# ANNUAL REPORT 2019



s clean energy

Founded by: WELLS FARGO | CONTRACT

We're really excited to be participating in the IN<sup>2</sup> program because they're tackling the big problems that will affect us and future generations."

> – Ahsan Ali, CEO, Intrinsyx Bio

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## **Letter from the Directors**

To say the Wells Fargo Innovation Incubator (IN<sup>2</sup>) has grown this year is an understatement. We have nearly doubled in size since our last printing and expanded beyond commercial building technologies into two new areas: sustainable agriculture and affordable housing. We are proud to be filling the gap we set out to fill for cleantech — helping promising clean technologies rocket over the technology valley of death by providing validation in world-class research labs—and now doing this for more companies in more sectors.

Doubling in size is a testament to the model pioneered at the National Renewable Energy Laboratory (NREL) and we see a bright future ahead as our cohort companies grow to flood their target markets and bring products to industry. And these products not only provide customers with cost savings, but they help deliver on environmental challenges and address sustainability and corporate responsibility goals.

This year, we were pleased to be part of Bloomberg's New Energy Economy Solutions for 2019 and we received a 2019 Citizens Award from the U.S. Chamber of Commerce Foundation for Best Environmental Stewardship Program. These awards honored IN<sup>2</sup> for our strategic and sustained positive impact on people, communities, the environment, and society.

As we look forward, we are encouraged by the market interest in technologies within our portfolio. This year we celebrated alongside two alumni acquisitions: Go Electric by Saft Batteries and PowerFlex by EDF Renewables North America. Additionally, Resideo Technologies purchased Whisker Labs' thermodynamic home modeling technology last spring.

This was also a remarkable year for investment in our 40-member portfolio. More than \$100 million was raised in 2019, making our grand total more than \$237 million since the program's inception.

And, finally, we want to acknowledge our Channel Partners, for their tremendous work building the cleantech ecosystem across the nation. Working together is the only way we can make a significant impact on the world. We are honored to be part of the solution and invite others to join us as we scale IN<sup>2</sup>, apply the model to new sectors, and dive into new frontiers.

Sincerely,



**Richard Adams** Director, Innovation & Entrepreneurship Center, NREL



Mary Wenzel Executive Vice President, Head of Sustainability and Corporate Responsibility, Wells Fargo

## Who We Are

The Wells Fargo Innovation Incubator (IN<sup>2</sup>) is funded by the Wells Fargo Foundation and managed by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL). Together with our researchers at NREL and the Donald Danforth Plant Science Center (Danforth Center), the program provides world-renowned scientists, engineers, and facilities to help companies speed their paths to commercialization through technical assistance and validation.

First and foremost, IN<sup>2</sup> is a technology incubator that offers non-dilutive funding, testing and product validation, and ongoing connections and partnerships. Initially focused solely on supporting scalable solutions to reduce the energy impact of commercial buildings, IN<sup>2</sup> has since expanded its focus to advance technologies that address the sustainable production of agriculture and residential buildings energy efficiency.

Additionally, the IN<sup>2</sup> program includes the Channel Partner Awards program. Launched in 2017, the awards program focuses on funding select incubators, accelerators, funds, and university programs involved with the program as they address gaps in the nationwide cleantech ecosystem. The awards program was established with \$5 million in committed funding from the Wells Fargo Foundation to be distributed over four years and is currently in its third funding cycle. Read all about the first two funding cycles and their impact in the "Channel Partner Awards" section of this report.

Ultimately, IN<sup>2</sup> strives to build and enhance a nationwide cleantech and agtech ecosystem, and does so by running a technology incubator, along with award initiatives that lead to partnerships, capital flow, job creation, and the sharing of best practices.

# IN<sup>2</sup> VALUE PROPOSITION TO STARTUPS



We have been inspired by the successful Wells Fargo initiative with NREL. It's a great program for GCxN to be compared to and shares much of the same structure and potential to make a difference in developing disruptive startups."

