



# **SBIR Road Tour**

SEEDING AMERICA'S FUTURE INNOVATIONS™

U.S. Small Business Administration (SBA)



# Leveraging America's Seed Fund



# Goals

- Meet federal **research and development needs**
- Increase private-sector **commercialization** of innovation derived from federal research and development funding
- Stimulate technological **innovation**
- Foster and encourage **participation** in innovation and entrepreneurship by women and socially/economically disadvantaged individuals
- Foster **technology transfer** through cooperative R&D between small businesses and research institutions (STTR)





## Small Business Innovation Research (SBIR)

**3.2%** of external research budgets

(extramural R&D budgets greater than \$100 million/year)

**~\$3.28 billion** (FY19)

## Small Business Technology Transfer (STTR)

**0.45%** of external research budgets

(extramural R&D budgets greater than \$1 billion/year)

**~\$453 million** (FY19)

Requires small businesses to subcontract with a nonprofit U.S. research institution

Combined **~5,000 new awards** to small businesses each year

# Key Elements of SBIR/STTR Funding



## NON-DILUTED CAPITAL

The funding agency cannot take an equity position or ownership of your firm



## IP/DATA RIGHTS PROTECTION

Government can't share your reports or data with anyone outside of the federal government for 20 years



## DIRECT FOLLOW ON PHASE III AWARDS

No need for further competition  
(J&A not required)

# SBIR & STTR Participating Agencies

Department of Agriculture  
(USDA)

Department of Commerce  
(DoC)  
NIST, NOAA

Department of Defense  
(DoD)

Department of Education  
(ED)

Department of Energy  
(DOE)

Department of Health and Human  
Services  
(HHS)

Department of Homeland Security  
(DHS)

Department of Transportation  
(DOT)

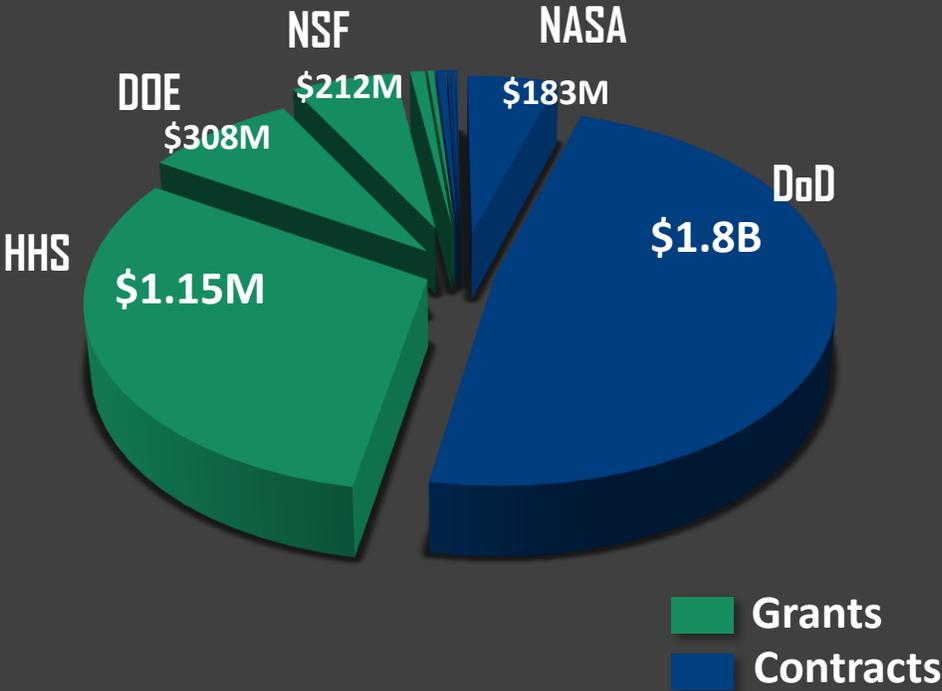
Environmental Protection Agency  
(EPA)

National Aeronautics and Space  
Administration  
(NASA)

National Science Foundation  
(NSF)

# FY2019 SBIR/STTR Budgets by Agency

Agencies	Budget
Department of Defense (DoD)*	\$1.80 B
Department of Health and Human Services (HHS)**, including the National Institutes of Health (NIH)	\$1.15 B
Department of Energy (DOE), including Advanced Research Projects Agency – Energy (ARPA-E)	\$308 M
National Science Foundation (NSF)	\$212 M
National Aeronautics and Space Administration (NASA)	\$183 M
U.S. Department of Agriculture (USDA)	\$30 M
Department of Homeland Security (DHS)	\$17 M
Department of Commerce: National Oceanic and Atmospheric Administration (NOAA)	\$9.5 M
Department of Education (ED)	\$8.4 M
Department of Transportation (DOT)	\$5.2 M
Department of Commerce: National Institute of Standards and Technology (NIST)	\$3.9 M
Environmental Protection Agency (EPA)*	\$3.6 M



**SBIR: \$3.28 Billion**  
**STTR: \$453 Million**

\* Budgeted Amount; other Agencies Obligated Amount

\*\* Provides grants and contracts



## Contracting Agencies

- Agency establishes plans, protocols, requirements
- Highly focused topics
- Procurement mechanism
- More fiscal requirements
- Invoiced on progress
- Binding agreement between a buyer & seller for goods/services

**DoD, DHS, NASA, EPA, DOT, DoED**

## Granting Agencies

- Principal Investigator initiates approach
- Less-specified topics
- Assistance mechanism
- More flexibility
- Allows upfront payment
- Funds support a public purpose, best efforts in research

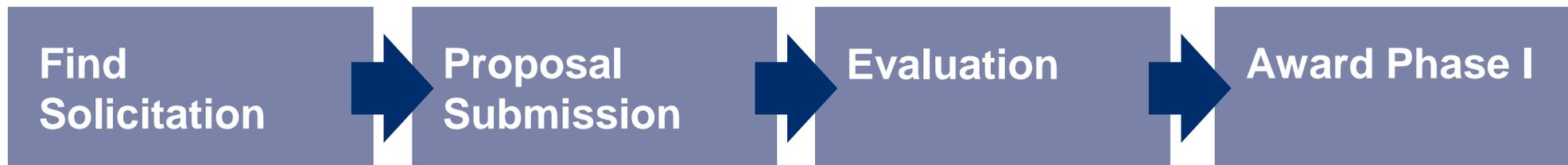
**NSF, DoE, USDA, NIST, NOAA**

Contracting and Granting: **HHS/NIH** (mostly grants)

# Three Phase Process



## Solicitation to Award Process



# Differences Between SBIR and STTR

	SBIR	STTR
<b>Partnering Requirement</b>	Permits partnering	Requires a non-profit research institution partner
<b>Principal Investigator</b>	Primary employment (>50%) must be with the small business	PI may be employed by either the research institution partner or small business (check solicitation)
<b>Work Requirement</b>	May subcontract up to: 33% (Phase I) 50% (Phase II)	Minimum: 40% Small Business 30% Research Institution Partner
<b>Program Size</b>	3.2% (FY19 - \$3.28B)	0.45% (FY19 - \$453M)
<b>Majority VC ownership</b>	Allowed by some agencies	Not allowed
<b>Participating Agencies</b>	11 agencies (extramural R&D budget > \$100M)	5 agencies (extramural R&D budget > \$1B)

# What does an SBIR/STTR firm look like?

- Company must be for profit, U.S. owned and operated, and under 500 people
- Work must be done in the U.S.
- Focus is on performing R&D – Not purchasing equipment, commercializing a technology that has already been developed, or one that has very low risk and only needs capital

**The small business is ALWAYS the applicant and awardee!**



# SATELLITE DERIVED REFLECTIVITY

Thu Sep 7, 2017 3:00 PM

Indianapolis  
Lightning Strikes

Positive: 238

Negative: 4797

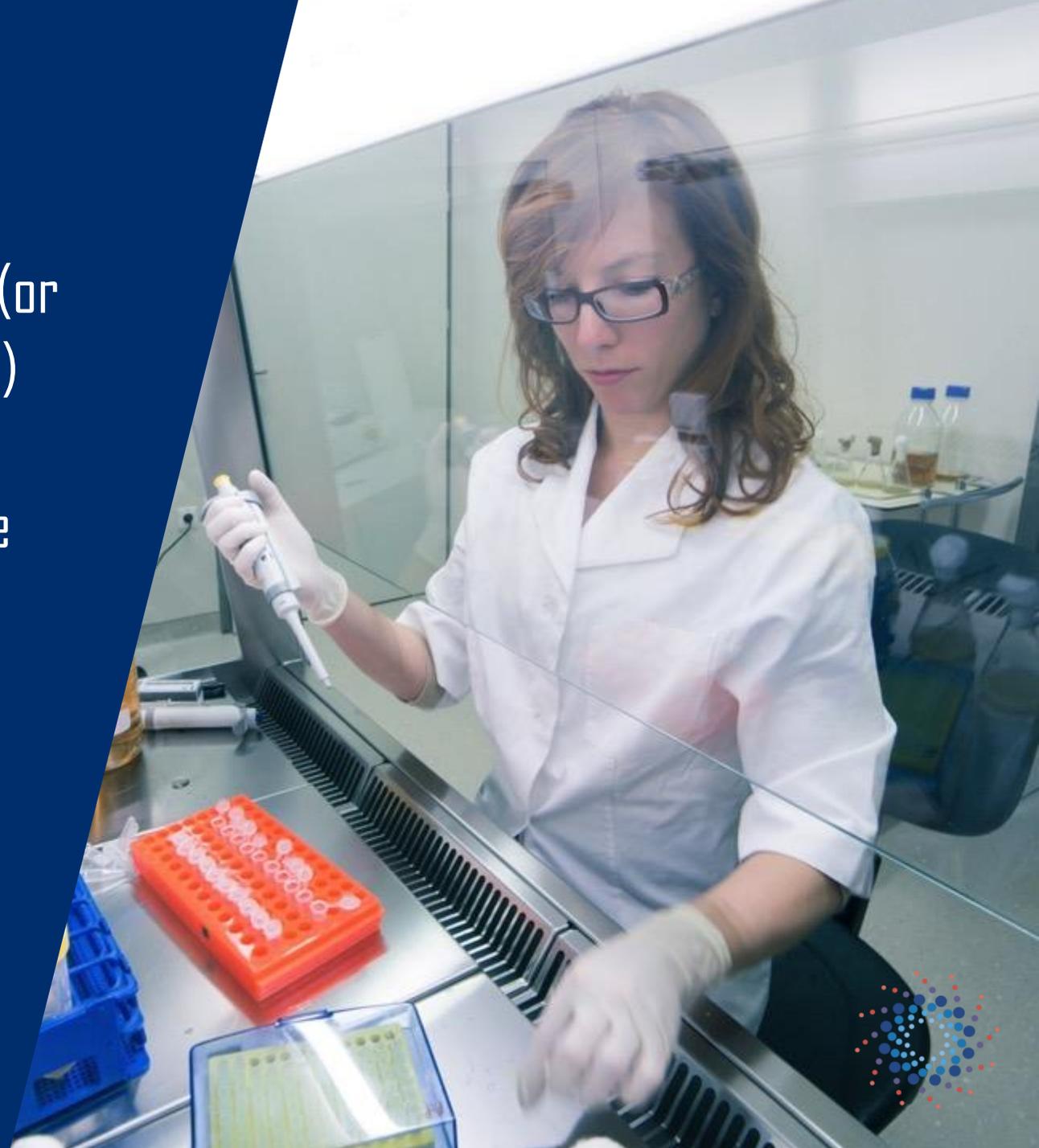
Total: 5035





# Principal Investigator (PI)

- Must be employed by the small business (or partnering research institution for STTR) at **time of award** (check solicitation)
- Should have appropriate expertise to oversee project scientifically and technically
- Expertise of the PI and team are one of the three evaluation factors



# Where to Begin? – Topic Searches

The screenshot shows the SBA SBIR search website. The 'FUNDING' menu item in the top navigation bar is circled in red. A red arrow points to the search input field in the 'Closed Topic Search' section. The search results display two entries: PA-14-157: HHS STTR PA-14-157 and PA-14-154: HHS SBIR PA-14-154. Each entry includes a release date, open date, due dates, and close date. The search results are filtered by 'STTR' and 'Department of Health and Human Services'.

HOME LINKS ▾ ABOUT ▾ **FUNDING ▾** AWARDS ▾ NEWS ▾ TUTORIALS ▾ RESOURCES ▾

Home / Topic Search

**FUNDING TOPICS**

- OPEN
- FUTURE
- CLOSED

**FILTER BY:**

Agency

- Department of Agriculture (87)
- National Institute of Food and Agriculture (22)
- Department of Commerce (188)
- National Institute of Standards and Technology (48)
- National Oceanic and Atmospheric Administration (40)

Phase

- Phase I (7064)
- Phase II (596)

Program

- SBIR (6247)
- STTR (1473)

Year

**Closed Topic Search**

Search Keywords

**NOTE:** The Solicitations and topics listed on this site are copies from the various SBIR agency solicitations and are not necessarily the latest and most up-to-date. For this reason, you should visit the respective agency SBIR sites to read the official version of the solicitations and download the appropriate forms and rules.

Displaying 1 - 10 of 7720 results

**PA-14-157: HHS STTR PA-14-157**

Release Date: 03-14-2014 Open Date: 07-05-2014 Due Dates: Multiple **!** Close Date: 04-05-2017

This Funding Opportunity Announcement (FOA) encourages Small Business Technology Transfer (STTR) grant applications from small business concerns (SBCs) that focus on development of technologies in biomedical computing, informatics, and Big Data science. This FOA is coordinated by the NIH Big Data Initiative (BD2K) and the Biomedical Information Science and Technology Initiative (BISTI) committees. ...

**STTR** Department of Health and Human Services

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**PA-14-154: HHS SBIR PA-14-154**

Release Date: 03-14-2014 Open Date: 07-05-2014 Due Dates: Multiple **!** Close Date: 04-05-2017

This Funding Opportunity Announcement (FOA) is encourages Small Business Innovation Research (SBIR) grant applications from small business concerns (SBCs) that focus on development of technologies in biomedical computing, informatics, and Big Data science. This FOA is coordinated by the NIH Big Data Initiative (BD2K) and the Biomedical Information Science and Technology Initiative (BISTI) committe ...

**SBIR** Department of Health and Human Services

→ Keyword searches – Learn which agencies fund your technology area!

[www.sbir.gov/sbirsearch/topic/past](http://www.sbir.gov/sbirsearch/topic/past)

# Where to Begin? – Award Searches

→ Identify successful firms

→ Identify agency investments in technology areas

HOME LINKS ▾ ABOUT ▾ FUNDING ▾ **AWARDS ▾** NEWS ▾ TUTORIALS ▾ RESOURCES ▾

Home / Award Information

**FILTER BY:**

Agency

- Department of Agriculture (105)
- National Institute of Food and Agriculture (0)
- Department of Commerce (47)
- National Institute of Standards and Technology (8)
- National Oceanic and Atmospheric Administration (3)

Phase

- Phase I (9864)
- Phase II (4651)

Program

- SBIR (13013)
- STTR (1502)

Year

- 2017 (85)
- 2016 (618)
- 2015 (975)

**Awards Information** View As: [List](#) [Chart](#) [Map](#)

Search Keywords  Company Name  Topic Code  **Search** **Reset**

**!** The Award database is continually updated throughout the year. As a result, data for the given year is not complete until April of the following year. Annual Reports data is a snapshot of agency reported information for that year and hence might look different from the live data in the Awards Information charts.

