



UIDPCONNECT  
2020

# DOE Promotes Innovative Practices to Accelerate the Commercialization of Technologies (PACT) at the National Labs

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Moderator  
Arturo Pizano  
Siemens



Clara Asmail  
DOE

# Department of Energy

## Practices to Accelerate the Commercialization of Technology (PACT) at the National Laboratories

**UIDPConnect 2020**

September 23, 2020

**Clara Asmail**  
*Senior Policy Advisor*  
Office of Technology Transitions  
Department of Energy

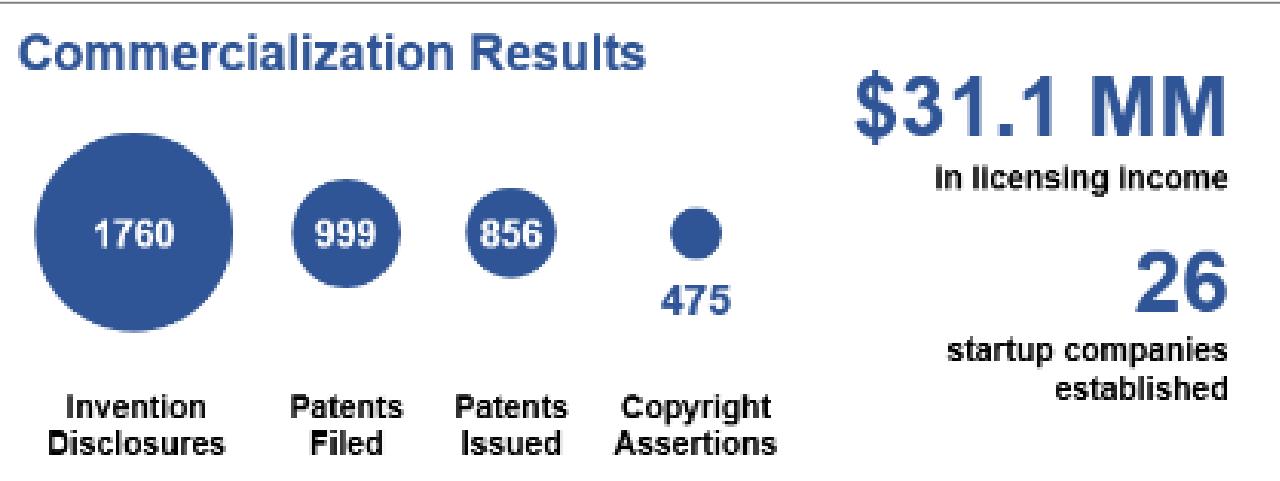
clara.asmail@hq.doe.gov

The Department catalyzes the transformative growth of basic and applied scientific research, the discovery and development of new clean energy technologies and prioritizes scientific innovation as a cornerstone of US economic prosperity

- 17 world-class institutions that constitute the most comprehensive research and development network of its kind.
- An enduring science and technology powerhouse comprised of more than 20,000 scientists and engineers who deliver new discoveries and provide world-class technological capabilities.



## Commercialization Results



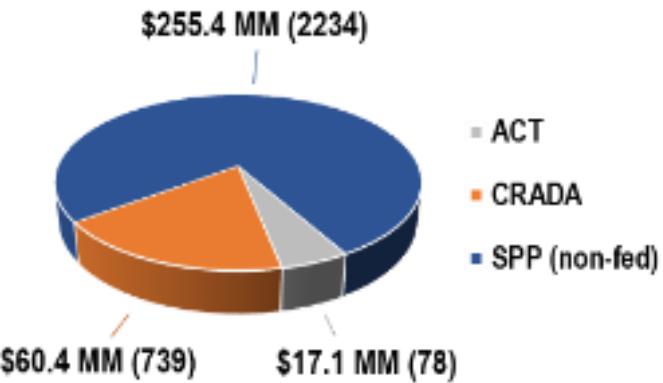
## Collaboration Agreements

**\$333.0 MM**

non-federal  
partner-funds-in

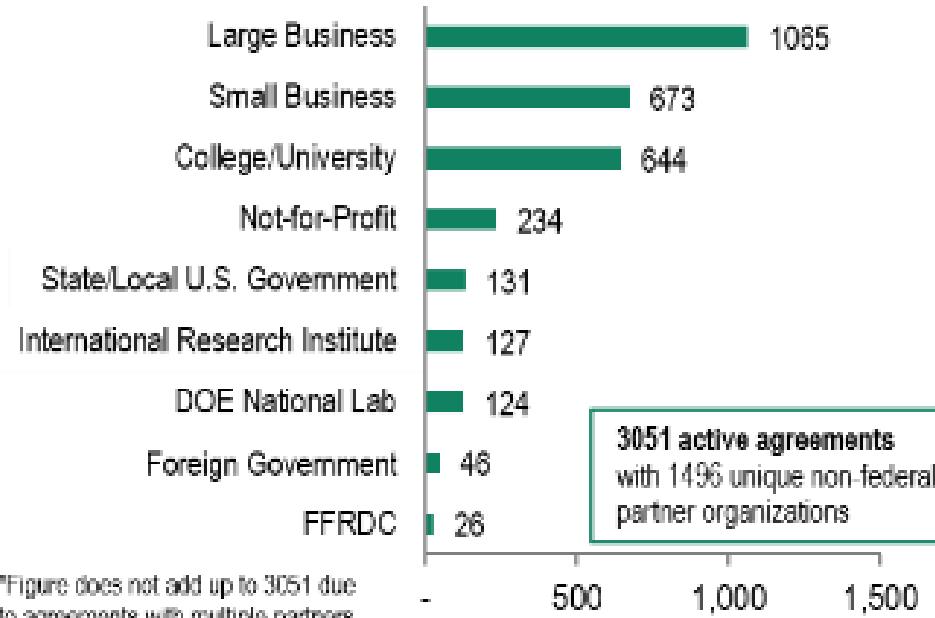
**3051**

SPP, CRADA, and ACT  
agreements



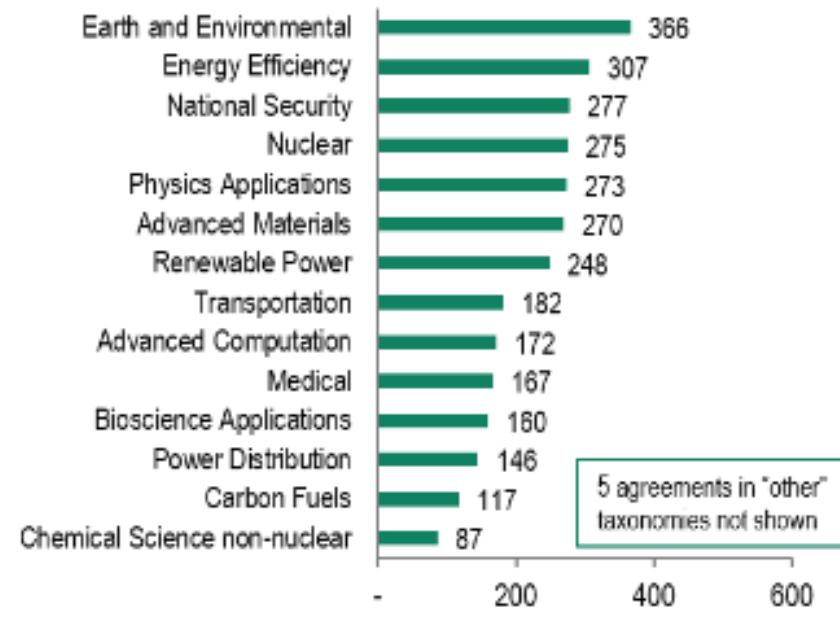
### Non-Federal Partner Types\*

(by Number of Agreements)