## - Dr. Lene Hviid

Shell GameChanger Accelerator™ Powered by NREL (GCxN) Board Chairman

## **Our Impact**

The Wells Fargo Innovation Incubator (IN<sup>2</sup>) is accelerating the path to market for cleantech and agtech startup companies that are advancing the transition to a low-carbon economy. The model is a success. **The numbers tell the story.** 

since joining IN<sup>2</sup> (\$100M+ raised in 2019)



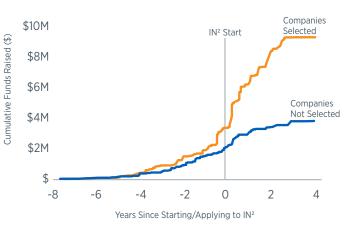
invitations to pitch, speak, exhibit, and meet with investors

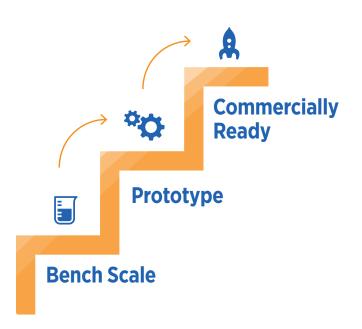
(six successful portfolio company exits through mergers or acquisitions)

## **De-risking for Investment**

**95% of startups fail**, the same cannot be said about IN<sup>2</sup>'s portfolio companies. **100% of IN<sup>2</sup>'s selected companies are active today**. Since joining the program, companies have collectively raised \$237 million in external funding. This means that for every \$1 in program funds awarded, companies go on to raise more than \$28 in external funding. The graph to the right shows the rate of investment in selected companies vs. non-selected.







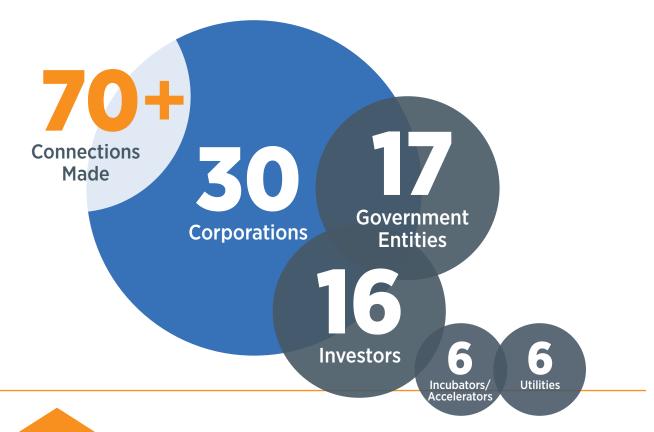
## **Speed to Market**

The funds needed to develop, test, and validate a technology are often unsurmountable hurdles for startups. IN<sup>2</sup> is the proven model for assisting clean technology and agriculture companies to accelerate their paths to market. The program does this by providing access to world class expertise and facilities to test, validate, and de-risk technologies, and ongoing connections to investors, corporates, and utilities. These efforts lead to investments, partnerships or customers—a majority of companies enter IN<sup>2</sup> at the bench scale or prototype stage **and over 55% exit the program commercially ready.** 

### **Valuable Connections**

IN<sup>2</sup> also speeds a company's path to market by facilitating connections with our nationwide ecosystem of industry and subject matter experts. We have provided fruitful introductions to corporations such as Ingersoll Rand, Emerson Electric, and Costco; government entities, like DOE; other incubators; and investors. IN<sup>2</sup> facilitates participation in major events like the NREL Industry Growth Forum, VERGE, and Global Green.

These are among the connections that have resulted in successful relationships and productive partnerships.



77%

employment growth for companies that joined IN<sup>2</sup>

#### **Social and Economic Impact**

Reducing investment risks with IN<sup>2</sup> allows companies to focus on growing other aspects of their businesses.

After joining the program, on average, companies increase their number of employees from 6.9 to 12.3. The IN<sup>2</sup> portfolio has shown an employment growth of 77%. Of the employees hired, approximately 12% of them are women or diverse individuals.

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## **Commercial Buildings**

## **Sustainable Agriculture**



### **Elements of the Program**

IN<sup>2</sup> is focused on startups in three technology areas that each have large energy and resource impacts. Going beyond the single role of a technology incubator, a portion of IN<sup>2</sup> is focused on funding the program's network of incubators, accelerators, and university programs to address additional gaps in the development and commercialization of cleantech and agtech.