Displaying 1 - 10 of 14515 results **Download ▾** **Awarded Year (descending) ▾**

**Metal Digital Direct Manufacturing (MDDM) for Close-Out of Combustion Chambers and Nozzle Fabrications**  
*SBC: Keystone Synergistic Enterprises, Inc. Topic: T12.04*

This NASA sponsored STTR project will investigate methods for close-out of large, liquid rocket engine, nickel or stainless steel nozzle, coolant channels utilizing robotic laser and pulsed-arc additive manufacturing (AM) methods. Structural jacket to coolant channel land area interface strength will be quantified and metallurgical characterization completed. Process optimizations will be conducted ...

**STTR** **Phase II** **2017** **National Aeronautics and Space Administration**

**Wideband Autonomous Cognitive Radios for Networked Satellites Communications**  
*SBC: Bluecom Systems And Consulting, LLC Topic: T5.01*

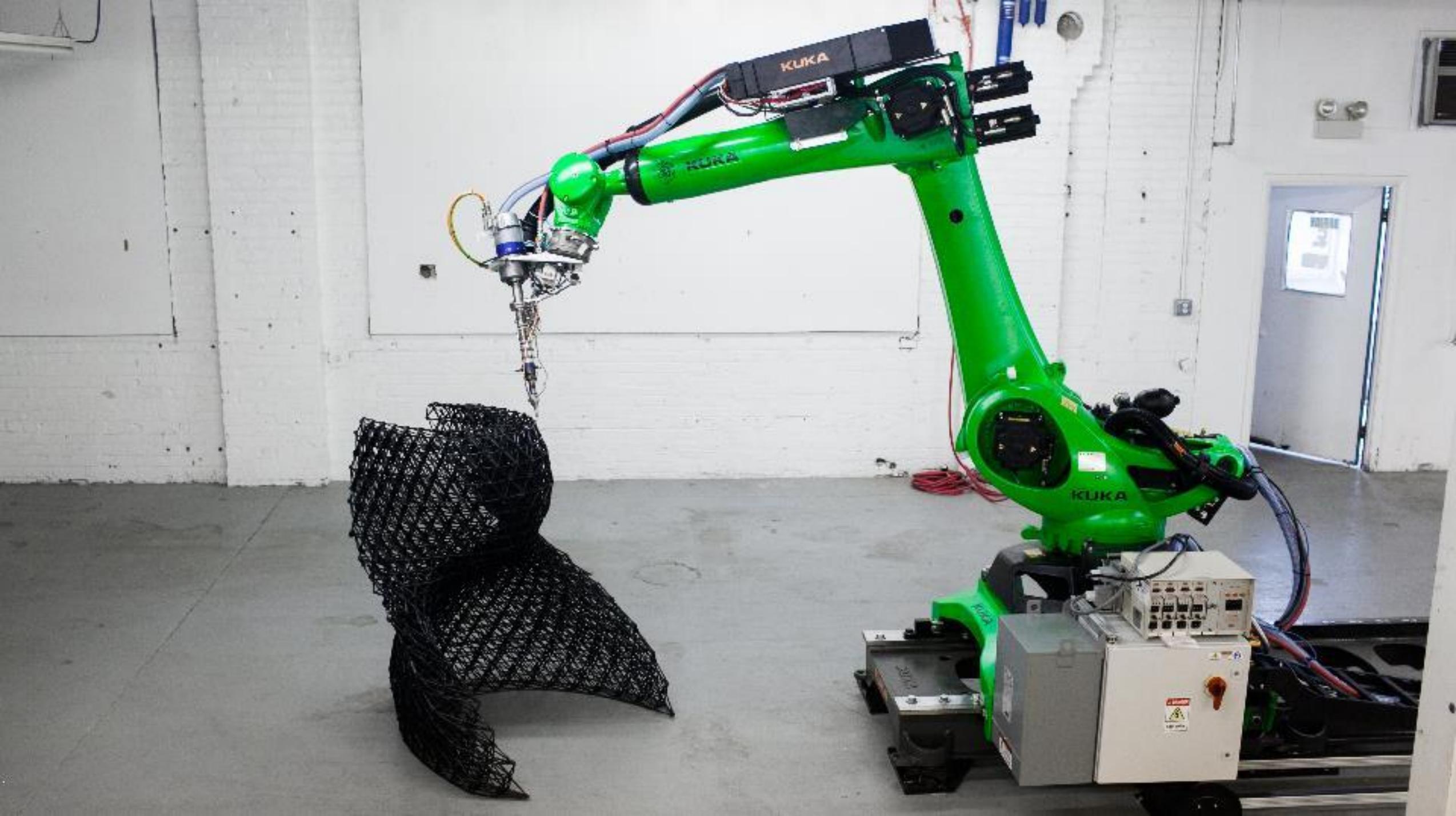
Wideband Autonomous Cognitive Radios (WACRs) are advanced radios that have the ability to sense state of the RF spectrum and the network and self-optimize its operating mode in response to this sensed state. During the just

[www.sbir.gov/sbirsearch/award/all](http://www.sbir.gov/sbirsearch/award/all)

# Why We Work on America's Seed Fund



[www.sbir.gov/news/success-stories](http://www.sbir.gov/news/success-stories)

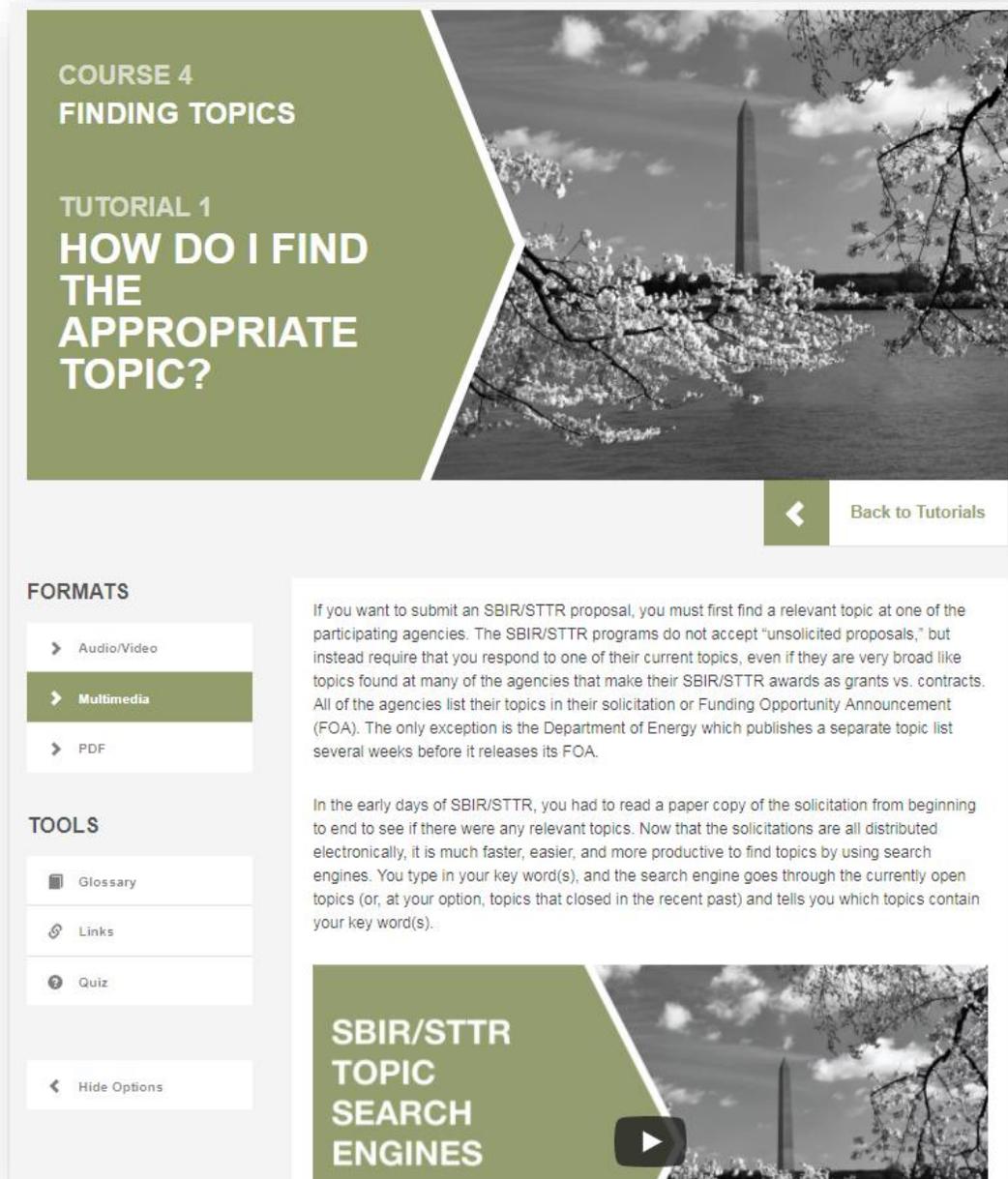




# Online Tutorials

- 55 Courses including:
  - Agency overviews
  - Program basics
  - Data rights
  - IP protection

[www.sbir.gov/tutorials](http://www.sbir.gov/tutorials)



The screenshot shows a web page for a tutorial. At the top, a green banner contains the text "COURSE 4 FINDING TOPICS" and "TUTORIAL 1 HOW DO I FIND THE APPROPRIATE TOPIC?". Below the banner is a "Back to Tutorials" button with a left-pointing arrow. The main content area is divided into two columns. The left column has a "FORMATS" section with three options: "Audio/Video", "Multimedia" (which is highlighted with a green bar), and "PDF". Below that is a "TOOLS" section with three options: "Glossary", "Links", and "Quiz". At the bottom of the left column is a "Hide Options" button with a left-pointing arrow. The right column contains two paragraphs of text. The first paragraph discusses the requirement to find a relevant topic at one of the participating agencies. The second paragraph discusses the evolution of topic search engines from paper copies to electronic search engines. Below the text is a video player with a play button icon and a green banner that says "SBIR/STTR TOPIC SEARCH ENGINES". The background of the page features a black and white photograph of cherry blossoms in the foreground and the Washington Monument in the distance.

COURSE 4  
FINDING TOPICS

TUTORIAL 1  
HOW DO I FIND  
THE  
APPROPRIATE  
TOPIC?

← Back to Tutorials

FORMATS

- ▶ Audio/Video
- ▶ **Multimedia**
- ▶ PDF

TOOLS

- Glossary
- 🔗 Links
- 📝 Quiz

← Hide Options

SBIR/STTR  
TOPIC  
SEARCH  
ENGINES

If you want to submit an SBIR/STTR proposal, you must first find a relevant topic at one of the participating agencies. The SBIR/STTR programs do not accept "unsolicited proposals," but instead require that you respond to one of their current topics, even if they are very broad like topics found at many of the agencies that make their SBIR/STTR awards as grants vs. contracts. All of the agencies list their topics in their solicitation or Funding Opportunity Announcement (FOA). The only exception is the Department of Energy which publishes a separate topic list several weeks before it releases its FOA.

In the early days of SBIR/STTR, you had to read a paper copy of the solicitation from beginning to end to see if there were any relevant topics. Now that the solicitations are all distributed electronically, it is much faster, easier, and more productive to find topics by using search engines. You type in your key word(s), and the search engine goes through the currently open topics (or, at your option, topics that closed in the recent past) and tells you which topics contain your key word(s).

# Connect to Your Network of Local Support

## Local Resources Locator

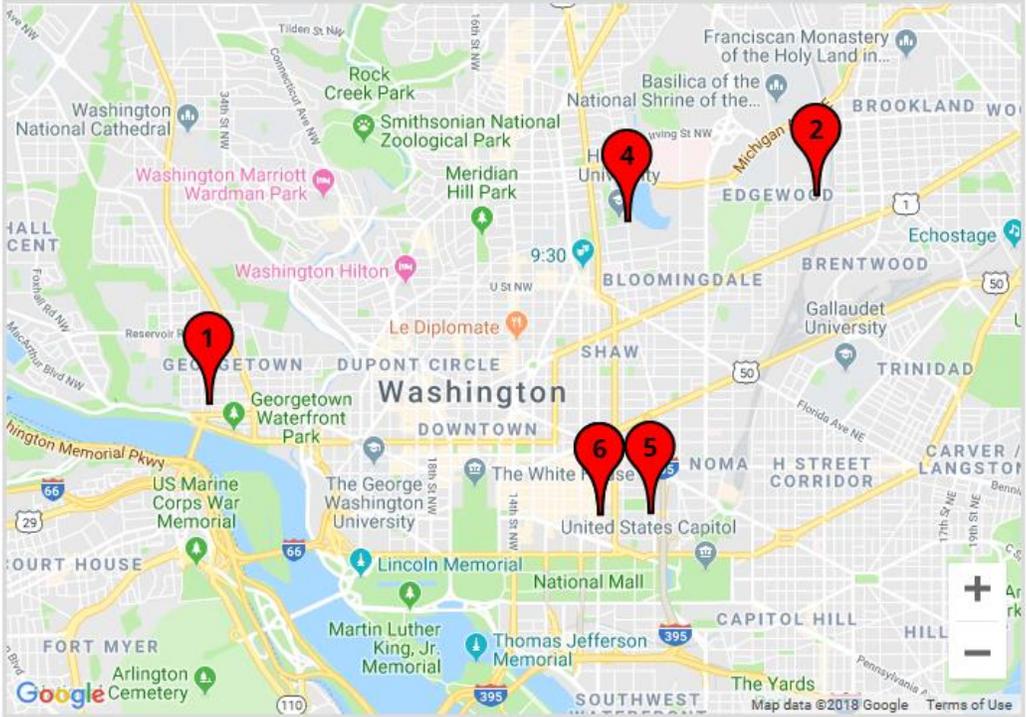
District of Columbia

**State Contact Type**

- Manufacturing Extension Partnership (MEP)
- Procurement Technical Assistance Center (PTAC)
- SBA Cluster
- SBA Growth Accelerator
- Small Business Development Center (SBDC)
- State Contact
- Current FAST Funding
- Previous FAST Funding

Apply

[Local Resources Glossary](#)



The map displays Washington, DC, with six red location pins numbered 1 through 6. Pin 1 is located in the Georgetown area near the Washington Marriott Wardman Park. Pin 2 is in the Edgewood area near the National Shrine of the Holy Land. Pin 3 is in the National Mall area near the Lincoln Memorial. Pin 4 is near the University of the Holy Land. Pin 5 is near the United States Capitol. Pin 6 is near the US Marine Corps War Memorial. The map also shows various landmarks, parks, and streets in the city.

SBA works with a number of local partners to counsel, mentor, and train small businesses in the innovation ecosystem.

[www.sbir.gov](http://www.sbir.gov)

FIND FUNDING

Search Open Funding Topics Search

SUCCESS STORIES

GET THE 411



### Learn About

- Overview
- Policy Directive
- Authorization Act
- Intellectual Property
- Commercialization Successes
- FAQs
- Performance Benchmarks
- Participating Agencies
- How to Apply
- Report Fraud, Waste & Abuse



### I'm a(an)...

- Applicant
- Awardee
- Investor
- Large Business
- Agency Representative



### I Want to...

-  Start a Small Business
-  Register my company
-  Update my company profile/commercialization
-  Contact an SBIR Agency
-  Submit an SBIR/STTR related event
-  File for IP Protection
-  Learn more about Global Innovation Exchange
-  View Self Help Online Tutorials



# Stay In Touch

[Brittany.Sickler@sba.gov](mailto:Brittany.Sickler@sba.gov)



@SBIRgov

#seedthefuture

[www.sbir.gov](http://www.sbir.gov)



# **SBIR Road Tour**

SEEDING AMERICA'S FUTURE INNOVATIONS™

## Federal Laboratory Consortium (FLC)

# YOUR ONE-STOP SHOP FOR FEDERAL LABORATORY INFORMATION

Andy Myers  
FLC Laboratory Representative

Kansas City National Security Campus  
Technology Transfer Lead

May 2019



[federallabs.org](http://federallabs.org)



# THE FLC'S MISSION

**PROMOTE** awareness and foster dialogue about federal R&D and the significant economic benefits of Technology Transfer (T2) among government, industry, academia, and external partners.

