Preparing Your Phase II Commercialization Plan

U.S. DEPARTMENT of ENERGY

Office of SBIR/STTR Programs

Commercialization is a statutory goal of the SBIR/STTR programs

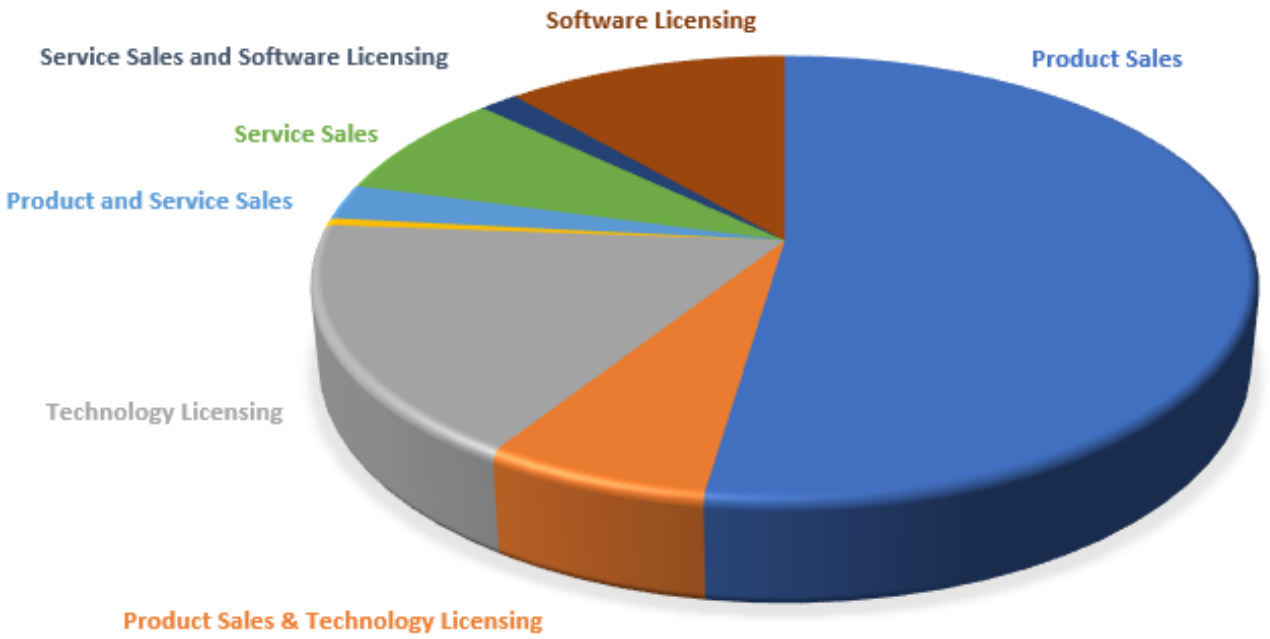
- *"Increase private sector commercialization of innovations derived from Federal R-R&D, thereby increasing competition, productivity and economic growth."*

- Agencies are required to evaluate the commercial potential of R&D conducted under SBIR/STTR

- Congress wants to see ***ROI*** of taxpayer dollars: ***taxable revenues***, ***job creation***, and/or ***scientific or societal benefit***

Commercialization (Phase III) defined

- *Sale of Product/Service;* License or acquisition; Government contract (**non-SBIR** funds)
- Given the diverse technologies supported by DOE, there are many different business models for revenue generation



- No one "model" fits all; myth that one model is favored over another – figure out which strategy is best for your company and your target industry and provide validation to support your decision

Understand DOE Application Review Criteria

- Technical Merit
- Ability to Carry Out the Project
- **Impact**

DOE evaluates commercialization under **IMPACT** criteria

Understand the significance of your ***Company Commercialization Report*** and ***Commercialization Plan*** during the Phase II review process

Company Commercialization Report

Applicants who have completed prior SBIR/STTR Phase II awards from any federal agency must provide the Company Commercialization Report (CCR) from SBIR.gov. SBIR and STTR awardees are required by the SBA Policy Directive to update and maintain their organization's CCR on SBIR.gov. Companies may complete this report by logging into the company's account on SBIR.gov and starting a new Company Commercialization Report.

- **For SBIR and Both applicants, the CCR is attached to Field 9 of SBIR/STTR Information Form**, if applicable
- **For STTR-only applicants, the CCR is attached to Field 12 of the R&R Other Project Information Form**, if applicable

PII NOFO contains instructions on generating this report (Section on Content and Format of Application)

What's New for Phase II Commercialization Plans

- Phase II Commercialization Plan specifications have been updated!
  - *4 sections of the plan remain unchanged – but review the specifications for each as they have been updated*
  - *No longer require ROI worksheet*
  - *Pro forma templates have been updated – CASH FLOW incorporated*
  - *Limitation of five (5) letters of support (LOS)*

- **All Phase II applications** (Phase II, Phase IIA, Phase IIB or Phase IIC) require an updated commercialization plan. Upload as **ONE PDF** that includes your 15-page commercialization plan, ≤ 5 LOS and your proforma income statement.

Review the PII NOFO

DOE Commercialization Plan Specifications

- You included a separate 4-page Phase I Commercialization Plan with your Phase I application.
- Moving from Phase I to Phase II requires validation of what you suggested in Phase I; ***expanding from a few pages to 15 pages***.
- 4 individual sections remain the same – more rigorous specifications; see PII NOFO for guidance

Section 1 – Market Opportunity

A. **Value Proposition:** set the stage for your business case by **identifying MARKET PULL (the need)** for your product/service.

