# Creating Market Pathways for Laboratory Research

The Lab-Corps program is a specialized training curriculum aimed at accelerating the transfer of clean energy technologies from national laboratories into the commercial marketplace. Administered by the U.S. Department of Energy's (DOE's) Office of Energy Efficiency and Renewable Energy, Lab-Corps is a new model of engagement as a part of the Lab Impact Initiative. In addition to Lab-Corps, the Lab Impact Initiative utilizes the Small Business Voucher and Technologist-in-Residence programs to increase and enhance laboratory-private sector relationships, streamline access to national laboratory capabilities, and demonstrate the value of laboratory-developed science and technology.


The National Renewable Energy Laboratory (NREL) serves as the main "node" for the Lab-Corps pilot program by leading program efforts and supporting the participating national laboratory teams. In addition to selecting and supporting two teams each, the national laboratory Lab-Corps sites regularly provide broad entrepreneurial support and education opportunities to all lab scientists to promote the commercialization of innovative, lab-developed technologies.

"DOE national laboratories are science and engineering powerhouses. The Lab-Corps program, supporting the President's Lab-to-Market Initiative, will energize entrepreneurial spirit at our national labs and will bring new lab technologies to market that advance American leadership in clean energy."

— Assistant Secretary for Energy Efficiency and Renewable Energy Dr. David Danielson

The $2.3 million Lab-Corps pilot program is focused on establishing a set of proven training methods that will equip DOE laboratory scientists with a better understanding of the commercialization process. Eight DOE laboratories were selected to participate and have assembled entrepreneurial teams to identify private sector opportunities for commercializing promising sustainable transportation, renewable power, and energy efficiency technologies. Each Lab-Corps team receives comprehensive training and access to a suite of commercialization resources.

## Customized Curriculum

Using a customized version of the National Science Foundation's Innovation Corps (I-Corps) program curriculum, the Lab-Corps pilot is a six-week entrepreneurial boot camp—a "cohort" run by the National Renewable Energy Laboratory—that includes in-person sessions and weekly webinars to help each team learn how to evaluate the market potential of their technologies and bring a new level of entrepreneurial education back to their research and colleagues.

The Lab-Corps pilot may be extended to other national laboratories and other DOE programs to accelerate the commercialization of valuable discoveries across many sectors and maximize taxpayer return on investment in federally funded research.

A Lab-Corps team from Lawrence Berkeley National Laboratory (LBNL) participates in the University of Michigan/NextEnergy cohort. (Left to right) Russell Carrington, LBNL, Observer; Dana Hansen, Entrepreneurial Lead, LBNL; Samveg Saxena, Principal Investigator, LBNL; Kent Williams, Vista Asset Management, LLC; and Nihar Shah, Entrepreneurial Lead, LBNL speak with a "customer" interviewee, Nick Pudar from General Motors. *Image from NextEnergy*

## Team Spotlights

Four pilot teams, their technologies, and information on how Lab-Corps is helping them fine-tune their commercialization approaches are highlighted below.

### Argonne National Laboratory

#### Team: SonicLQ

- **Entrepreneurial Lead:** Cathy Milostan, energy/environmental policy scientist
- **Principal Investigator:** Ralph Muehleisen, principle building scientist
- **Team Member:** Todd Levin, energy systems engineer
- **Industry Mentor:** TBD.

Ralph Muehleisen and Cathy Milostan at Argonne's Lab-Corps pitch competition. *Image from Argonne National Laboratory*

With the help of commercially available equipment, Argonne's SonicLQ software is a game-changing, non-intrusive solution that uses sound waves to both find and quantify air leaking through enclosed spaces to improve estimates for weatherization repairs and energy savings potential. In contrast to current air leakage testing options, SonicLQ tests can occur in occupied buildings and during all phases of construction, giving energy service companies new opportunities to sell more testing contracts. Lab-Corps will help the team explore SonicLQ's potential, develop a business plan, and decide whether to license the technology or start a new business.

### Lawrence Berkeley National Laboratory

#### Team: Ring Burner

- **Entrepreneurial Lead**: Mike Tucker, principal scientific engineering associate
- **Principal Investigator:** Peter Therkelsen, research scientist
- **Co-Principal Investigator:** Vi Rapp, research scientist
- **Industry Mentor:** TBD.

LBNL's Ring Burner technology. *Image from LBNL*

Ring Burner is based on LBNL's patented low-emission technology that utilizes premixed fuel and air supply, as well as a simple flame stabilizing mechanism, to evenly heat a surface with minimal pollutant formation. The team has set its sights on deploying the technology to enhance the cooking experience in residential and commercial kitchens. Lab-Corps will help the team develop other value propositions in response to market feedback.

### Pacific Northwest National Laboratory

#### Team: STARS

- **Entrepreneurial Lead:** Chris Klasen, project and proposal manager
- **Principal Investigator:** Bob Wegeng, project manager/engineer
- **Industry Mentor:** JD Sitton, co-founder and senior partner, Profera International.

Pacific Northwest National Laboratory's (PNNL) STARS technology. *Image from PNNL*

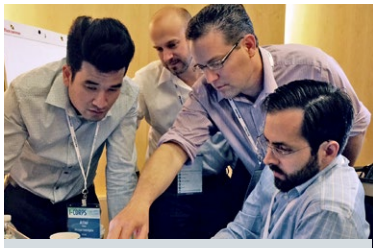
The Solar Thermochemical Advanced Reactor System (STARS) uses the sun's rays to convert natural gas or biomethane feedstock into chemical energy resulting in energy-rich gas that is ready for commercial use, including hydrogen production, methanol production for on-site use, and electrical generation. Lab-Corps will help the team understand and characterize the potential market uses for STARS, develop a more efficient prototype suitable for manufacturing, and create a commercialization pathway based on industry input.

### Sandia National Laboratories

#### Team: Twistact

- **Entrepreneurial Lead:** Wayne Staats, senior member of the technical staff
- **Principal Investigator:** Jeff Koplow, principal member of the technical staff
- **Team Member:** Arthur Kariya, senior member of the technical staff
- **Team Member:** Justin Vanness, member of the technical staff
- **Industry Mentor:** Jim Presley, managing director, Pacific Private Capital.

Sandia National Laboratories' Twistact is a novel rotary electrical contact technology designed to eliminate the performance limitations of conventional brush/slip-ring technology. Lab-Corps will help the team determine if the wind power sector should be the primary target for the deployment of the technology or if another industry that could benefit from Twistact should be targeted instead.



The Twistact Team. Pictured from left to right are Arthur Kariya, Justin van Ness, Jeff Koplow, and Wayne Staats. *Image from Sandia National Laboratories*

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For more information, visit:
energy.gov/eere/technology-to-market/lab-corps

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