

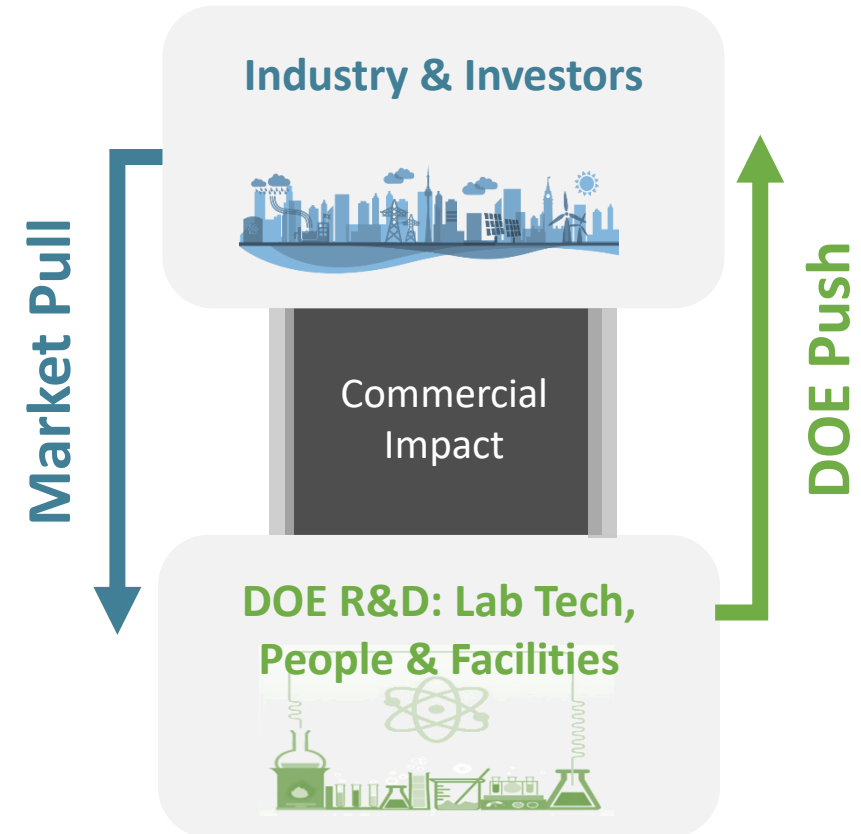


U.S. DEPARTMENT OF
ENERGY

Office of
TECHNOLOGY TRANSITIONS

The Office of Technology Transitions (OTT) advances the economic, energy, and national security interests of the United States by expanding the commercial impact of the Department of Energy's research and development portfolio.