### Non-Federal Partner Research Taxonomies

(by Number of Agreements)



The Office of Technology Transitions (OTT) advances the economic, energy, and national security interests of the U.S. by expanding the commercial impact of DOE's R&D portfolio.

OTT ***coordinates*** activities across *DOE programs, NNSA, field offices, national laboratories, ARPA-e, and DOE support offices* as well as with *other federal agencies*

Coordination ***reduces redundancies*** and ***improves likelihood*** and ***speed of outcomes***

***Reducing barriers*** to industry engagement with the national laboratories

***Facilitating engagement*** for the transfer of technologies from the laboratories  
***to the private sector*** for commercialization

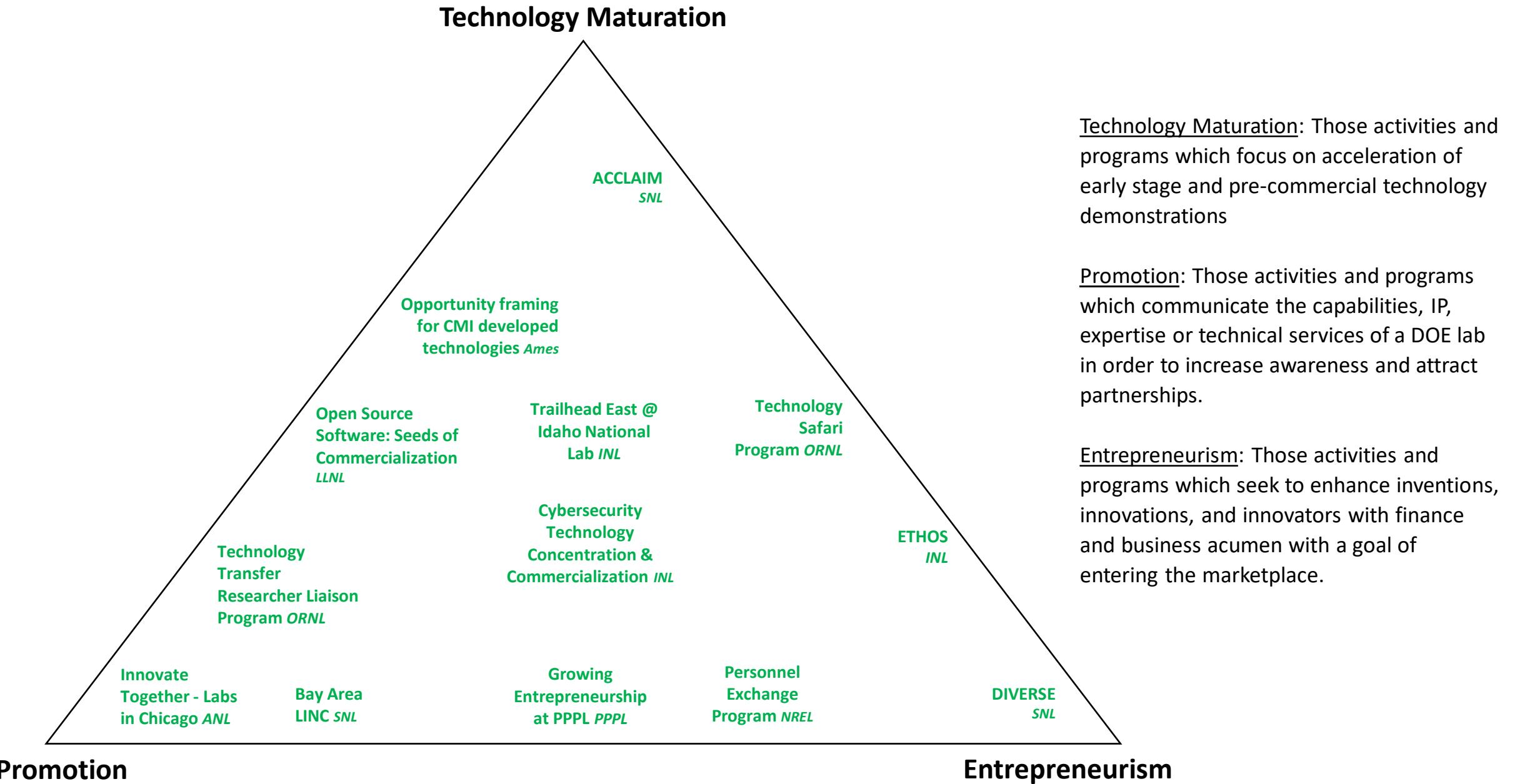
Fund dynamic and innovative ideas at the labs for enhancing technology transfer.