**EDUCATE** the federal T2 professionals on commercialization best practice strategies through various training opportunities and resources.

**FACILITATE** federal laboratories T2 goals through FLC-created tools and services that enable an accessible path for getting technologies from lab to market.

*Foster lab-to-market strategies and connections to accelerate federal technologies.*



PROMOTE



EDUCATE



FACILITATE



# Technology Transfer

**Technology transfer** (T2) is the movement of technology, knowledge, facilities, or capabilities developed in one place or for one purpose then applied and exploited in another place or for another purpose. It can occur:

- Between Universities and the private sector
- Between government entities
- Between the government and the private sector

## Federal technology transfer

- Results in commercialization of new products
- Enhances laboratory and/or agency mission objectives
- Is mandated by Federal laws, Executive Orders, and etc.



Your one-stop shop for Federal Lab information



# EASY-TO-FIND LABORATORY DATA Federal Laboratories

Facilities

Available Technologies

Equipment

Lab Publications

Funding

Programs

https://www.federallabs.org/flcbusiness/search

**FLC** ABOUT SUCCESSES LEARNING CENTER T2 TOOLKIT

Search FLC Business > FLC Business Search

Search FLC Business ...

**SEARCH** **RESET**

**Lab Categories**

- LABORATORIES (327)
- FACILITY (2651)
  - NON SECURITY LAB (13006)
  - SECURITY LAB (4059)
  - GOVERNMENT OWNED, CONTRACTOR OPERATED (4092)
  - GOVERNMENT OWNED, GOVERNMENT OPERATED (1200)

**Resources**

- AVAILABLE TECHNOLOGY (13655)
- EQUIPMENT (251)
- PUBLICATIONS & REFERENCE MATERIALS (49)
- FUNDING (118)
- PROGRAM (114)

Displaying 1 - 10 of 17169

Reset Searches

**Reversible Computation Gate in Superconducting Circuits**  
This technology replaces standard logic components for more energy-efficient digital logic. To execute digital logic operations, devices use gates—typically irreversible gates whose functions cannot be inverted. By using reversible gates, the logic operations of these gates can be inverted,...

**USGS Water Science Centers**  
Water information is fundamental to national and local economic well-being, protection of life and property, and effective management of the Nation's water resources. The USGS works with partners to monitor, assess, conduct targeted research, and deliver information on a wide range of water...

**Stable Isotope Laboratory**  
Description of Capability: C, H stable isotope determination on bulk and GC-amenable petroleum related materials Specifications/Capabilities: D istribution of natural gas stable isotopic reference materials Expertise: Stable isotope petroleum geochemistry

**Luminescence Geochronology Lab**  
Description of Capability: Dating of sediment for geological, paleontological and archeological applications. Luminescence dating is a form of geochronology that measures the energy of photons being released. In natural settings, ionizing radiation (U, Th, Rb, & K) is absorbed and stored by...

**Tephrochronology Project Laboratory**  
Description of Capability: Tephrochronology and micropaleontology. Specifications/Capabilities: In support of USGS programmatic and collaborative scientific investigations – provide geochronologic frameworks using; Tephrochronology: Lab processing, petrographic characterization, chemical



## COLLABORATIVE RESEARCH ACCESS

- National Experts
- State of the Art Facilities
- Specialized Equipment
- Innovation

## LABS CAN PARTNER WITH:

- Businesses? ✓ **YES**
- Academia? ✓ **YES**
- Nonprofits? ✓ **YES**
- GOV Entities? ✓ **YES**
- Foreign Entities? ✓ **YES**
- Individuals? ✓ **YES**
- Other? ✓ **YES**

# SBIR Example

## Naval Medical Center

- **Phase II SBIR Grant**
- **CRADA with the Naval Medical Center in San Diego**
  - Allowed for a California-based small business to utilize the facilities and expertise at the Naval Medical Center to advance the technology and develop a clinically useful tool that could benefit patients with amputations in gait training
- **Mutual Benefit for both parties**
  - Access to expertise and state of the art facilities
  - Fed lab involved in cutting edge R&D Efforts in a critical tech area



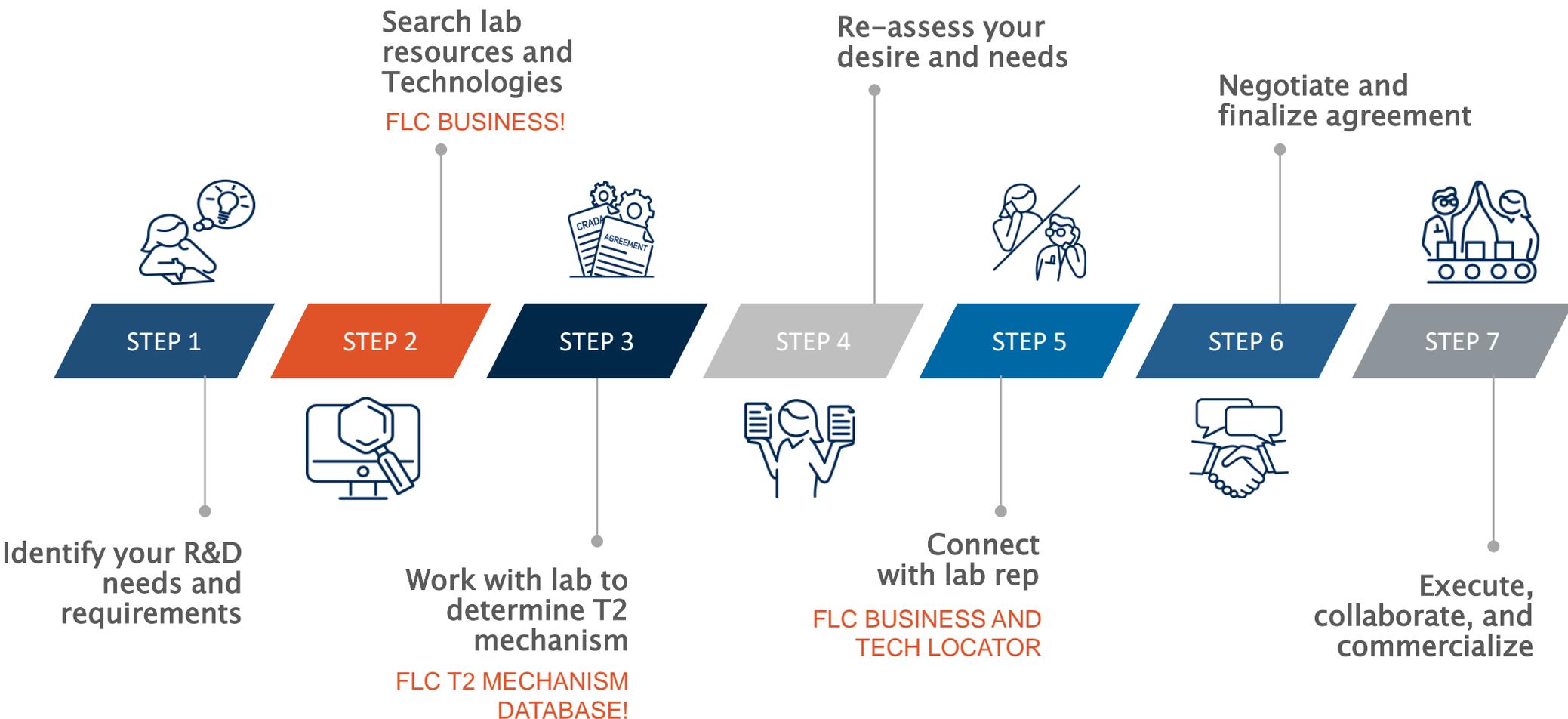
# SBIR Example

## National Wildlife Research Center

- **USDA Phase I SBIR Project – Information Systems Technologies Inc.**
- **CRADA**
  - Joint Research & Development of artificial intelligence platform for identifying feral swine by sight and sound
  - Allows for the exchange of information and ideas, and co-development of intellectual property
- **Mutual Benefit for both parties**
  - Access to expertise and end users
  - Fed lab involved in cutting edge R&D Efforts in a critical tech area



# T2 SUCCESS TRACK



For Assistance contact your FLC Regional POC

[www.federallabs.org](http://www.federallabs.org)

# REGIONS POCs



## FAR WEST

Jennifer Stewart  
Far West Regional  
Coordinator



## MIDWEST

Brooke Pyne  
Midwest Regional  
Coordinator



## NORTHEAST

Valerie Larkin  
Northeast Regional  
Coordinator



## MID-ATLANTIC

Jack Pevenstein  
Mid-Atlantic  
Regional Coordinator

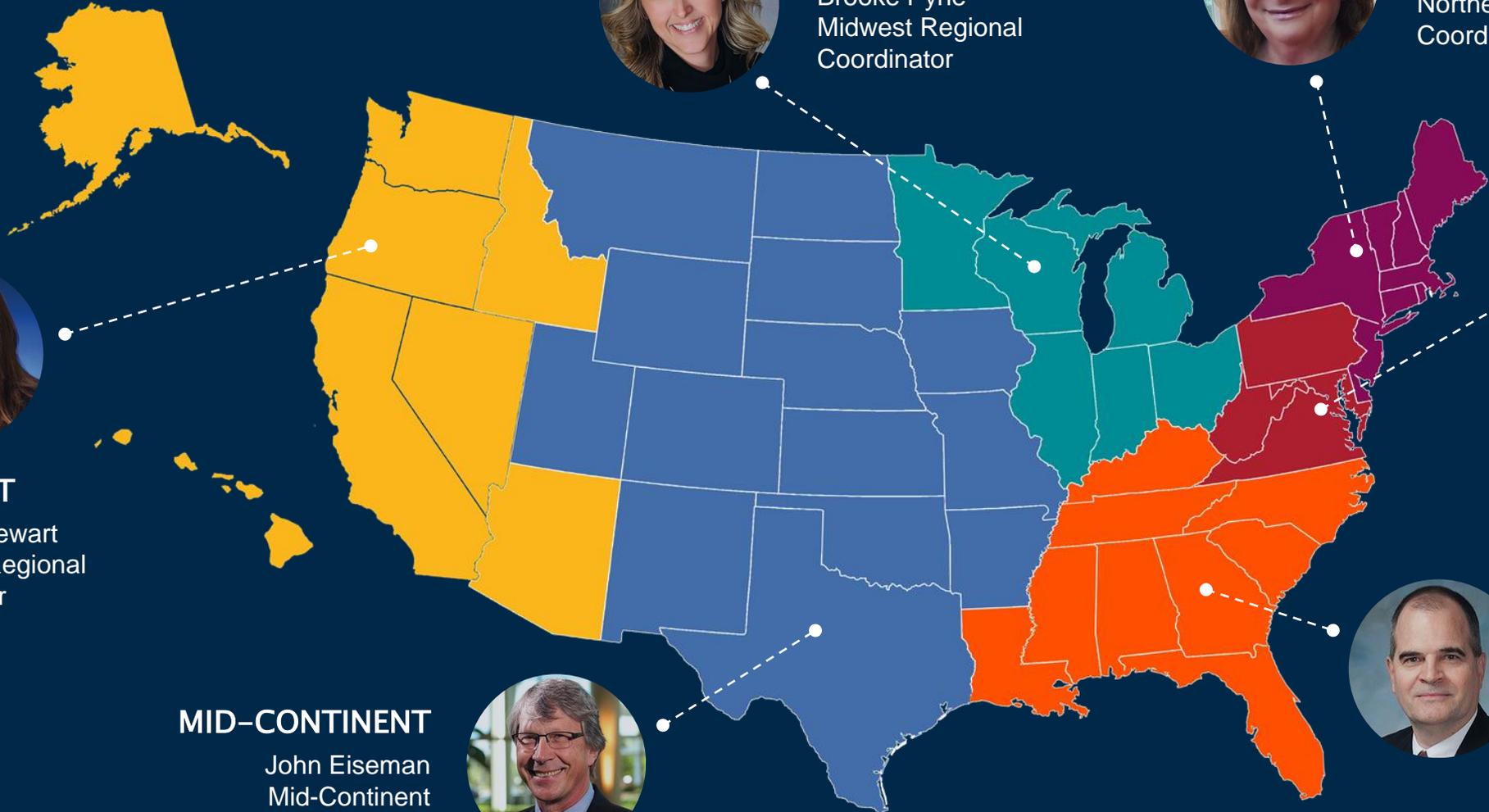


## SOUTHEAST

Michael Merriken  
Southeast Regional  
Coordinator

## MID-CONTINENT

John Eiseman  
Mid-Continent  
Regional Coordinator



# CONNECT WITH US!

[flcbusiness.org](http://flcbusiness.org)

[f](#) [🐦](#) [in](#) [▶](#) [●●](#) [📷](#) | [federallabs.org](http://federallabs.org)





QUESTIONS

**Andy Myers**

FLC Laboratory Representative

Kansas City National Security Campus

Technology Transfer Lead,

✉ [TechTransfer@kcncsc.doe.gov](mailto:TechTransfer@kcncsc.doe.gov)

**Thank you!**



# **SBIR Road Tour**

SEEDING AMERICA'S FUTURE INNOVATIONS™

Defense Advanced Research Projects  
Agency (DARPA)



## Small Business Programs Office (SBPO)



Susan Celis  
Program Director  
[susan.celis@darpa.mil](mailto:susan.celis@darpa.mil)



# Doing Business with DARPA

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DARPA makes pivotal investments in ideas that lead to breakthrough technologies for national security.

To maximize the pool of innovative proposal concepts it receives, DARPA strongly encourages participation by all capable sources: industry, academia, and individuals.

## The DARPA Culture

- Maintain and encourage innovation and the ability to execute rapidly and effectively.
- DARPA Program Managers – “Key individuals” are:
  - selected from industry, academia, and Government agencies (longevity with DARPA 3-5 years)
  - considered at the top of their fields
  - tackles difficult challenges and takes big risks which push the limits of their disciplines.

<http://www.darpa.mil/about-us/about-darpa>



## Doing Business with DARPA (continued)

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- Become familiar with the challenges and opportunities of National Security.
- Contact a DARPA Program Manager (PM) about your idea prior to submitting a white paper or proposal to gain insight into the general need for the type of effort. PMs are the key to working with DARPA.
- Ideas should be compelling with potential for revolutionary change.
- Visit [www.grants.gov](http://www.grants.gov) or [www.fedbizopps.gov](http://www.fedbizopps.gov) to view DARPA Broad Agency Announcements (BAAs), Research Announcement (RAs), and Requests for Proposals (RFPs).
- Visit <https://sbir.defensebusiness.org/> to view DoD SBIR and STTR Program Announcements.

Think **boldly**. Embrace risk.