- *Using **specific demographics and/or characteristics** for companies included in your initial/beachhead market, define your **target customer(s).** Provide generally known examples of companies in this initial/beachhead market.*
- ***Describe the critical needs** that your product/service will fulfill for them. Include a discussion on **how they currently meet** these needs and **what they pay** to meet them.*
- ***Describe succinctly what product or service** you are planning to deliver based on your innovation and how it will provide the **solution to the critical needs** of your target customer(s) defined above.*
- *Describe the **features, advantages and benefits of your product/service**. If possible, provide an indication of how your solution is better than status quo and how much better you solution needs to be than status quo for your client to change and adopt your solution**. Describe the customer discovery that has been done to date to validate**, **referencing specific conversations** and customer interactions and/or **including letters of support**, as appropriate.*
- *Indicate **what your customer(s) is/are willing to pay** for your product/service and **how you validated** this assumption.*
- *State the **validated value proposition** for your product or service.*

Section 1 – Market Opportunity

B. Describe your target market(s).

- ***Estimate the market sizes of your initial and long-term markets** in terms of number of customers **and revenues**. Are these markets domestic, international, or both? Provide your time-phased plan to address long term markets.*
- *Provide anticipated market growth in terms of CAGR%.*
- ***Describe market barriers and/or drivers** that may inhibit or enhance your market entry and describe how you plan to overcome/leverage them.*

C. Define your business model.

- ***Define your business model**: integrated manufacture and sell, technology licensing, joint venture, strategic partnership, or other.*
- *Explain **why this model makes sense** for the market opportunity described.*
- *Describe your **go to market approach** to reach the targeted customers - (development of) direct marketing and sales and fulfillment channels, strategic partnerships, distributor relationships, or other.*

D. Describe any additional potential societal, educational, or scientific benefits

beyond commercial considerations that will generate goodwill for your company or the product or service, they should be included here and explained in sufficient detail to convey the significance of the effort.

Section 2 – Company/Team

A. Describe your company.

- *Provide a **short description of the origins** (university spin-out, start-up, other) and history (year founded, significant milestones to date, etc.) of the company.*
- *Confirm your corporate structure (LLC, S-Corp, C-Corp, or other) and state of incorporation.*
- *Confirm your **current employee headcount** and provide a **table showing headcount projections for the next 5 years**. Include the **role/responsibility** in the table.*
- *Tabularize **your company's revenue** over each of the past three years broken out by product sales, consulting/services, license revenues, research and development grants/contracts, and other. **This table should speak to your company as a whole.***
- *Provide an **estimate of your company's short-term assets** (e.g., cash, receivables, etc.) and **long-term assets** (e.g., plant, machinery, etc.) and **discuss their sufficiency** for funding the execution of your commercialization plan.*

B. Introduce your team.

- ***Describe the commercialization experience of the key personnel** responsible for commercializing your innovation and establish how that experience supports the execution of the commercialization plan.*
- ***Describe management team gaps and how those gaps will be addressed during the Phase II effort** and beyond (e.g., addition of executive employees, board of advisors, board of directors, retained counsel, consultants, or other). Provide details on **names, affiliations, and expertise** of these resources.*
- ***Describe the major non-technical risks** the team faces relative to successful execution of the commercialization plan and how the team **plans to mitigate those risks**.*

Section 3 – Competition/IP

A. Identify your competition.

- *Based on the **customers' critical needs** described in Section 1, elaborate on the **various ways customers are getting those needs met today (technology-driven or otherwise, or unfulfilled).***
- ***Identify the companies delivering those solutions** and indicate where those solutions are backed by competing IP rights.*
- *Provide a **competitive comparison** of your product/service versus these substitutes. Summarize those findings in a competitive analysis table.*
- ***Describe the competitive advantage of your product/service** versus these substitutes **in terms of the needs** that customers are seeking to meet (e.g., **clarify how you will compete**) providing **quantitative** estimates of customer benefits (e.g., additional revenue generation, cost savings, other efficiencies or benefits).*

B. Describe your intellectual property.

- ***Describe IP rights you have secured** for your technology to date and **if any procedures are underway to expand** or enhance the protection provided by those rights.*
- ***Describe other IP that you will need to secure** rights to in order to make, use, or sell a product to address the market opportunity described in Section 1.*
- *Whether implemented commercially or not, **describe the competitive IP that is closest to yours and most threatening** to your "freedom to operate". **Explain how you believe you are different enough** to be able to secure your "freedom to operate".*

Section 4 – Finance and Revenue Model

A. Milestone-driven Roadmap: the roadmap should outline the timing, level of funding required and the potential source for the funding for each milestone.