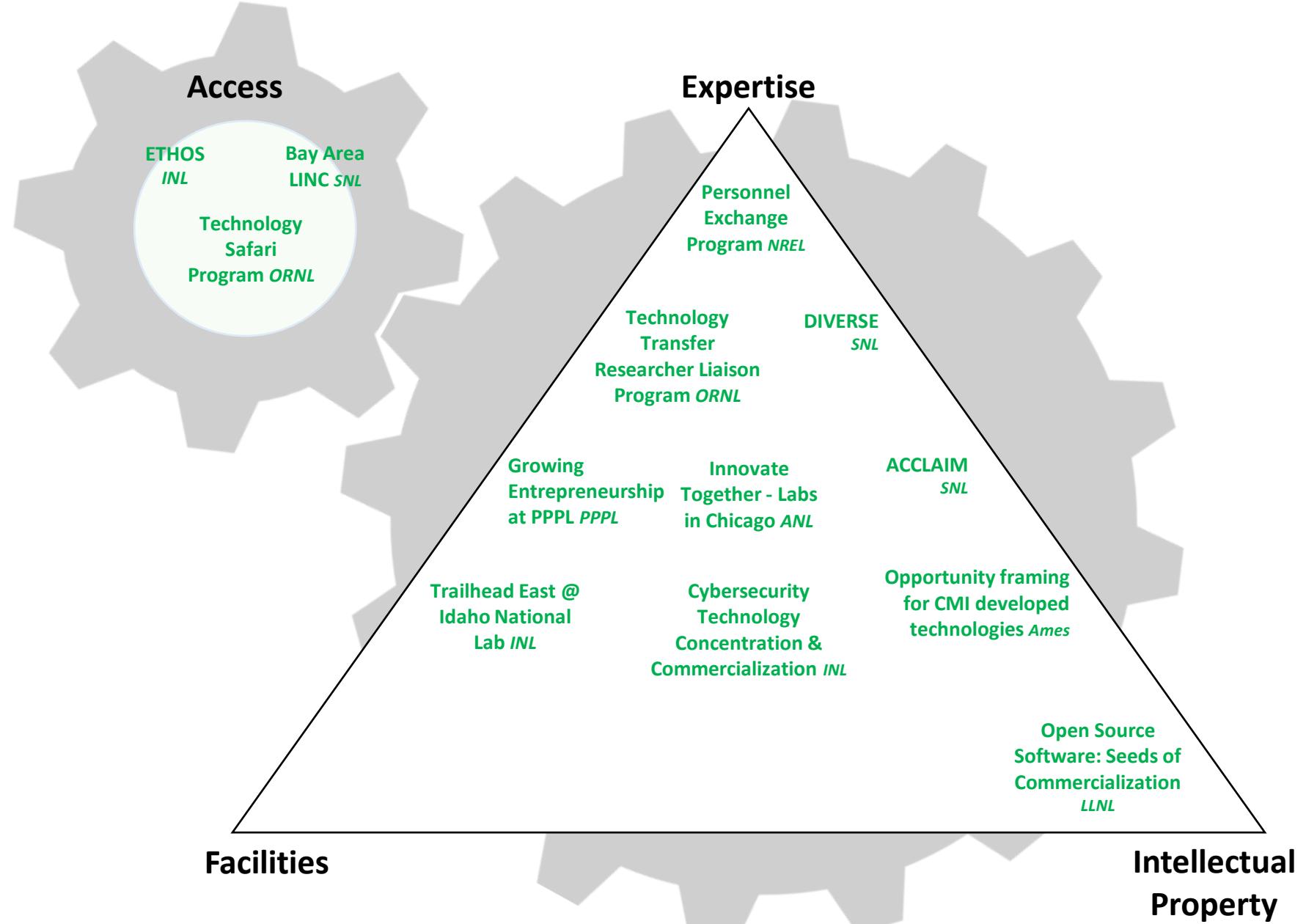
Improve and develop commercialization capabilities across the National Laboratories

To spur new approaches and strategies at the labs, foster laboratory cultural change, Labs were encouraged to submit collaborative proposals

## Objectives

- Inventive mechanisms and program designs to foster lab engagement with the private sector
- Mentoring and technology transfer workforce development
- Laboratory entrepreneurial culture development
- Operational enhancements to technology transfer
- Enhanced understanding and measurement of lab technology transfer impact
- Promotion of lab assets
- Innovative pathways for technology maturation





Expertise: Those activities and programs which focus on *people's* abilities, skills or knowledge in a particular field or focus area.

Facilities: Those activities and programs which focus on *places*, instruments, or equipment available for a particular purpose.

Intellectual Property: Those activities and programs which focus on inventions, products and other *things* with the aim of attracting partnerships with the DOE.

Access: Those activities, programs and mechanisms which enable or facilitate collaboration with DOE expertise, facilities, and intellectual property (*people, places and things*).

## Four focus areas of awarded PACT projects:

Technology-Focused (OSS, Cybersecurity, Critical Materials)

Regional (Bay-area, Chicagoland, East ID)

Entrepreneur (Diversity & Inclusion, Culture/Ethos)

Extensions of Traditional TT models (Liaisons, Safari, Lunch-n-lunch, Tech Mat funding sources, PIA)

Total Funding: \$2.7M

Total Cost Share: \$588K

Total Funding Request: \$17,307,800

## TECHNOLOGY TRANSFER SAFARI PROGRAM

Oak Ridge National Laboratory, Michael Paulus

Total Budget: \$121,200

Period of Performance: 1/1/2020 – 9/30/2020

**Purpose**

The strategic goal of the proposed Technology Safari Program is to develop a repeatable process for licensing National Laboratory technologies to successful post-exit entrepreneurs in order to increase the probability of commercial success. To attract these highly sought-after entrepreneurs and make efficient use of their time, we propose organizing guided “technology safaris” to help the entrepreneurs quickly find technology areas of interest and facilitate focused engagements with laboratory inventors to identify the opportunities that best address the entrepreneurs’ business goals.

**Approach**

- *Marketing, recruitment, and selection:* outreach to identify high-potential prospects and ensure fairness of opportunity
- *Pre-safari preparation:* calls to survey ORNL’s technology portfolio and identify 4-5 technology areas of interest
- *Safari:* 3-4 day visits to ORNL with dedicated hosts, meetings with multiple members of the ORNL technical staff, laboratory tours, preliminary licensing discussions, and office time to review and digest technical information
- *Follow-up and license agreements:* follow-up information provided as required and aggressive work toward completion of licensing agreements

**Measures of Success**

- Number of safaris conducted  
Target: 3-4
- Number of licenses executed following safaris  
Target: 2
- Number of safari startups still in operation after five years  
Target: 1-2
- Number of safari startups still in operation and producing >\$10M in annual revenue after ten years  
Target: 1

**Impact**

- Demonstration of a repeatable process for licensing National Laboratory technologies to successful post-exit entrepreneurs
- Increased probability of licensing to a successful commercial venture based on the expertise and experience of the entrepreneur
- Reduced time to market and faster company growth based on the entrepreneurs’ resources and connections

**Best Practices Review of Approaches to Developing Entrepreneurial Cultures and Technology Start-Ups from Labs****Primary Recipient:** Idaho National Laboratory; **Key Participants:** Jason Stolworthy,**Laszlo Gyorffy (Enterprise Development Group), James Keating (INL), and the TTWG Entrepreneurship Committee****Total Budget:** \$229K**6-9 Months****Purpose**

Cultures at national laboratories can be strong catalysts or inhibitors technology transfer performance. The purpose of this project is to increase the quantity and impact of technologies generated and transferred from the labs by promoting practices that develop entrepreneurial mindsets, cultures, and policies. Specifically, this project aims to (1) identify practices that are achieving results in promoting entrepreneurial mindsets, cultures, and policies; (2) develop implementable strategies that will develop entrepreneurial mindsets, cultures, and policies; and (3) identify key performance indicators for entrepreneurial cultures within the labs and how performance impacts technology transfer.

**Approach**

The approach will be to (1) analyze and characterize the current culture - including key performance indicators that can be used to measure progress, (2) define the ideal culture in the national lab systems, (3) map the difference between 1 & 2, and (4) provide a suggested action plan. Similarly, for policy improvement: (1) analyze the current policies, (2) define what the ideal policies should look like, (3) map the differences between 1&2, and (4) provide suggested action plans.