## **BTO Biological Technology**

Bio-complexity | Bio-systems | Disease | Health | Med-Devices | Syn-Bio

## **DSO Defense Sciences**

Autonomy | Complexity | Fundamentals | Materials | Math | Sensors

## **I2O Information Innovation**

Algorithms | Cyber | Data | ISR | Networking | Processing | Programming

## **MTO Microsystems**

Decentralization | Electronics | EW | Globalization | Microsystems | Mobile | Photonics | PNT | Spectrum

## **STO Strategic Technology**

Air | Communications | Countermeasures | EW | ISR | Mobile | Spectrum | Tech-Foundations

## **TTO Tactical Technology**

Air | Ground | ISR | Maritime | Munitions | Robotics | Space



# Streamlined and Competitive Process

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## Broad Agency Announcement (BAA) Characteristics:

- No common Statement of Work (SOW)
- Varying technical approaches/solutions are anticipated
- Proposals are evaluated with technical quality and approach as the main factor
- Communication with proposers allowed during the open period of the BAA
- White papers or proposal abstracts may be solicited
- Usually have Industry Days where Program Managers brief interested communities on the research program solicitation

## BAA Types:

- Tech Offices will issue program-specific BAAs throughout the year
- Tech Offices will also issue one or two year-long BAAs with a more general scope (rolling submission process)



# Seedlings vs. Programs vs. SBIR/STTR

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## Seedlings

- Open to all capable sources
- Usually submitted through Office-Wide BAA
- Small short duration (6-9 months) projects
- Move concepts from “disbelief” to “mere doubt”
- May lead to the next generation of program ideas

## Programs

- Open to all capable sources
- Proposals solicited through specific program BAAs
- Often multi-year, multi-disciplinary efforts
- Technology development to move from “possibility” to “capability”

## SBIR/STTR

- Open to eligible small business concerns
- Usually submitted through DoD SBIR/STTR BAA
- Phase I feasibility up to \$225K
- Phase II prototype development up to \$1.5M
- May lead to the next generation of program ideas



## How we think: The Heilmeier Catechism

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Important questions to consider when approaching DARPA with ideas:

- What are you trying to do? (no jargon!)
- How does this get done today?
- What is new about your approach?
- If you succeed, what difference do you think it will make?
- How long do you think it will take?
- Can your work transition (to the DoD or others)?
- How much will it cost?

**<http://www.darpa.mil/work-with-us/heilmeier-catechism>**



## Contact Information

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Small Business Programs Office (SBPO)  
675 North Randolph Street  
Arlington, VA 22203-1714

<http://www.darpa.mil/work-with-us/for-small-businesses>

David Busigo, Jr.  
Director

[david.Busigo@darpa.mil](mailto:david.Busigo@darpa.mil)

Susan Celis  
Program Director

[susan.celis@darpa.mil](mailto:susan.celis@darpa.mil)

Small Business Support Team  
(703) 526-4170  
[sbir@darpa.mil](mailto:sbir@darpa.mil)



# **SBIR Road Tour**

SEEDING AMERICA'S FUTURE INNOVATIONS™

U.S. Air Force (USAF)



U.S. AIR FORCE



[www.afsbirsttr.com](http://www.afsbirsttr.com)

# From Concept to Commercialization

Mr. Michael Williams  
Senior Technology  
Analyst  
Air Force SBIR/STTR

AF SBIR/STTR Overview  
FY2019



## CONNECTING

INDUSTRY AND ACADEMIA WITH U.S. AIR FORCE NEEDS

SMALL BUSINESS INNOVATION RESEARCH | SMALL BUSINESS TECHNOLOGY TRANSFER

DISTRIBUTION A: APPROVED FOR PUBLIC RELEASE (Case #: 88ABW-2018-3378)



# United States Air Force Mission

**Fly, Fight, and Win...In *Air, Space, and Cyberspace***

**“The first essential of air power is preeminence in research.”**

**- General Henry “Hap” Arnold**

**“...innovation – fueled by intelligent, creative Airmen – will remain a key part of who we are and what we value as a service.”**

**- General Welsh**





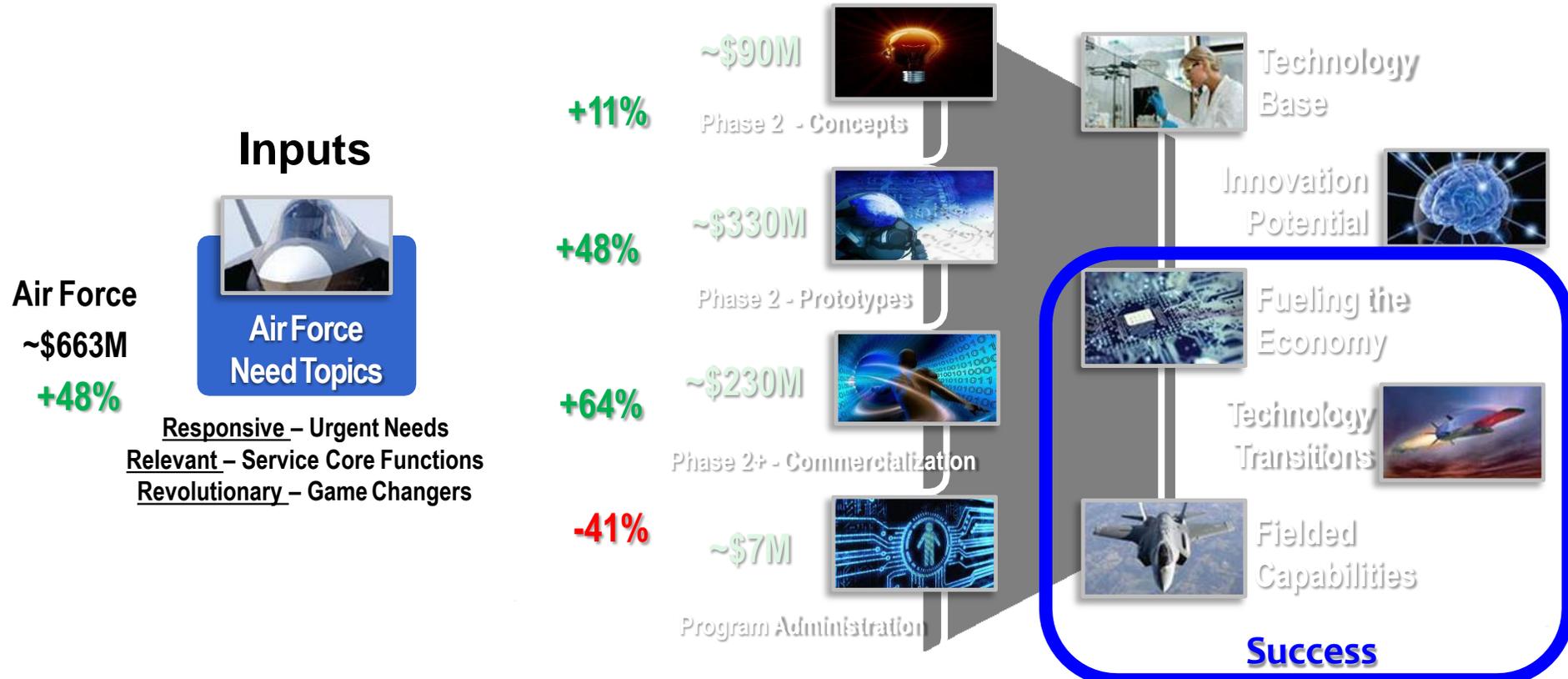
# Turning Science into Capabilities





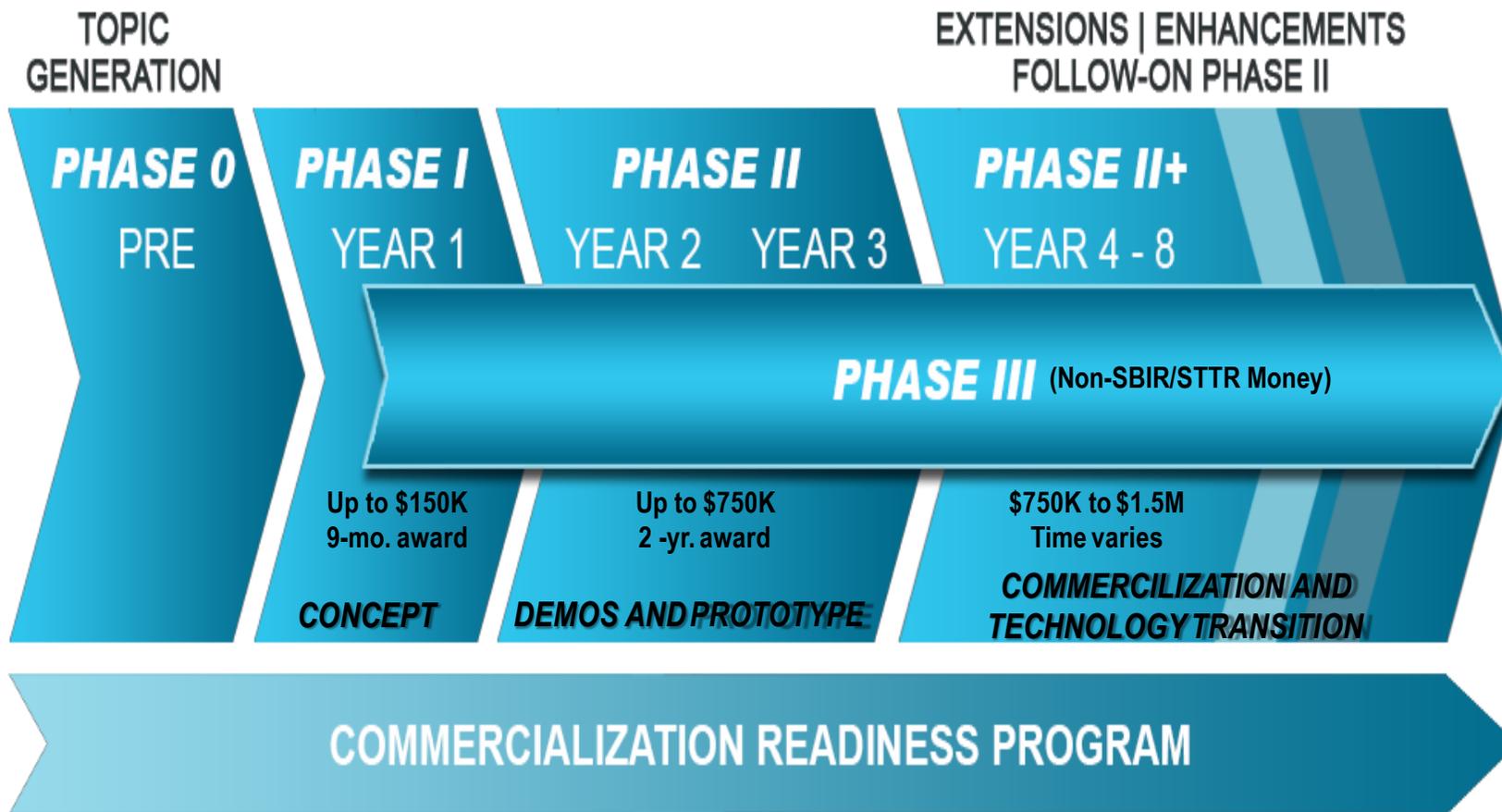
# The AF Small Business Innovation Research (AF SBIR/STTR) Program

## FY2018 Portfolio





# AF SBIR/STTR Program Structure





# AF SBIR/STTR “Special Initiatives”



Provide an opportunity for small businesses with an Air Force research and development contract, in particular SBIR/STTR contracts, to *TEST, EXPERIMENT, CONDUCT DATA COLLECTION, INSERT, and/or otherwise SHOWCASE and DEMONSTRATE* state-of-the-art warfighting technologies in a realistic operational environment.





“INVENTORS MAKE STUFF...BUT  
**INNOVATORS  
MAKE HISTORY”**

— D. Shahady





# Contact Us

- Contact the Air Force SBIR/STTR Program Office at 1-800-222-0336 - [info@afsbirsttr.com](mailto:info@afsbirsttr.com)
- Visit our website for SBIR POCs, topic info, newsletter, etc.:

[www.afsbirsttr.com](http://www.afsbirsttr.com)



# **SBIR Road Tour**

SEEDING AMERICA'S FUTURE INNOVATIONS™

U.S. Navy



# Department of Navy (DON)

## Small Business Innovation Research (SBIR)

## Small Business Technology Transfer (STTR)

[www.navysbir.com](http://www.navysbir.com)

[navy-sbir-sttr.fct@navy.mil](mailto:navy-sbir-sttr.fct@navy.mil)

- Primary Program Goals:
  - Use small business to develop innovative R&D that addresses DON need
  - Commercialize (Phase III) SBIR-developed technology into a DON platform or weapons/communication system, or for facilities use in expeditionary bases in new “pivot” locales in Africa and Asia
- About the Program:
  - Acquisition Driven Process with Strong Technology Pull
  - \$400 M+ annual funding supporting small business innovation/research
  - Wide range of SBIR/STTR topics driven by PEO/PM/FNC specific needs
  - *Making a great program better through the use of pilot efforts*

**We Succeed When You Succeed**



# Why Participate in SBIR/STTR?

- Largest source of early stage R&D funds for small businesses
- Builds credibility of company's research
- Data Rights retained for 5 years
  - STTR: small business must have data rights agreement with research institution
- Small business can maintain ownership of equipment purchased under Phase I and Phase II
- Better alternative than mortgaging the house...again!



# What is part of DON SBIR/STTR?





# Broad Agency Announcement (BAA) Schedule

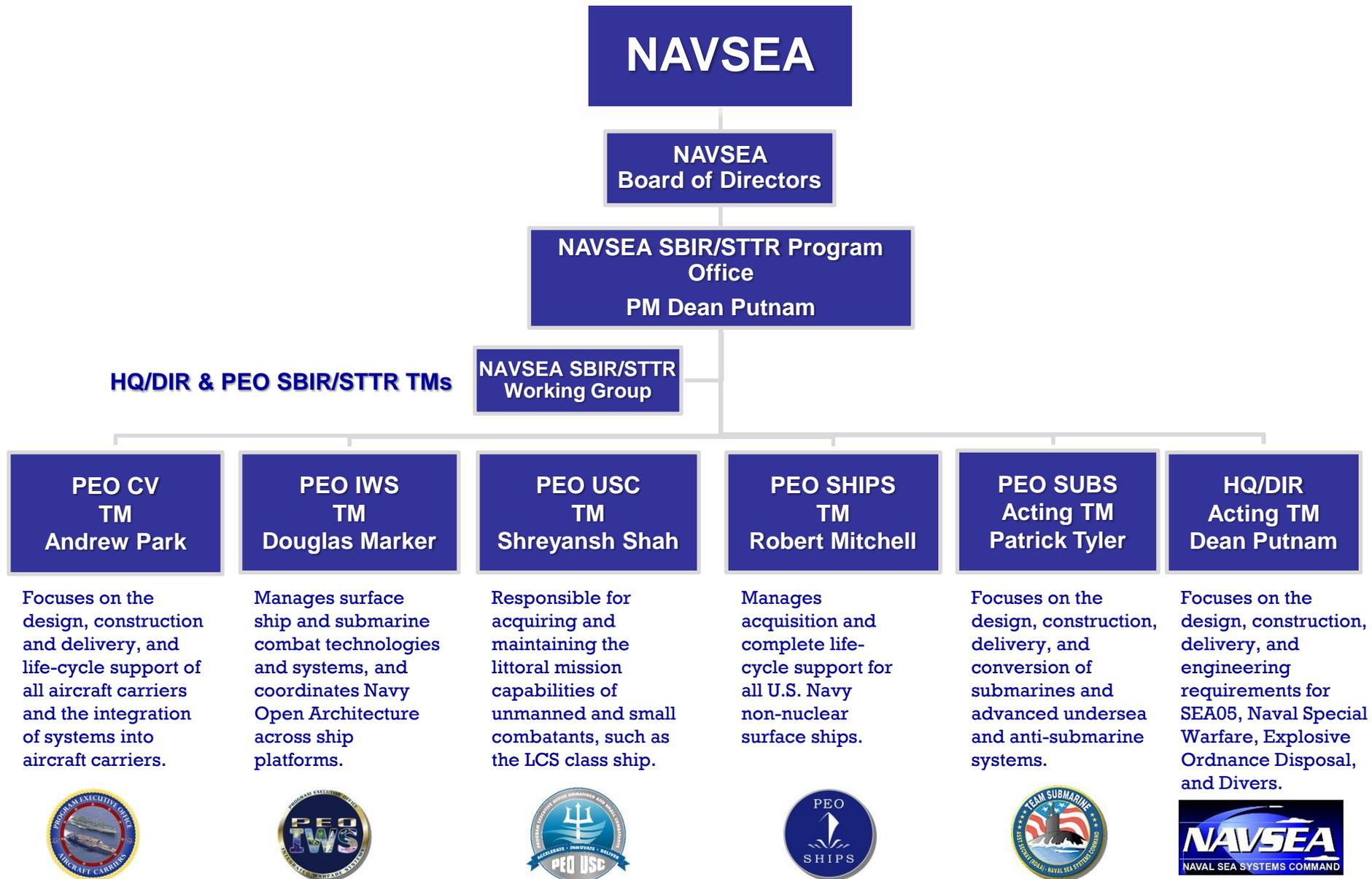
- DoD BAAs are released 3 times per year. The FY19 schedule is listed below.
- The .1/A BAA typically has the most Agency participation and the largest number of topics.