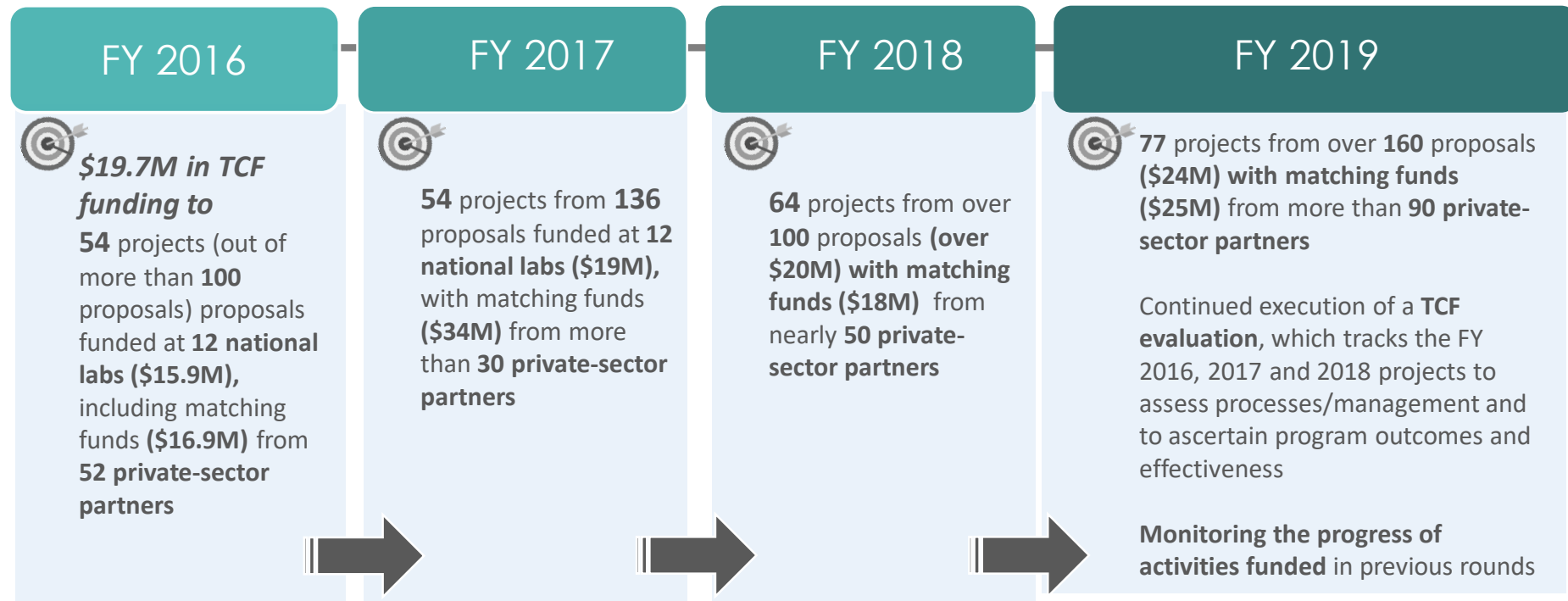
It streamlines access to information and to DOE's National Labs and facilities — fostering partnerships that guide innovations from the lab into the marketplace.



OTT Offers a *Menu of Options* to increase the ROI on Taxpayer R&D Dollars

The TCF provides matching funds with private partners to promote promising energy technologies for commercial purposes