**Measures of Success***Short term:*

- Level of participation of working group and participating laboratories
- Quality and quantity of research and data

*Medium Term:*

- Quality findings, report, specific recommendations, and suggested action plan to improve culture and policies
- Implementation of programs and policy changes

*Long Term:*

- Improved entrepreneurial cultures and increased number of start-ups and technologies created/transferred
- Increased engagement with industry

**Impact**

Stakeholders include: OTT, TTWG, DOE and laboratories, technology transfer community and the public (benefiting from new technologies). Impact includes: (1) improved entrepreneurial cultures and start up activity by fostering supportive environments and policies, (2) increased implementation of programs and solutions for advancing programs that improve entrepreneurial culture development and start-ups, (3) solutions to address fundamental challenges, such as improving the level of support for technology transfer activities within laboratories, (4) operational and policy advancement in areas that impact entrepreneurship and startup activities, and (5) more engagement with industry, through a culture of working with industry and entrepreneurial businesses.

## Expanding National Lab Access to Technology Maturation Funding

Sandia National Laboratories, Joel Sikora, Manager, and  
BNL, Fermi, INL, LLNL, LANL, KCNSC, PNNL, SRNL, and Jefferson Lab

Total Budget: \$75,000

(\$75,000 requested \$0 cost share)

Period of Performance: 12 Months

### Purpose

- The objective of this project is to identify technology maturation funding options available outside of internal DOE opportunities,
- To enable more frequent and impactful maturation and commercialization of DOE lab/site developed technologies, and
- To develop a shared online platform for collecting information, insights, opportunities and lessons learned.

This initiative seeks to address the OTT objectives of:

- Innovative pathways for technology maturation
- Facilitating access to lab assets for non-DOE users
- Mentoring and technology transfer workforce development
- Promotion of lab technologies

### Approach

The program initiatives will be accomplished through a phased approach:

- Phase 1: Sandia will collaborate with participating labs/sites to identify available funding options.
- Phase 2: Sandia will engage with technology maturation programs via discovery meetings to assess overall opportunities for the DOE.
- Phase 3: Through discovery meetings, Sandia will improve awareness of available DOE technologies among each USG program.
- Phase 4: Sandia will compile the results in an online platform and brief them across the DOE enterprise.

### Measures of Success

During the project term, the study will identify:

- 10 USG or state/local government technology maturation programs,\*
- 5 of which represent opportunities for the DOE,\*
- 2 of immediate interest to non-DOE technology maturation programs,
- 15 best practices for technology maturation programs across the DOE complex.\*

Long-term, the project aims to increase funding opportunities for technology maturation and increase licenses for DOE technology deployment.

*\*Represents Quarterly Progress Measures*

### Impact

We seek to enable more frequent and impactful maturation and commercialization of DOE lab/site developed technologies to meet mission and economic development. We expect this project to increase knowledge of technology maturation funding opportunities for lab/site technologies and enable more holistic understanding of the technology maturation landscape. This knowledge will help inform future DOE and lab/site programs and initiatives.

The project will also develop a shared online platform in collaboration with Technology Transfer Working Group (TTWG), which will enhance partnering practices among the labs and improve technology maturation activities across DOE.

## TECHNOLOGY TRANSFER RESEARCHER LIAISON PROGRAM

Oak Ridge National Laboratory, Michael Paulus  
in collaboration with BNL, INL, LANL, PNNL, NREL and LLNL

Total Budget: \$630,000

Period of Performance: 10/1/2019 – 9/30/2020

**Purpose**

The proposed Technology Transfer Researcher Liaison Program seeks to strengthen the connectivity between the participating technology transfer offices and their research organizations by recruiting and training laboratory researchers to serve as Technology Transfer Liaisons. These Liaisons will serve as embedded technology scouts, local subject matter experts, and ambassadors to their technology transfer offices. The near-term impact of the program will be assessed by tracking the increase in invention disclosures, the increase in first-time inventors, and the increase in researcher participation in DOE and laboratory funded technology transfer programs.

**Approach**

The Technology Transfer Researcher Liaison Program will be managed by a steering committee consisting of the leaders of each technology transfer office. Implementation will have five steps:

- Recruitment of 6-7 mid-career researchers per laboratory to serve as liaisons
- Liaison training provided by a recognized external expert
- Formation of a multi-laboratory community of practice
- For each laboratory, liaisons serve as an internal advisory boards for their technology transfer offices
- Performance monitoring

**Measures of Success**

- Average increase in the number of invention disclosures.  
Target: + 20%
- Average increase in the number of first-time inventors.  
Target: +40%
- Increased researcher engagement in DOE Technology Transfer Programs (Energy iCorps, Technologist in Residence, Technology Commercialization Fund, etc.)  
Target: +20%

**Impact**

This proposal addresses the overarching PACT Laboratory Call objective of “improving, expanding, and developing commercialization capabilities across the National Laboratories” and the specific objectives of “mentoring and technology transfer workforce development” and “operational enhancements to technology transfer”. Specific impacts:

- Increased capture of intellectual property stemming from National Laboratory research
- Increased participation by researchers in technology transfer
- More licenses; increased impact from laboratory innovations

## Trailhead East @ Idaho National Lab

**Total Budget: \$240,000**

**Primary Lab: Idaho National Laboratory, Principal Innovator, James Keating (INL);  
Tiam Rastegar, Trailhead Boise**

**Period of Performance: 12 months**

### Purpose

The goal of this project is to partner with Trailhead Boise, a nonprofit 501(c)(3) business accelerator located in Boise, Idaho, to create Trailhead East @ Idaho National Lab for the commercialization of INL technologies and the creation of a local innovation ecosystem.

### Approach

The first phase of the project involves establishing and implementing the Trailhead Boise accelerator system and process at INL. "Trailhead East" will launch by accepting approximately five applicant teams for the initial cohort from a pool of applicants who have participated in either Energy I-Corps or INL Energy I-Corps Lite programs. Selected applicant teams will each receive money to refine their value propositions and business models and eventually compete in the Trailhead Pitch Competition hosted by Trailhead Boise, where they can present to a room full of investors and potential industrial partners. We anticipate this program will be self-funded after launch.

### Measures of Success

**Short Term Metrics**—one of the (two) cohort finalists will secure an investment from a private investor from the Trailhead Pitch Competition, and at least one of the five cohort teams will attract an industry partner.

**Medium-term (2-4 years)**—launch two startups annually that have secured at least \$1 million in private investment funding.

**Long-term (5+ years)**—launch an average of four startups annually that have secured at least \$1 million in private investment funding.

### Impact

#### Stakeholders:

- DOE
- Idaho National Lab
- Trailhead Boise
- Idaho/regional startup and business communities

Trailhead East will act as a dynamic venue for industry engagement and would be instrumental in building and growing a knowledge-based economy and a thriving innovation ecosystem here in eastern Idaho.