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## **Channel Partner Awards**

# Commercial Buildings



As one can see from the data, IN<sup>2</sup> has successfully accelerated a host of technologies in the market by combining NREL's world-class technical expertise and Wells Fargo's footprint. It's a terrific program filling a much-needed gap in the market."

– A.J. Dye, Partner, Iron Gate Capital

# **Commercial Buildings**

In 2014, IN<sup>2</sup> debuted and its first cohort was focused on commercial buildings. Since that time, 67% of our cohort companies have been focused on commercial building technologies. The challenge: 40% of energy is consumed by buildings in the United States and they are a significant contributor to greenhouse gas emissions. Our IN<sup>2</sup> companies have technologies that approach the building envelope from all angles.

#### Meet the IN<sup>2</sup> Companies Focused on Commercial Buildings

**75F** offers a vertically integrated suite of wireless sensors, equipment controllers, and cloud-based software delivering predictive, proactive building automation right out-of-the-box. 75F aims to drastically lower the installation time and related costs to automate buildings with a complete intelligence system that addresses HVAC, lighting, indoor air quality, and occupancy and energy management.

Blue Frontier transforms traditional air conditioning Blue Frontier (A/C) into a low-cost, behind-the-meter, flexible energy resource with double the energy efficiency of existing systems. This eliminates weather-driven building A/C peak demand and enables new designs for zero-net-energy buildings.

**Cypris Materials** has developed a solar-reflective coating to improve consumer comfort while reducing summer energy use. Building envelope inefficiencies have a broad impact, because the absorption and thermalization of solar energy by building infrastructure contributes to the urban heat island (UHI) effect. It is estimated that 5–10% of all summer electricity is used to compensate for the UHI effect. Cypris Materials' coating is designed to significantly reduce the effects of UHI.



**Ladybug Tools** is a collection of computer applications that support environmental building design and planning, with the goal to develop cloud-integrated

services that enable existing users to model larger districts and explore greater numbers of design options more rapidly. Ladybug Tools is the only open source interface that evolves through the consensus of an open community of experts. As such, Ladybug Tools has already made energy simulation accessible to a larger community of students and professionals who would not have used it otherwise.

**NEXT** Next Energy Technologies, Inc. (NEXT) has developed low-cost, printable, transparent coatings that are seamlessly integrated into windows, allowing for the harvest/conversion of light energy for use as onsite renewable power.

## IN<sup>2</sup> Commercial Buildings Alumni

- 7AC Technologies
- APANA
- EdgePower
- ESS Inc.
- Geli
- Go Electric, Inc.
- Heliotrope
  Technologies Inc.
- Ibis Networks
- J2 Innovations
- LiquidCool Solutions
- Maalka
- NETenergy
- Polyceed
- PowerFlex
- simuwatt, Inc.
- ThermoLift, Inc.
- Transformative Wave
- VG Smartglass
- Whisker Labs



NEXT's cutting-edge solar technology will enable widespread adoption by being the first buildingintegrated photovoltaic window to allow architects and building owners to transform windows and glass facades into energy-producing assets with enhanced aesthetics, performance, and economics.



Software Motor Company (SMC) makes a reliable, efficient, and intelligent motor system 👁 🗩 🗖 that is less expensive to own and operate than its conventional alternative. Combined with IoT building automation technology, SMC's Smart Motor System advances customer sustainability goals, reduces costs, and minimizes maintenance calls.



**UbiQD** is a cleantech nanomaterials company that manufactures quantum dots and UbiQD polymer composites. This platform technology is a "drop-in" solution for existing window products in urban buildings and greenhouses and provides partially transparent sunlight

harvesting that can cover the facades of buildings while allowing in natural lighting and improve energy utilization by reducing heat gain and lowering electricity needs.

**Yotta Energy** is developing a modular energy storage device that features battery storage integrated with photovoltaic installation and is designed to reduce cost and expand development of energy storage and grid resiliency on commercial buildings. The device, SolarLEAF<sup>™</sup>, will expand solar energy use by reducing the soft costs of designing, installing, and maintaining an energy storage system compared to traditional centralized systems.