- *Using a table or graphic**, describe a milestone-driven plan** to address the market opportunity described in Section 1 from proof of concept through market launch (e.g., proof of concept, prototype, minimally viable product, first product sale, version 1.0 market launch, growth/scale, or other significant technical or commercial milestones.).*
- *In the narrative, **describe the major cost drivers** to complete **each major technical milestone** - personnel, lab space, machinery, computer HW, SW, etc.*
- *In the narrative, **describe the major costs to implement your go to market strategy** and technical milestones. Provide any assumptions made and/or validation.*
- *Relative to your company assets described in Section 2, describe **how you will address funding shortfalls** (other product/service/license revenue, grants, additional founder capital, profits from other product lines, venture funding, or other). Provide any assumptions made and/or validation.*
- *These discussions should **align with the estimates and timing included in the cash flow pro forma** financial worksheet described below to **maintain positive cash flow.***

B. Letters of Support

- ***Use letters of support to provide validation** for the funding sources identified above providing evidence of commitment and/or future commitment from strategic partners/licensees, potential customers and/or investors, as appropriate.*
- *Letters of support are not included in the page limit and should be provided as an appendix to the 15-page commercialization plan. **You may submit no more than five (5) letters of support**. If you feel you have additional letters of support that are critical in making the case for continued investment of DOE funds, provide a description of the letters in the narrative making them available upon request.*

C. Cash Flow Pro forma

- *Treating the product/service resulting from **this DOE-funded technology as a strategic business unit**, provide a five-year cash flow pro forma financial worksheet - the first two years should be the Phase II grant period adding three years post award.*
- ***Highlight** when you **expect first revenues** from the subject R&D efforts and **total revenues** for the five-year period.*
- *Example templates are provided. The cash flow pro forma financial worksheet is not included in the page limit and should be provided as an appendix to the 15-page commercialization plan.*

Additional Thoughts on CP…

- Reviewers are business generalists; ***avoid technical jargon*** that only people specialized in the field would understand (have someone unrelated read it)
- CP is your business case not just a collection of information; ***provide validation*** of assumptions
- This is a ***living*** document that sets the stage; ***it will change and change frequently*** as you move toward commercialization
- Write for the reviewer—*narrative prose* **NOT** *Q&A*
- Especially important for Phase II! Make the commercialization plan and the *accompanying letters of support and income statement* a **stand-alone narrative document** [Field 8]

https://science.osti.gov/sbir/Applicant-Resources/Grant-Application-Phase-II

Commercialization is hard…

- ***Technical and Business Assistance (TABA)*** **-** optional
  - TABA does not count toward the maximum award size; for example, for topics that specify a maximum award amount of $1,100,000 taking advantage of TABA funding would result in a maximum award in the amount of $1,150,000

- ***Library of Commercialization Workshops*** that focus on topics that are typical areas of weakness; recordings and slides posted and on **RESOURCE** page on Partnering Platform
- ***SBIR Partnering Platform*** *provides public facing, self-supporting searchable database* repository where SBIR/STTR applicants/awardees (***INNOVATORS***) can find potential partners (***PARTNERS***)

Library of Commercialization Workshops

Focus on topics that are typical areas of weakness - manufacturing, licensing, financial modeling, preparing to pitch, intellectual property strategies, etc.

- *FY22 Q4* - ***Commercialization and the Power of Partnering***
- *FY23 Q1* - ***Preparing to Pitch***
- *FY23 Q2* - ***Financial Modeling***
- *FY23 Q3* - ***Navigating Phase III Contracting***
- *FY23 Q4* – ***Licensing***
- *FY24 Q1* ***– Preparing to Manufacture***
- FY24 Q2 - ***Financial Modeling based on Cash Flow***
- *FY24 Q3* ***– Preparing for Product Launch***
- FY24 Q4 - ***Developing a Strategic Cap Table***
- FY25 Q1 – ***IP Strategies: Creating and Maintaining SCA***

https://bit.ly/DOECommercializationWorkshops

SBIR Partnering Platform

- **SBIR Partnering Platform** provides searchable database where SBIR/STTR applicants (***INNOVATORS***) can find potential ***PARTNERS*** and network with other ***INNOVATORS*** to complete your team through collaboration and/or subcontract
  - Find **PARTNERS** using keyword and AI searching; myriad of filtering options
  - Find SBIR funding opportunities **across all agencies**
  - Bookmark favorites; **Confidential messaging**
  - **Network** with other ***INNOVATORS*** on the **Community Page**
  - Find opportunities posted by ***PARTNERS*** on the **Community Page**
  - Newsfeed for applicable industry/stakeholder news
  - **Check out** the resource page!

https://www.sbirpartnering.org/doe

- As an SBIR/STTR applicant, register as an ***INNOVATOR***
- NIH's National Heart Lung & Blood Institute (NHLBI) is a new addition!