Integrated technical and non-technical opportunity framing for Critical Materials Institute developed technologies

\$292,000

Ames Laboratory, Julianne M. Krennrich; Key Participants: M. Christopher Haase (CMI) and Ellen Coopersmith (Decision Frameworks, L.P.)

12 months

### Purpose

#### Aims and Objectives

Prepare holistic decision roadmaps to guide the CMI as it works to successfully transition key technologies in its portfolio. The roadmaps will take into account supply chain/partner development and business investment opportunities, in addition to continued technical development, validation and verification steps.

Support CMI's mission to assure critical material supply chains for domestic manufacturing and energy security.

### Approach

1. Hold individual Framing Workshops for select technologies.
2. Employ Decision Frameworks, L.P. proprietary approach to evaluate uncertainties and risks, determine key strategies, and produce a decision roadmap for each technology.
3. Work with partners to implement roadmaps.

### Measures of Success

#### Key Performance Indicators, Standards, Criteria

- Engage a variety of stakeholders in each workshop, including technical, management, patenting/licensing.
- Increase industry and investment partner engagement
- Execute follow-on CRADA/SPP agreements with options to license technologies. Target: minimum one new agreement per workshop

### Impact

#### Stakeholders, Desired End Result

- Business-informed technology roadmaps and market development/deployment plans will position these technologies for licensing and commercialization in the United States.
- Roadmaps will guide partner engagement to increase likelihood of further technology development and commercialization via TT agreements and licenses.
- TT personnel will receive training and mentoring in the decision framing technique.

## Cybersecurity Technology Concentration and Commercialization

**Idaho National Laboratory, Jon Cook**

**Robert Westervelt, Sandia National Laboratories (SNL); Kannan Krishnaswami, Pacific Northwest National Laboratory (PNNL);  
Eugene Cochran, Oak Ridge National Laboratory (ORNL), Jason Gayl, Cyber Capital Partners (Cyber CP)**

**Total Budget \$350k**

**Period of Performance 9/1/2019-8/31/2020**

### Purpose

The project will work toward an ultimate goal of creating well-funded cybersecurity startup companies based on laboratory technologies. Cyber Capital Partners (Cyber CP) utilizes its network of companies in highly regulated market spaces (government agencies, critical infrastructure, energy, banking and healthcare) and its network of entrepreneurs, technologists and investors to build cybersecurity startups. By partnering with Cyber CP, the participating laboratories aim to create companies from their portfolios of cybersecurity IP.

### Approach

Cyber CP provides seed capital and venture advisory services to early stage cybersecurity companies. INL and partner laboratories intend to work with Cyber CP to select the cybersecurity technologies within the laboratory portfolios that align with the growing needs of highly regulated industries. Startup companies will be launched and funded by Cyber CP and network investors to commercialize laboratory technologies and fulfill the cyber security needs of industry.

### Measures of Success

- The ultimate measure of success will be the establishment of startup companies to successfully commercialize laboratory technologies – two commercial licenses expected.
- 25-35 laboratory researchers and TT staff engaged in Cyber CP validation and customer discovery process
- At least four inquiries for new partnerships or collaborative research
- Establish strong connection between laboratory TT staff and researchers with Cyber CP and associated network of industry and investors

### Impact

- Establishment of cyber security technology based startups with licenses to laboratory developed technologies providing needed services to target industries such as energy, banking, critical infrastructure, or government agencies
- Development of a technology startup mechanism and network that could be replicated in other technology areas beyond cyber security
- Building a strong connection between laboratory cyber researchers, technology transfer staff, Cyber CP, and associated industry and investor networks to provide long term customer discovery and collaboration opportunities



## Open Source Software: Seeds of Commercialization

Lawrence Livermore National Laboratory, Hannah Farquar & Peer-Timo Bremer

\$400,000

1 year

### Purpose

Aims and Objectives

#### AIM 1:

Develop new value propositions for open source software (OSS)

#### AIM 2:

Create agile process for working with small and medium-sized software companies

### Approach

An LLNL OSS committee will drive the completion of tasks and achievement of aims.

- ✓ Aim 1: Develop new value propositions for open source software (OSS)
  - Task 1: Catalog industry-valuable OSS projects
  - Task 2: Identify viable strategies for the protection of innovation generated from OSS
  - Task 3: Communications (flyers, posters, websites, social media, etc.)
  - Task 4: Business development (trade show attendance, consultation meetings, etc.)
- ✓ Aim 2: Create agile process for working with small and medium-sized software companies
  - Task 1: Review current processes for relationship capture and augment with streamlined agreements specific for OSS-generated partnerships
  - Task 2: Identify and implement new models for providing technical assistance to LLNL computer scientists to provide work for companies (e.g. overtime pay, prize, etc.)

### Measures of Success

Key Performance Indicators, Standards, Criteria

Quarter	Accomplishments
1	<ul style="list-style-type: none"><li>• At least 5 OSS projects identified and business development strategies developed for each.</li></ul>
2	<ul style="list-style-type: none"><li>• Outreach materials developed.</li><li>• New protection strategies identified.</li><li>• Leads generated from communications/BD strategies.</li></ul>
3	<ul style="list-style-type: none"><li>• Agreements and processes implemented for streamlined partnership capture.</li></ul>
4	<ul style="list-style-type: none"><li>• At least 3 LLNL computer scientists provided with technical assistance to perform work using OSS resources.</li></ul>

### Impact

Stakeholders, Desired End Result

1. **Enhanced Access:** Increased deal flow (CRADA & SPP) generated from underutilized intellectual asset of open source software (OSS).
2. **Increased Promotion:** New national laboratory tech transfer customers in small and mid-sized companies with products and services based on OSS that would not generally have seen national laboratories as a partner.
3. **Tech transfer culture change:** Starting the tech transfer pipeline from OSS provides a new measure of lead generation from an intellectual asset. Best practices learned and processes created can be easily transferred to other national laboratories for implementation.

## Increasing Participation in Inventor/Entrepreneur Community in the DOE National Labs Through Inclusion

Sandia National Laboratories, Rene Sells

**Total Budget: \$200,000**

**(\$150k requested, \$50k cost share)**

**Period of Performance: 12 months**

### Purpose

The project goal is to increase diversity and inclusion (D&I) within the national labs tech transfer programs to spur innovation and enhance the potential for commercialization of lab technologies.

The Inclusion project will:

- Seek to better understand and frame D&I issues, including low participation rates for women and minorities in inventorship and entrepreneurship;
- Identify D&I best practices from both inside and outside of DOE that are yielding results;
- Use the information to develop strategies for new and innovative inclusion programs that can be piloted at Sandia, with participation by supporting lab personnel.