Commercial buildings consume 19% of the nation's energy. By investing in hardware technologies, testing, and validating, IN<sup>2</sup> companies have the potential to greatly impact energy consumption.

While we participated in the IN<sup>2</sup> program with NREL, we were presented with several great questions that challenged us to re-evaluate our business model and practices. It made us a better company."

> - Craig Evans, President and CEO, ESS Inc.



#### **Commercial Buildings Alumni News**

Following participation in the IN<sup>2</sup> program, alumni companies continue to make great strides. This year we celebrated two alumni acquisitions: Go Electric by Saft Batteries and PowerFlex by EDF Renewables North America. Another IN<sup>2</sup> graduate, Whisker Labs, sold its thermodynamic home modeling technology to Resideo.

Saft, a subsidiary of global energy company Total, is a large energy player in the fast-growing energy storage space. With the acquisition, Go Electric will accelerate its growth beyond North America and benefit from Saft's brand recognition and long-standing experience in providing high quality products.

As part of IN<sup>2</sup>, PowerFlex Systems worked with NREL researchers to evaluate its adaptive charging network (ACN) technology and to generate driver metrics—must-have miles, arrival times, departure times, and campus metric—time-of-day energy generation, and demand. The team installed 16 ACN-connected EV charging stations on NREL's Flatirons campus in February 2018 and performed several months of performance and cost analysis. The validation proved so successful that NREL purchased and installed 126 EV chargers with the PowerFlex technology for NREL's main campus. The acquisition of PowerFlex will allow EDF Renewables to advance its EV charging capability within its customer focused renewable energy portfolio.

Resideo, a global provider of smart-home products, purchased Whisker Labs' modeling technology that is designed to predict home heating and air conditioning run time and energy use.

These success stories further validate the IN<sup>2</sup> program's model of derisking technologies for potential customers, pilot opportunities, and investment.

# Sustainable Agriculture

The IN<sup>2</sup> program provides a platform for early stage agtech companies to mature, while benefiting from the solid expertise and resources available at the Donald Danforth Plant Science Center."

> - Mat Müller, Director of Business Development, Corteva Agriscience

# Sustainable Agriculture

Wells Fargo is the leading agriculture lender among commercial banks and has been for 22 consecutive years. In 2017, the Wells Fargo Foundation and other

Farmers have never shied away from innovation and are constantly looking for ways to improve their productivity and impact. I'm excited to be part of a program that can help identify and scale solutions that are not only beneficial to farmers, but help farmers, companies, and societies achieve our shared sustainability goals."

> Jill Kolling Vice President for Global Sustainability, Cargill

IN<sup>2</sup> stakeholders decided to build on that experience and in 2019, the program expanded its focus to address the nexus of food, energy, and water (FEW).

Working with its Channel Partners— Cleantech Group; Colorado State University; ReFED; the Water Council; University of California, Davis; and the Daugherty Water for Food Global Institute

at the University of Nebraska-IN<sup>2</sup> kicked off the expansion by publishing a white paper, IN<sup>2</sup> Food, Energy, Water Landscape. The authors analyzed water conservation, food system inefficiencies, and agriculture production digitization, and subsequently provided a compass, backed by data, of the areas in which IN<sup>2</sup> could have the most impact.

Next, IN<sup>2</sup> engaged the world's largest independent plant science research institute, the Donald Danforth Plant Science Center (Danforth Center) in St. Louis, Missouri, to provide R&D expertise and its worldclass facilities. The partnership was a natural fit: the Danforth Center has been deeply immersed in the interconnection of basic science, innovation, and commercialization for over 20 years.

To ensure an appropriate applicant pool in the new agtech space, IN<sup>2</sup> added new Channel Partners specific to the sector. The all-star group of new Channel Partners includes AgLaunch; AgStart; AgSprint; BioGenerator; Daugherty Water for Food Global Institute at the University of Nebraska; F3 Tech Accelerator; the Helix Center; Larta Institute; North Carolina Biotechnology Center; Radicle Growth; TechAccel; the Yield Lab; THRIVE Agtech; University of North Carolina, Chapel Hill, Institute for the Environment; and the University of Georgia, Innovation Gateway. Not only do these Channel Partners represent vast areas of agriculture expertise, they work with entrepreneurs in normally unrepresented geographic areas.

