U.S. Small Business Administration (SBA)

U.S. Small Business Administration

Leveraging America's Seed Fund

SBIR · STTR
America's Seed Fund
POWERED BY SBA

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)

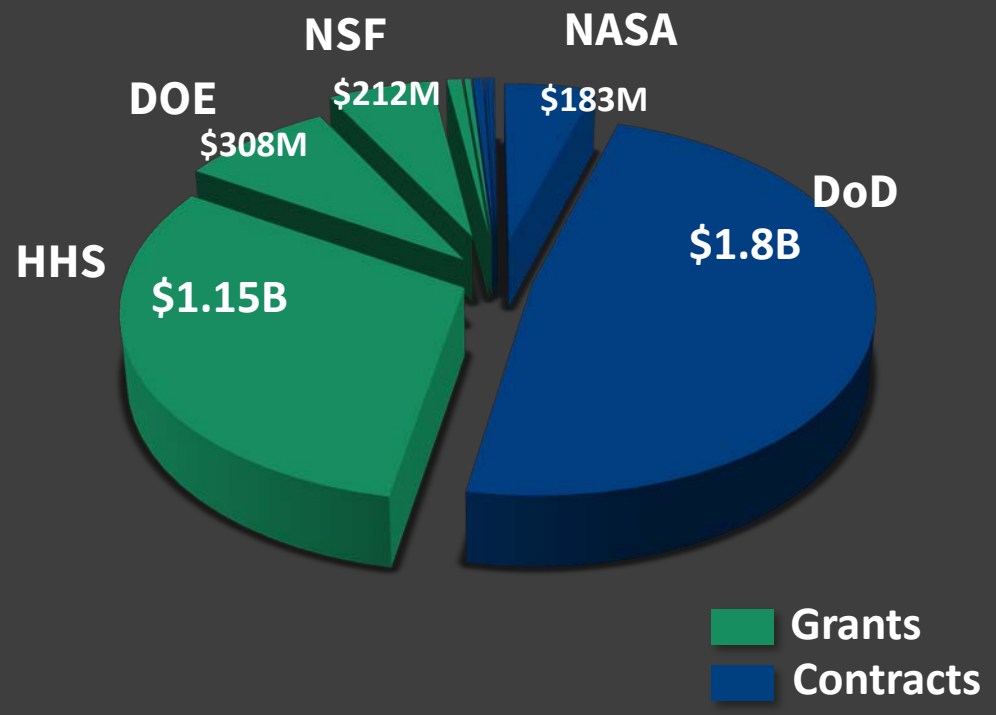
SBIR & STTR Participating Agencies

- 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

* Budgeted Amount; other Agencies Obligated Amount
** Provides grants and contracts



SBIR: $3.28 Billion
STTR: $453 Million

Contracting Agencies	Granting 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**	▪ 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

Phase I
Concept Development
6 months – 1 year
~ $150,000

Phase II
Prototype Development
24 months
~ $1,000,000

Phase III
Commercialization
No SBIR funding

Solicitation to Award Process

Find Solicitation → Proposal Submission → Evaluation → Award Phase I

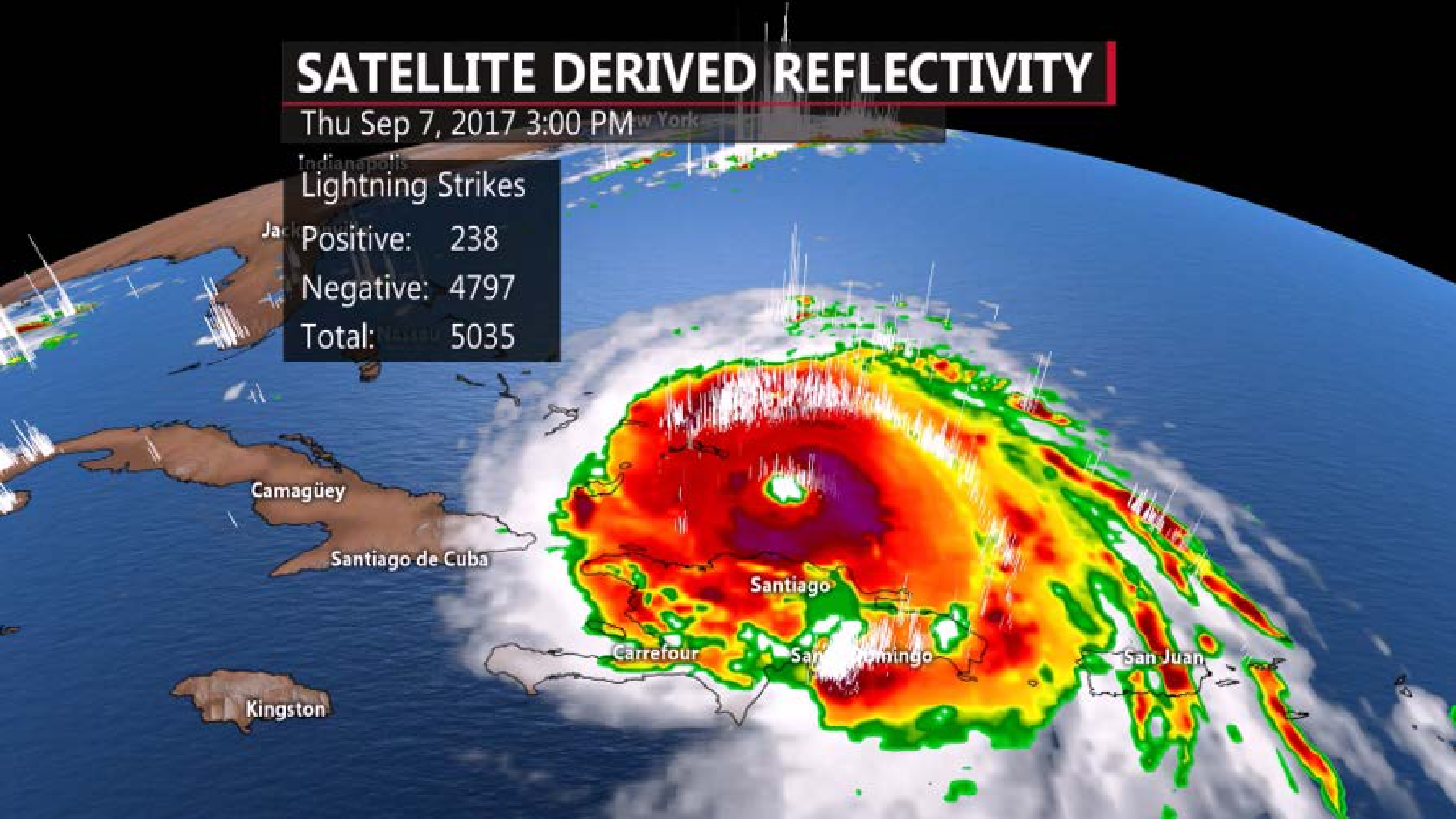
Differences Between SBIR and STTR

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

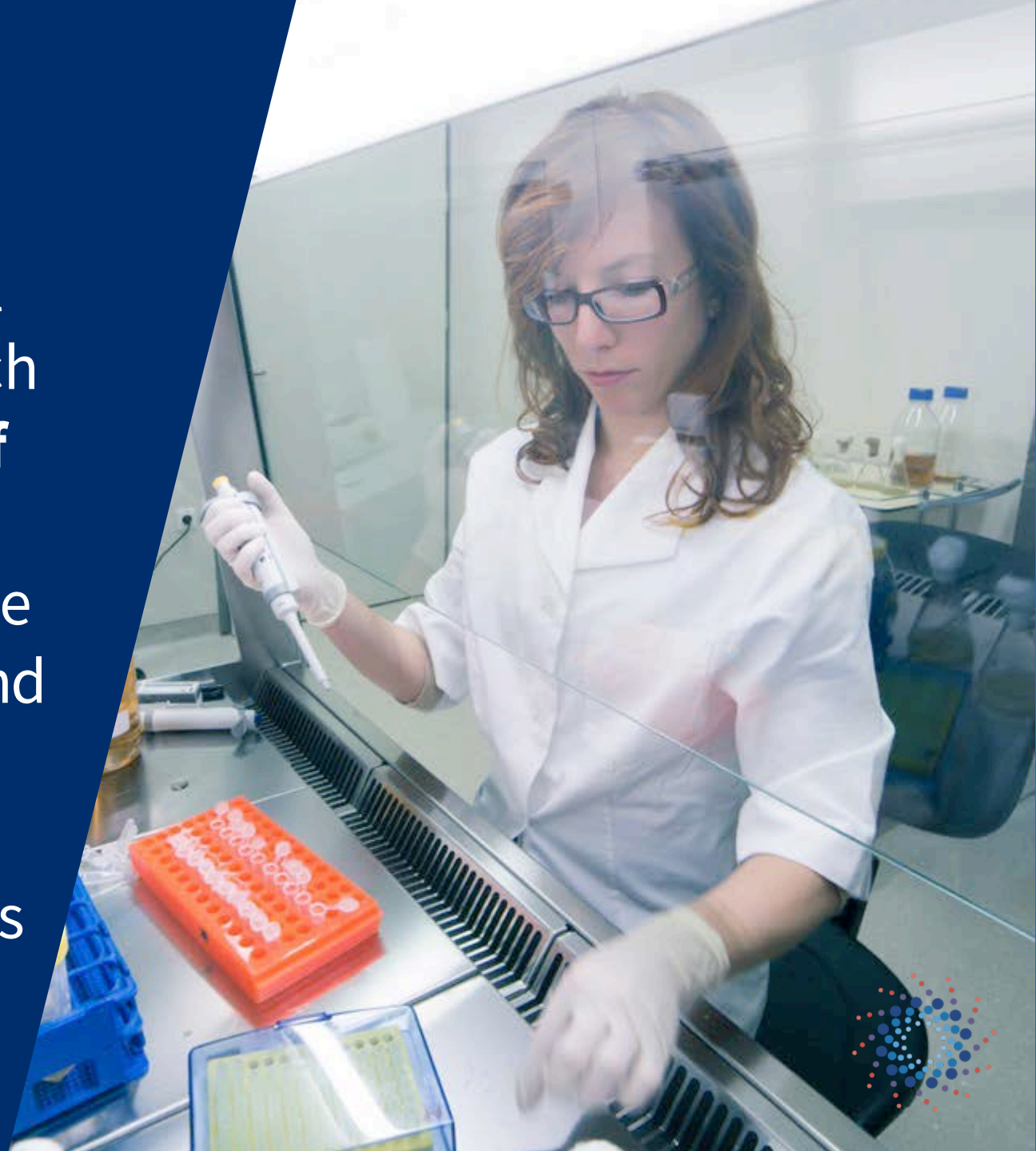
The small business is ALWAYS the applicant and awardee!


SATELLITE DERIVED REFLECTIVITY
Thu Sep 7, 2017 3:00 PM
Lightning Strikes
Positive: 238
Negative: 4797
Total: 5035
Camagüey
Santiago de Cuba
Santiago
Carrefour
San Juan
Kingston

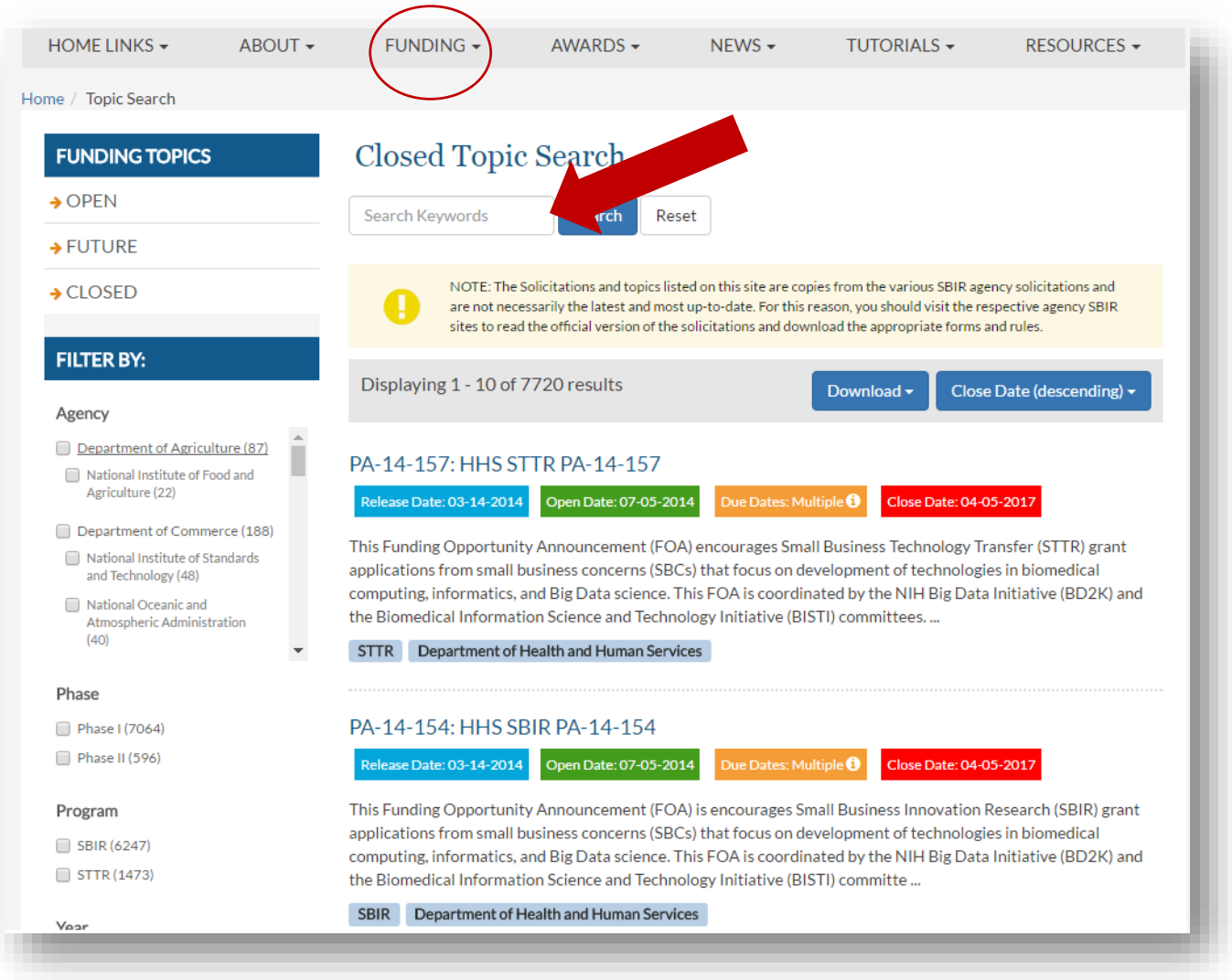

2+5=?