### Approach

- T1. Establish a diversity working group.
- T2. Conduct primary and secondary research to:
  - Gather statistics to set a baseline for future comparison. (e.g. TAs, patents, scientific paper authors, etc.);
  - Identify D&I best practices in inventorship/entrepreneurship from outside the national labs that are yielding results.
  - Identify common D&I trends in DOE National Labs Tech Transfer programs and prioritize focus areas.
- T3.1 Contract thought leaders and practitioners as instructors, consultants, and mentors.
- T3.2 Pilot programs at Sandia with active participation from the contributing national lab partners.
- T4. Assess participation, feedback, and identify best practices.

### Measures of Success (Quarterly Progress Measures & Metrics)

QPM	Description
QPM1	• Project Plan completed.
QPM2	• Survey results analyzed and report completed.
QPM3	• Pilot inclusion programs incorporating identified focus areas.
QPM4	• Final Report completed and distributed to other labs.

Timeframe	Description
Short term	<ul style="list-style-type: none"> <li>• At least 7 national labs participating in working group</li> <li>• # of participants in various inclusion programs offered</li> <li>• Qualitative data measuring understanding/perspective shift</li> </ul>
Medium	<ul style="list-style-type: none"> <li>• Adoption of inclusion programs at labs after project ends</li> <li>• Implement tracking of D&amp;I tech transfer stats based on baseline</li> </ul>
Long Term	<ul style="list-style-type: none"> <li>• # of tech transfer opportunities pursued by targeted groups</li> </ul>

### Impact

While some progress has been made over the years to improve diversity and inclusion in high tech inventorship and entrepreneurship, recent reports highlight that there is still a need for increased diversity, and that increased diversity can help spur U.S. innovation.

Through implementation of targeted programs, we expect to see increased awareness of and participation in DOE OTT and lab tech transfer/commercialization efforts by effectively identifying, targeting and including this untapped innovation talent pool.

## INNOVATE TOGETHER – LABS IN CHICAGO

Total Budget: \$124,979

Primary National Lab: Argonne National Laboratory, Dr. Ushma Kriplani

Supporting Lab: Fermi National Accelerator Laboratory, Cherri Schmidt

12 Months

### Purpose

Extend the reach and role of Argonne and Fermilab in the Chicago innovation ecosystem by:

1. building awareness of the groundbreaking research, capabilities, and facilities at Argonne and Fermilab
2. promoting lab technologies to drive new opportunities for technology transfer and commercialization.

### Approach

- Lead the design, planning, and execution of a regular series of 2-hr to 4-hr workshops on targeted R&D topics featuring lab scientific and technology transfer thought leadership
- Create focused, entrepreneur- and startup-relevant programming to bring directly to regional incubators and accelerators
- Encourage hands-on demonstrations, direct interaction with researchers, and technology transfer representatives
- Market and leverage newly-created express licensing and other mechanisms to overcome barriers facing lab-startup technology transfer

### Measures of Success

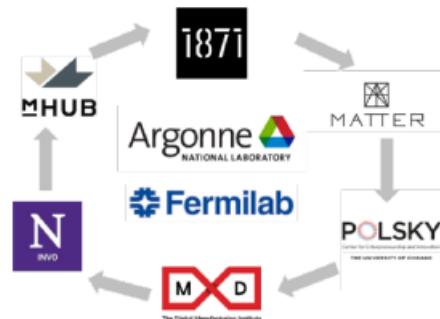
Argonne and Fermilab have existing relationships with Chicago's leading incubators and accelerators. These hubs of the regional entrepreneurial ecosystem are optimal venues for the proposed workshops. Project success metrics include:

- Partnership agreements to hold regular workshops at four to six regional incubators/accelerators
- Seven to nine hosted workshops completed during the project period
- At least 25 lab researchers engaged in workshops
- At least 180 workshop attendees
- At least 20 inquiries into new lab partnerships.

### Impact

"Innovate Together - Labs in Chicago" seeks to sustainably position the labs as key R&D partners in the Chicago area entrepreneurial ecosystem thus increasing technology transfer pipeline to the startup community.

### Stakeholders



## Growing Entrepreneurship at PPPL

PPPL Laurie Bagley

Request: \$40,000  
12 months

### Purpose

- To improve the entrepreneurial culture at PPPL.
- To enhance the understanding of entrepreneurship.
- To provide partnership and research collaboration opportunities.

### Approach

- Invite entrepreneurial speakers from different disciplines.
- Advertise Lunch & Learn to engage lab researchers/employees.
- Hold engaging events.

### Measures of Success

- Number of lab researchers/employees attending.
- Number of follow up discussions/calls.
- Measure of entrepreneurial knowledge of lab researchers/employees.

### Impact

- Program supports PEMP 4.3.
- Lab has increase in potential collaboration opportunities.
- Lab has model and experience with Entrepreneurship Lunch & Learn program to carry forward.

## SF BAY AREA LAB PACT

Sandia National Laboratories, Principal Innovators: Rene Sells and Annie Garcia

Participants: Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory,  
SLAC National Accelerator Laboratory

Total Budget: \$300,000

(\$300,000 requested, \$0 cost share)

Period of Performance: 12 months

### Purpose

We intend to increase the impact the national labs have in the Bay Area and establish an enduring presence in the community. This project will create and strengthen meaningful inroads to corporations, universities, startups, and investors for the entire DOE complex. It can be challenging for the labs to establish themselves as sustained partners in the region through standard showcase models. Many Bay Area institutions view each lab as a specialized institution, only reaching out to them when the need arises, and only for a limited timeframe. With a unified brand and engagement approach, we will change how the labs are perceived in the Bay Area from being viewed as short-term, specialized partners, to being viewed as a resource for sustained partnerships.

### Approach

Task 1: Unify Bay Area national labs under a single brand; conduct an independent assessment of the labs' footprint in the region; establish a baseline for opportunities and partnerships; establish a shared office space; form a Bay Area Council.

Task 2: Identify actionable opportunities for increased engagement and develop an engagement plan based on identified opportunities.

Task 3: Engage industry and entrepreneurs through themed innovation exploration sessions; engage universities by expanding interactions with their associated incubators and campus initiatives.

Task 4: Measure growth in awareness and establish a mechanism to communicate opportunities and progress back to DOE complex. Create a sustainability plan for operations after PACT funding.

