



# Why and How to Collaborate with Federal Laboratories to Advance Your Pursuits

SOFWERX TECHNOLOGY TRANSFER AWARENESS DAY

MARCH 2021

U.S. DEPARTMENT OF  
**ENERGY**

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*Office of*  
**TECHNOLOGY TRANSITIONS**



# THE NATIONAL LABORATORIES

As a science agency, the Energy Department plays an important role in the innovation economy. 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 IMPACTS

## Commercialization Results



Invention  
Disclosures



Patents  
Filed



Patents  
Issued



Copyright  
Assertions

**\$31.1 MM**

In Licensing Income

**26**

startup companies  
established

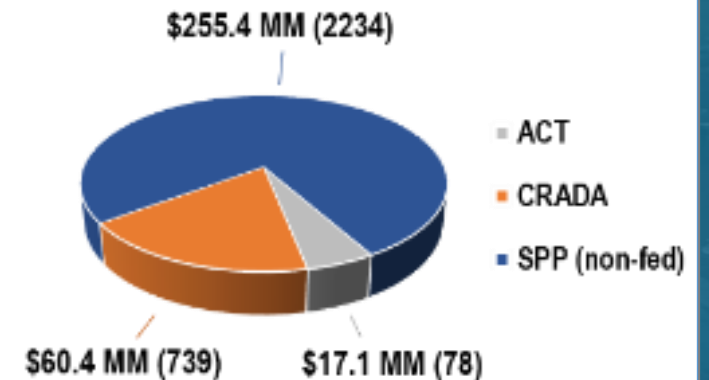
## Collaboration Agreements

**\$333.0 MM**

non-federal  
partner-funds-in

**3051**

SPP, CRADA, and ACT  
agreements



# TECHNOLOGY TRANSFER GOALS



**Goal 1:** Increase the commercial impact of DOE investments through the transition of national laboratory-developed technologies into the private sector.

**Goal 2:** Increase the commercial impact of DOE investments through private sector utilization of national laboratory facilities and expertise.

# Where is OTT in its Journey?

## Last 6 years

- Little Engine that Could: big moves with a small team
- Established a robust network of trust throughout DOE and have provided meaningful support to 99% of DOE
- Created critical legislation to support the office
- Built some important tools
  - Metrics to measure technology transition activities across DOE
  - Codification of patents, assets & people
  - Burgeoning market analysis capability
- New & improved programs in white spaces for labs & offices
  - Energy I-corps
  - TCF
  - EPIC
  - PACT
  - Other

## Areas of opportunity

- Scale what we have done across the DOE complex and align it to support DOE Priorities
- Raise departmental awareness of OTT mission space and how we can more systematically help labs & programs
- Understand the impact our programs are having on commercialization
- Make it a lot easier to work with DOE (e.g., contracting)
- Establish new programs in white spaces that align to the Administration's priorities
  - Diversity & Inclusion
  - Job creation
  - Bridging Valleys of Death (e.g., prototype funds)
  - Support of small business
  - Regional clusters
  - EJ40
- Support workforce capability building and bring promising cohorts (e.g., younger generation) into DOE orbit

# What does OTT do?

Our Mission: Empower the commercialization of DOE-powered innovations in partnership with labs and programs across the entire portfolio:

## 1. Create, fund & deliver whitespace programs

- Tech Commercialization Fund (TCF) – ~\$30MM
- Energy Program for Innovation Clusters (EPIC) – \$5MM
- Energy I-Corps Program
- Technical Assistance Program (e.g., CTAP)
- *New programs to support labs (e.g., SBV, mentorship)*

## 2. Develop crosscutting tools

- Streamlined processes for MOUs, CRADAs; COI;
- Creative mechanisms and models: (e.g., PACT, *DOE Foundation*)
- *Market/Supply Chain Analysis*
- *New funding constructs (e.g., prizes)*

## 3. Facilitate access to DOE

- Lab Partnering Service™ (LPS)
- Solutions Exchange
- InnovationXLab™
- Success Stories & Spotlights
- Ecosystem Partnerships Database
- “Quarterbacks” to support dialogue

## 4. Build Tech Transfer talent pipeline

- Development of TT capabilities (OTT rotation & Energy I-Corps)
- *New programs to support workforce (e.g., mentorships for URM, Leave of Absence)*
- *New programs to attract talent (e.g., OTT summer internships, business competitions)*

## 5. Shape culture of commercialization

- TT metrics database (*incl. jobs? diversity?*)
- *TT metrics in performance reviews*
- Cross-DOE leadership:
  - Technology Transfer Practice (TTWG)
  - Technology Transfer Policy (TTPB)
  - Lab2Market (L2M) w/NIST
- Congressional reports
  - TTEP: TT Execution Plan
  - Lab Utilization Report

*Italics: New/augmented initiatives*

*These pillars catalyze public-private-partnerships & commercialization of DOE assets*

# TECHNOLOGY COMMERCIALIZATION FUND

Provides cost-shared funds with private partners to promote promising energy technologies for commercial purposes

OTT manages the execution of the TCF as authorized by Sec 1001 of EAct 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.