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

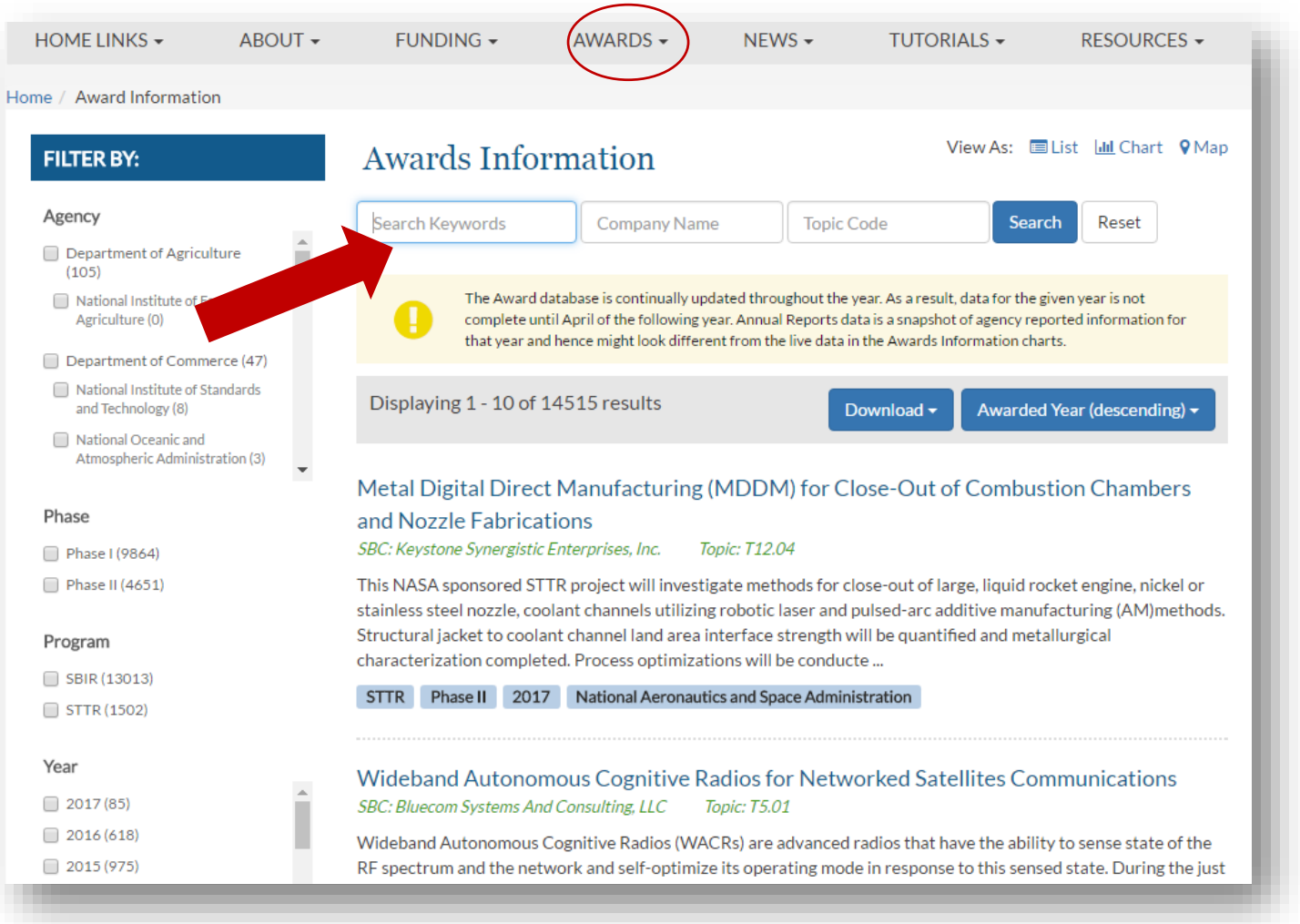


→ Keyword searches – **Learn which agencies fund your technology area!**

www.sbir.gov/sbirsearch/topic/past

Where to Begin? – Award Searches

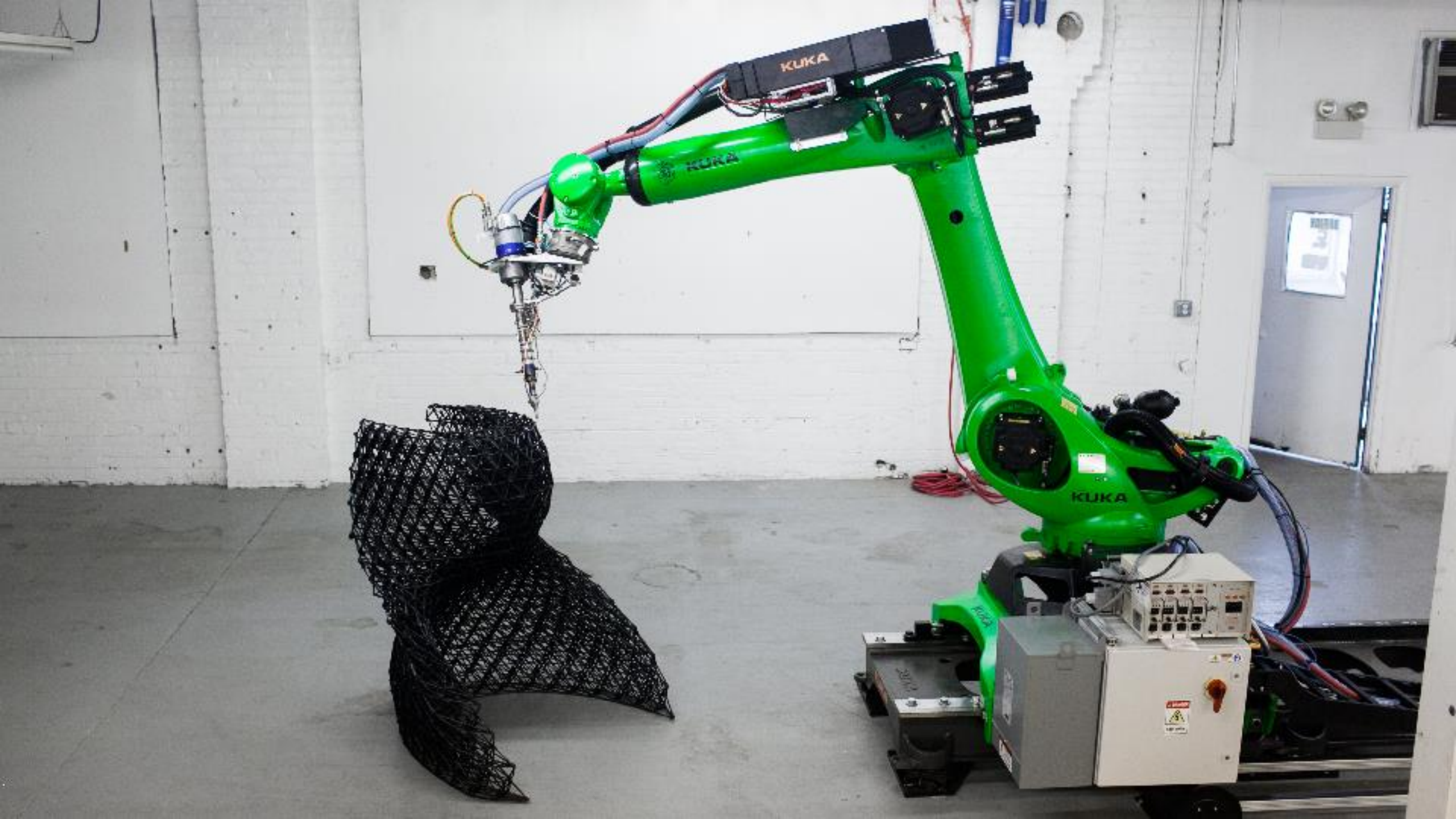
- Identify successful firms
- Identify agency investments in technology areas



www.sbir.gov/sbirsearch/award/all

Why We Work on America's Seed Fund

www.sbir.gov/news/success-stories


KUKA
KUKA
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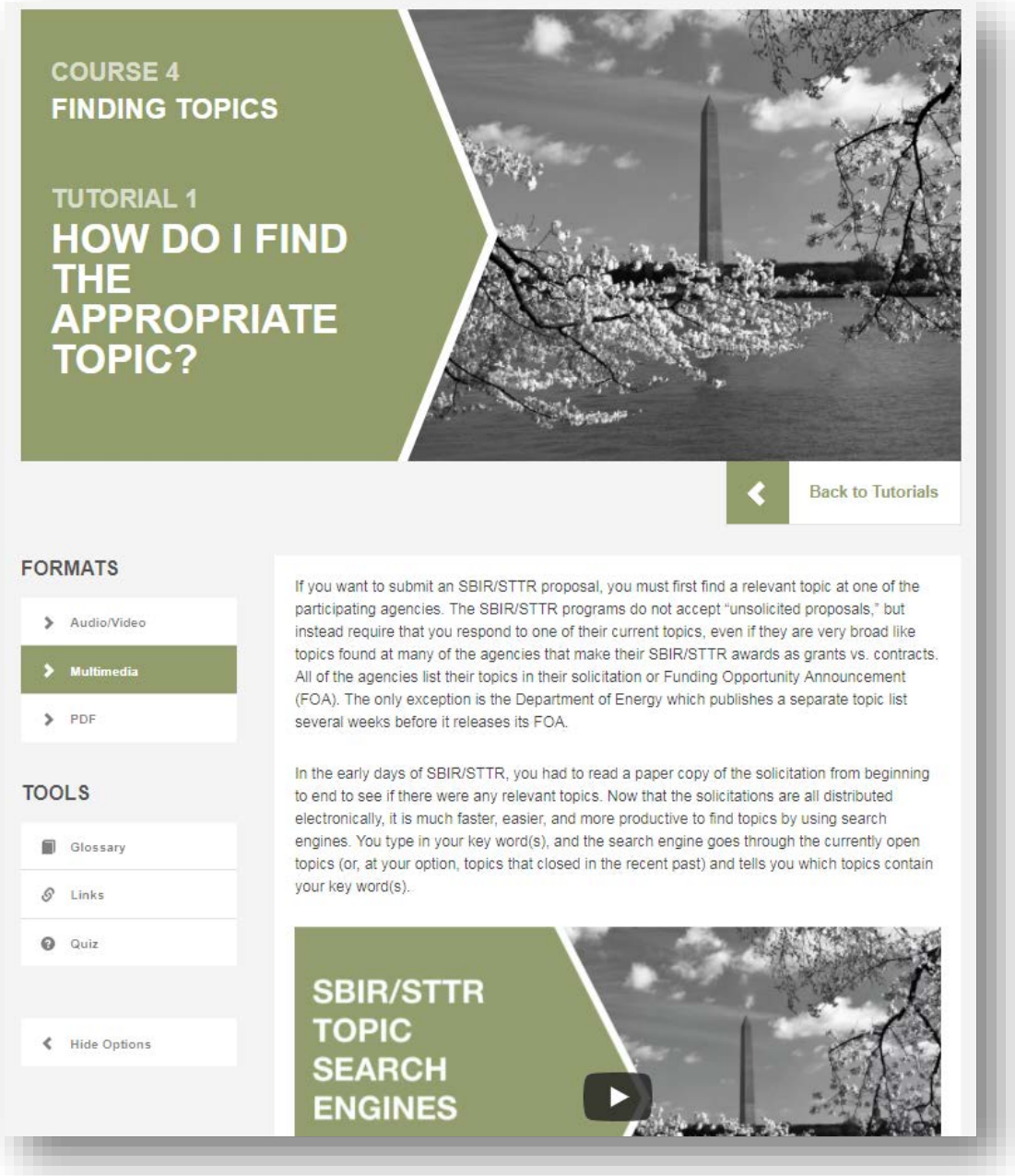
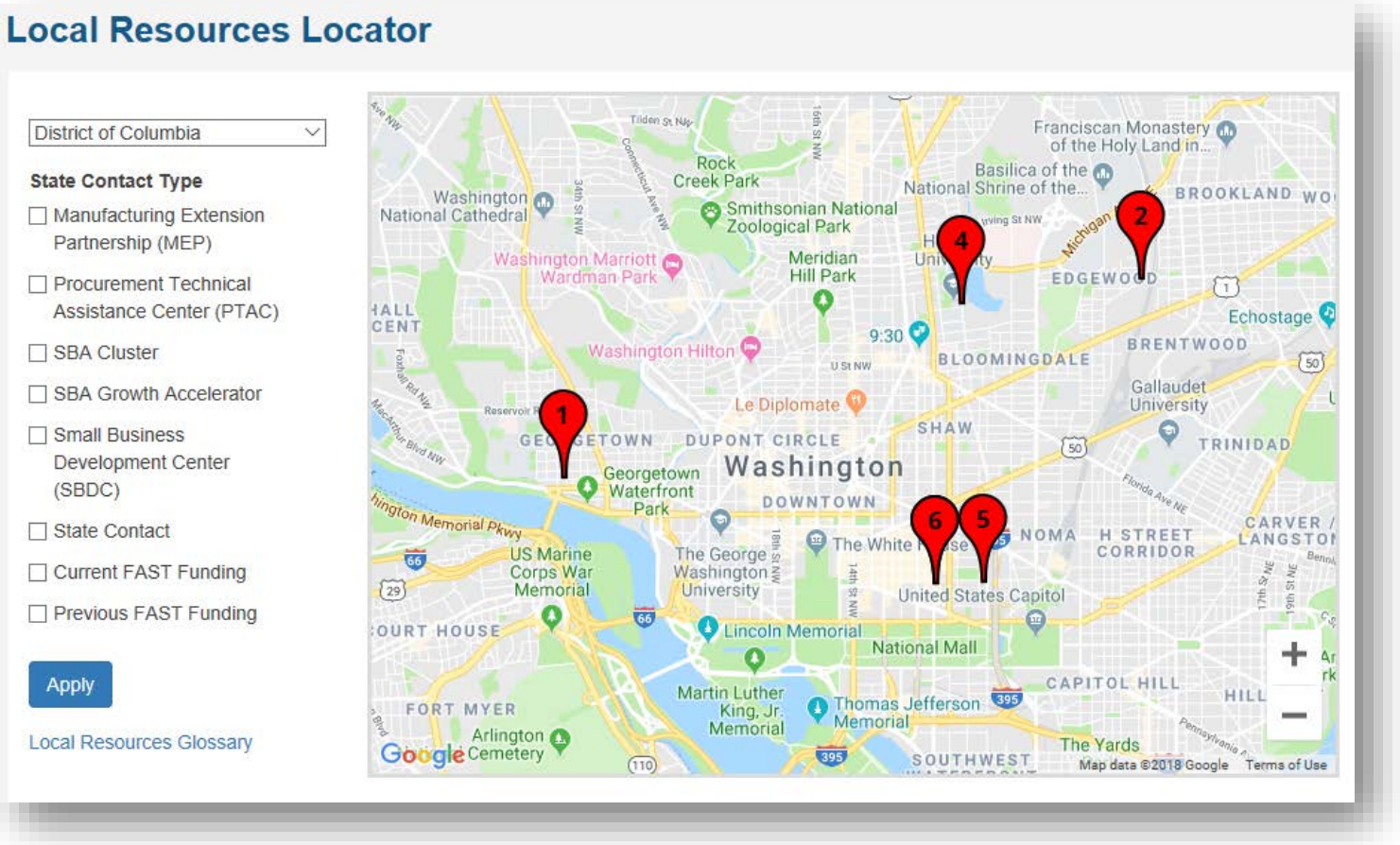
Online Tutorials

