increased total valuation of 2017 portfolio of 30 startups to over \$318 million - see <https://leonhardtventures.com/our-companies/#toggle-id-2>
- \$2 million term sheet received for investment in CerebraCell via Leonhardt's Launchpads from the New Jersey Sports Medicine Group.

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Team

Team website – [Click Here](#)

Leonhardt's Launchpads has built an all-star team and all 140 team members can be viewed on our website. These include:



Howard J. Leonhardt - Executive Chairman & CEO - Inventor with 21 issued patents for organ regeneration and recovery products. Developed leading endovascular stent graft system. Serial entrepreneur. Multiple successful product exits POLY-CATH, TALENT, STENT VALVE, PRO-CELL, MYO-CELL, MYO-CATH.



Dr. Leslie Miller - Chief Medical Officer - Former Chairman of Cardiovascular Medicine University of Minnesota. Participated in dozens of clinical trial for heart recovery. Editor Textbook Stem Cells in Heart and Cardiovascular Disease.



Alex Richardson - Vice President Engineering & Product Development - Over 30 years electrical and medical engineering product development experience. Many years serving the Alfred Mann companies, Boston Scientific, St. Jude Medical, SetPoint Medical and others.



Dr. Mark Cunningham - Board Director, Chief Advisor Cardiac Surgery, CMO Valvulator - Heads Circulatory Assist and Heart Transplant Programs at USC Keck Medical Center. A degreed Engineer. Former Chief of Staff USC Keck Medical Center.

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Our Scientific Advisory Board - <https://calxstars.com/scientific-advisory-board/> - comprises 37 world leading scientists and clinicians Chaired by **Dr. William Abraham** Chief of Heart Failure at Ohio State University and **Dr. Doris Taylor** Chief of Cardiovascular Regenerative Medicine Research at the Texas Heart Institute.

More information may be found in our 2017 Annual Report > [Click Here](#)

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Facilities and Locations

Leonhardt's Launchpads is headquartered in the Los Angeles area with affiliated labs and offices in Northern California and Utah.

We have access to research lab space at these locations:

1. Pacific NeuroSciences Institute, Santa Monica, CA
2. BioInnovations Gateway, Salt Lake City, Utah.
3. Cardiovascular Research and Training Institute, Salt Lake City, Utah
4. University of Northern California Science & Technology Innovation Center, Petaluma, CA

We have a number of bioengineers, researcher and biologists employed at the above facilities. Some are contract workers and some are employees.

We conduct research and have research collaborations at over a dozen universities worldwide including Tufts Medical Center and Tufts University in Boston, UCLA, USC, Caltech, UCSF, the University of Utah, Utah State University and the Texas Heart Institute.

Our headquarters is 7 miles from UCLA, 10.9 miles from USC and 27 miles from the California Institute of Technology - Caltech.

Our Utah office and labs are just off the main campus of the University of Utah.

Office Locations Include:

Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.
520 Broadway, Suite 201, Santa Monica, CA 90401
www.leonhardtventures.com + www.calxstars.com

Leonhardt Ventures (Leonhardt Vineyards LLC DBA Leonhardt Ventures)
12760 Millennium Dr. Unit 213, Playa Vista, CA 90094

Leonhardt's Launchpads Playa Vista
12760 Millennium Dr. Unit 213, Playa Vista, CA 90094
and startup space @ WeWork Playa Vista, 12655 W Jefferson Blvd, Los Angeles, CA 90066

Leonhardt's Launchpads Utah, Inc.
370 S, 300 E, Salt Lake City, UT 84111
Research Lab @ BioInnovations Gateway, 2500 S State St. #224, Salt Lake City, UT 84115

Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.



Leonhardt's Launchpads NorCal
University of Northern California, 1129 Industrial Ave, # 207, Petaluma, CA 94952