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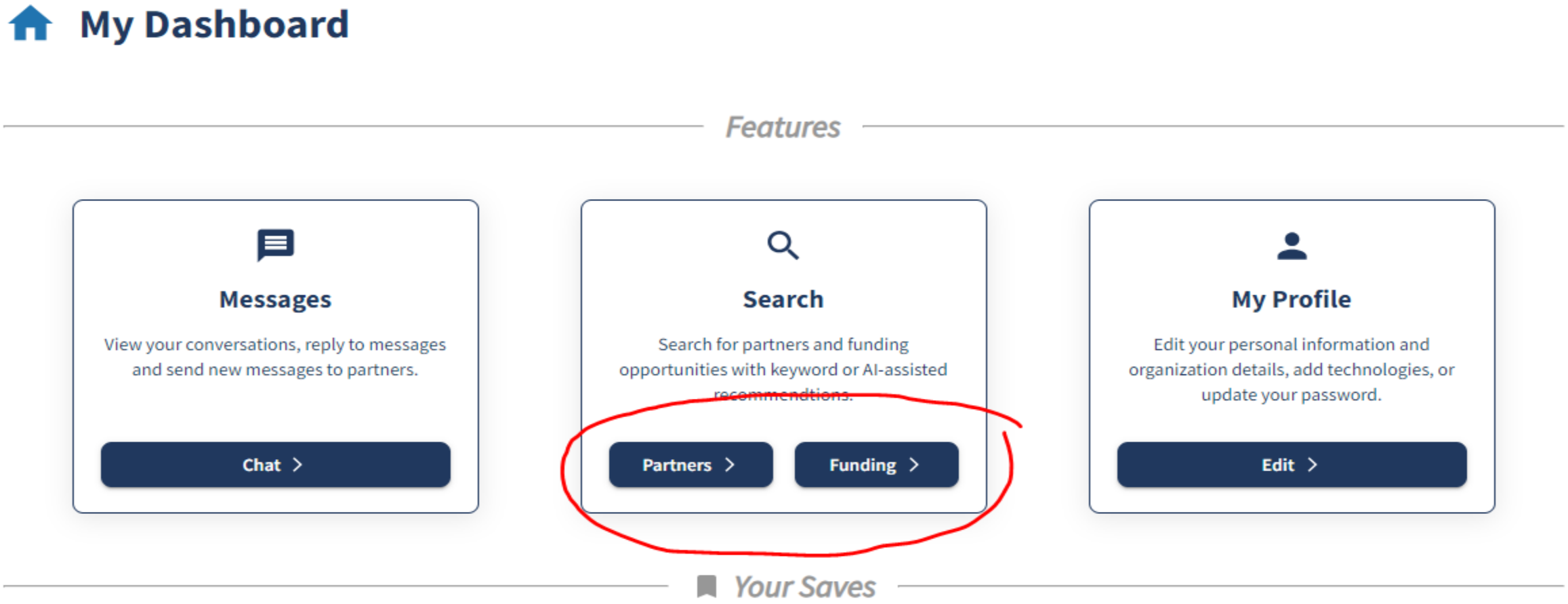
DOE Disclaimer: By enabling and publishing the DOE SBIR Partnering Platform, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that appear on this platform as partners, resources, awardees or innovators.

Innovators can find funding opportunities & partners



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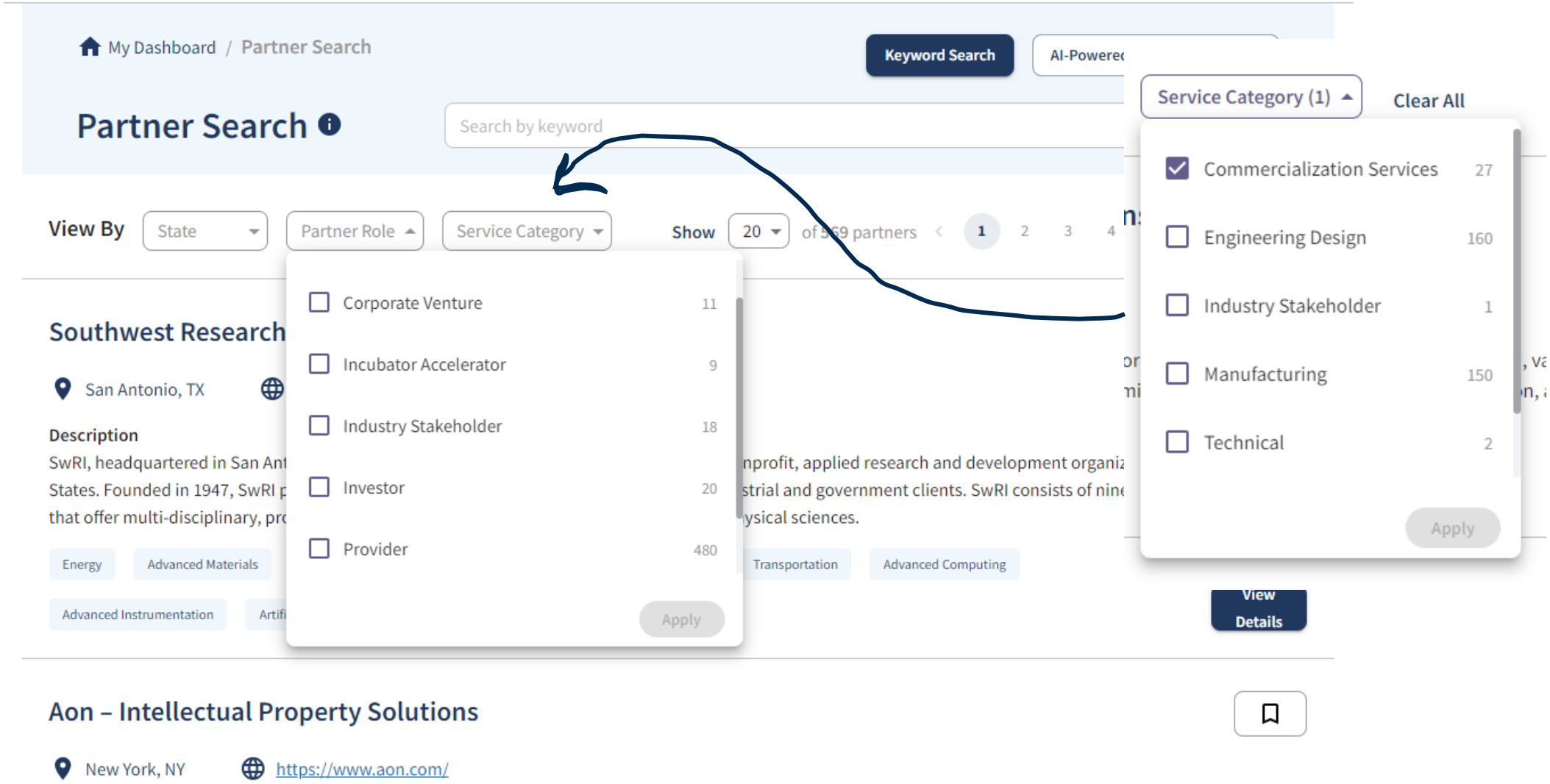