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

www.sbir.gov/tutorials

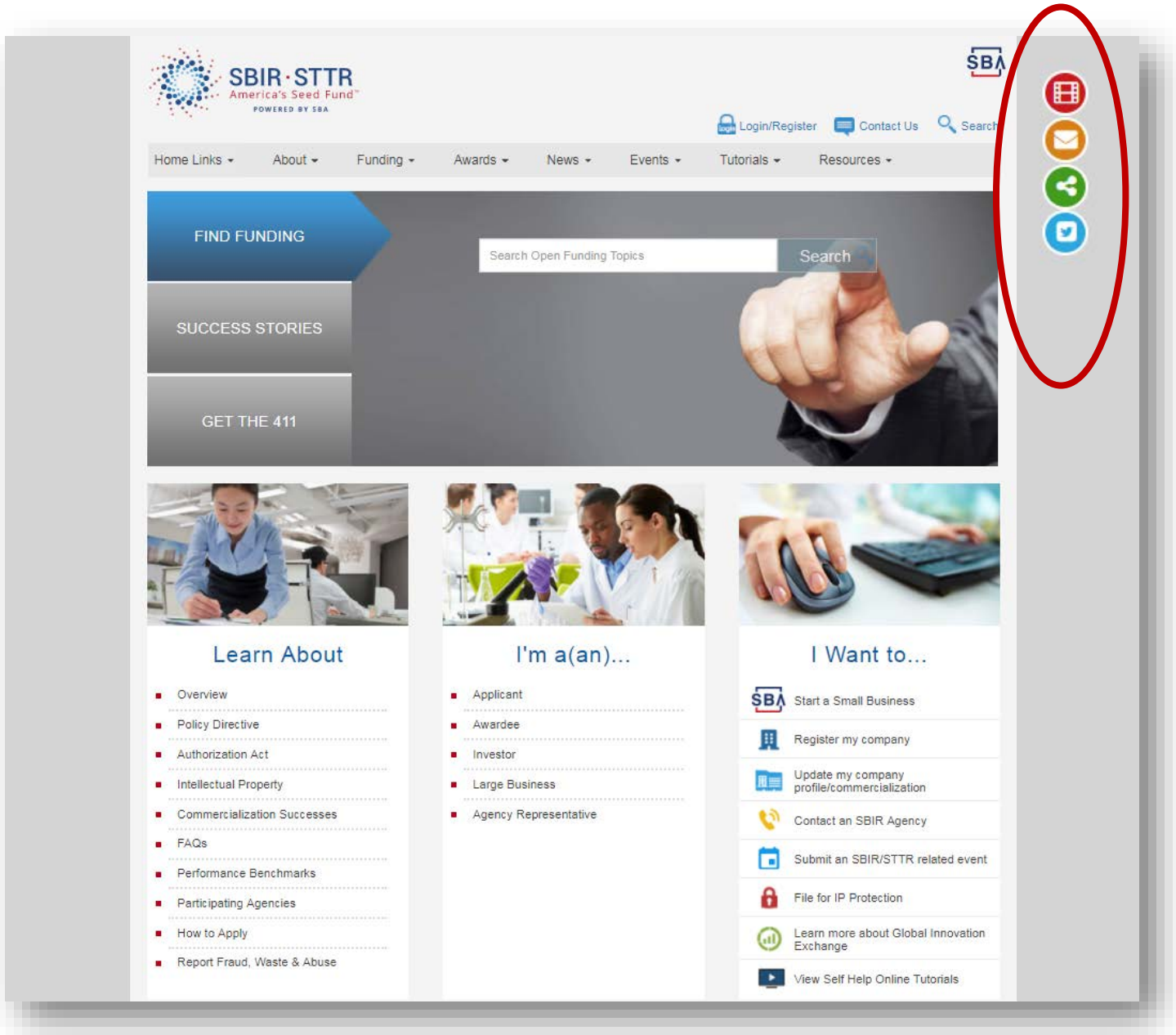


Connect to Your Network of Local Support



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

www.sbir.gov



Stay In Touch

Brittany.Sickler@sba.gov

@SBIRgov
#seedthefuture

www.sbir.gov

Federal Laboratory Consortium (FLC)

YOUR ONE-STOP SHOP FOR FEDERAL LABORATORY INFORMATION

FLC
Federal Laboratory Consortium
for Technology Transfer

federallabs.org

THE FLC'S MISSION

PROMOTE awareness and foster dialogue about federal R&D and the significant economic benefits of 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

Your one-stop shop for Federal Lab information

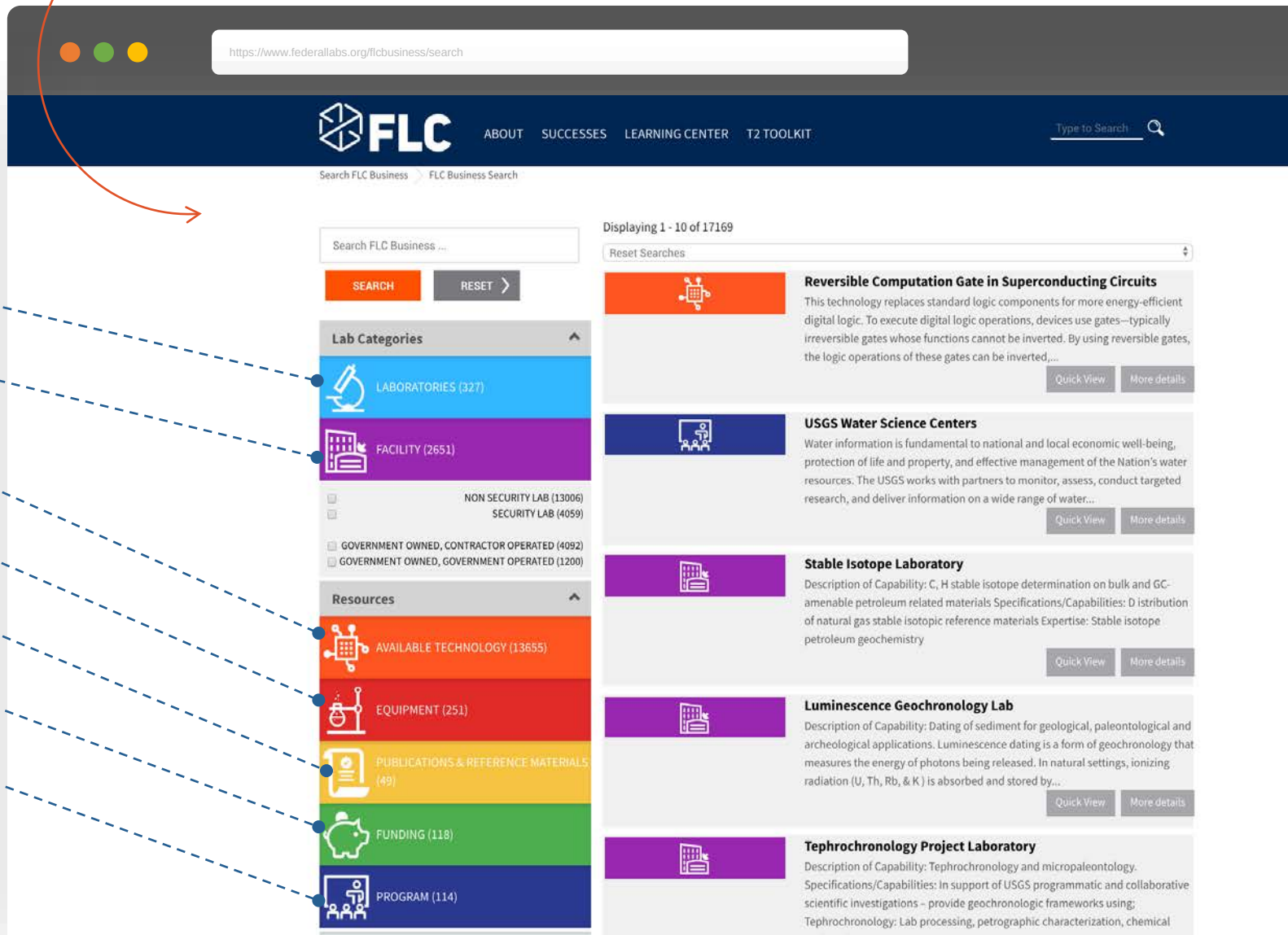
Search FLC Business

Connect with a laboratory

Engage with an expert

EASY-TO-FIND LABORATORY DATA

- Federal Laboratories
- Facilities
- Available Technologies
- Equipment
- Lab Publications
- Funding
- Programs



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 – NSWC CRANE

- **US Army Phase II SBIR Project – Flex Force Enterprises**
- **CRADA with NSWC Crane**
  - Joint Research & Development of Improved Stabilized Weapons Platforms
  - Allows for the exchange of information, intellectual property, guidance and ideas on how to provide improved accuracy of stabilized weapon platforms.
- **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

U.S.ARMY

NAVSEA WARFARE CENTERS CRANE

flexFORCE

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

T2 SUCCESS TRACK

STEP 1

Identify your R&D needs and requirements

STEP 2

Search lab resources and Technologies

FLC BUSINESS!

STEP 3

Work with lab to determine T2 mechanism

FLC T2 MECHANISM DATABASE!

STEP 4

Re-assess your desire and needs

STEP 5

Connect with lab rep

FLC BUSINESS AND TECH LOCATOR

STEP 6

Negotiate and finalize agreement

STEP 7

Execute, collaborate, and commercialize

For Assistance contact your FLC Regional POC

www.federallabs.org

REGIONS POCs

MIDWEST
Brooke Pyne
Midwest Regional
Coordinator

NORTHEAST
Valerie Larkin
Northeast Regional
Coordinator

FAR WEST
Jennifer Stewart
Far West Regional
Coordinator

MID-ATLANTIC
Jack Pevenstein
Mid-Atlantic
Regional Coordinator

MID-CONTINENT
John Eiseman
Mid-Continent
Regional Coordinator

SOUTHEAST
Michael Merriken
Southeast Regional
Coordinator

CONNECT WITH US!

flcbusiness.org

federallabs.org

QUESTIONS

Thank you!

5 Minute Reverse Pitch

U.S. Department of Transportation (DOT)

Stimulating Innovation and the U.S. Economy through the U.S. DOT's Small Business Innovation Research (SBIR) Program

SBIR Southwest Road Tour
August 2019

Volpe The National Transportation Systems Center

Advancing transportation innovation for the public good

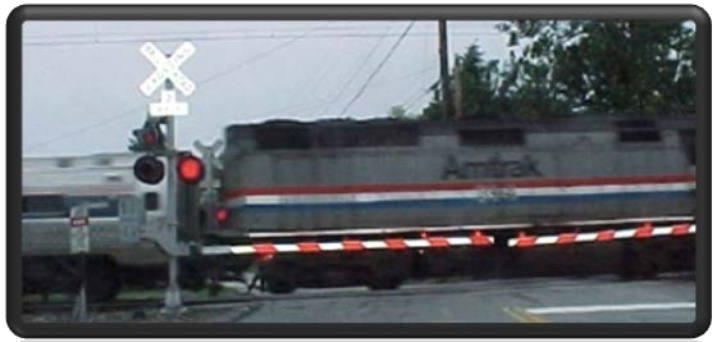
U.S. Department of Transportation
Office of the Secretary of Transportation
John A. Volpe National Transportation Systems Center

How SBIR Supports the Mission of DOT

Mission: To ensure a fast, safe, efficient, accessible, and convenient transportation system that meets vital national interests and enhances the quality of life of the American people.

SBIR addresses high priority research gaps within DOT's R&D Program.

SBIR topics are developed to align with Secretary's strategic priorities, specific modal priorities, and SBA.