**SBIR/STTR**

# LABORATORY PARTNERING SERVICE (LPS)



Connecting to DOE:  
Lab Subject Matter Experts  
IP  
Facilities

<https://labpartnering.org/>









The screenshot displays the LPS website interface with four main sections:

- Ask an Expert:** A section with a light blue header and a background image of a woman in a lab. It includes a description: "DOE energy experts will help answer your questions. Find and quickly connect with national lab experts by searching for technologies and keywords." It lists featured experts: Ignacio Martinez-Moyano (Simulation, Security, Modeling, Decision Analysis) and John Fulton (Risk Assessment, Radioactive Waste Forms, Modeling, Launch Vehicles, Code Development). A button at the bottom right says "Ask a National Lab Expert".
- Explore Patents:** A section with a dark blue header and a background image of a person wearing safety glasses. It includes a description: "Explore advanced innovation patents, supported by funding from the Department of Energy or NASA. Join the ecosystem of innovation!" Below the text is a grid of colorful patent categories. A button at the bottom right says "Browse or search patents".
- Explore Technologies:** A section with a dark blue header and a background image of industrial machinery. It includes a description: "Discover advanced technologies that were developed with DOE funding and are available for licensing. Quickly connect with the national lab directly, right from the technology description!" It lists featured technologies: "Economical, Nonintrusive Measurement of Process-Material Volumes in Process Vessels" (with a logo for INRE) and "Early Detection of Lithium Plating on Lithium-ion Batteries". A button at the bottom right says "Browse or search technologies".
- Discover a Facility:** A section with a dark blue header and a background image of a modern building. It includes a description: "The national laboratories have state-of-the-art facilities that are open to industrial and academic users. Discover and learn about each facility. Then quickly connect with them to learn how to partner!" It lists featured facilities: "Brine Sequestration Lab" (Decontamination Environmental (e.g. water, air, surfaces)) and "WATT the Power of AI" (Real Time Data Analytics, Data Analysis, Machine Learning, Artificial Intelligence) with a logo for JRT. A button at the bottom right says "Browse or search facilities".

# LPS PARTNERING WITH EXPERTS











<https://labpartnering.org/>

 <b>Aaron Sadow</b> Ames Laboratory 5 Areas of Expertise <a href="#">Ask Me</a>	 <b>David Stracuzzi</b> Sandia National Laboratories 3 Areas of Expertise <a href="#">Ask Me</a>	 <b>Tim Draelos</b> Sandia National Laboratories 5 Areas of Expertise <a href="#">Ask Me</a>	 <b>Susan Marie Clark</b> Sandia National Laboratories 2 Areas of Expertise <a href="#">Ask Me</a>
 <b>Daniel Abraham</b> Argonne National Laboratory 5 Areas of Expertise <a href="#">Ask Me</a>	 <b>Pierre Darancet</b> Argonne National Laboratory 1 Area of Expertise <a href="#">Ask Me</a>	 <b>Nathan Guisinger</b> Argonne National Laboratory 1 Area of Expertise <a href="#">Ask Me</a>	 <b>Tuan Ho</b> Sandia National Laboratories 8 Areas of Expertise <a href="#">Ask Me</a>