AMERICA'S SEED FUND
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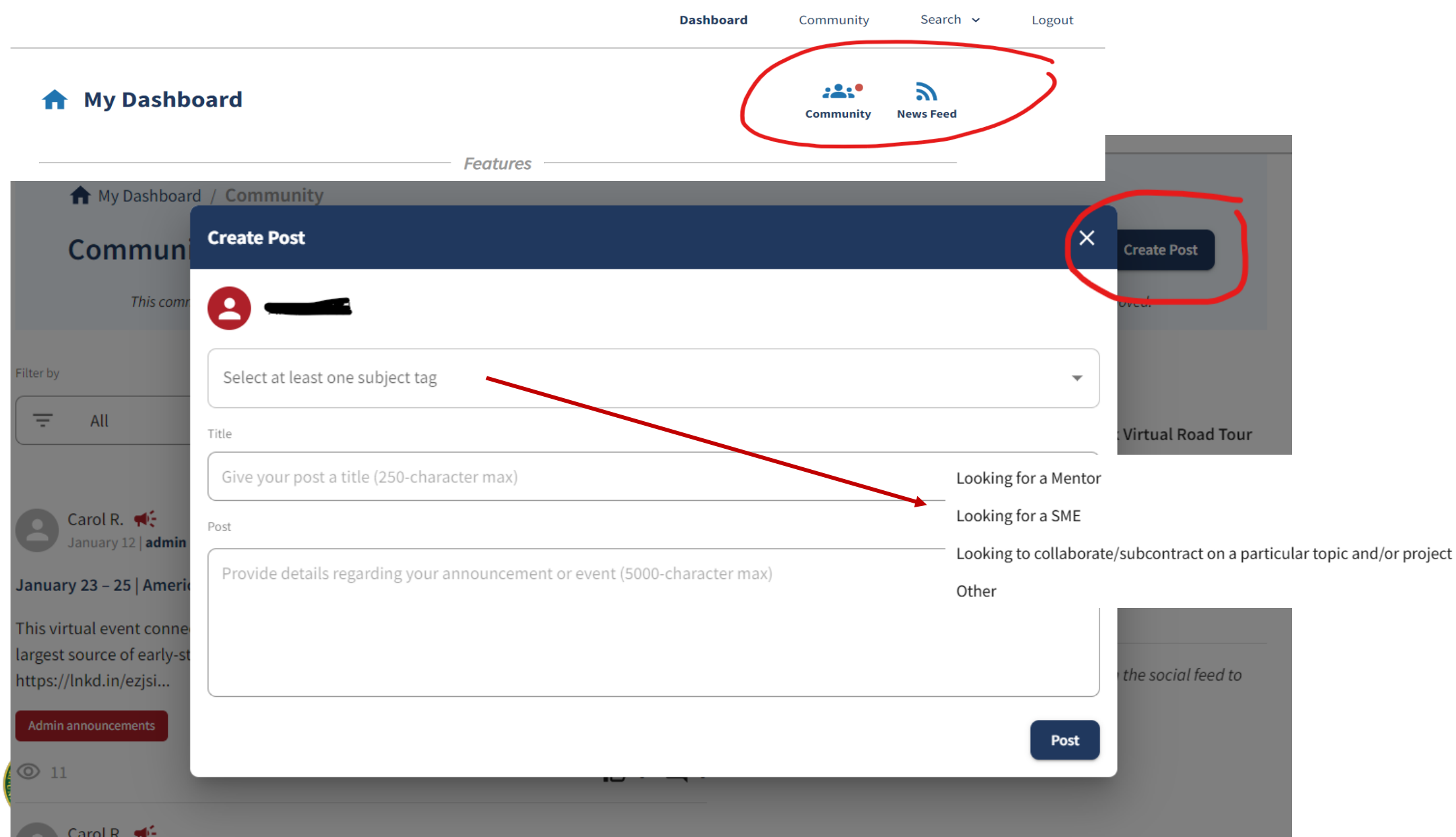
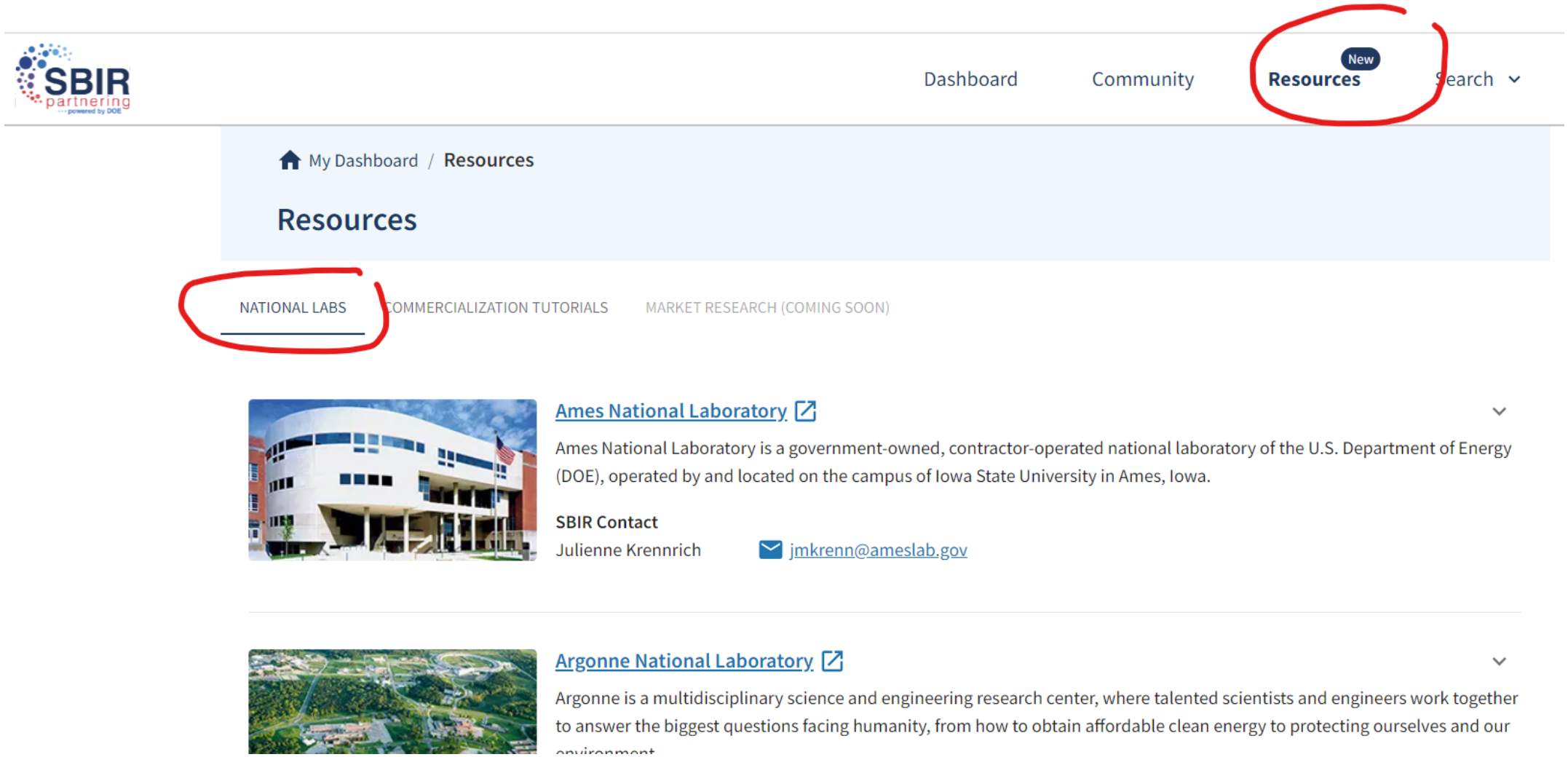
Find a Partner? Use Instant Message to Connect!