Phase I Participation by Agency

DOT Operating Administration	2014	2015	2016	2017	2018	2019
Federal Aviation Administration*	X					
Federal Highway Administration / Intelligent Transportation Systems-Joint Program Office (ITS JPO)	X	X	X	X	X	X
Federal Railroad Administration	X	X		X	X	X
Federal Transit Administration	X	X	X	X	X	X
Federal Motor Carrier Safety Administration						X
National Highway Traffic Safety Administration	X	X		X	X	X
Office of the Secretary	X			X		
Pipeline and Hazardous Material Safety Administration	X				X	

*Excused by Legislation: FAA contributed to the U.S. DOT's SBIR Program from 1985 to 2005

DOT's SBIR Topics

DOT's SBIR Program Details

- Annual SBIR budget approx. $9M
- 5-10 topics per year (11 topics in FY19)
  - Phase 1 – Up to $150K
  - Phase II – $200K to $1M
  - Phase IIB – $250K to $1M
- Number of awards per year
  - Phase I – based on solicitation topics
  - Phase II – 50-60% of Phase 1 awards
  - Phase IIB – ~25% of Phase 2 awards

DOT SBIR Program Details

- One solicitation per year
- Next solicitation expected Winter 2019-20
  - Sign up on our website to receive notifications of when topics are posted, as well as solicitation open and close dates
- Administer Contracts, not Grants
- Majority VC firms not eligible
- Program Office does not accept unsolicited proposals

DOT SBIR Program Details

- Technical and Business Assistance (TABA) available to U.S. DOT SBIR awardees

  Focus on increasing commercialization potential for the Phase I award and preparing for entry into the marketplace for Phase II

- Pre-proposal conference calls for Phase II
- Funding for CORs to travel to project sites

FY19 Phase I Awards Announced

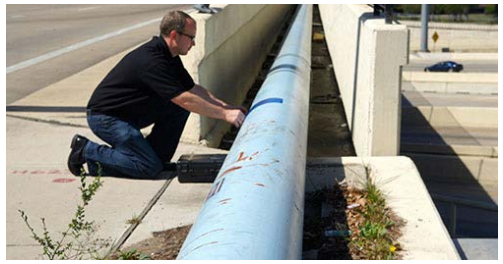
- Award recommendations for the FY19 Solicitation topics were announced July 9, 2019
- See our website for a list of the projects recommended for award: https://www.volpe.dot.gov/work-with-us/small-business-innovation-research/fy19-phase-i-and-ii-awards
- **13** awards were recommended, for a total of **$1.95 million**
- The projects fall under **9** different research topics and **5** different DOT operating administrations

DOT Solicitation Process

- Solicitations are posted at volpe.dot.gov/sbir and fbo.gov
- Requests for clarifications/questions on research topics can be submitted to the Program Office staff
- Offers must be submitted via secured website
- Sign up for email notifications at: https://public.govdelivery.com/accounts/USDOTVOLPE/subscriber/new?topic_id=USDOTVOLPE_44

DOT SBIR Project Examples

SBIR-Funded Sensors Detect Pipeline Stresses Early, Mitigating Future Problems



Agency: Pipeline and Hazardous Materials Safety Administration

Company: Generation 2 Materials Technology, LLC (G2MT)

Product: Non-destructive pipeline stress analysis sensor

Evaluating Fatigue in Individual Drivers

Agency: Federal Motor Carrier Safety Administration

Company: Pulsar Informatics, Inc.

Project: Advanced Fatigue Modeling for Individual Differences

Opportunities Outside of the DOT SBIR Program

- DOT Office of Small and Disadvantaged Business Utilization: osdbu.dot.gov
- Fed Biz Ops: fbo.gov
- University Transportation Centers: utc.dot.gov
- Transportation Research Board: trb.org
- Challenge.gov
- Check DOT agency websites for BAAs, RFIs and other research opportunities

U.S. DOT SBIR Contact Information

http://www.volpe.dot.gov/sbir

DOT SBIR Hotline
617-494-2051
DOTSBIR@dot.gov

SBIR Road Tour Representatives
Clare Masucci, U.S. DOT Volpe Center
Joshua Arnold, PHMSA

Department of Energy (DOE)

U.S. Department of Energy

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.energy.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 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.energy.gov/sbir/funding-opportunities/

TAKE ADVANTAGE OF . . .

- Applicants
  - *Phase 0 Application Assistance program for first time applicants*
  - *Online application tutorials (www.doesbirlearning.com)*
  - *Partnership with DOE National Labs (https://science.energy.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 $6500 available for Phase I and $50,000 available for Phase II.*

CONTACT US

- DOE SBIR/STTR Website: www.science.energy.gov/sbir
  - *You can join our mailing list on our homepage*
- Telephone: 301-903-5707
- Email: sbir-sttr@science.doe.gov

National Institutes of Health (NIH)

Why HHS SBIR/STTR?

"Flexible Funding Opportunities"

SBIR.NIH.GOV

SBIR@od.nih.gov

24 Different Funding NIH Institutes and Centers

And CDC, FDA, and ACL (NIDILRR)

Grant Receipt Dates

(Sep. 5, 2019 and Jan. 6 & Apr. 6, 2020)

Contract Receipt Date

(October) Annually

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 and Clinical Trial **REQUIRED** FOAs

NIH-ONLY Options:

Fast-Track Application

Direct to Phase II

Apply Electronically using Workspace OR **NIH ASSIST**

(Application Submission System & Interface for Submission Tracking)

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

- **National SBIR/STTR Conference (SBA)**
- **SBIR Road Tours**
- **NIH Regional Seminars**
- **Innovation Events**
- **Webinars & Workshops**

Niche Assessment Program

- Phase I Awardees
- Provides market insight and customer analysis

Commercialization Accelerator Program (CAP)

- Phase 2 Awardees
- Offers support toward commercialization

National Science Foundation (NSF)

Small Business Innovation Research Program

National Science Foundation

August 12-16, 2019
Southwest Road Tour

Murali S. Nair, Ph.D
Program Director

America's SEED FUND
SBIR.STTR

National Science Foundation

A federal agency that supports fundamental research and education across all fields of science and engineering, currently with an annual budget of approximately $8B

NSF SBIR/STTR Program

- ✓ **Approximately $200M program that focuses on getting-to-market; NSF not a customer**
- ✓ **Funds roughly 400 companies each year**
- ✓ **Program Directors have startup/industry/ university/private equity experience**
- ✓ **All grants, no contracts**
- ✓ **Phase I, II and Phase II supplements can add up to approximately $2M**

Technology Areas

- Advanced Manufacturing and Nanotechnologies
- Advanced Materials and Instrumentation
- Artificial Intelligence
- Biological Technologies
- Biomedical Technologies
- Chemical and Environmental Technologies
- Digital Health and Medical Devices
- Distributed Ledger
- Educational Technologies and Applications
- Electronic Hardware, Robotics, Sensors, and Wireless Technologies
- Energy and Power Systems
- Information and Quantum Information Technologies
- Internet of Things, Semiconductors, and Photonics
- Space
- Other Topics

Unique Features of Program

Program Statistics

- **Company Size:** 90% of awardees have 10 or fewer employees
- **History:** 90% of awardees have never had a prior SBIR/STTR Phase II award from any agency
- **Company Age:** 80% of awardee companies were incorporated within the past 5 years
- **Start-up Creation:** Many Phase I awardees have only recently been incorporated

What We Fund

R&D to overcome significant technical hurdles

- ✓ **Novel, proprietary**
- ✓ **Prove feasibility/viability of a new product/process/service**
- ✓ **High technical risk, early-stage development**

A significant commercial opportunity

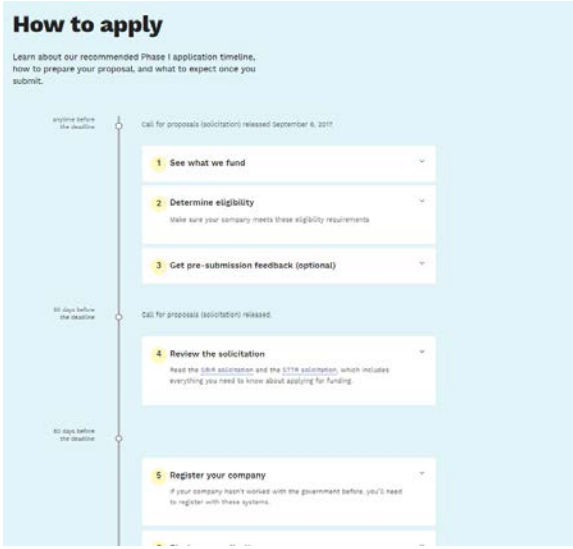
- ✓ **Game-changing technology in chosen market segment**
- ✓ **Product-market fit validated by customers/partners**

What We Do Not Fund

- ✘ Basic research (primary goal being knowledge creation)
- ✘ Incremental improvement to an existing product/service/process
- ✘ Projects that lack strong chance of commercial success
- ✘ NSF funding cannot make a big impact on company's prospects
- ✘ Analytical/market studies of existing technology/product/service/process

Proposal Submission

- **Read the steps on the Apply page of NSF SBIR/STTR website, seedfund.nsf.gov/apply**



- **Submit a 2-3 page project pitch and a Program Director will respond to it**
- **Proposals are accepted when there's an open window**
- **Windows close in June and December**
- **Next window closes December 12, 2019**

THANK YOU!

mnair@nsf.gov
703-292-7059
@NSFSBIR
seedfund.nsf.gov

U.S. Department of Agriculture (USDA)

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

Elden Hawkes
SBIR Program Coordinator *Acting*

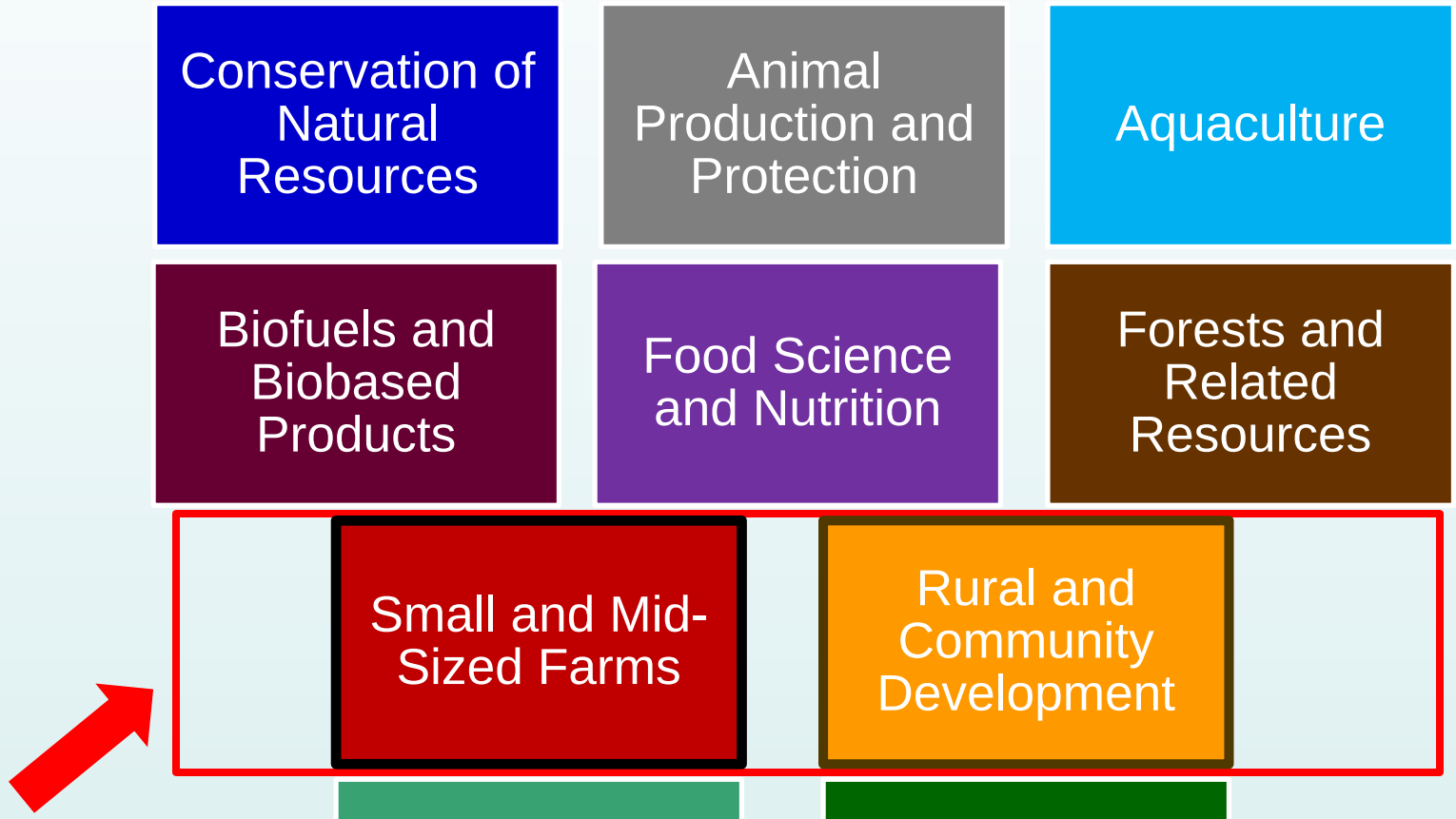
SBIR

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 I can request up to $6,500 for commercialization (opt out)
- Phase II Winners can request up to $50,000 for commercialization.
- Research can be done with existing ARS patents via ARS CRADAs
- FY 2019: Phase I
    - 532 Phase I applications submitted
    - 80 Phase I awards
  - Phase II
    - 64 Phase II applications submitted
    - 26 Phase II awards