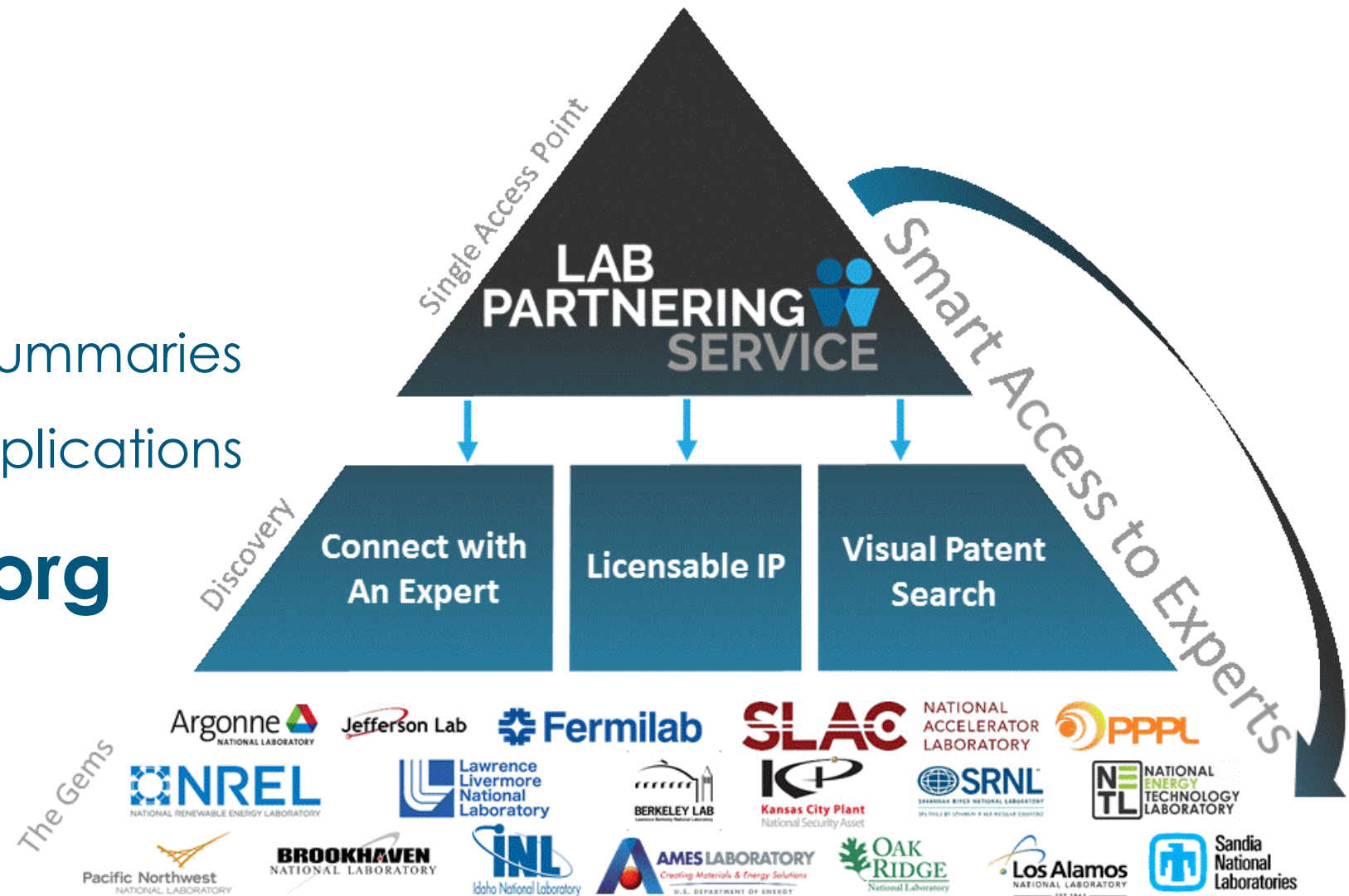
OTT manages the execution of the Technology Commercialization Fund (TCF), as mandated by Sec 1001 of EAct 2005. The initial round of funding was provided in FY 2016



OTT is constantly investigating new ways to improve TCF design and function.

- ❑ 20 Labs/Plants
- ❑ 157 Experts
- ❑ 196 Facilities
- ❑ 1,173 Technology Summaries
- ❑ 38,000+ Patents/Applications

Labpartnering.org



OTT Collects, Analyzes, and Reports Unclassified National Lab Tech Transfer Data

[This comprehensive data set includes sensitive information, but OTT staff are available to support program information requests. Data is available by research taxonomy, partner type, agreement type, partner location, and other parameters.]

Examples of Recent Uses

- ✓ Annual Congressional Report on Utilization of Federal Technology
- ✓ For CESER Front Office – all DHS-funded Strategic Partnership Projects at the Labs
- ✓ For IA in support of S1 Trip to Israel – all Israeli public/private entities with partnership projects with our Labs
- ✓ For S4 to prepare for Congressional meeting with Ohio Delegation – all Ohio entities with active partnership projects with our Labs, broken out at the county and district level.

Notes:

The FY17 Data set does not yet include reporting from NNSA Labs
The FY18 Data set should be available by Spring 2019

Energy.gov/technologytransitions

OTT's tech transfer data set is used to provide program specific insights...