## 2019 BAA Schedule

BAA	Pre-Release	Open	Close
FY19.1/A	28 November 2018	8 January 2019	6 February 2019
FY19.2/B	19 April 2019	20 May 2019	19 June 2019
FY19.3/C	23 August 2019	24 September 2019	23 October 2019



# NAVSEA SBIR Functional Organization





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U.S. Department of Homeland Security  
(DHS)

# DHS Small Business Innovation Research (SBIR) Programs Overview



## 2019 SBIR Road Tour

*Seeding America's Future Innovations*™

SBIR-STTR Central Plains

*May 20-24, 2019*



**Homeland  
Security**

**John Pucci**  
**DHS SBIR Program Director**  
**Science and Technology Directorate**

# Homeland Security Missions



- Prevent Terrorism and Enhance Security
- Secure and Manage Our Borders
- Enforce and Administer Our Immigration Laws
- Safeguard and Secure Cyberspace
- Strengthen National Preparedness and Resilience



# DHS SBIR Supports.....

- Federal Emergency Management Agency (FEMA)
- Customs and Border Protection (CBP)
- U.S. Coast Guard (USCG)
- Transportation Security Administration (TSA)
- Immigration and Customs Enforcement (ICE)
- Cybersecurity and Infrastructure Security Agency (CISA)
- U.S. Secret Service (USSS)
- Countering Weapons of Mass Destruction Office (CWMD)
- First Responders



**Homeland  
Security**

# Today DHS will...

## U.S. Immigration and Customs Enforcement

REMOVE **645** CRIMINALS

OBTAIN **5** CONVICTIONS FOR HUMAN SMUGGLING

SEIZE **\$1.4M** IN ILLICIT CURRENCY AND ASSETS

## U.S. Citizenship and Immigration Services

NATURALIZE **2,000** NEW U.S. CITIZENS  
GRANT **1,723** PEOPLE PERMANENT RESIDENCE, ASYLUM, AND REFUGEE STATUS

## Federal Law Enforcement Training Centers

TRAIN **2,800** FEDERAL, STATE, LOCAL, TRIBAL, AND INTERNATIONAL LAW ENFORCEMENT PERSONNEL

## Federal Protective Service

PROTECT **1.4 MILLION** FEDERAL EMPLOYEES AND VISITORS IN **9,000 FACILITIES** ACROSS THE COUNTRY

## Transportation Security Administration

SCREEN **2 MILLION** PASSENGERS AND **1 MILLION** PIECES OF LUGGAGE

ENROLL **4,500** IN TSA Pre✓

SEIZE **7** FIREARMS

## U.S. Coast Guard

SAVE **10 LIVES** IN MORE THAN **45** SEARCH AND RESCUE OPERATIONS

SEIZE AND REMOVE **874 LBS** OF COCAINE AND **214 LBS** OF MARIJUANA WITH A WHOLESALE VALUE OF **\$11.8 MILLION**

## Cyber

BLOCK **1,900** POSSIBLE INTRUSIONS



ISSUE **50** CYBERSECURITY WARNINGS

## Law Enforcement Support

SUPPORT STATE AND LOCAL LAW ENFORCEMENT EFFORTS AT **28** SPECIAL EVENTS

## U.S. Customs and Border Protection

PROCESS **282,000** PRIVATELY OWNED VEHICLES & **72,000** TRUCK, RAIL, AND SEA CONTAINERS



**282,000** PRIVATELY OWNED VEHICLES

**72,000** TRUCK, RAIL, AND SEA CONTAINERS



**9,400 LBS** OF ILLICIT DRUGS

SEIZE

**\$356,000** CURRENCY

## U.S. Secret Service

PROVIDE SECRET SERVICE PROTECTION FOR AN AVERAGE OF **30** PROTECTEES AND FOREIGN DIGNITARIES

PREVENT CIRCULATION OF **\$160,000** IN COUNTERFEIT CURRENCY

PREVENT **\$5.4 MILLION** IN POTENTIAL LOSSES THROUGH FINANCIAL CRIMES AND CYBER INVESTIGATIONS

## Federal Emergency Management Agency

PROVIDE **\$17.6 MILLION** IN FEDERAL ASSISTANCE TO STATE, LOCAL, AND TRIBAL GOVERNMENTS



SUPPORT LOCAL COMMUNITIES WITH **\$4.4 MILLION** IN HOMELAND SECURITY ASSISTANCE



# S&T's Visionary Goals



## **SCREENING AT SPEED:**

Security that Matches the Pace of Life



## **A TRUSTED CYBER FUTURE:**

Protecting Privacy, Commerce, and Community



## **ENABLE THE DECISION MAKER:**

Actionable Information at the Speed of Thought



## **RESPONDER OF THE FUTURE:**

Protected, Connected, and Fully Aware



## **RESILIENT COMMUNITIES:**

Disaster-Proofing Society



**Homeland  
Security**

# FY18 and 19 Topics

## S&T

- Reach-Back Capability for Fielded Rapid DNA Systems
- ICAM On-the-Fly
- On Body Power Module for First Responders
- Modeling-based Design of Sensors for Chemical Detection in Complex Environment
- Synthetic Training Data for Explosive Detection Machine Learning Algorithms
- Cybersecurity Peer-to-Peer Knowledge/Lessons Learned Tool
- Network Modeling for Risk Assessment
- Blockchain Applications for Homeland Security Forensic Analytics
- Development of a Wearable Fentanyl Analog Sensor
- Cell Phone Location Finder for Maritime and Remote Search and Rescue
- Device to Detect Interference of Communications Systems
- Deterministic Augmentation of RF Transmissions for PNT

## S&T continued

- LMR-P25 and LTE Mission Critical Push to Talk Interface Service
- Improved Human Systems for Computed Tomography
- Automated & Scalable Analysis of Mobile & IoT Device Firmware

## CWMD

- Detector Integration with Current and Emerging Networked Systems
- Unmanned Aerial System Autonomous Search of Limited Area for Radiological Threats
- Ground-Based Autonomous Robotic Inspection of General Aviation for Radiological Threats
- Exploitation of Security Networks and Video Management Systems for Nuclear Threat Identification and Tracking
- Semiconductor-Based Thermal Neutron Detector Module for Incorporation into Radiation Detector Systems
- Inorganic Microscopy Standardization and Training for Image Analysis



**Homeland  
Security**

**Details available under “Past Solicitations” at <https://sbir2.st.dhs.gov/>**

# DHS SBIR Program Specifics

- Two Directorates in DHS manage SBIR
  - Science & Technology (S&T) Directorate
  - Countering Weapons of Mass Destruction Office (CWMD)\*
- FY2018 Budgets:
  - S&T Directorate's SBIR: \$15.7M
  - CWMD's SBIR: \$2.0M
- Topics determined by the government in response to component and HSE needs
  - Solicitation released in early December each year
  - 7-14 topics per year
  - 10 topics in December 2018 solicitation
- Phase I contracts: \$150,000
- Phase II contracts \$1,000,000

\* - CWMD Office data includes Domestic Nuclear Detection Office data through FY17



# DHS SBIR Points of Contact

## S&T Directorate

### **John Pucci**

SBIR Program Director  
john.pucci@hq.dhs.gov  
202-254-8764

### **S&T Program email**

stsbir.program@hq.dhs.gov

## CWMD

### **Marissa Giles**

SBIR Program Manager  
marissa.giles@hq.dhs.gov  
202-254-7615

### **Roger Gima**

SBIR Program/Technical Analyst  
roger.gima@associates.hq.dhs.gov  
202-254-7033

### **DNDO SBIR Program email**

dndosbir@hq.dhs.gov

## SBIR Portal Help Desk

Email: dhssbir@reisystems.com  
Phone: 703-480-7676

### **To report DHS SBIR fraud, waste and abuse:**

- Anonymous Hotline: 1-800-323-8603
- Fax: 202-254-4297
- Mail: DHS Office of Inspector General/Mail Stop 0305  
Attn: Office of Investigations - Hotline  
245 Murray Drive SW  
Washington, DC 20528-0305



**Homeland  
Security**

I asked for dedicated staff that knew DHS operational needs and this is what they gave me!



**Homeland  
Security**



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U.S. Department of Energy (DOE)

# WHAT DO WE FUND?

- Mission

- *Leadership in clean energy technologies*
- *Leadership in basic science and engineering in the physical sciences*
- *Enhancement of nuclear security*

- SBIR/STTR Research Areas

- *Renewable energy, energy efficiency, grid modernization, advanced fossil fuel technologies, nuclear energy, fusion energy*
- *Advanced scientific instrumentation in the physical sciences, advanced computing, atmospheric and environmental monitoring, accelerator technology*
- *Nuclear nonproliferation, environmental remediation and clean up*
- *More details: <https://science.osti.gov/sbir/Research-Areas-and-Impact>*



# HOW DO WE OPERATE?

- Phase I
  - *Issue two Funding Opportunities Announcements annually—DOE issues grants*
  - *Typically very focused topics areas, approximately 70 topics per year*
  - *Awards up to \$200,000, 6-12 months duration, ~ 400 per year*
- Phase II
  - *Phase I awardees compete for Phase II Awards the following year*
  - *Awards up to \$1,100,000 or \$1,600,000 (varies by topic), up to 2 years duration, ~180 per year*
- Second & Third Phase II
  - *These award focus on follow-on R&D to achieve commercialization. Third Phase II requires investor matching funds.*
  - *Awards up to \$1,100,000, up to 2 years duration*
- Schedule: <https://science.osti.gov/sbir/Funding-Opportunities>



# TAKE ADVANTAGE OF . . .

- Applicants

- *Phase 0 Application Assistance program for first time applicants*
- *Online application tutorials ([www.doesbirlearning.com](http://www.doesbirlearning.com))*
- *Partnership with DOE National Labs (<https://science.osti.gov/sbir/Applicant-Resources/National-Labs-Profiles-and-Contacts> and <https://www.labpartnering.org/partnering>)*

- Awardees

- *Select your own commercialization assistance provider or utilize the DOE Commercialization Assistance Program (<http://www.larta.org/doecap>). Up to \$6,500 available for Phase I and \$50,000 available for Phase II.*



# CONTACT US

- DOE SBIR/STTR Website: <https://science.osti.gov/sbir>
  - *You can join our mailing list on our homepage (near the page bottom)*
- Telephone: 301-903-5707
- Email: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)



U.S. DEPARTMENT OF  
**ENERGY**

SBIR/STTR Programs  
Office





# **SBIR Road Tour**

SEEDING AMERICA'S FUTURE INNOVATIONS™

# National Science Foundation (NSF)



# America's Seed Fund at NSF

<https://seedfund.nsf.gov/>

@NSFSBIR

[sbir@nsf.gov](mailto:sbir@nsf.gov)

Spring 2019



America's  
**SEED FUND**  
SBIR.STTR

- **Phase I submission windows: March-June and June-December (2019)**
- **Topics: essentially unlimited (other than drug development)**
- **Motivation: commercialization → broader impacts**
- **Focus: early-stage start-ups + commercially disruptive, unproven technology**
- **Mechanism: Highly flexible grant with the ability to pivot**
- **Structure: Decision-making Program Directors with deep technical and commercial/entrepreneurial experience + external merit review**
- **Post-award: Ongoing PD engagement throughout the award + Beat-the-Odds Boot Camp offered free to all Phase I awardees**

## **Intellectual Merit**

- **Innovative (i.e. novel and differentiable new approach that will solve a problem)**
- **High-technical-risk requiring R&D to prove out**

## **Broader Impacts**

- **Potential to benefit society and contribute to the achievement of specific societal outcomes**

## **Commercial Potential**

- **Customer/market traction and engagement**
- **Company/team suited to aggressive commercialization**
- **Competitive advantage, business model**
- **NSF funding will “move the needle”**

- **Budget: ~\$200 million (300-350 Phase I awards/year)**
- **Recent Phase I awardee stats ([NSF Award Search](#)):**
  - 95% have never had a Phase II award (any agency)
  - 80% have four or fewer employees
  - 56% founded in past two years
  - 63% awarded based on firm's first NSF submission
- **Strong commercial outcomes for portfolio companies (all based on public data only, 2014-present):**
  - \$6.5 billion in follow-on institutional (equity) financing
  - 90 successful exits (acquisitions, mergers, IPOs)



**AMO to buy IntraLase for \$808 million**

**Spider silk startup Bolt Threads closes on \$123 million in Series D funding**

**After scrapping Monsanto deal, Deere agrees to buy precision farming startup Blue River for \$305M**

Posted Sep 6, 2017 by Catherine Shu (@catherineshu)

**Boston Scientific Nabs Apama Medical in \$300 Million Deal**

Deal calls for \$175 million in cash plus \$125 million based on milestones

**Ginkgo Bioworks secures \$275 million in Series D, valuing the company at over \$1 billion**



**Google Capital Leads \$75 Million Investment in Phone Fraud Startup**

**ClearMotion Secures \$100 Million Investment Led By J.P. Morgan Asset Management To Commercialize World's First Digital Chassis**



# **SBIR Road Tour**

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## National Institutes of Health (NIH)

## Why NIH SBIR/STTR?

2019 SBIR Road Tour

**SBIR.NIH.GOV**

**[SBIR@od.nih.gov](mailto:SBIR@od.nih.gov)**

**24 Different Funding NIH Institutes and Centers**  
And CDC, FDA, and ACL (NIDILRR)

**Women Owned & Socially/Economically Disadvantaged Small Businesses**  
IDeA States

NIH 2019 SBIR/STTR Budget \$1.1 billion:  
SBIR - \$1 billion  
STTR - \$140 million

Omnibus AND Targeted Funding Opportunity Announcements (FOAs)