Network with other INNOVATORS …



Resource Pages – Find NL SBIR POCs



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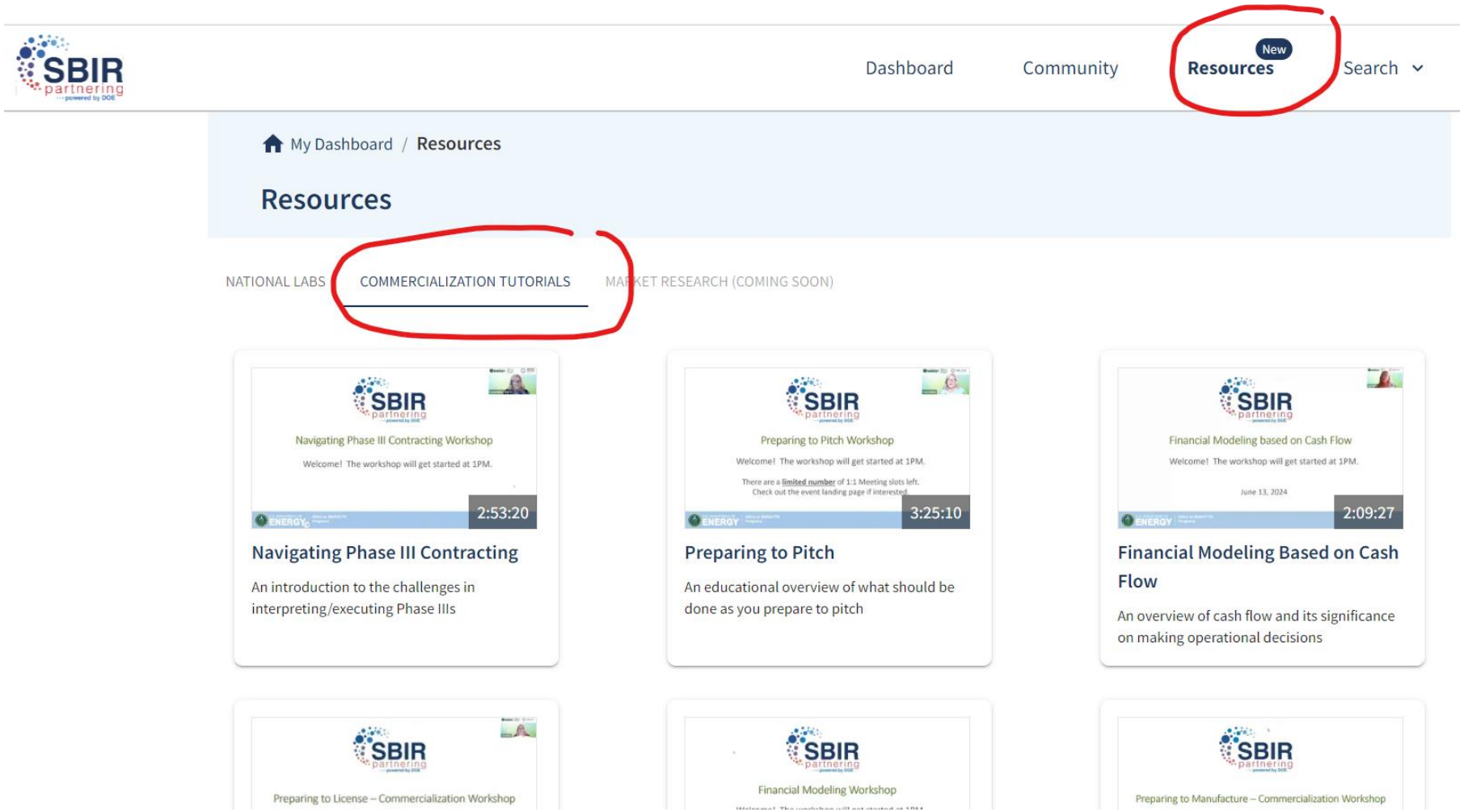
Also here, *https://science.osti.gov/sbir/Applicant-Resources/National-Labs-Profiles-and-Contacts#Ames*