Lastly, to select companies with the greatest potential for impact, the Danforth Center and NREL assembled an Agriculture External Advisory Board (Agriculture EAB). The eleven individuals represent the diverse perspectives of large corporations, growers, investors, environmental non-governmental organizations, and academic institutions. They joined IN<sup>2</sup> as its second board, and were responsible for the selection of IN<sup>2</sup> Cohort 5 companies and the soonto-be-selected Cohort 7.

#### Meet the IN<sup>2</sup> Companies Focused on Sustainable Agriculture

Aker Technologies Inc. empowers customers to understand current field conditions and 🐝 Aker make timely and accurate recommendations that enable farmers to more efficiently protect and water their crops. Automated scouting creates new datasets that are accurate, georeferenced, timely, and scalable, leading to better crop management. This data helps limit chemical use, reduce energy and water usage, and lower costs.



**CoverCress, Inc.** is developing a winter crop that is planted between corn harvest and soybean planting. It covers soil over winter, protecting it from harsh conditions, and produces a low-carbon-intensity crop for use as renewable diesel and jet fuel, meal product for animal feed, and high-quality food oil.



**Intrinsyx Bio** is researching and collecting endophytes that can fix atmospheric nitrogen litriasys Bia throughout the roots, stems, and leaves of plants leading to increased crop yield, decreased nitrogen and phosphorous fertilizer requirements, and increased drought and salt tolerances, ultimately expanding areas of land used to grow crops. With over 30 years of research behind the technology, Intrinsyx Bio hopes to bring atmospheric nitrogen fixing microbes to the farm and drastically reduce the need for fertilizers and other resources while reducing costs.

RNAissance Ag is developing technology that enables the use of interfering RNA (RNAi) as a new defense against insect pests. RNAissance Ag's RNAi technology aims to improve water quality and reduce environmental impacts associated with the use of toxic chemical insecticides. RNAi allows precision pest management of the target insect without detrimental impact on beneficial non-target organisms.

in power consumption due to grow lights and other large energy drawing sources.



**SolGro** designs, develops, and manufactures nanoparticle-embedded greenhouse canopies that allow a greater percentage of certain light spectrums to reach plant matter. SolGro aims to bring light-converting greenhouses to the market at scale and increase the production efficiency of farmers, allowing faster harvest times, larger crops yield, and increased quality of produce. In addition to a natural increase in production, this technology will also allow for a reduction

Physical infrastructure Automated crop protection companies New crops Crop nutrition

The agriculture industry uses 70% of the world's freshwater and 14% of its energy. By investing in sustainable food production, testing, and validating, IN<sup>2</sup> companies have the potential to greatly impact food production and energy consumption.



Homeowners don't lose their houses because they cannot afford their mortgage. Instead they lose their homes because they experience an unanticipated utility bill, face an unexpected maintenance or repair bill, experience an unexpected health event in their life, or have some type of disruption in their income. We will successfully address housing affordability only when we respond to these four issues."

> - Rusty Smith, Associate Director, Rural Studio, Auburn University

## Housing

In the spring of 2019, the Wells Fargo Foundation announced a commitment of \$1 billion in philanthropic funding to help solve the nation's affordable housing shortage. Because of its close relationship with NREL and the award winning IN<sup>2</sup> program, the foundation selected the model to tackle energy efficiency and construction innovation to help make housing more affordable and less expensive to power.

The IN<sup>2</sup> program will improve and validate technologies that demonstrate innovation in advanced manufacturing and construction processes, materials, community and districtlevel systems, and energy efficiency. To ensure selection of the most innovative companies in these focus areas, IN<sup>2</sup> added four new members to the Buildings External Advisory Board. These experts bring experience and perspectives from the academic and development sectors, with a distinct understanding that to make housing more affordable, it's imperative to make the energy efficiency and longevity of a structure a priority.

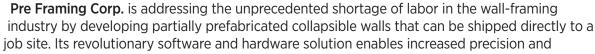
#### Meet the IN<sup>2</sup> Companies Focused on Affordable Housing

**Aeroshield** has developed an insulating material that exceeds building code requirements, AeroShield saves energy, reduces carbon emissions, and can be added during conventional window manufacturing processes. Additionally, AeroShield windows can save single-family detached homeowners money on upfront window costs compared to triple-pane glass and on related construction costs.