### Measures of Success (Quarterly Progress Measures & Metrics)

QPM	Description
QPM1	<ul style="list-style-type: none"><li>Establish baseline for engagements, opportunities, and partnerships; conduct independent assessment to measure growth</li></ul>
QPM2	<ul style="list-style-type: none"><li>Finalize an engagement plan that all participating labs approve of</li></ul>
QPM3	<ul style="list-style-type: none"><li>See a 25% increase in combined or new opportunities</li></ul>
QPM4	<ul style="list-style-type: none"><li>See a 25% increase in partnerships/agreements, assessment results</li></ul>
Timeframe	Description
Short term	<ul style="list-style-type: none"><li>Initial benchmark results of independent assessment from marketing research company</li><li>Establish initial benchmark for opportunities and partnerships/agreements</li></ul>
Medium	<ul style="list-style-type: none"><li>25% increase in combined or new opportunities</li></ul>
Long Term	<ul style="list-style-type: none"><li>Increase of 25% on partnerships/agreements by one year after outreach activities start.</li><li>Improvement of 25% on independent assessment results</li></ul>

### Impact

The impact of this project is a more integrated presence for the labs in the Bay Area entrepreneurial ecosystem. Under a unified brand, the labs will be more accessible to the private sector and industry, and considered a primary choice for collaboration in a variety of technical areas. In addition, the labs will have an increased presence in the activities of the private sector and universities. These activities will lead to increased collaboration between the labs and Bay Area institutions, including industry, universities, entrepreneurship groups, and investors, while also increasing the network of potential collaborators for tech transfer opportunities. We expect to see an increase in tech transfer participation from the Bay Area labs.

## Improving Tech Transfer Outcomes through Partnership Intermediary Pilot Project \$400,000

Fermilab, Cherri Schmidt, with Drew Weisenberger(JLab), Laurie Bagley (PPPL), and Susan Simpkins (SLAC)  
12 months

### Purpose

- Evaluate the use of Partnership Intermediaries to extend the reach of small, basic science labs
- Identify path to market for technologies with best commercial potential for each lab and/or cross-lab bundles

### Approach

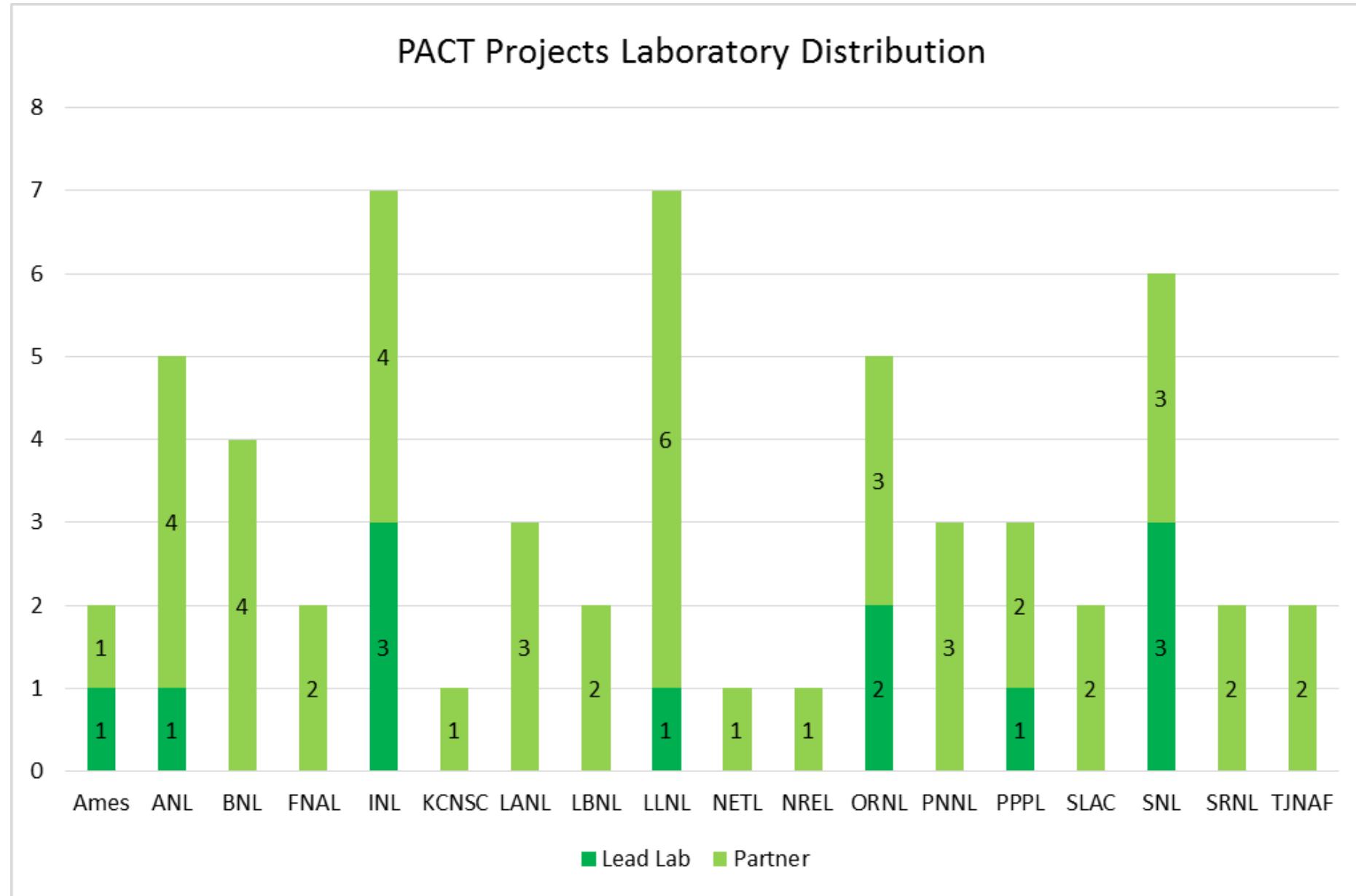
- Secure the services of an established Partnership Intermediary
- Evaluate combined patent portfolios of 4 labs
- Conduct Innovation Discovery Event at each lab
- Develop “go to market” recommendations for technologies with best commercial potential
- Conduct a “Lessons Learned” workshop and produce final report on the pilot

### Measures of Success

- Establish a contract with a Partnership Intermediary within 4 months (stage gate)
- Clear “path to market” for one technology at each participating lab (minimum requirement)
- Clear “path to market” for one cross-lab bundle of patents (bonus metric)

### Impact

- Pilot labs have clear sense of value of their technology portfolios and path to market for at least one high potential technology
- Pilot labs have model and experience with Innovation Discovery Events to carry forward
- Sustainable model for using Partnership Intermediaries across DOE lab complex



- Extra Slides

*Provides matching funds with private partners* to promote promising energy technologies for commercial purposes

OTT manages the execution of the TCF as mandated by Sec 1001 of EPAct 2005

The TCF is intended to facilitate the commercialization of energy technologies with promising potential that are developed at DOE Facilities. TCF Federal funds are matched with non-Federal contributions to:

1. Perform technology maturation with the intent of attracting a private partner that is willing to support the technology's commercialization.
2. Support cooperative development of technology with a private partner for a specific commercial application.

Year	TCF Funding Available	# of Projects
2016	\$19,671,000	54
2017	\$19,964,950	54
2018	\$24,761,187	64
2019	\$31,190,757	77
2020	\$38,143,306	82

## Connecting Investors to Lab Subject Matter Experts & IP



### Ask a question

Our energy technology experts will help answer questions. Find experts by searching for technologies and keywords.