USDA SBIR

SBIR Topic Areas

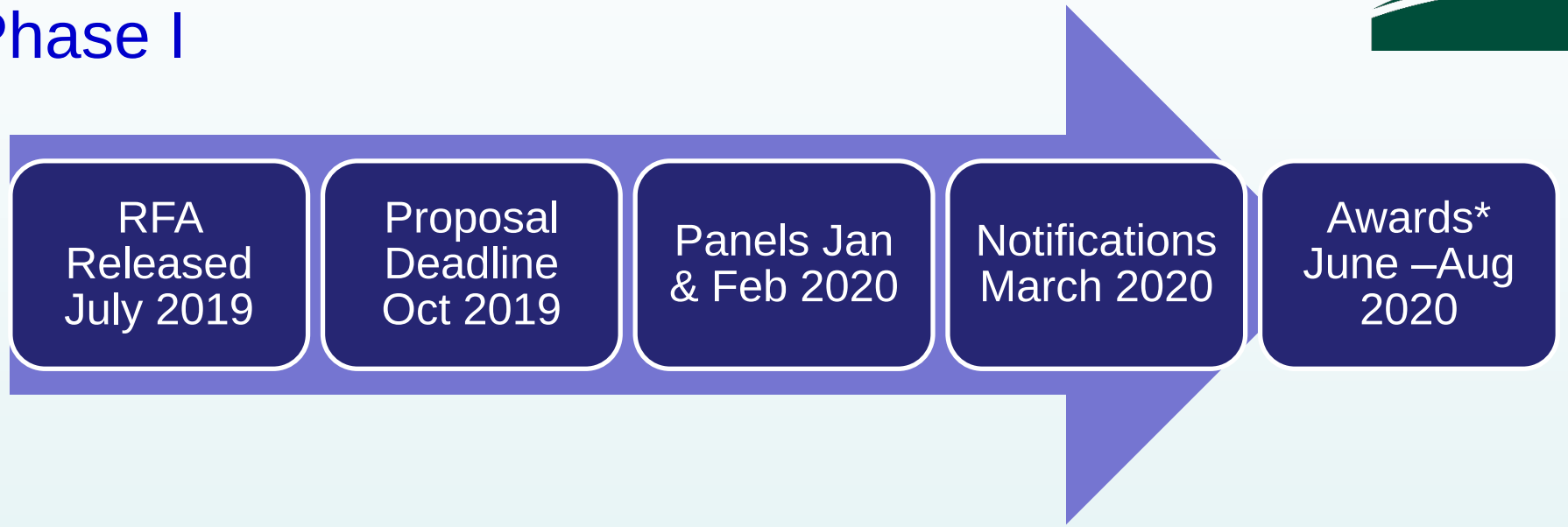


Off the Shelf technologies allowed in these two topic areas

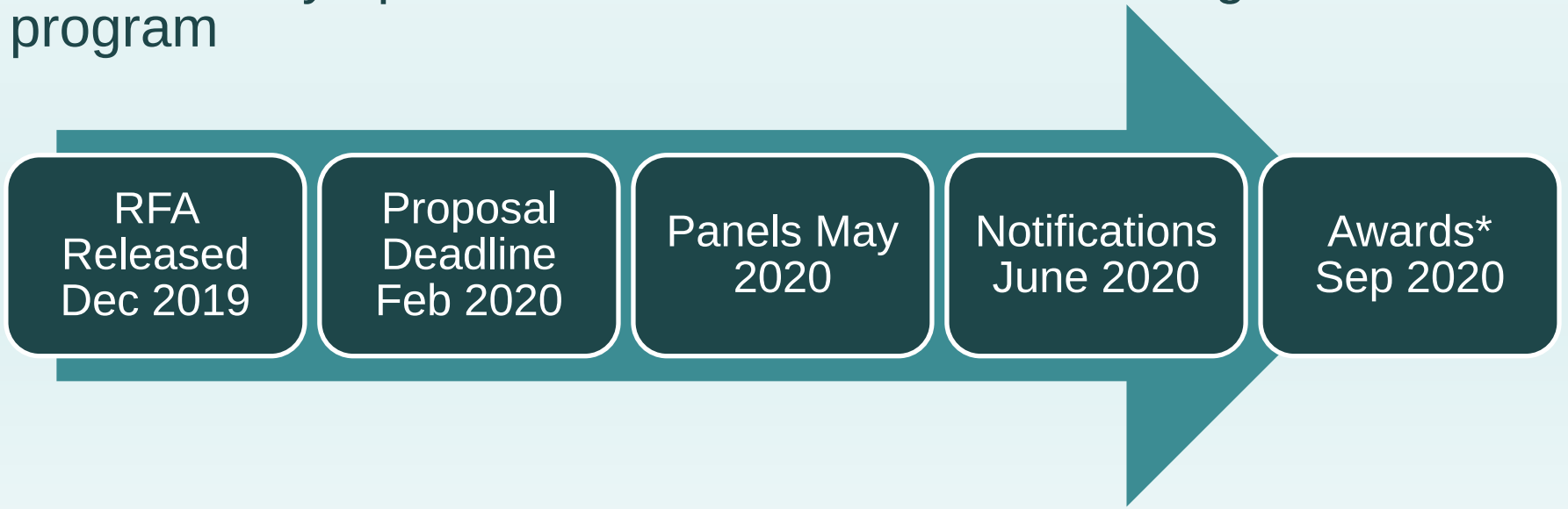
Research can be done with existing ARS patents via ARS CRADAs

FY 2020 Timeline

Phase I



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



Freund`s Farm, Inc.

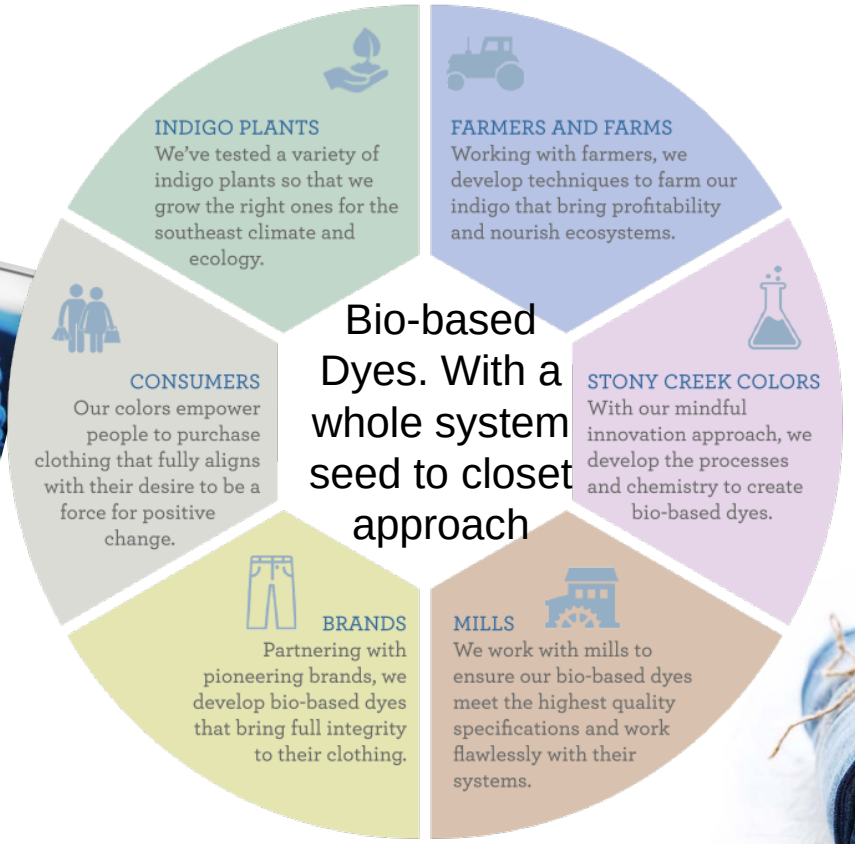
CowPots
The pots you plant!

DIRTY JOBS with Mike Rowe

U.S. Dairy Sustainability Awards
Innovation Center for U.S. Dairy

USDA SBIR

Stony Creek Colors



Bio-based Dyes. With a whole system seed to closet approach

2016 American Made Honoree Unites States of Innovation 2017

Featured in Forbes, NPR, Huffington Post

USDA SBIR

ecovative
We grow materials.

Agricultural Waste + Fungal Mycelium = Mushroom® 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

USDA SBIR

USDA SBIR

Contact with SBIR Program Available Anytime

Elden Hawkes – Program Coordinator (Acting)

Elden.Hawkes@usda.gov

General SBIR

sbir@nifa.usda.gov

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

U.S. Air Force (USAF)

U.S. AIR FORCE

AirForce SBIR/STTR

www.afsbirsttr.com

From Concept to Commercialization

Mr. Mario Rios
Portfolio Manager
Air Force SBIR/STTR

AF SBIR/STTR Overview
FY2019

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

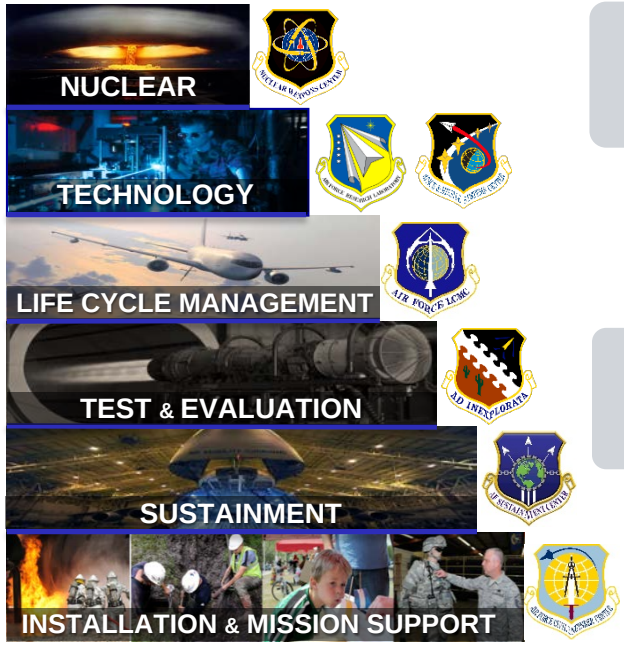
"…innovation – fueled by intelligent, creative Airmen – will remain a key part of who we are and what we value as a service."

- General Welsh

Turning Science into Capabilities

Air Force Science and Technology Strategy

Science and Knowledge → Leads to → **Technologies** → Leads to → **Capability Concepts** → Leads to → **Service Core Function Capabilities**



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

FY2018 Portfolio

Inputs

Air Force
~$663M
+48%

Air Force Need Topics

Responsive – Urgent Needs
Relevant – Service Core Functions
Revolutionary – Game Changers

Investments

+11%	~$90M	Phase 2 - Concepts
+48%	~$330M	Phase 2 - Prototypes
+64%	~$230M	Phase 2+ - Commercialization
-41%	~$7M	Program Administration