**Blokable** is developing a vertically integrated solution to create lower cost, high quality blokable housing at scale. Its unique process of partnering with market rate and not-for-profit land developers and service providers, and the expertly engineered Blokable Building System (BBS) product, reduce the time and funds required to create and operate new, energy efficient multi-

family housing.

**EnKoat's** coatings collect, store, and release heat at a constant specific temperature to directly **Enclosed** reduce the HVAC costs of residential and commercial buildings. These coatings can be uniquely tailored to different climatic conditions to maximize thermal efficiency and minimize energy consumption.



efficiency with pre-cut and pre-marked studs held together with collapsible alloy strap fastened on the wood.

Shifted Energy's technology retrofits existing water heaters, essentially transforming buildings into giant batteries by simply upgrading existing assets. This not only reduces greenhouse gas emissions, but also introduces grid energy storage that is much cheaper than conventional alternatives.



Span's panel replaces traditional electrical panels to become the center of connected power in SPAN.IO a customer's home. It is designed to enable renewable energy adoption and provides all the safety features of a standard panel with added functionality and aesthetics designed for the modern home. Span's complementary software app lets users understand and control their home energy from anywhere and at any time.

**STRATIS IOT** has an IOT platform built for the complexities of multifamily and student housing. STRATS Users can visualize real-time and historic data to make decisions related to energy usage, thus reducing waste, providing preventative alerts for facilities management, and increasing the guality of life for staff and residents.

Techstyle Materials is developing multifunctional material technology to protect wall assembly Techstyle by passively pumping water vapor out while regulating indoor humidity levels and heats flows with thermochemical energy storage material.



Residential buildings consume 21% of the nation's energy. This, and the fact that no state or metropolitan area in the United States has enough affordable rental inventory to meet the existing demand for its lowest-income residents. By investing in hardware technologies, testing and validating, IN<sup>2</sup> companies have the potential to greatly impact housing affordability and energy consumption.



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A unique and key component of incubators, accelerators, and uniprogram relies on these critical putrils their portfolio companies, or

# Channel Partner Awards



## Ecosystem Development

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# el Partner Network

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Ecosystem Impact to Dat

Wells Fargo and the IN<sup>2</sup> program have been really instrumental in helping us both in raising awareness as well as in developing crucial relationships with developers and other key people."

- Scott Muench, Vice President, Marketing, J2 Innovations



## **Channel Partner Awards**

2019 was a busy year for our Channel Partners, IN<sup>2</sup>'s strategic network of more than 60 accelerators, incubators, funds, and university programs that help support the IN<sup>2</sup> ecosystem.

At the beginning of the year, 13 new Channel Partner Strategic Awards were funded, and in May we hosted a meeting of our Channel Partners in Denver. Focused on collaboration, idea sharing, and networking, the Channel Partners meeting worked to promote a strong collaborative ecosystem of cleantech and agtech support for both the startups involved with the program and the Channel Partners themselves.

## **Channel Partner Awards in Action**

Since the inception of the awards program, \$2.6 million in competitive and non-competitive Channel Partner Awards have supported more than 115 events, strategic meetings and trainings, and 21 larger strategic initiatives between 23 organizations.

Below we highlight the impact made this past year by those partners that received Channel Partner Awards in the first year of the program.

#### **Tackling Sustainable Mobility**

In 2017, NextEnergy of Detroit, Michigan, and ProspectSV of San Jose, California, received an IN<sup>2</sup>

Channel Partner Strategic Award to address the gaps and opportunities in the sustainable transportation market. Throughout 2018, the project partners held discussions with local community stakeholders and institutions, government, industry, and startups to understand the costs to address unmet mobility needs of those who live, work, and visit in their respective communities. Ultimately, while the two regions differ in their demographics and the scope of current mobility options, there are similar challenges including affordable transit services, gaps in transit services, mobility options for senior citizens, insufficient first/ last mile options, the high cost of electric vehicles (EVs), and the lack of EV infrastructure.