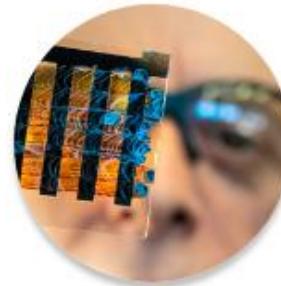
[Ask a National Lab Expert](#)



### Learn how to partner

Each national laboratory has unique technical expertise and user facilities. Learn about each lab and contact the technology transfer point of contact to learn more.

[Learn about types of agreements](#)



### Explore technologies

Locate technologies developed with DOE funding and available for licensing. When you find a technology you are interested in, contact the lab directly.

[Search technologies and patents](#)



### Discover a Lab

Each national laboratory has unique technical expertise and user facilities. Learn about each lab and contact the technology transfer point of contact to learn more.

[Profiles for over 20 locations](#)

<https://search.labpartnering.org/>

Use the LPS faceted search filters, or search by keywords, to narrow your results.

Search Results: 157 results (0.004 seconds)

Search 

Clear All

Types: Experts (157)  

Technologies:

- Advanced Materials + (54)
- Nuclear + (40)
- Energy Storage + (38)
- Solar + (28)
- Energy Conversion + (24)

Specialties:

- Materials Characterization + (31)
- Modeling + (42)
- Simulation + (33)
- Nanomaterials + (25)
- Sensors + (24)

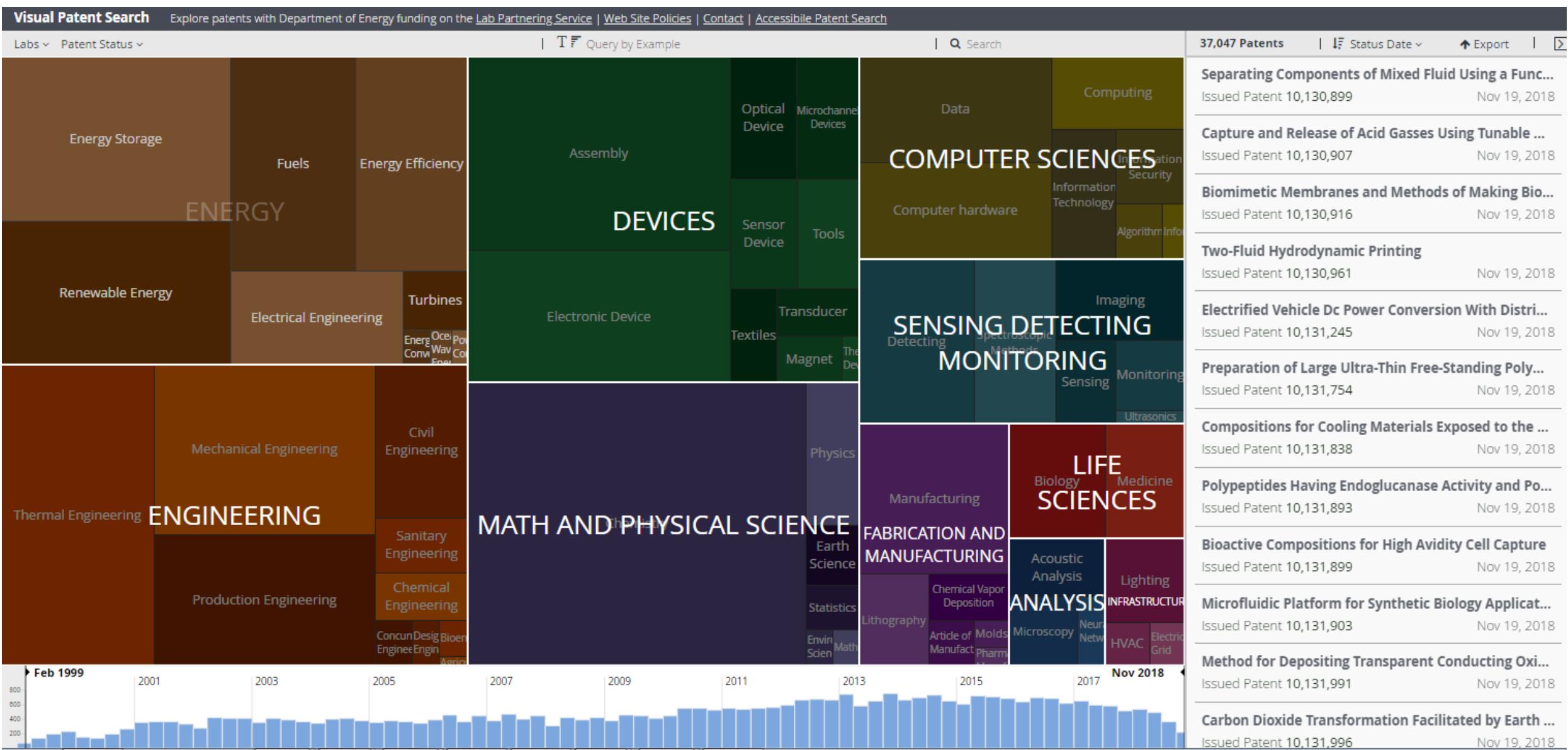
Labs:

- Idaho National Laboratory + (26)
- Argonne National Laboratory + (24)
- Lawrence Berkeley National Laboratory + (16)

  
Geo Liu > Lawrence Berkeley National Laboratory    
Jessica Granderson > Lawrence Berkeley National Laboratory    
Kevin P. Schneider > Pacific Northwest National Laboratory    
Charles T. Black > Brookhaven National Laboratory    
  
  
J. Nathan Hohman > Lawrence Berkeley National Laboratory    
Jason Hales > Idaho National Laboratory    
Daniel Abraham > Argonne National Laboratory    
John Jackson > Idaho National Laboratory    
  
  
Nancy Lybecky > Idaho National Laboratory    
Richard Williamson > Idaho National Laboratory    
Marcus Worsley > Lawrence Livermore National Laboratory    
Douglas L. Portry > Idaho National Laboratory  

1 2 3 4 5 Next >

## (LPS) Partnering with Experts



# Energy I-Corps: Bridging the Lab/Industry Knowledge Gap

Enhancing *Capabilities* of Researchers and Technology Transfer Offices

Trains scientists how breakthrough discoveries can transition into ***high-impact, real-world technologies*** for commercialization by the private sector.

Aimed at accelerating the transfer of energy technologies from national laboratories to the commercial market.

DOE-tailored version of successful NSF I-Corps program adopted across many agencies. DOE co-led establishment of current Community of Practice through OSTP.

- 10 National Labs participating
- Sixth class began October 2017
- Expansion to NE, EM, OE for 6<sup>th</sup> class
- 63 teams, more than 63 industry mentors and more than 4500 customer discovery interviews
- At least 5 teams have incorporated or launched a new small business
- \$10 million in follow-on funding
- Exploring privately-funded teams