Results

Technology Base

Innovation Potential

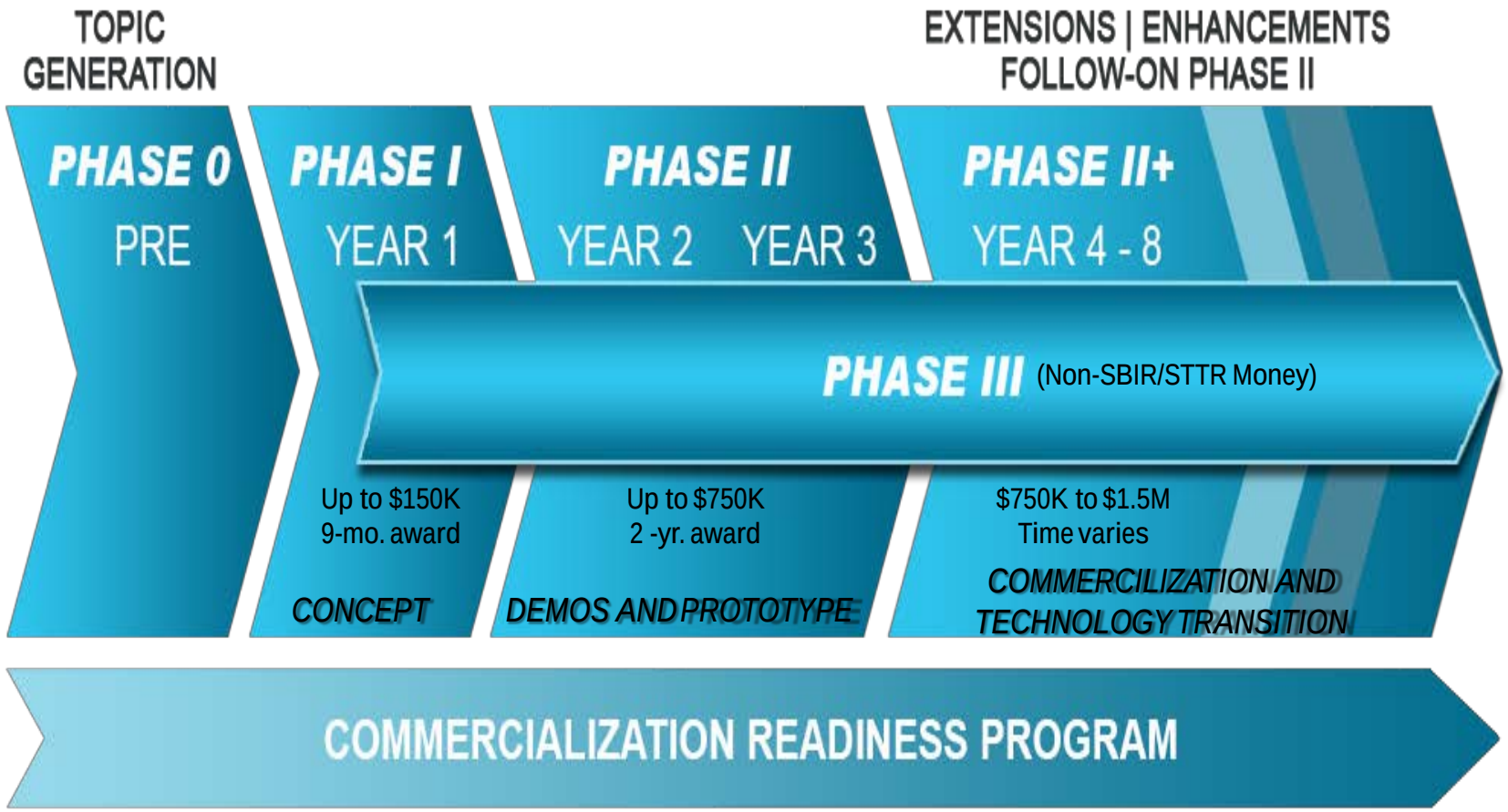
Fueling the Economy

Technology Transitions

Fielded Capabilities

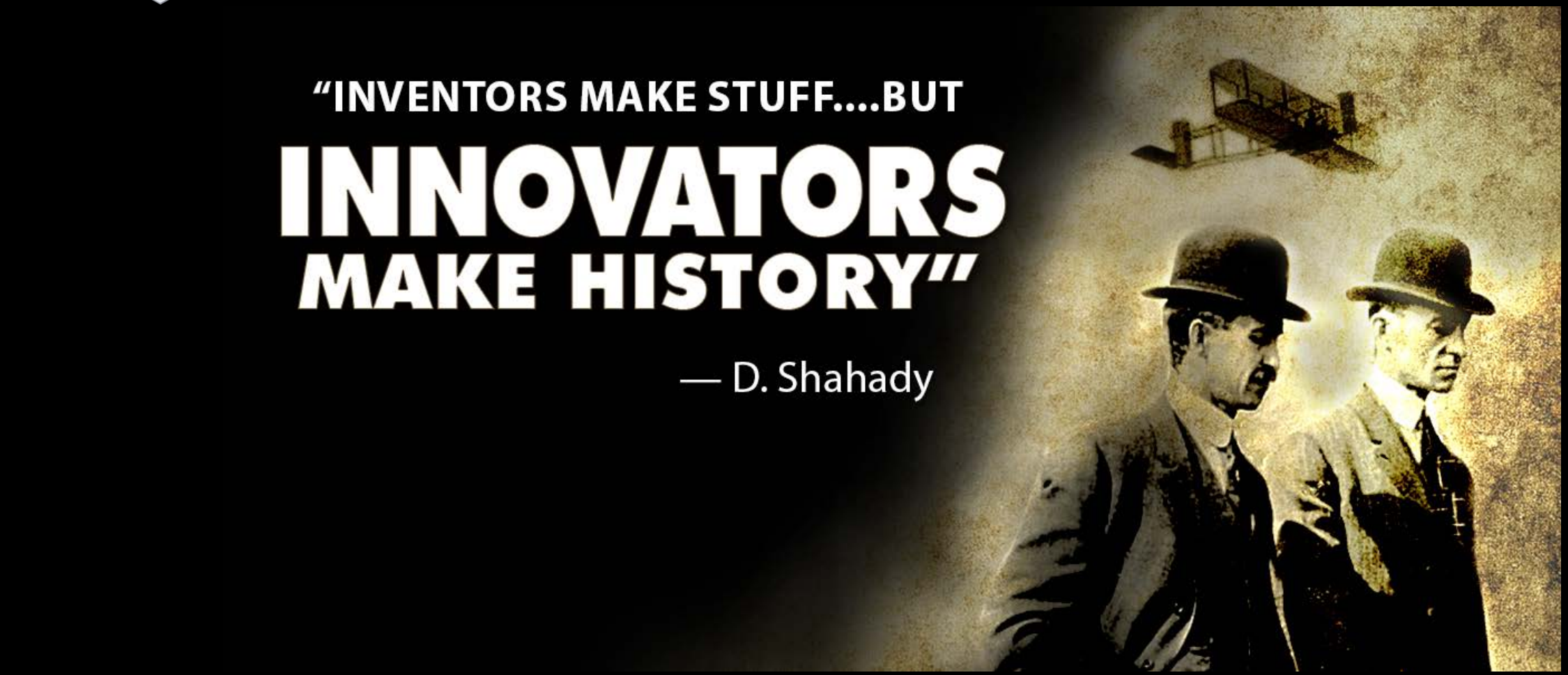
Success

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.



Contact Us

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

www.afsbirsttr.com

U.S. Navy

Department of Navy (DON)

Small Business Innovation Research (SBIR)

Small Business Technology Transfer (STTR)

www.navysbir.com

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
- 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 20 years from the time of award
  - 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?

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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.

2019-20 BAA Schedule			
BAA	**Pre-Release**	**Open**	**Close**
FY19.3/C	23 August 2019	24 September 2019	23 October 2019
FY20.1/A	November 2019	January 2020	February 2020
FY20.2/B	April 2020	May 2020	June 2020

NAVSEA SBIR Functional Organization

NAVSEA

NAVSEA Board of Directors

NAVSEA SBIR/STTR Program Office
PM Dean Putnam

HQ/DIR & PEO SBIR/STTR TMs

NAVSEA SBIR/STTR Working Group

PEO CV TM Richard Park	PEO IWS TM Douglas Marker	PEO USC TM Bradley Goodwich	PEO SHIPS TM Robert Mitchell	PEO SUBS Acting TM Patrick Tyler	HQ/DIR Acting TM Dean Putnam
Focuses on the design, construction and delivery, and life-cycle support of all aircraft carriers and the integration of systems into aircraft carriers.	Manages surface ship and submarine combat technologies and systems, and coordinates Navy Open Architecture across ship platforms.	Responsible for acquiring and maintaining the littoral mission capabilities of unmanned and small combatants, such as the LCS class ship.	Manages acquisition and complete life-cycle support for all U.S. Navy non-nuclear surface ships.	Focuses on the design, construction, delivery, and conversion of submarines and advanced undersea and anti-submarine systems.	Focuses on the design, construction, delivery, and engineering requirements for SEA05, Naval Special Warfare, Explosive Ordnance Disposal, and Divers.

Defense Advanced Research Projects Agency (DARPA)

Small Business Programs Office (SBPO)

Jason Preisser
Program Director

Doing Business with DARPA

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)

- 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 or 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.

Technology Offices

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

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

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

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

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

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

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Director
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Jason Preisser
Program Director
jason.preisser@darpa.mil

Small Business Support Team
(703) 526-4170
sbir@darpa.mil

Missile Defense Agency (MDA)

MISSILE DEFENSE AGENCY

Advanced Research Overview

Missile Defense Agency

Missile Defense Agency Mission

To develop and deploy a layered Ballistic Missile Defense System to defend the United States, its deployed forces, allies, and friends from ballistic missile attacks of all ranges and in all phases of flight









Missile Defense Capability
Globally Deployed

Missile Defense Agency Priorities

- In Support Of The National Defense Strategy

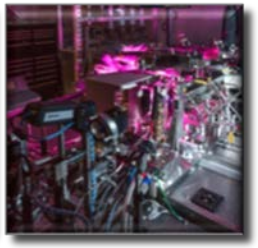
- **Continue focus on increasing system reliability to build warfighter confidence**



- **Increase engagement capability and capacity**




- **Address the Advanced Threat**


BMDS Meets Today's Threat but Requires Additional Capacity and Advanced Capability to Stay Ahead of the Evolving Threat

Approved for Public Release 18-MDA-9585 (12 Apr 18)

MDA Advanced Research

- **Pursue a broad range of high-risk technologies**
  - Capitalize on the innovation and creativity of the Nation's small businesses and universities
  - Develop and transform cutting edge technologies into actual applications for insertion into the BMDS

- **Technology insertion into the BMDS is critical**
- **Advanced Research utilizes the following research vehicles:**
  - Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR) program
    - 4th largest SBIR/STTR program in the Department of Defense
  - Rapid Innovation Funding (RIF)
  - Broad Agency Announcements (BAA)
    - Missile Defense Science & Technology Advanced Research (MSTAR)
    - Advanced Technology Innovation (ATI)

Technology Interest Areas

- **Interceptor Technology**
  - Guidance, navigation, & control
  - Batteries & power systems
  - Advanced materials
    - High temperature
    - Light weight
  - Seeker technology
  - Rad-Hard technology
  - Deployment systems
  - Lightweight composites
  - Propulsion & control technologies
    - Improved specific impulse

- **C2BMC**
  - Advanced tracking & discrimination algorithms
  - Command & control algorithms
  - Low latency and secure communications
  - Battlespace management
  - Data fusion
  - Warfighter training

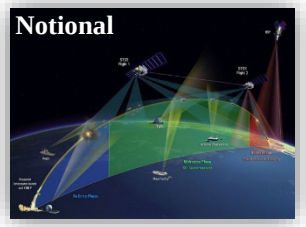
- **Modeling & Simulation**
  - Lethality
  - Battlespace environments
  - Engagement
  - Aerothermal environments
  - Technology investment evaluation
  - Test verification

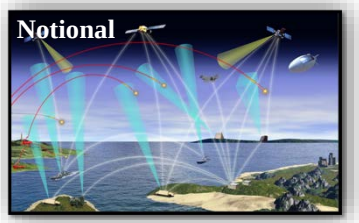
- **BMDS Testing**
  - Affordable targets
  - Scene generation
  - HWIL
  - Rapid analysis SW toolkits
  - Predictive analysis & modeling
  - Range safety

- **Sensors**
  - EO/IR and radar
    - T/R modules
    - FPAs
  - Signal & data processing algorithms
  - Rad-Hard technology
  - Telescopes & antennas
  - Windows & radomes

Solicitation Process

- **SBIR / STTR program is a four step process**
  - Phase I: feasibility and concept development
  - Phase II: technology and prototype development
    - Technology may receive one sequential Phase II
  - Phase II Enhancement: Prototype testing and technology demonstrations and validation ($500,000)
  - Phase III: Commercialization and Transition





(SBIR/STTR Funded) (SBIR/STTR Funded) (SBIR/STTR Funded) (Program Funded)

Phase I	Phase II	Phase II Enhancement	Phase III
Feasibility Study	Technology Development & Prototype Demonstration	Prototype Testing & Evolution Technology Demo & Validation	Commercialization Transition

SBIR / STTR Phase I Overview

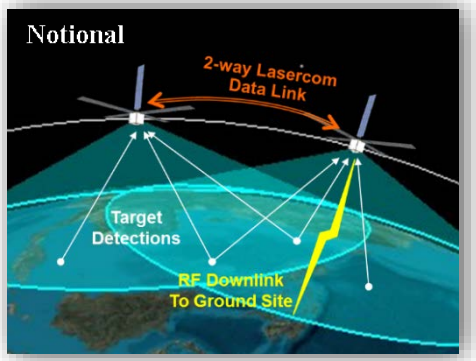
Phase I	Phase II	Phase II Enhancement	Phase III
Feasibility Study	Technology Development & Prototype Demonstration	Prototype Testing & Evolution Technology Demo & Validation	Commercialization Transition

- **Proposals:**
  - Three criteria;
    - Technical merit, feasibility of the concept and approach
    - Qualifications of team
    - Commercialization/Transition potential and approach
  - Must identify all foreign nationals and level of involvement
  - Limited to twenty pages
- **Contracts:**
  - Topics typically Export Control restricted
  - Unclassified
  - Currently 6 Months
    - $50,000 options are awarded to Companies selected for Phase II award (Bridge Funding)

SBIR / STTR Phase II Overview

Phase I	Phase II	Phase II Enhancement	Phase III
Feasibility Study	Technology Development & Prototype Demonstration	Prototype Testing & Evolution Technology Demo & Validation	Commercialization Transition

- **All Phase I awardees under a particular solicitation are allowed to submit a proposal for Phase II award**
- **Phase II proposals:**
  - Accepted only during announced open period
  - Announcement on web page with email notification to current Phase I awardees
  - Two-year award for further concept development to prototype stage



SBIR / STTR Phase II Enhancement Overview

Phase I	Phase II	Phase II Enhancement	Phase III
Feasibility Study	Technology Development & Prototype Demonstration	Prototype Testing & Evolution Technology Demo & Validation	Commercialization Transition

- **Phase II Enhancement and 2nd Phase II proposals:**
  - Technology must progress and innovate beyond the work you accomplished in your initial Phase II
  - Must address why continued investment from the Government is needed
  - Show a transition path for the technology beyond the SBIR/STTR Program.
  - Up to $500,000 award for Enhancements and a 2nd Phase II

SBIR / STTR Phase III
Commercialization & Transition

Phase I	Phase II	Phase II Enhancement	Phase III
Feasibility Study	Technology Development & Prototype Demonstration	Prototype Testing & Evolution Technology Demo & Validation	Commercialization Transition

- **Non-SBIR funded R&D or production of contracts for products developed under Phase I & Phase II activities**
- **Several means to pursue Phase III funding**
  - Phase III Contract with the Government
  - Sub to a Prime Contractor
  - Rapid Innovation Fund (RIF)
- **Benefits of SBIR developed technology**
  - Eligible for sole-source non-competitive contract
  - Help meet program small business goals
  - Source to generate cost savings to achieve life cycle cost goals
  - Extends SBIR data rights for five years from end of last SBIR award

Transition Planning

Phase I	Phase II	Phase II Enhancement	Phase III
Feasibility Study	Technology Development & Prototype Demonstration	Prototype Testing & Evolution Technology Demo & Validation	Commercialization Transition

- **Develop a diverse portfolio of cash flow for your technology**
  - SBIR technology often takes years to commercialize
- **Lay the framework for transition of SBIR technology early**
  - Program Office Requirements List
  - Prime Contractors have limited flexibility after contract negotiation
- **Look for opportunities outside of the Program/Agency that your SBIR/STTR technology was developed**
  - Phase I award qualifies your technology with any SBIR Program

Broad Agency Announcement (BAA)

- **A competitive research and development contracting approach in the form of a general agency announcement:**
  - Identifies areas of research interest
  - Evaluates proposals based on peer or scientific reviews against individual merits rather than against each other
- **Meets full and open competition requirements of "The Competition in Contracting Act of 1984"**
- **The following slides give more information regarding specific BAA programs**

Missile Defense Science & Technology Advanced Research (MSTAR) BAA Program

- **Technical Objectives**
  - Fund relevant, advanced research and development at domestic universities and academic institutions
  - Build portfolio of revolutionary technology to support and enhance BMDS
  - Develop holistic partnerships
  - Educate future scientists and engineers
- **Open continuously for proposals from universities**
  - Broad Agency Announcement (http://www.fbo.gov)
  - Research topics revised annually
  - MDA is seeking strategic alliances with universities
  - One year base period with two one year options
    - Base period up to $200,000
    - Option years $200,000 (each)