#### Partnership with Colorado Incubator Grows Local Resources

With the help of IN<sup>2</sup>, Innosphere is working on a two-year grant to "Scaleup Colorado." With locations scattered across Colorado's Front Range, Innosphere accelerates the success of high-impact science and technology-based startup and scaleup companies, and its Cleantech and Advanced Materials program continues to support and graduate new companies.

#### What is the Hardware Difference?

The researchers at Carnegie Mellon University's (CMU) Wilton E. Scott Institute for Energy Innovation had a question: how is innovation in cleantech different from other industries? In a world where "startup" is synonymous with app-coding software developers, what makes or breaks a cleanenergy venture?

To answer this question, the Center for Cleantech Entrepreneurial Excellence (an initiative of the Scott Institute) interviewed entrepreneurs on differences in funding, organizational structure, and startup strategies, through on-campus workshops at CMU and at Northwestern University in Chicago.

Their findings are now available in a best-practices guide for budding entrepreneurs, *The Ins and Outs of Cleantech Innovation and Entrepreneurship*. The CMU "primer" contains guidance for entrepreneurs in any field, but also highlights specific concerns for the electron-moving industry.

#### **Texas-Sized Cleantech Scene**

It may be cliché that everything is bigger in Texas but in the case of the innovation work undertaken by university partners in that state, the cliché is accurate. In 2018, four major universities in Texas collaborated on a cleantech-innovation outreach effort for a combined student body of 700,000.

The efforts created mentoring, education, training, and support opportunities for students interested in cleantech innovation at four universities around the state, all with different foci: University of Texas at Austin, Texas State University, Texas A&M Engineering Experiment Station (TEES), and Rice University.

#### Los Angeles Cleantech Incubator (LACI) Develops Impact Framework

A team of Channel Partners, led by LACI and including Urban Future Lab, Clean Energy Trust, FORGE and Next Energy, received a Strategic Award to develop a common impact measurement framework tailored to the cleantech startup sector. By embracing a universal impact measurement protocol and standard, cleantech startups can accurately track their impact and better inform investors seeking to maximize the environmental, social, and economic impact of their funds. Using LACI's Just Impact report as a foundation, the framework is a proposed standard protocol for measuring and reporting the environmental, social and economic impacts of clean technology startups.

#### Second Year Channel Partner Strategic Awards

AgLaunch: Creating a common framework for connecting startups within its incubation program to historical and real-time farm data.

Austin Technology Incubator at University of Texas-Austin: Developing a sustainable food system cluster in Central Texas that provides an incubation network and proving ground for technologies driving greater efficiency, access, and affordability in production, distribution, logistics, point-of-sale, and waste elimination.

**BioSTL:** Building a network and convening a strong community of Missouri growers who will provide the "voice of the customer" and test, validate, and provide feedback on innovation solutions that meet their needs on their land.

**Carnegie Mellon University:** With several partners, building a mature, supportive network and differentiating, elevating, and amplifying the energy, innovation, and entrepreneurship ecosystem in Southwest Pennsylvania.

**Cleantech Open:** Seeding its accelerator model in partner metropolitan areas to scale up early-stage startup support resources, curriculum, and tools.

Cyclotron Road: Piloting and identifying knowledge gaps with its "Founders Playbook," an online repository of resources for hardtech and energy entrepreneurs looking to grow a company from early concept to market impact.

Innosphere: Researching and addressing several challenges related to Artificial Intelligence (AI) and Colorado's transportation and energy industries, and beginning to research future AI applications to agriculture.

MaRS Discovery District and ACRE: Optimizing the NewtonX Access Knowledge search engine tool to connect startup ventures with appropriate subject matter experts to help them find answers to complex questions quickly and efficiently.

Powerhouse: Developing a platform to formalize a process that would allow the IN<sup>2</sup> partners' network and a broader network of investors to share deal flow, co-investment opportunities, and follow-on funding opportunities.

**St. Louis Economic Development Partnership, Helix Center:** Expanding its co-working office and lab space to accelerate the commercialization of research innovations and new business formation in ag-related industries.

**Rice Alliance for Technology and Entrepreneurship at Rice University:** Conducting an 8-month accelerator program for university-based cleantech startups and early-stage ventures to prepare them for future incubation programs (such as IN<sup>2</sup>) and successful business launches.