Includes Clinical Trial **NOT** Allowed + Clinical Trial **REQUIRED** FOAs

**NIH-ONLY Options:**  
Fast-Track Application  
Direct to Phase II

**Application Assistance Program (AAP)**

**Administrative Diversity Supplement**

**Three Grant Receipt Dates**  
(Sep 5, Jan 5, Apr 5)  
**One Contract Receipt Date**  
(October) Annually

Apply Electronically using Forms OR use **NIH ASSIST (Application Submission System & Interface for Submission Tracking)**

NIH Technical Assistance Programs: Niche, CAP, I-Corps (NCI), Technical and Business Assistance (TABA)

**Niche Assessment Program**  
- Phase I Awardees  
- Provides market insight and customer analysis

**Commercialization Accelerator Program (CAP)**  
- Phase 2 Awardees  
- Offers support toward commercialization

**National SBIR/STTR Conference (SBA)**

**SBIR Road Tours**

**NIH Regional Seminars**

**Free Webinars**

**21<sup>st</sup> Annual HHS SBIR/STTR Conference**

**Virginia Beach, VA**  
**October 28-30, 2019**





# **SBIR Road Tour**

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U.S. Department of Agriculture (USDA)

download now

**U.S. Department of Agriculture Small Business  
Innovation Research Program**

**Elden Hawkes  
Program Specialist**

**USDA**

**SBIR**

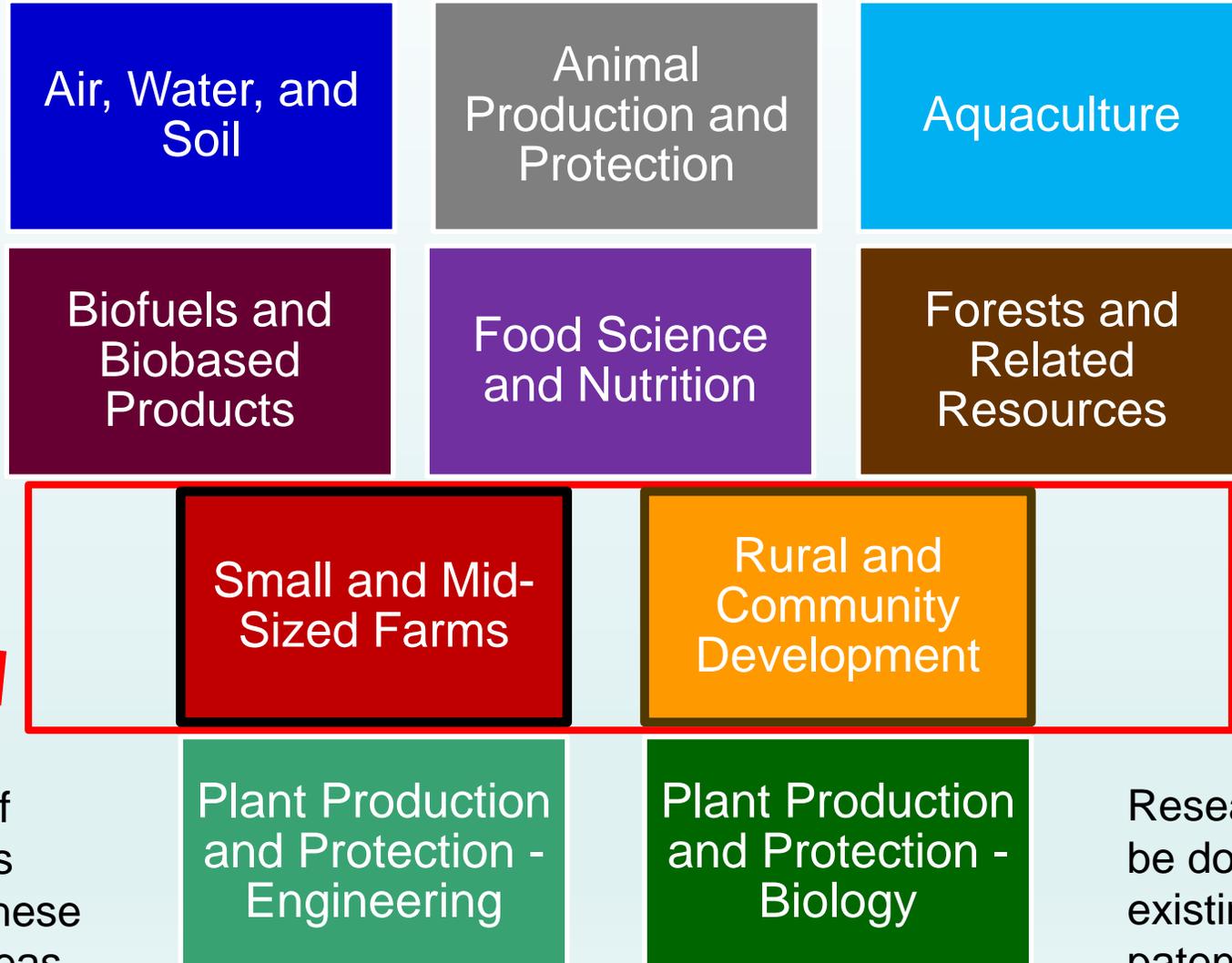
# USDA SBIR Program

- Annual Budget ~\$24 M
- Funding Opportunities for Grants – SBIR only
  - Phase I Grants = 8 Months/\$100,000
  - Phase II Grants = 2 Years/\$600,000
- Commercialization Assistance Programs for Phase I Winners
- Phase II Winners can request additional funds for commercialization.
- Research can be done with existing ARS patents via ARS CRADAs
- FY 2018: Phase I
  - 533 Phase I applications submitted
  - 79 Phase I awards
- Phase II
  - 67 Phase II applications submitted
  - 35 Phase II awards





# SBIR Topic Areas



Off the Shelf technologies allowed in these two topic areas

Research can be done with existing ARS patents via ARS CRADAs

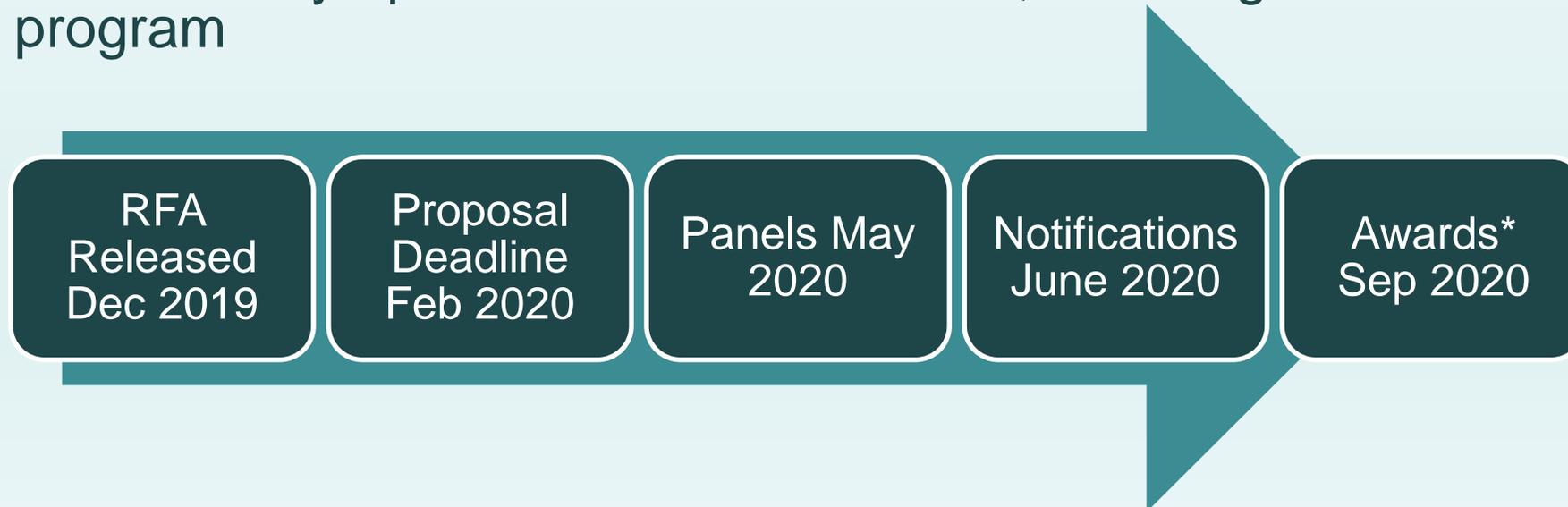
# FY 2020 Timeline



## Phase I



Phase II – Only open to Phase I awardees, no straight to Phase II program



# Freund's Farm, Inc.

**CowPots™**  
*The pots you plant!*



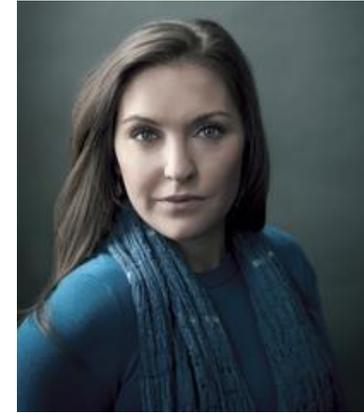
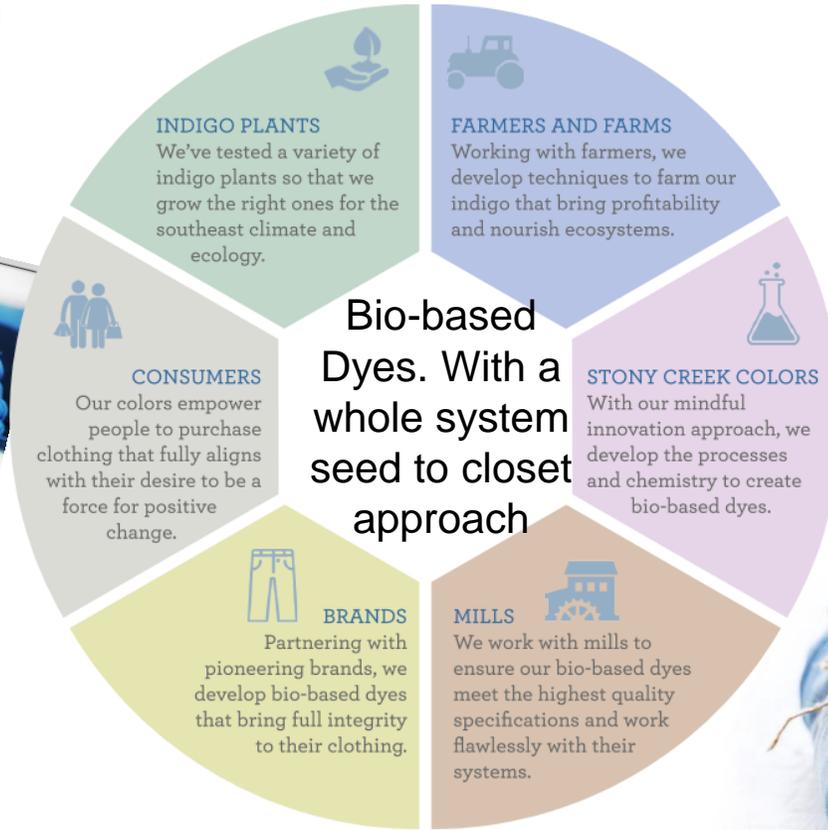
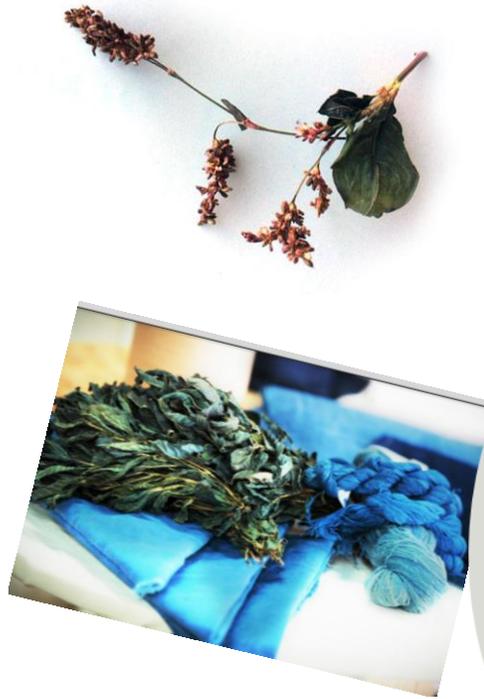
**DIRTY JOBS**  
with Mike Rowe



**USDA**

**SBIR**

# Stony Creek Colors



2016 American Made Honoree  
United States of Innovation 2017



Featured in  
Forbes, NPR,  
Huffington Post

**USDA SBIR**



 **ecovative**  
We grow materials.



**USDA** **SBIR**

# Altaeros Energies

## Technology Developed

- Altaeros Buoyant Airborne Turbine (BAT) leverages proven aerospace technology to lift a wind turbine into the strong, consistent winds beyond the reach of traditional towers.

## Commercialization Success

- First commercial products sold in 2015.
- Technology was featured in CNN's 2014 edition of THE CNN 10: Inventions and in the New York Times.
- Telecoms group SoftBank has invested \$7m in Altaeros Energies for future deployment of the BAT technology in Japan.

## SBIR History

- Phase I – 2011 (\$150K)
- Phase II – 2012 (\$450K)
- 8.6 Rural Development



© Altaeros Energies

USDA SBIR

# USDA SBIR

Contact with SBIR Program Available Anytime

Elden Hawkes – Program Specialist

[Elden.Hawkes@usda.gov](mailto:Elden.Hawkes@usda.gov)

Web Site: <https://nifa.usda.gov/sbir>

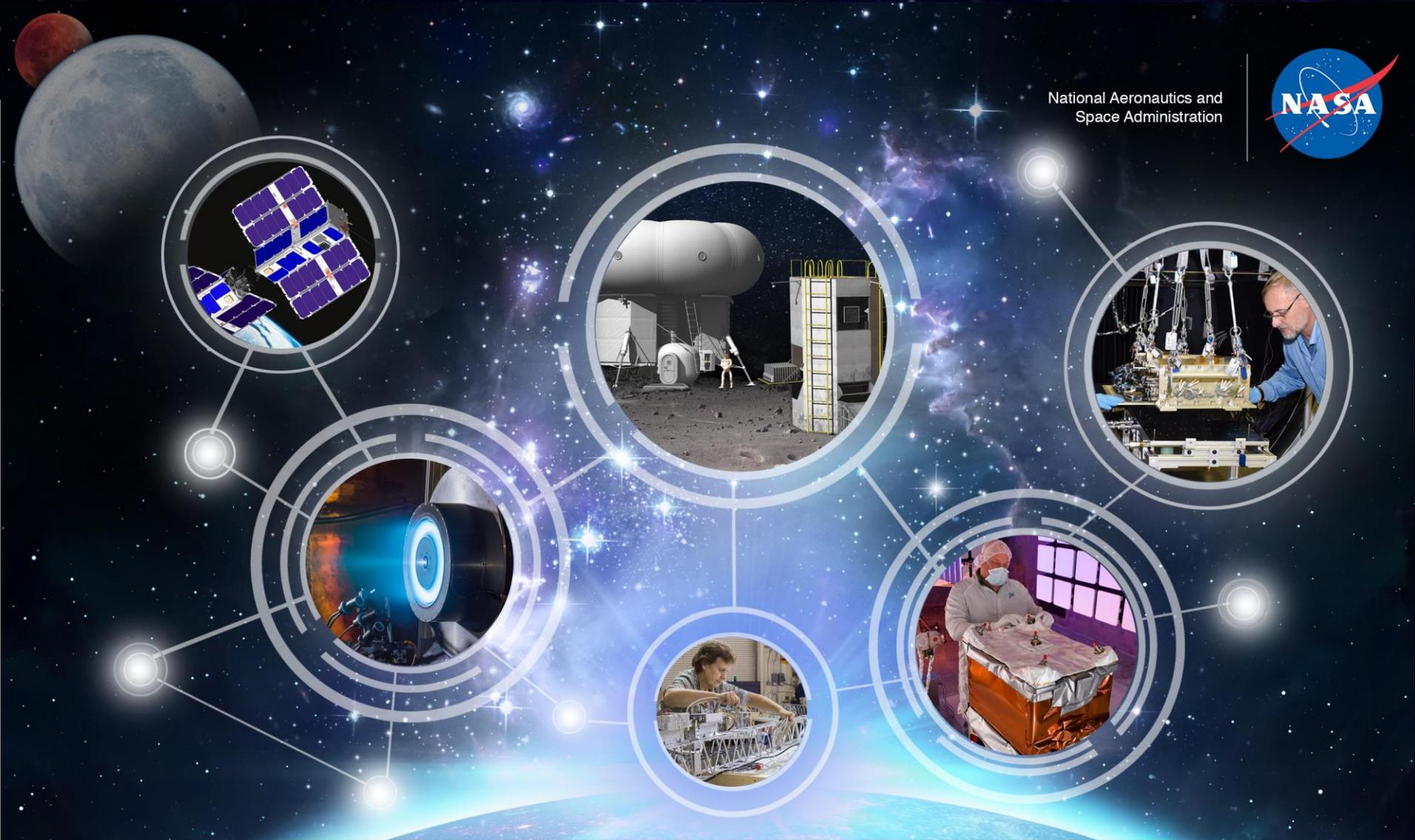
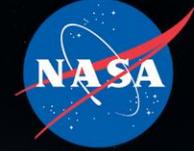