Advanced Technology Innovation (ATI) BAA Program

- **Technical Objectives**
  - Fund relevant cutting edge technology from industry, small business and universities
  - Build portfolio of revolutionary technology to support and enhance BMDS

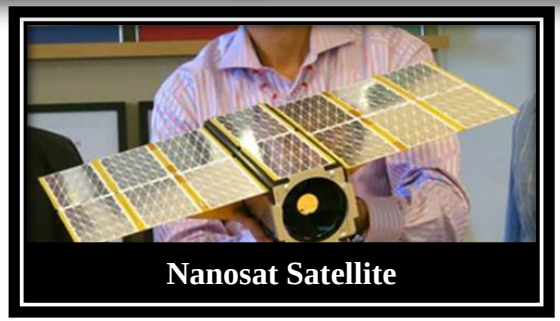
- **Advanced Technology Innovation Broad Agency Announcement**
  - Open continuously to university and commercial vendors
  - Contract value not limited

Rapid Innovation Fund (RIF) Program

- **Established under FY11 Defense Authorization Act (Section 1073)**
  - A competitive, merit-based program
  - Accelerate fielding of innovative technologies into military systems
  - Typically, all MDA RIF projects are a SBIR Phase II follow-on
  - Prioritization is given to small business
- **Key Requirements:**
  - Satisfy an operational or national security need
  - Accelerate or enhance military capability
  - Reduce
    - Technical risk
    - Cost: Development, acquisition, sustainment, or lifecycle
  - Improve timeliness and quality of test and evaluation outcome
  - Provide approach for use by an acquisition program
  - Typical award length 24 months
  - Award values up to $3M

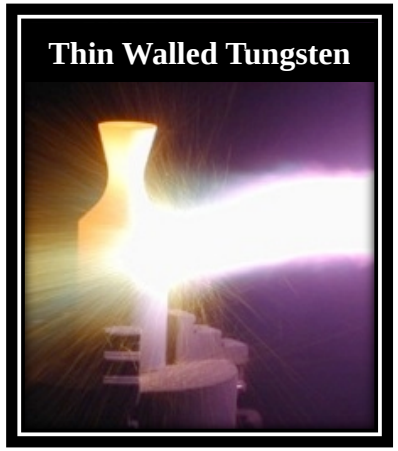
Recent SBIR / RIF / BAA Sponsored Research Accomplishments

- Inaugurated a nanosat testbed program to demonstrate notional Kill Vehicle communication architecture
- Executed structural test series to validate SBIR developed lightweight unitary nosecone
- Near Net Shape Manufacturing Non-Eroding, Thin Walled, Tungsten
- Completed radiation testing on hardened mirrors
- Developed high-speed test instrumentation


Nanosat Satellite


Rad-hardened Mirror


Unitary Nosecone


Thin Walled Tungsten

For More Information

www.mda.mil

- Missile Defense News, Images, Videos, Fact Sheets
- BMDS Overview, BMD Basics
- MDA Business Opportunities (https://www.mda.mil/business/advanced_research.html)
- DoD SBIR/STTR website: https://sbir.defensebusiness.org
- SBA SBIR/STTR website: https://www.sbir.gov

To Contact MDA

• SBIR / STTR	256-955-2020	sbirsttr@mda.mil
• University / BAA	256-450-3800	Advanced Research@mda.mil
• Commercialization	256-450-5343	SBIR-PhaseIII@mda.mil

U.S. Special Operations Command (SOCOM)

UNITED STATES SPECIAL OPERATIONS COMMAND

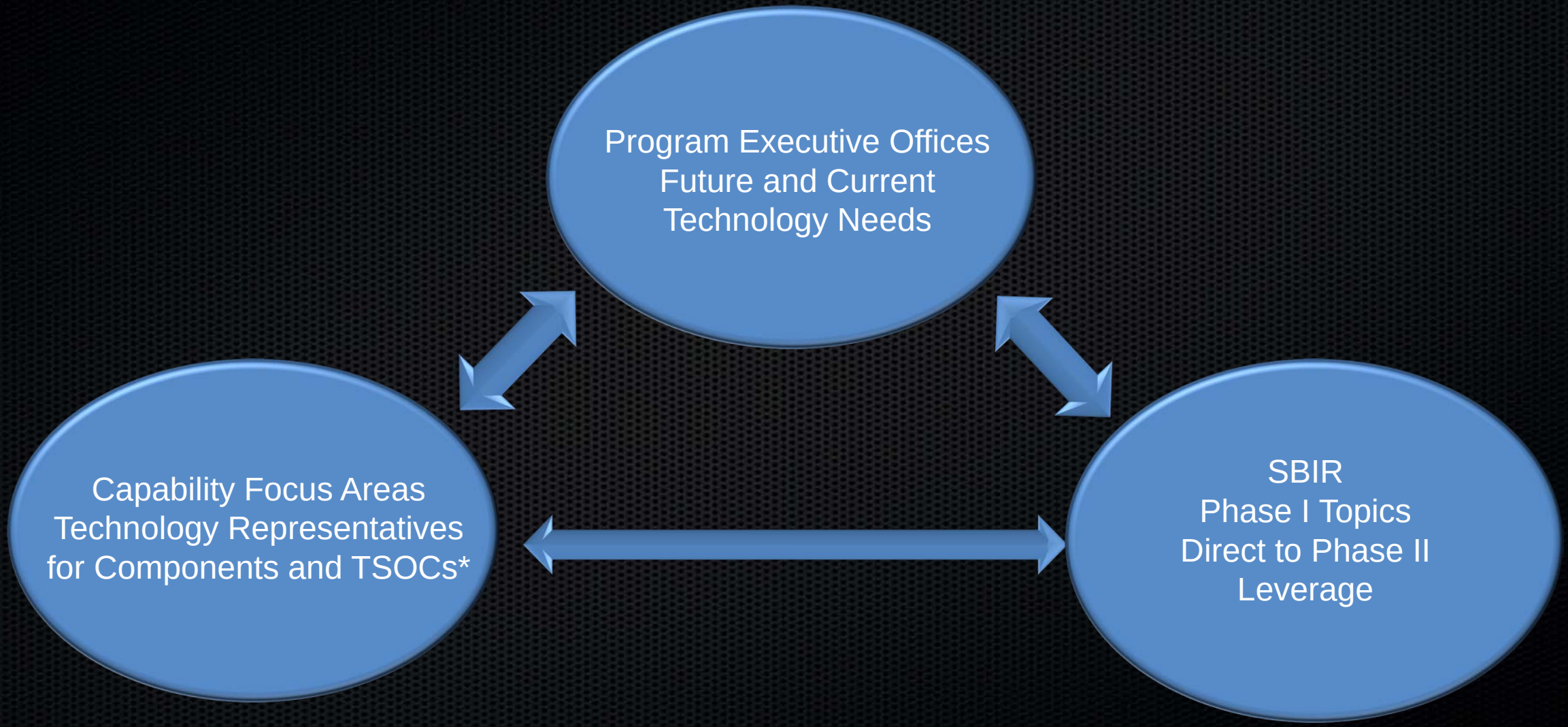
Anthony Aldrich

Small Business Innovative Research
Program Manager

"Somewhere something incredible
is waiting to be known."
-Carl Sagan

SCIENCE AND TECHNOLOGY

USSOCOM SBIR Technology Insertion



* Theater Special Operations Command (TSOC)

SCIENCE AND TECHNOLOGY

AIR

LAND

SEA

UNDERSEA

SPACE

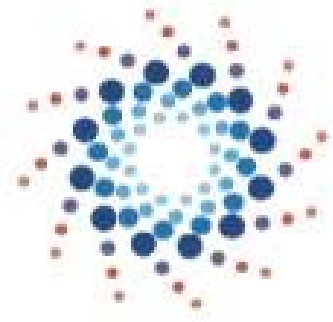
>50% of SOCOM Phase IIs Began as Non-SOCOM Efforts

SBIR LINKS

- **USSOCOM SBIR Program: https://www.socom.mil/SOF-ATL/Pages/sbir.aspx**
- **DoD SBIR program (managed by OSBP): www.acq.osd.mil/osbp/sbir**
- **Federal SBIR Program (managed by SBA): www.sbir.gov**

U.S. Department of Homeland Security (DHS)

DHS Small Business Innovation Research (SBIR) Programs Overview



SBIR
America's Seed Fund™

2019 SBIR Road Tour

Seeding America's Future Innovations ™

SBIR-STTR Southwest

August 12-16, 2019

Homeland Security

Dusty Lang
DHS BAA/Prize Program Manager
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

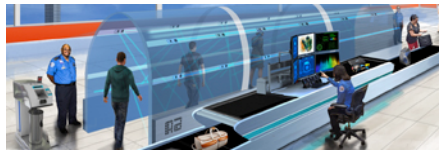
DHS SBIR Supports…..

- 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

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

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Today DHS will…

DHS SBIR Program Specifics

- Two Directorates in DHS manage SBIR
  - Science & Technology (S&T) Directorate
  - Countering Weapons of Mass Destruction Office (CWMD)

- FY2019 Budgets:
  - S&T Directorate's SBIR: $15.3M
  - CWMD's SBIR: $2.5M

- 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 2019 solicitation

- Phase I contracts: $150,000
- Phase II contracts $1,000,000

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 Points of Contact

S&T Directorate

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202-254-8764

S&T Program email
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CWMD

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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:

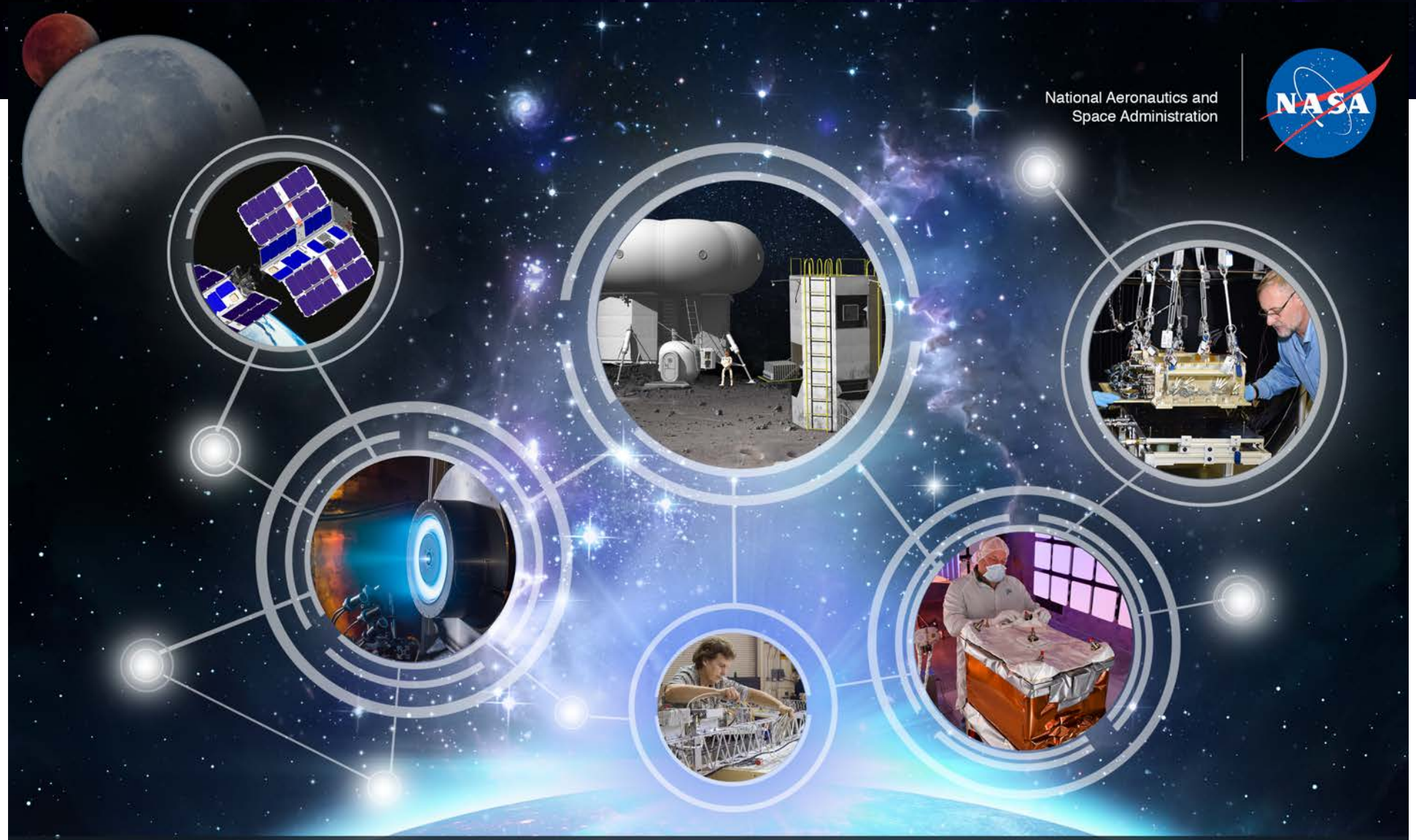
- Anonymous Hotline: 1-800-323-8603
- Fax: 202-254-4297
- Mail: DHS Office of Inspector General/Mail Stop 0305
  Attn: Office of Investigations - Hotline
  245 Murray Drive SW
  Washington, DC 20528-0305

Homeland Security

Questions?