Resource Pages – View Commercialization Workshop Recordings



- Preparing to Pitch
- Licensing
- Manufacturing
- Financial Modeling
- Navigating Phase III Contracting
- Preparing for Product Launch
- Developing a Strategic Cap Table
- Creating & Maintaining SCA

Also here, https://bit.ly/DOECommercializationWorkshops

Additional Partnering Resources

- Manufacturing Resources
  - Manufacturing USA (newer, state-of-the-art) https://www.manufacturingusa.com/institutes
  - MEP centers (traditional) https://www.nist.gov/mep/centers
- Engineering Design Resources
- Test/Certification Resources
- Commercialization Service Resources
  - Check State and local resources, too – see, https://www.sbir.gov/resources

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science.osti.gov/sbir/Partnering-Resources/Engineering-Design

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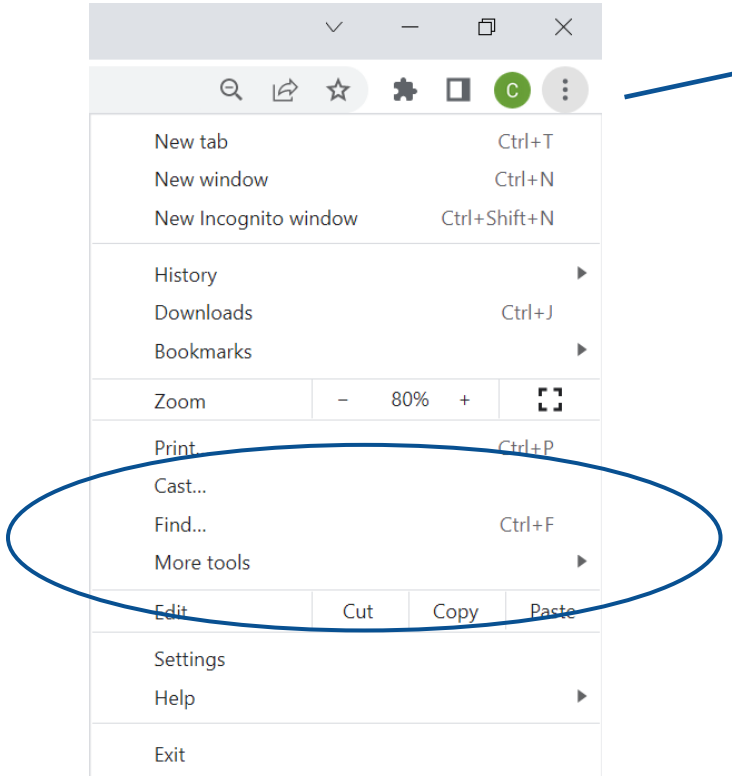

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Applied Chemical Technology	4350 Helton Drive Florence, AL 35630 act@appliedchemical.com	The engineering professionals at Applied Chemical Technology (ACT) in Florence, Alabama provide an integrated approach to your project with engineers,,automation/control,designers, and fabricators all working together under one roof. The team works collaboratively with the client in the engineering of scale-up for process and product development, commercial scale plants, custom equipment, and process improvement.
Applied Rapid Technologies	1130 International Pkwy STE 127 Fredericksburg, VA 22406 info@obsidiansg.com	Experience and expertise. From design to delivery, Applied Rapid Technologies means 3D ASAP in the mid-Atlantic and beyond.
Arizona Vortex Tube Manufacturing Company	19314 W Echo Ln Waddell, AZ 85355 info@arizonavortex.com	Arizona Vortex Tube Manufacturing Company is dedicated to solving manufacturing and industrial needs. Whether you want to Arizona Vortex Tube Mfg. Co. is dedicated to solving industrial and machining cooling problems. Call about your application.
Arkansas Tool and Die Product	1317 Orange St	Our highly skilled product design team combined