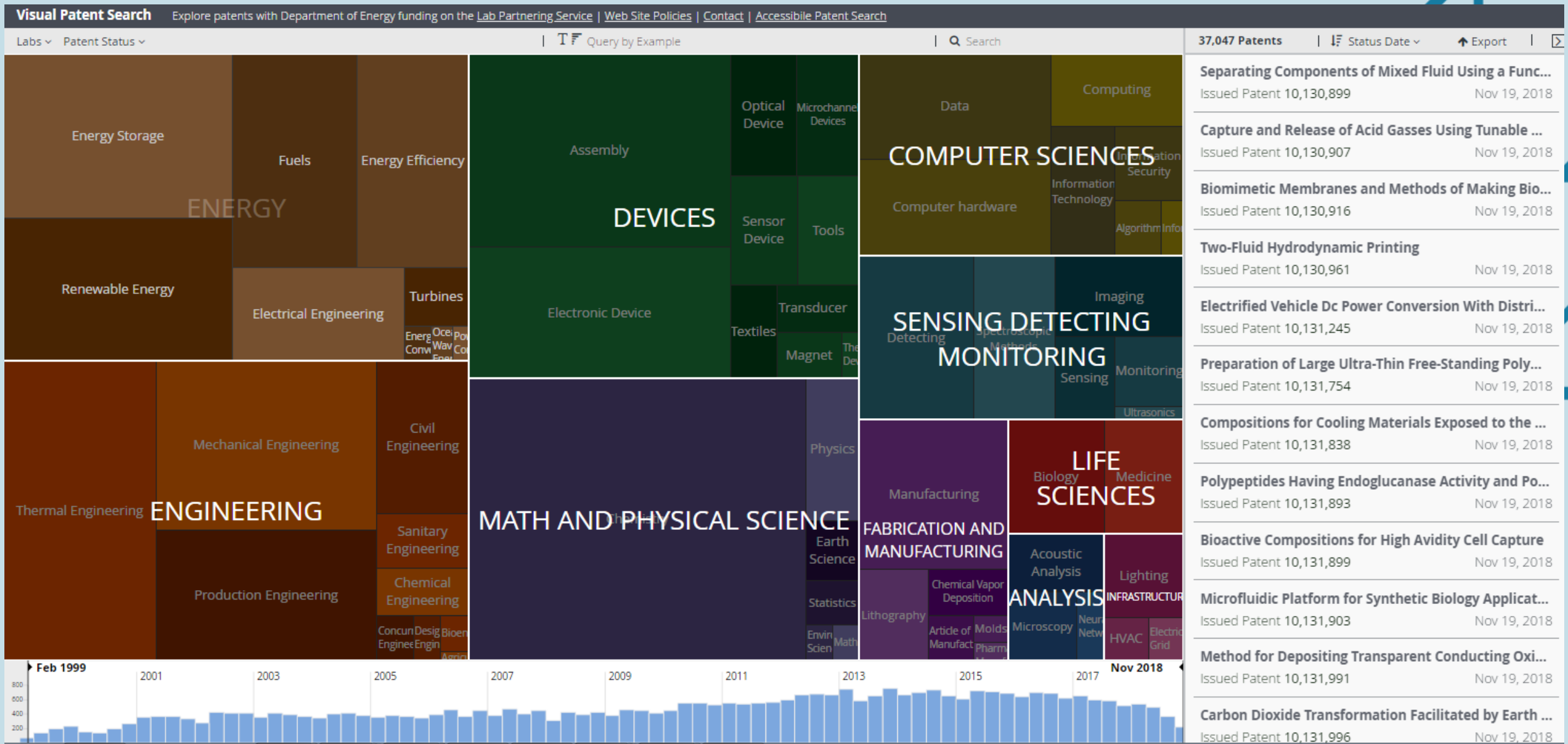
# LPS TECHNOLOGY SUMMARIES



<https://labpartnering.org/>

 <b>Identifying and Embedding Spatial Relation...</b> Lawrence Livermore National Laboratory 1 AI <a href="#">Connect</a>	 <b>SeQUeNCe: Simulator of QUantum Network Com...</b> Argonne National Laboratory 1 Specialty <a href="#">Connect</a>	 <b>Carbon Ion Pump for Carbon Dioxide Removal</b> Lawrence Livermore National Laboratory 1 Technology <a href="#">Connect</a>	 <b>MTL: A Software Suite for Learning Related...</b> Lawrence Livermore National Laboratory <a href="#">Connect</a>
 <b>Alignment Promoted in Heat Treatable Magne...</b> Ames Laboratory 1 Technology <a href="#">Connect</a>	 <b>Microwave and Process Technologies</b> Y-12 National Security Complex 2 Technologies <a href="#">Connect</a>	 <b>Electronic Medical Business Operations Sys...</b> Y-12 National Security Complex 1 Technology <a href="#">Connect</a>	 <b>Molecule Nanoweaver Improves Drug Delivery...</b> Argonne National Laboratory 1 Technology <a href="#">Connect</a>

# LPS VISUAL PATENT SEARCH



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