# **SBIR Road Tour**

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National Aeronautics and Space  
Administration (NASA)



Small Business Innovation Research      Small Business  
Technology Transfer  
Maxwell Briggs | NASA SBIR/STTR Brief Program Overview | May 20-24, 2019

# SBIR / STTR Programs Vision and Mission

## VISION

Empower small businesses to deliver technological innovation that contributes to NASA's missions, provides societal benefit, and grows the US economy.

## MISSION

Create opportunities through SBIR/STTR awards to leverage small business knowledge and technology development for maximum impact and contribution.

NASA's SBIR and STTR programs have awarded **more than \$3.75 billion** to research-intensive American small businesses.

Engineers and scientists from more than 3,100 Firms in all 50 States, DC, and Puerto Rico have participated across the two programs.

Approximately 15,000 total awards have been made to-date.

# SBIR/STTR Program Structure

## NASA SBIR/STTR PROCESS



Go to [sbir.nasa.gov/guide](https://sbir.nasa.gov/guide) for details

## Focus Areas

NASA's research subtopics are organized by "Focus Areas" that group interests and related technologies.

- **Identify** the Area(s) closest to your innovation/idea
- **Go** to our website to research
- **Prepare to write** a proposal tailored to NASA's needs

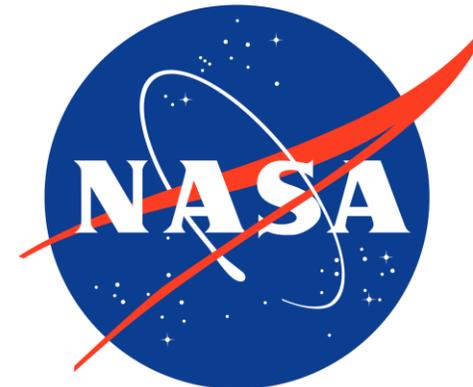
<https://sbir.nasa.gov/solicitations>

2019 Focus Areas (FA)	
FA 1: In-Space Propulsion Technologies	FA 13: Information Technologies for Science Data
FA 2: Power Energy and Storage	FA 14: In-Space and Advanced Manufacturing
FA 3: Autonomous Systems for Space Exploration	FA 15: Materials, Materials Research, Structures, and Assembly
FA 4: Robotic Systems for Space Exploration	FA 16: Ground and Launch Processing
FA 5: Communications and Navigation	FA 17: Thermal Management Systems
FA 6: Life Support and Habitation Systems	FA 18: Air Vehicle Technology
FA 7: Human Research and Health Maintenance	FA 19: Integrated Flight Systems
FA 8: In-Situ Resource Utilization	FA 20: Airspace Operations and Safety
FA 9: Sensors, Detectors and Instruments	FA 21: Small Spacecraft Technologies
FA 10: Advanced Telescope Technologies	FA 22: Low Earth Orbit Platform Utilization and Microgravity Research
FA 11: Spacecraft and Platform Subsystems	FA 23: Digital Transformation for Aerospace
FA 12: Entry, Descent and Landing Systems	

## NSF Space Topic

- NSF is including a Space topic in its SBIR/STTR Program
- Given different program goals and criteria, it's likely that one agency would be a much better fit for any specific project.
- Learn more about the differences between the NSF SBIR/STTR and NASA SBIR/STTR Programs at:

<https://sbir.gsfc.nasa.gov/content/nsf-sbirsttr-space-topic-what-you-need-know>



# SBIR/STTR Success

## PHASE III SUCCESS

IRIS AO products derived from SBIR funding are available for world-wide distribution by Edmund Optics - approximately \$2 million revenue generated annually from the technology developed from NASA SBIR. NASA's SBIR program invested \$875,000.

## SNAPSHOT

Since the first exoplanet discovery in 1995, NASA has dedicated resources to develop deformable mirrors for powerful telescopes to determine if there are signs of life beyond Earth on planets outside our solar system.

## SPECIAL MIRRORS HELP NASA DETECT PLANETS

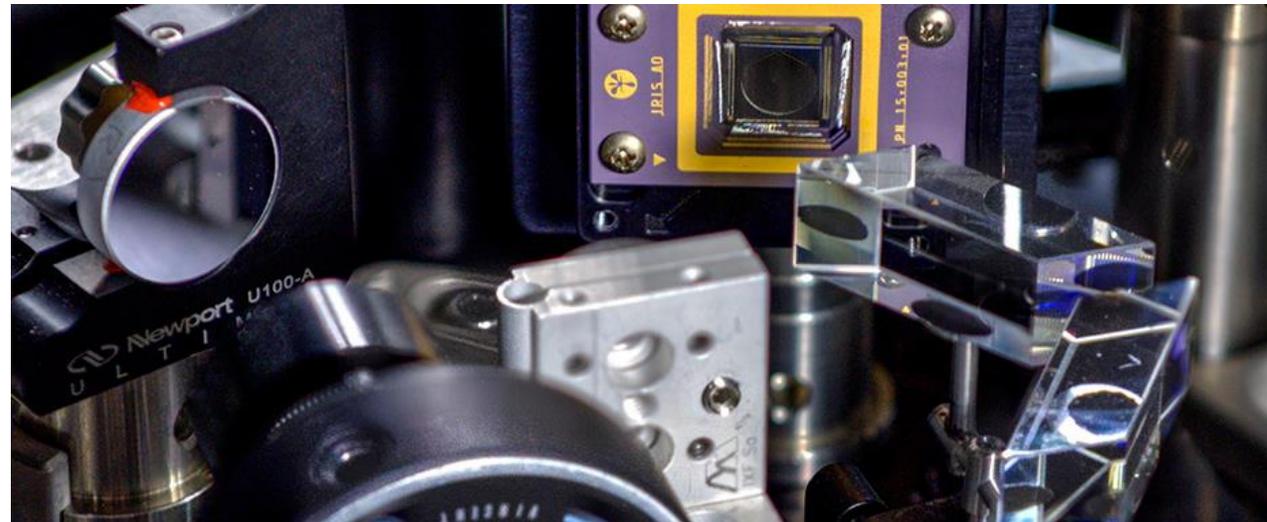
IRIS AO, Inc., Berkley, CA

### Challenge

Starlight can lower the contrast in images sent back to Earth from a telescope traveling in space, making it harder to detect planets light years away.

### Innovation

IRIS AO, Inc. helped NASA to develop deformable mirror (DM) technology that can filter out direct light from stars that limit the visibility of exoplanets. The technology is a key component of starlight blocking instruments on telescopes. The DM is used to correct optical aberrations that otherwise reduce the resolution of an image.



Contact us and let's innovate together

Website

**[www.sbir.nasa.gov](http://www.sbir.nasa.gov)**

Sign up for our Newsletter

**<https://sbir.nasa.gov/info>**

NASA Help Desk

**301.937.0888**



# **SBIR Road Tour**

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Flexible Funding Opportunities:  
The Granting Agencies

# Flexible Funding Opportunities: The Granting Agencies



**Moderator: SBA**  
Small Business  
Administration



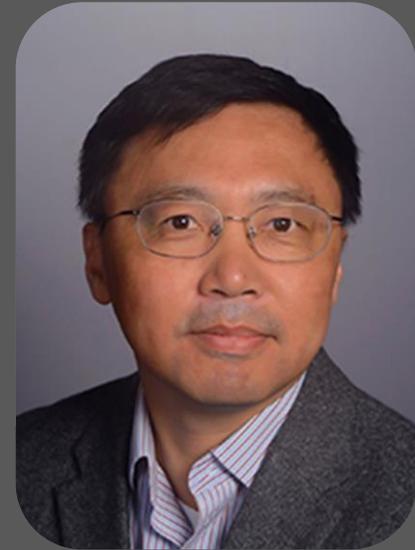
**Ben Schrag**  
National Science  
Foundation (NSF)



**Elden Hawkes**  
Department of Agriculture  
(USDA)



**Manny Oliver**  
U.S. Department of Energy (DOE)



**Dr. Ming Zhao**  
National Institutes of Health –  
National Cancer Institute (NIH –  
NCI)



# **SBIR Road Tour**

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U.S. Patent and Trademark Office  
(USPTO)

**UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**uspto**

# Resources for Small Business Owners, Entrepreneurs, and Independent Inventors

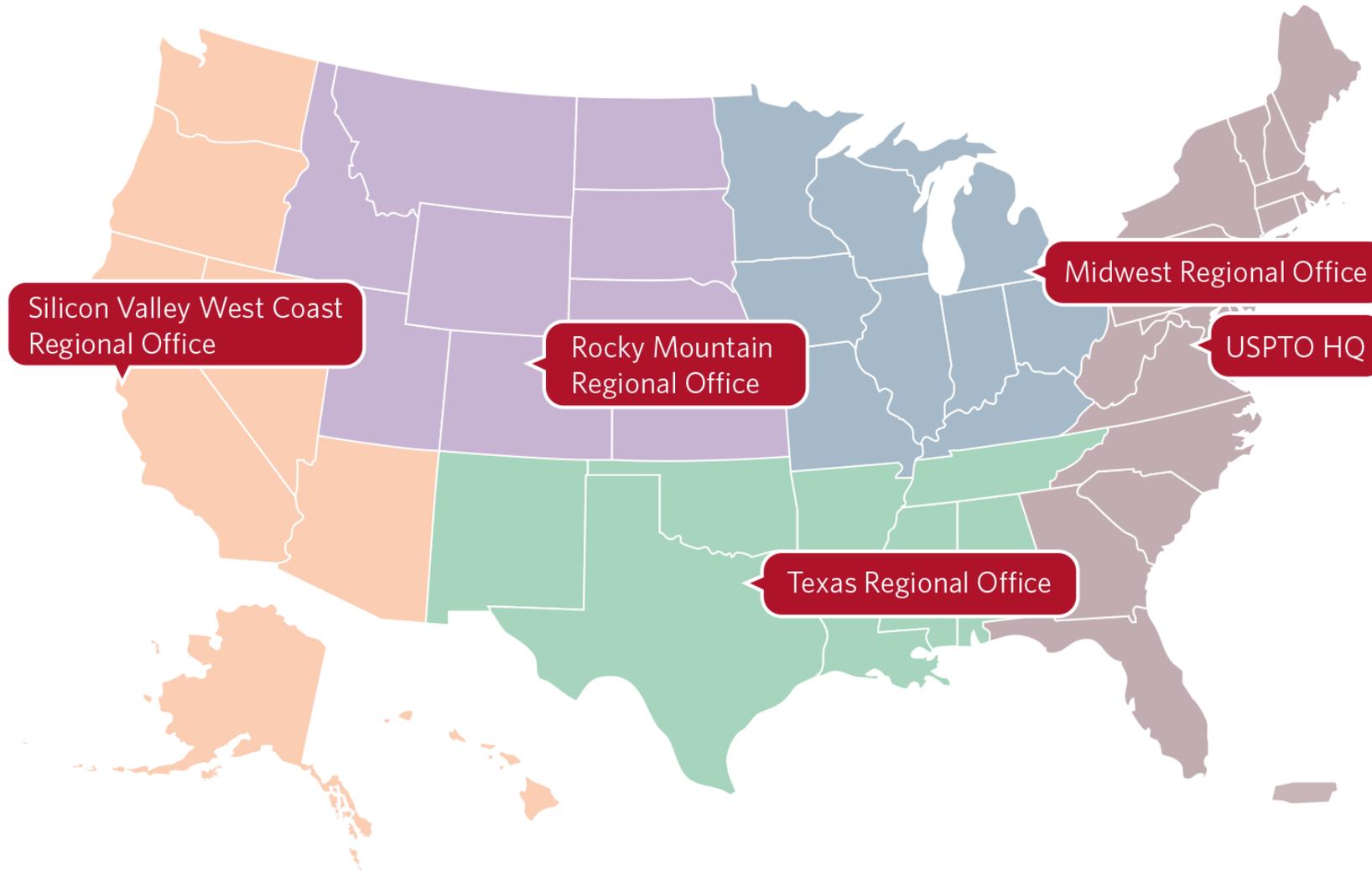
David Le

Rocky Mountain Regional Office

UNITED STATES  
PATENT AND TRADEMARK OFFICE



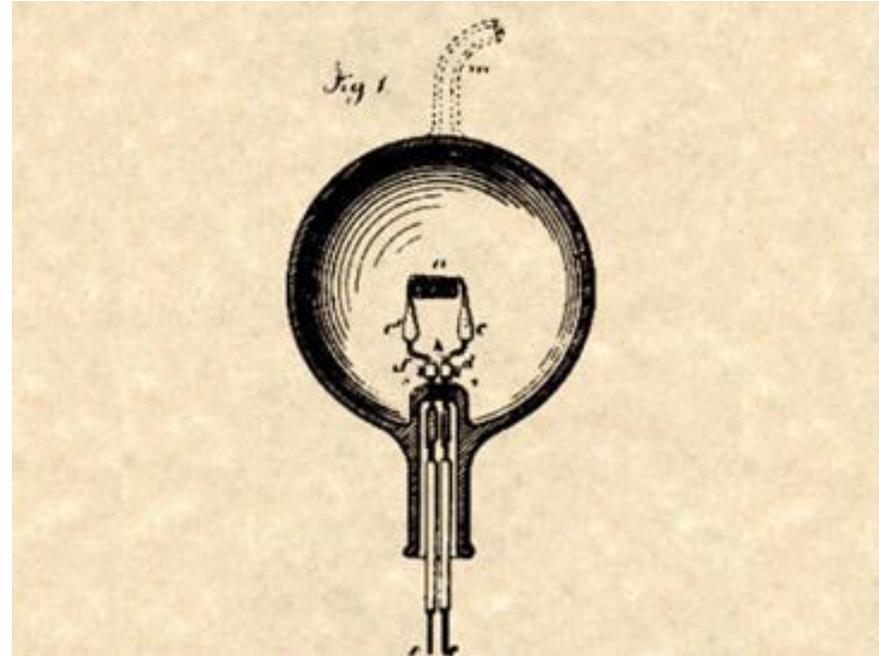
# USPTO offices



# What is intellectual property?



"Real" property



Intellectual property

# Types of intellectual property

 <b>Patent</b>	 <b>Trademark</b>	 <b>Copyright</b>	 <b>Trade secret</b>
New, inventive ideas	Identifies the origin of goods or services	Creative expression stored in a tangible form	Any information that is valuable & kept confidential
			



## Startup Resources

Many startup businesses face unique IP-related challenges, such as IP portfolio prerequisites to secure funding, and the possibility of costly patent infringement demand letters and lawsuits. We have tailored this area of our website to suit the specific needs of startup businesses, a segment of our stakeholders that continues to be recognized as an outsized engine of job creation, economic growth, and unparalleled innovation in the United States.