Use browser search tool for keyword search

DOE National Lab Resources

- Looking for SMEs, facilities, collaborators at National Labs? Visit https://www.labpartnering.org/
  - *Another way to find SMEs, collaborators, subcontractors - review related research being done at research institutes (universities, colleges); check publications*
  - *https://science.osti.gov/sbir/Applicant-Resources/National-Labs-Profiles-and-Contacts#Ames*

- Looking for facilities for testing, integration and/or demonstration at National Labs
  - ***Energy Systems Integration Facility (ESIF),*** *National Renewable Energy Lab (NREL)*
  - ***Grid Research Integration and Deployment Center****, Oak Ridge National Laboratory (ORNL)*
  - ***Electric Grid Test Bed****, Idaho National Laboratory (INL)*

- Lab-Embedded Entrepreneurship Program (LEEP) *(NREL, ORNL, LBNL, ANL) and New Mexico LEEP (SNL & LANL)*

https://science.osti.gov/sbir/Partnering-Resources/Other-DOE-Resources

Choosing a Lab

The Department of Energy (DOE) owns twenty national laboratories that combine decades of experience with billions of dollars in research and development to address matters of national security, environmental stewardship, economic competitiveness and energy sustainability. The technologies and capabilities developed and maintained to support core mission work can have concomitant benefits to businesses of all sizes, universities, and non-profits through technology transfer mechanisms. Learn about the National labs below and their partnering opportunities.

The numbers in each blue circle, only indicate experts, facilities, technologies, stories and patents, which are available on the Lab Partnering website.

To enquire about other opportunities or the full breadth and width of a specific lab's capabilities please contact the lab directly.

Search

Lab	Experts	Facilities	Technologies	Stories	Patents
 Ames National Laboratory Ames, Iowa	19	5	38	12	706
 Argonne National Laboratory Lemont, Illinois	71	59	90	16	1008
 Brookhaven National Laboratory Upton, New York	20	21	71	6	1733
 Fermi National Accelerator Laboratory Batavia, Illinois	12	1	1	10	81
 Idaho National Laboratory Idaho Falls, Idaho	77	31	151	21	646
Kansas City National Security Campus					

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Choosing a Lab

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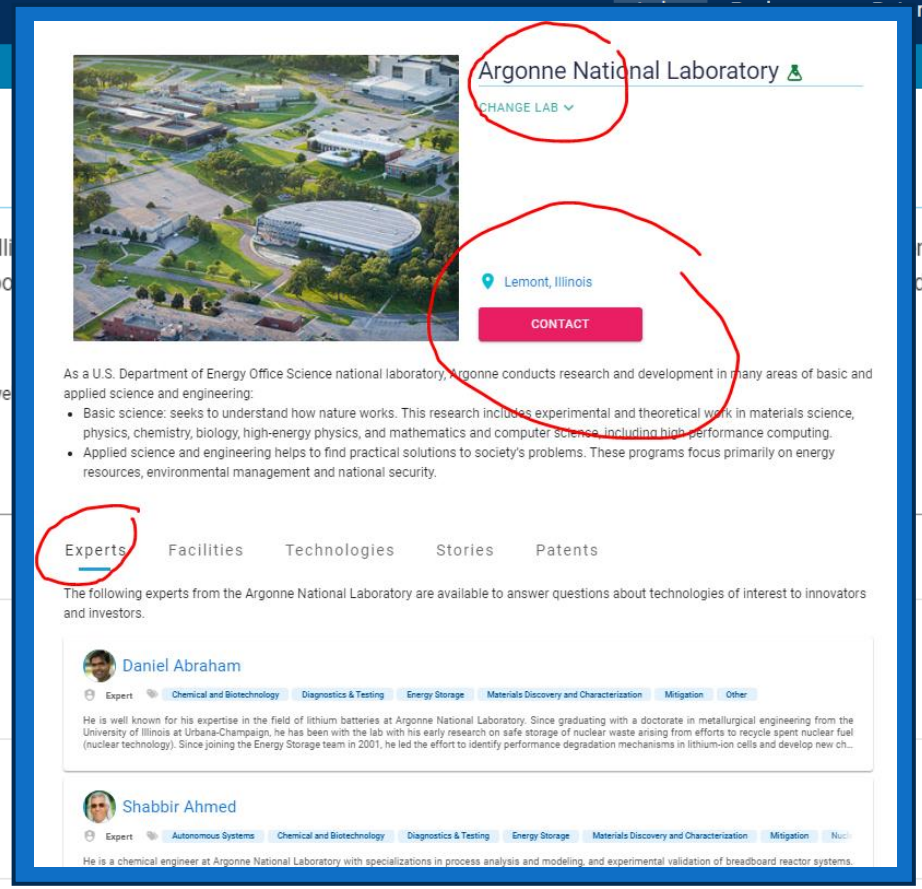
Fermi National Accelerator Laboratory Batavia, Illinois	12	1	1	10	81
Idaho National Laboratory Idaho Falls, Idaho	77	31	151	21	646
Kansas City National Security Campus					



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https://labpartnering.org/labs

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Recorded Topic and NOFO Webinars

Application Process “Ask Us Anything” Webinars

Being on our mailing list is the most important way to stay up to date on our funding opportunities!

Questions??

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