Tech Belt Energy Innovation Center: Building out the Appalachia regional cluster to develop a yearly event focused on energy storage and IoT.

VertueLab: Launching its Impact Fund that is focused on filling a critical capital gap for seed-stage cleantech startups in the Northwest.

## **Partners**

## **The External Advisory Boards**

The External Advisory Boards play a significant role in the IN<sup>2</sup> program because they ultimately determine the companies accepted into each cohort. They provide insights and expertise in sector trends, challenges, and opportunities and technical understanding of the technologies, both traditional and emerging. Our two boards have expertise in either 1) agriculture and the food, energy, water nexus or 2) the built environment commercial and residential.

Buildings Advisory Board

Food, Energy, Water Advisory Board



Dr. Roy Beckford Agriculture and Natural Resources Program Leader, North Carolina A&T State University





Director of Policy, Robert B. Daugherty Water for Food Institute, University of Nebraska-Lincoln



Cara Carmichael Manager, Buildings, Rocky Mountain Institute



Craig Collin Senior Vice President, Tavistock Development Company



Christine Daugherty VP Sustainable Agriculture and Responsible Sourcing, PepsiCo



A.J. Dye Partner, Iron Gate Capital



Vonnie Estes Vice President of Technology, Produce Marketing Association



**Chad Frischmann** Vice President and Research Director, Project Drawdown



**Scott Fullen** Owner, Mid-South Family Farms; Certified Crop Advisor, State of Tennessee

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Michael Groppi PE, CEM, LEED Green Associate, Vice President Energy & Sustainability Programs, CBRE







Jill Kolling Vice President for Global Sustainability, Cargill



Luke Leung PE, LEED Fellow, Director of Sustainable Engineering, Skidmore, Owings & Merrill LLP



Heidi Lubin Founder, eSix Development



Bob Morris Principal, AndMore Associates, LLC



Mat Müller Director of Business Development, Corteva Agriscience



Kevin Powell Supervisory Facilities Operations Specialist, General Services Administration (GSA)



David Russell Partner, Lewis & Clark Ventures



Betsy Scott Executive Director, Program + Engagement, Housing Innovation Alliance, LLC



Rusty Smith Associate Director, Rural Studio, Auburn University



Brian Steel Co-Director, Cleantech to Market Program, Energy Institute at Haas, University of California, Berkeley

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## **Wells Fargo Board of Directors**

The Wells Fargo Board of Directors is comprised of executives and senior managers from Wells Fargo, representing more than a dozen lines of business, guiding the strategic elements of the program. Board members provide applicant feedback as well as subject-matter expertise related to commercial buildings, sustainability, agtech, cleantech, and environmental finance, legal, supply chain, government relations, and more.

Fady Hanalla Counsel

**Richard Henderson** *Executive Vice President, Head of Corporate Properties* 

**Regina Heyward** Senior Vice President, Head of Supplier Diversity

Akhlaq Khan Senior Vice President, Research and Development of Emerging Technologies

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EVP/Head of Technology Investments, Wells Fargo Strategic Capital **Molly Porter** Senior Vice President, Corporate Philanthropy and Community Relations

**Jon Previtali** Vice President of Environmental Finance

**Curt Radkin** Senior Vice President of Corporate Properties

**Tim Rafalovich** Senior Vice President, Community Lending and Investment; Capital Markets Manager, Alternative Equity Group

#### **Matt Servatius**

Senior Vice President and Head of CleanTech Banking

Julie Slocum Senior Vice President, Government Relations

Mary Wenzel Executive Vice President, Head of Sustainability and Corporate Responsibility

## Team

The program management teams at Wells Fargo, the National Renewable Energy Laboratory, and the Donald Danforth Plant Science Center work together to help the IN<sup>2</sup> ecosystem grow and our portfolio companies to succeed.



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IN<sup>2</sup> is an invitation-only program that works with its Channel Partners for referrals. For more information on the IN<sup>2</sup> program, visit IN2ecosystem.com and sign up for NREL's Innovation & Entrepreneurship Center newsletter to keep up with program happenings. Questions about the program? Email IN2@nrel.gov.



### Wells Fargo Innovation Incubator (IN<sup>2</sup>)

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