This portal is part of our [Startup Partnership Initiative](#)—putting key resources and critical information for startups in a single place so it's easier to find what you may need when you need it.

### Patents for Startups

The patent process can be challenging if you are not familiar with it. Here is basic information on the patent process.

- [Patent Process Overview](#)
- [Inventors Assistance Center](#)
- [Patent FAQs](#)
- [Patent Homepage](#)
- [Search for Patents](#)
- [Official Gazette for Patents](#)

### Trademarks for Startups

The trademark process can be confusing for a beginner, so here is basic information on registering a trademark.

- [Trademark Basics](#)
- [Search for Trademarks](#)
- [Filing online](#)
- [Trademark Homepage](#)

### Startup Assistance

The Inventors Assistance Center and Trademark Assistance Center provide information and services to the public. Center staff can answer questions on patent and trademark processes, but cannot provide specific legal advice.

- [Inventors Assistance Center](#)
- [Trademark Assistance Center](#)
- [Patents Ombudsman Program](#)
- [BusinessUSA \(link is external\)](#)



### Current Events

Information about conferences, conventions and other opportunities to engage.

- [Upcoming Events](#)
- [Inventors Eye | Events & Announcements](#)

[www.uspto.gov/startups](http://www.uspto.gov/startups)



# Small entity

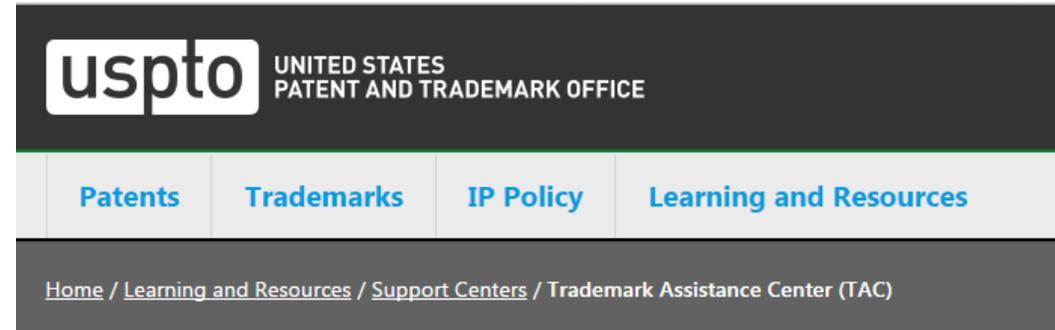
- Must be an individual or
- A small business (less than 500 employees) or
- A non-profit organization

# Independent micro-entity

- Qualify as a small entity
- Filed no more than four previous applications
- Income not greater than 3x median income
  - January 2019: \$184,116
- Not assigned to other than a micro-entity
- Inventions assigned to employer don't count against you
- A 75% reduction in fees

# Trademark Assistance Center

- Provides general information about the registration process
- Responds to status inquiries
- 8:30 a.m.-8:00 p.m. ET, Monday through Friday
- 571-272-9250 or 800-786-9199
- TrademarkAssistanceCenter@uspto.gov



## Trademark Assistance Center (TAC)

The Trademark Assistance Center (TAC) provides general information about the trademark registration process and responds to inquiries about the status of trademark applications and registrations. The location of the Trademark Assistance Center is Madison East, Concourse Level, 600 Dulany Street, Alexandria, VA 22314. Telephone assistance is available Monday through Friday (except federal holidays) from 8:30 a.m. to 8 p.m. ET. Walk-in assistance is available Monday through Friday (except federal holidays) from 8:30 a.m. to 5 p.m. ET

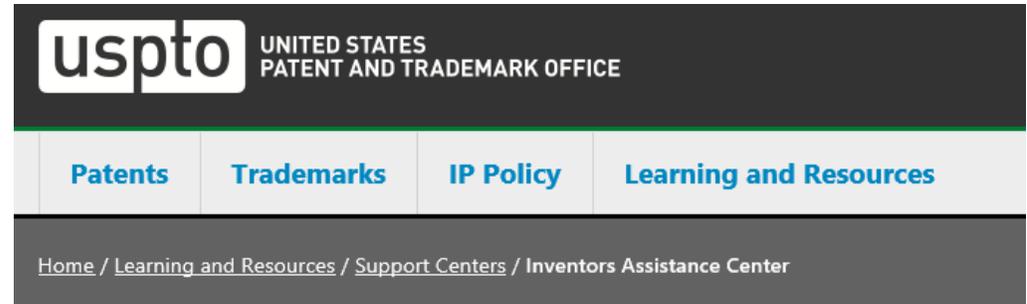
You can also check the status of an application or registration through Trademark Applications and Registrations Retrieval ("TARR") database at <http://tarr.uspto.gov/>.

800-786-9199 (toll-free) | 571-272-9250 (local)



# Inventors Assistance Center

- Provides general information about the patent examination policy and procedure
- Assists with identifying necessary forms and completion
- 8:30 a.m. - 8:00 p.m. ET, Monday through Friday
- 571-272-1000 or 800-877-8339



## Inventors Assistance Center

The Inventors Assistance Center (IAC) provides patent information and services to the public. The IAC is staffed by former supervisory patent examiners, experienced primary patent examiners, various intellectual property specialists, and attorneys who can answer general questions concerning patent examining policy and procedure.

### What IAC can do for you

- Answer general questions regarding patent examining policy.
- Answer questions concerning necessary formats and items needed for your patent application.
- Assist you with forms needed and with filling out the forms.
- Direct your calls to appropriate USPTO personnel or [www.USPTO.gov](http://www.USPTO.gov) web pages, as necessary.
- Provide you with general information concerning patent examining rules, procedures, and fees.
- Send you patenting information and forms via USPS mail or facsimile.



# IP Awareness Assessment Tool

- Measure and increase your knowledge of IP and the IP protections available.
- [ipassessment.uspto.gov](http://ipassessment.uspto.gov)

**ipAwarenessAssessment** Beta II uspto NIST

A business and inventors IP evaluation tool

**IP Awareness Assessment**  
The IP Awareness Assessment, developed under the joint efforts of United States Patent and Trademark Office (USPTO) and National Institute of Standards and Technology/Manufacturing Extension Partnership (NIST/MEP), allows you to assess your intellectual property awareness. Following the completion of the assessment, you will receive a customized training material. [Learn more](#)

**Feedback**  
Your **feedback** and comments are crucial for improving the IP Awareness Assessment.

**Inventor Assistance Program**

**Important Notice**  
Please note that any information provided here does not constitute legal advice, but is intended to increase your IP awareness. When filing an application for obtaining specific IP rights, it is recommended that you obtain professional legal assistance. The IP Awareness Assessment contains links to external websites. USPTO does not maintain those external sites and is not responsible for the material found therein.

Welcome to the Intellectual Property Awareness Assessment Tool. The IP Assessment includes the below five general categories, that are included in all assessments.

- IP Strategies & Best Practices
- International IP Rights
- IP Asset Tracking
- Licensing Technology to Others
- Using Technology of Others

There are five additional categories that all can take or, which may be customized through a Pre-assessment. These five categories include:

- Copyrights
- Design Patents
- Trademarks
- Trade Secrets
- Utility Patents

Not all businesses have all categories of IP Assets so they have an opportunity to opt out of certain categories by using the customizer or Pre-assessment or may opt to take the full assessment of ten categories containing 62 questions.

The full assessment requires about 20-30 minutes to complete. The customizer or Pre-assessment can reduce the required time by 10-15 minutes.

**>> enter the IP Awareness Assessment**

**Before starting the assessment, please note:**

- Save the link for this page as a favorite/bookmark on your browser.
- In the "Internet Options" of your browser, deselect/uncheck history on exit. This will allow you to return and resume your assessment session in case you cannot finish it in one sitting. This will also allow you to access your training materials and assessment results at your convenience.
- As you are answering the assessment questions, choose the answer that best applies to your business or circumstances as an independent inventor or individual. Where applicable, choose all the responses that apply to your situation.
- Responses or data collected in the assessment are not stored or used by the USPTO or NIST MEP.

# Patent and Trademark Resource Centers (PTRC)

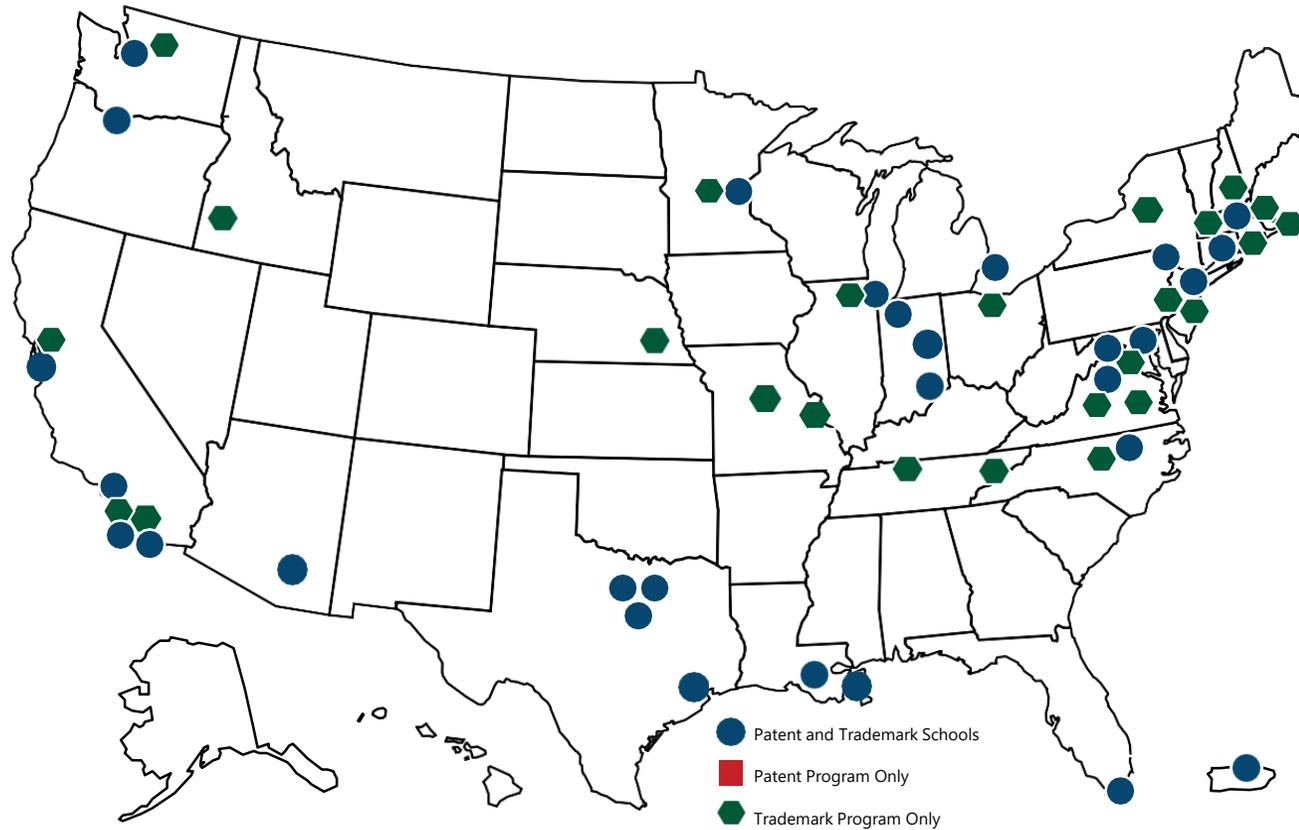
Nationwide network of public, state and academic libraries that are designated by the USPTO to disseminate patent and trademark information and to support intellectual property needs of the public.



[www.uspto.gov/ptrc](http://www.uspto.gov/ptrc)



# Law School Clinic Certification Program



lawschoolinformation@uspto.gov  
571-272-4097



# Patent Pro Bono Program

- **Gateway Venture Mentoring Service**
  - Serves Arkansas, Kansas, Missouri, Oklahoma, and Nebraska
  - [www.gatewayvms.org](http://www.gatewayvms.org)
  - 314-862-4867
- **LegalCORPS Inventor Assistance Program**
  - Serves Minnesota, North Dakota, South Dakota, Iowa, and Wisconsin
  - [Legalcorps.org/inventors](http://Legalcorps.org/inventors)
  - [iap@legalcorps.org](mailto:iap@legalcorps.org)

# Patents Ombudsman Office

- Assists applicants throughout the application process including initial filing, patent examination, and post examination.
- Helps applicants get their applications back on track.
- Telephone (M-F from 8:30am – 8:00pm ET)
  - 571-272-5555 or 855-559-8589
- Website:
  - [www.uspto.gov/patent/ombudsman-program](http://www.uspto.gov/patent/ombudsman-program)





# **SBIR Road Tour**

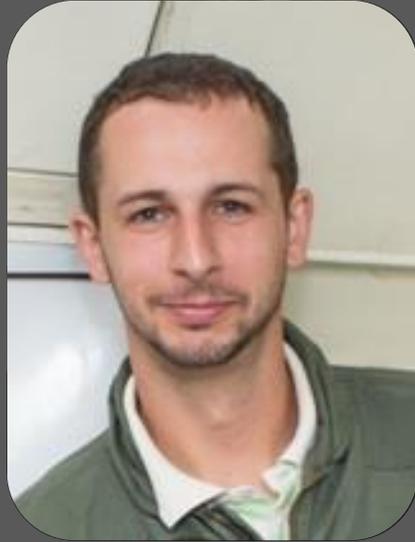
SEEDING AMERICA'S FUTURE INNOVATIONS™

Surprising Opportunities with DoD and  
NASA

# Surprising Opportunities with DoD and NASA



**Moderator: SBA**  
Small Business  
Administration



**Dr. Maxwell Briggs**  
National Aeronautics and  
Space Administration  
(NASA)



**Susan Celis**  
Defense Advanced  
Research Projects  
Agency (DARPA)



**Bob Renner**  
Marine Corps Systems  
Command (MARCOR)



**Michael Williams**  
U.S. Air Force (USAF)



# **SBIR Road Tour**

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## Inside the Head of an Evaluator: Common Mistakes

# Inside the Head of an Evaluator: Common Mistakes



**Moderator: SBA**  
Small Business  
Administration



**John Pucci**  
Department of  
Homeland Security  
(DHS)



**Ben Schrag**  
National Science  
Foundation (NSF)



**Scott Dockum**  
U.S. Department of  
Agriculture (USDA)



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