National Impact: FY16 Technology Transfer Partner Funding by State for Relevant EERE Agreements



EERE Relevant Agreements by Lab Type

	Federal Partner Funds In	Non-Fed Partner Funds In	DOE Contribution
Energy & Environmental Labs	\$5.3 \$14.2	\$18.1 \$14.6	\$14.9 \$13.3
Multi-Program Science Labs	\$29.3 \$37.5	\$42.1 \$51.4	\$8.7 \$29.4
National Security Labs ¹	\$3.9 \$- SPP-OFA not reported	\$16.9 \$19.3	\$7.3 \$7.4
National Security Production Facilities ¹	\$3.5 \$- SPP-OFA not reported	\$0.0 \$0.3	\$0.0 \$-
Single-Program Science Labs	\$0.0 \$0.6	\$0.6 \$1.9	\$0.0 \$0.4

(Funds in are millions) \$0 \$15 \$30 \$45 \$60 \$0 \$15 \$30 \$45 \$60 \$0 \$10 \$20 \$30 \$40 \$50

Legend: FY16 (light blue), FY17 (dark blue), FY16 (orange), FY17 (dark orange), FY16 (light green), FY17 (dark green)

... to prepare for Congressional meetings, and more.

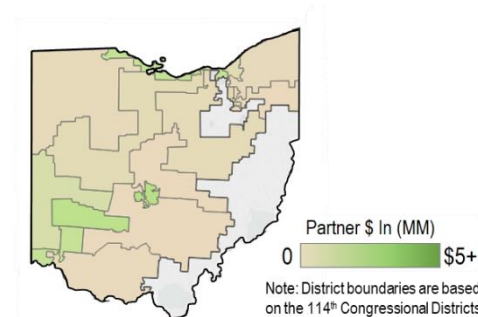
Ohio: FY17 Technology Transfer Overview

Non-Federal Partners

- 67 agreements
- 39 unique partners
- \$2.1 MM total partner-funds-in
- \$3.0 MM DOE-funds-in on 20 CRADAs

Federal Partners

- 11 agreements
- \$1.4 MM Federal partner-funds-in
- 3 unique Federal organizations



Technology Transition Track Activities:

Develop Collaborative Relationships and Knowledge-sharing Tools

- Market Analysis
- Information Sharing

Pursue Demonstration Projects

- Ongoing Interagency/External Engagement
- Identify requirements to ensure bankability
- Connect with potential partners and projects

Ensure Bankable Projects via Predictable Revenue Streams

- Request for Information (RFI) to be released April 2020

DOE-branded Publication to:

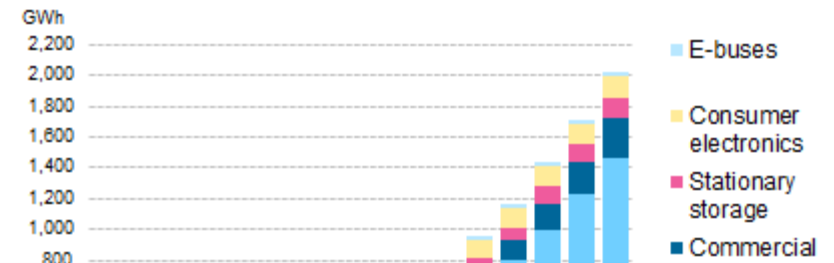
- Inform DOE strategy
- Signal government support to external counterparts
- Inform investors, entrepreneurs, companies, policymakers, regulators, and the general public
- Track rapid changes over time
- Highlight DOE deep-dive analyses and work products
- Integrate disparate technologies and applications into an overarching framework
- Serve as a basis for discussion and feedback

Evaluate fundamental market drivers:

- Consumer preferences
- Addressable markets
- Financial risk & opportunity
- Scenario analysis
- Competitive positioning
- VC & investment trends
- Technology potential
- Supply chain & costs

Global Li-ion battery demand driven mainly by vehicles, not grid-scale storage

- Annual battery demand will exceed 2 TWh by 2030 from these market segments: passenger EVs, commercial EVs, stationary (grid) storage, consumer electronics, and E-buses
- Of these, automotive/transport (in blue) are by far the largest markets



Global storage deployment more than batteries, includes pumped storage hydropower (PSH)

Global PSH deployment is still growing faster than batteries
– 20GW under construction in China alone