Homeland Security

National Aeronautics and Space Administration (NASA)



Small Business Innovation Research Small Business Technology Transfer

Derek Bramble, NASA Langley Research Center

NASA SBIR/STTR Brief Program Overview | Southwest SBIR Road Tour

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

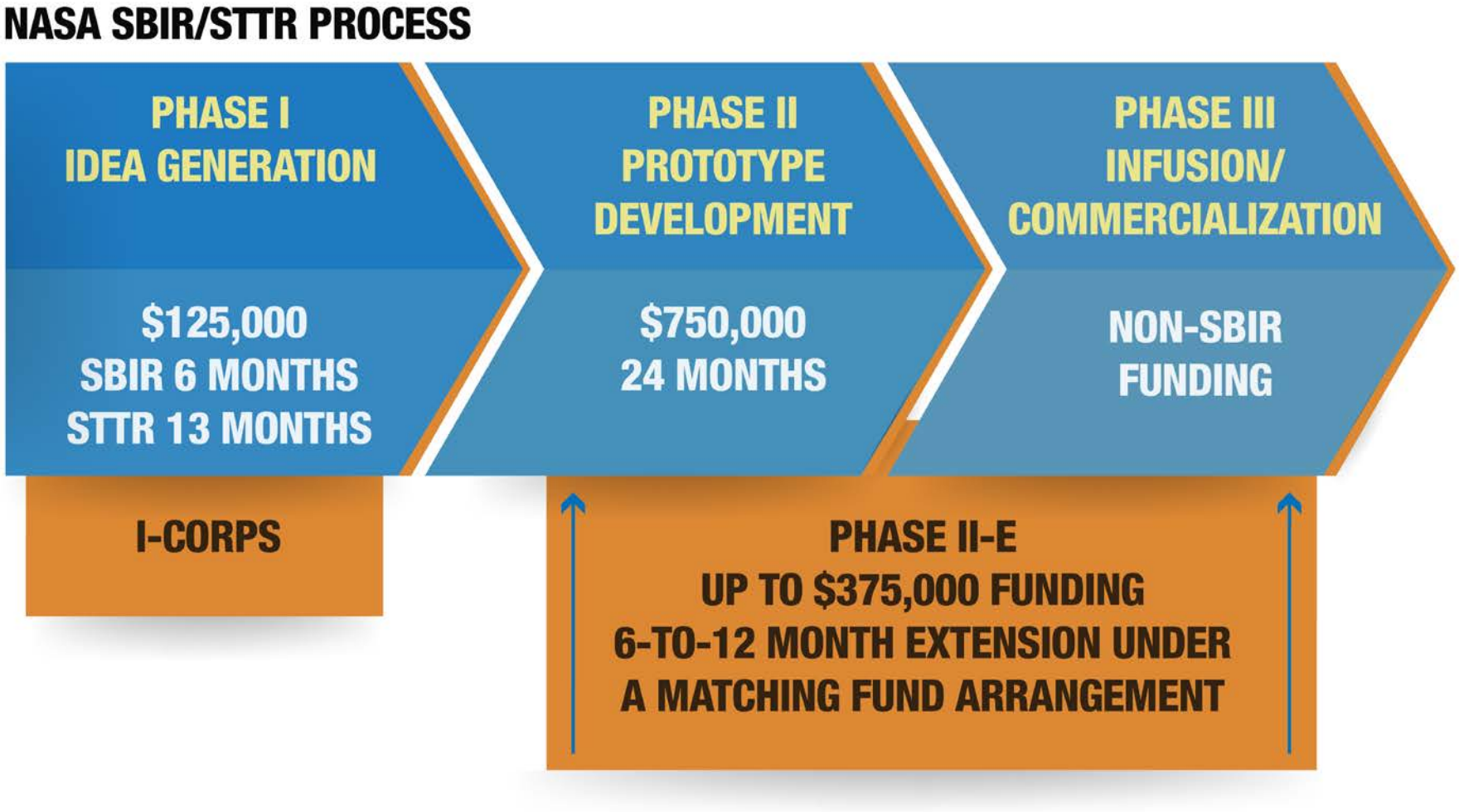
Create opportunities through SBIR/STTR awards to leverage small business knowledge and technology development for maximum impact and contribution

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



Go to sbir.nasa.gov/guide for details

Learning about NASA's Needs

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	

National Science Foundation (NSF) Space Topic

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

PHASE III SUCCESS

SNAPSHOT

NASA leverages sensors and software to develop aircraft capable of conducting fully autonomous, safe operations for emergency rescues in the wilderness.

SAFER WILDERNESS RESCUES USING AUTONOMOUS AIRCRAFT TECHNOLOGY

Near Earth Autonomy, Inc., Pittsburgh, PA

Challenge

One crucial way to improve emergency rescues in wilderness environments is to optimize how quickly aircraft can fly to injured parties in remote locations and bring them to a hospital.

Innovation

Using funds from an SBIR Phase III Study, Near Earth Autonomy Inc., addressed wilderness rescue challenges by developing an aircraft capable of carrying 1-2 persons, having a gross takeoff weight of 800 to 1,200 lbs., and enabling carriage of a sensor suite weighing up to 30 lbs. The sensor suite leverages software algorithms and low-cost sensors that simultaneously solve navigation and obstacle detection problems. These sensors are used to assess potential in-flight and ground hazards during fully autonomous, safe operation. This technology could eventually be utilized to assist in difficult and dangerous tasks such as firefighting, search and rescue, and border patrol.

https://sbir.nasa.gov/success-stories

Innovation and Opportunity Conference

https://innovation-opportunity-conference.com/

Contact us and let’s innovate together

Website

www.sbir.nasa.gov

Sign up for our Newsletter

https://sbir.nasa.gov/info

NASA Help Desk

301.937.0888

National Institute of Standards and Technology (NIST)

National Institute of Standards and Technology
U.S. Department of Commerce

National Institute of Standards and Technology

U.S. Department of Commerce

Mary Clague
NIST SBIR Program Manager

National Institute of Standards and Technology
U.S. Department of Commerce

Mission

To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

Photo Credit: A. Holt/NIST

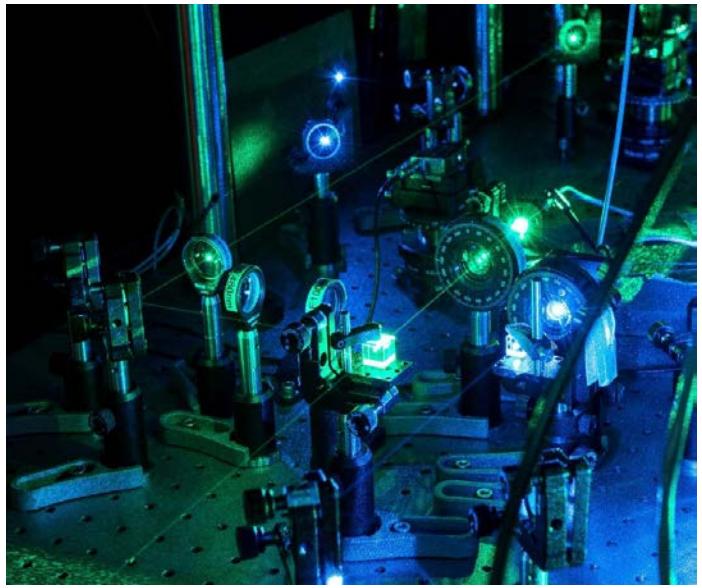
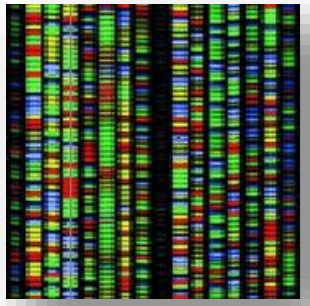


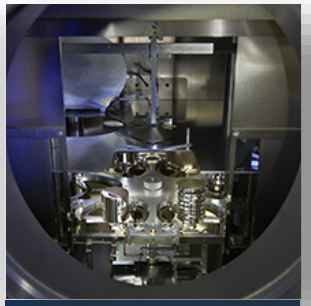
Photo Credit: Curt Suplee/NIST

National Institute of Standards and Technology
U.S. Department of Commerce

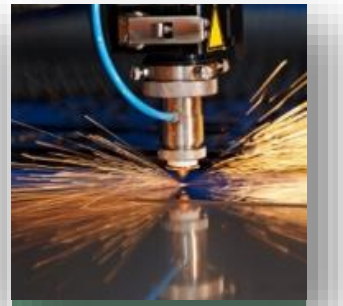
Laboratories & Programs



Material Measurement Laboratory



Physical Measurement Laboratory



Engineering Laboratory

Information Technology Laboratory

Communication Technology Laboratory

User Facility & Extramural Programs:

- NIST Center for Neutron Research
- Advanced Manufacturing Office
- Hollings Manufacturing Extension Partnership
- Baldrige Performance Excellence Program
- Special Programs Office

National Institute of Standards and Technology
U.S. Department of Commerce

SBIR 3-Phase Program

	Purpose	Duration	Funding Amount
Phase I	Feasibility	6 months	Up to $100,000
Phase II	R&D	2 years	Up to $400,000
Phase III	Commercialization	No Limit	Non-SBIR funds

National Institute of Standards and Technology
U.S. Department of Commerce

Program Timeline (tentative)

- Phase I Solicitation Release Date: January
  (available at www.nist.gov/sbir & grants.gov)
- Phase I Proposals Due: April
- Phase I Awards: June/July

- Phase II Proposals Due: April
- Phase II Awards: June/July

NIST awards are cooperative agreements.

National Institute of Standards and Technology
U.S. Department of Commerce

FY 2019 Topic Research Areas

- Advanced Communications, Networks and Scientific Data Systems

- Advanced Manufacturing and Material Measurements

- Cybersecurity and Privacy

- Fundamental Measurement, Quantum Science and Measurement Dissemination

- Health and Biological Systems Measurements

- Physical Infrastructure and Resilience

- Exploratory Measurement Science

- Technology Transfer

National Institute of Standards and Technology
U.S. Department of Commerce

Proposal Evaluation

Administrative Review

Merit/Technical Evaluation

(1) Technical Approach (20 points)

(2) Appropriateness of staff and facilities (5 points)

(3) The likelihood that the proposed research program will lead to a successful product or service (30 points)

(4) Anticipated commercial benefits of the resulting product or service. (20 points)

(5) Relationship to the goals of a NIST technical program and the NIST mission. (20 points)

(6) SBIR Programmatic priorities (5 points):

a) manufacturing-related and energy-efficiency research

b) women, socially and economically disadvantaged SBCs, and SBCs from HUBZones or under-served states

Success Story

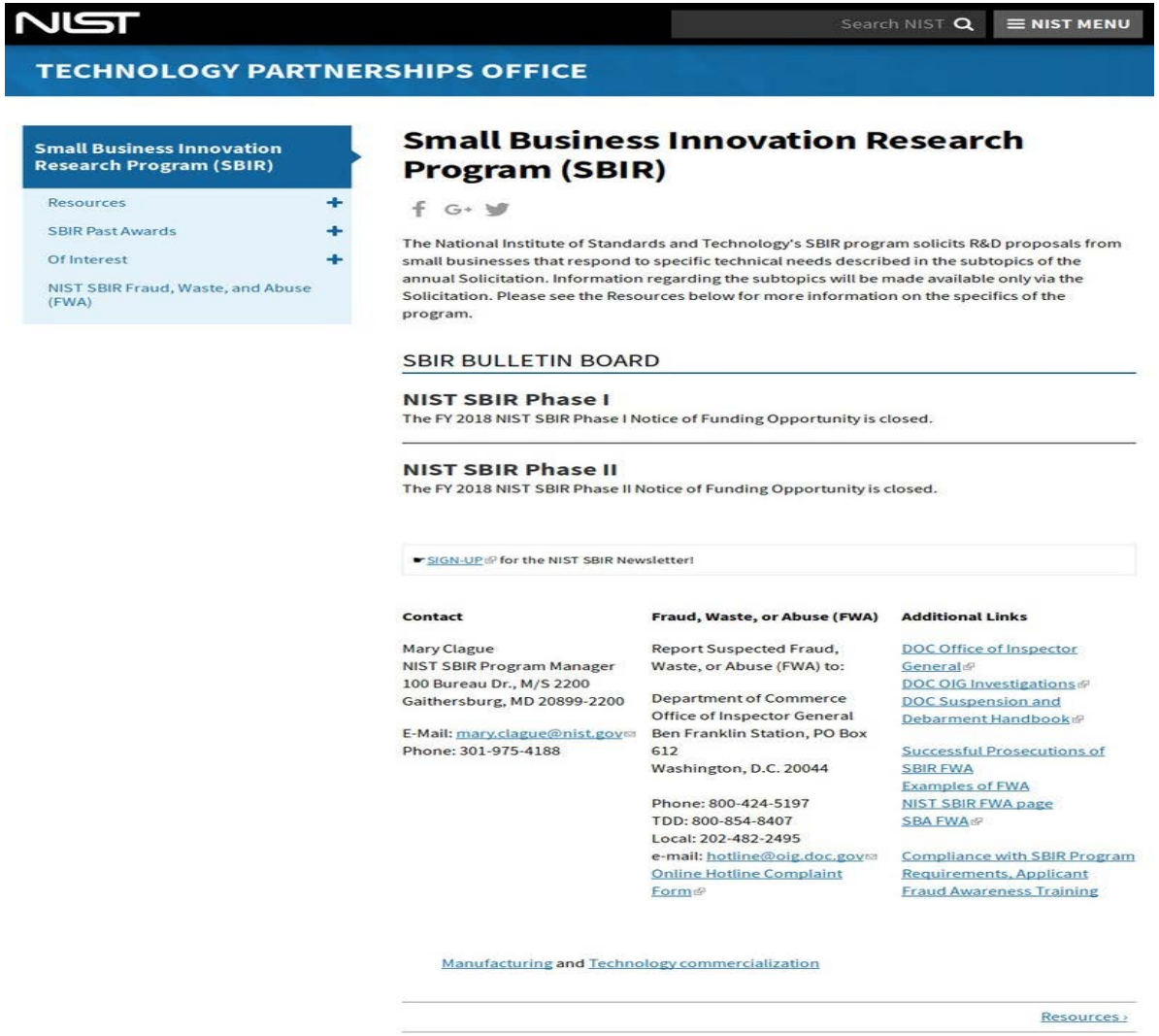
High Precision Devices (Boulder, Colorado)

New Tool for Breast Cancer Screening

The new breast phantom consists of two components. The one at left is designed to provide a standard for measuring proton spin relaxation time, which varies with different kinds of tissue. The one at right provides references for imaging diffusion.

Photo Credit: NIST/PML

NIST SBIR website



http://www.nist.gov/sbir

Contact Information

Thank you!

Mary Clague, NIST SBIR Program Manager

mary.clague@nist.gov 301-975-4188

National Oceanic and Atmospheric Administration (NOAA)

Small Business Innovation Research Program

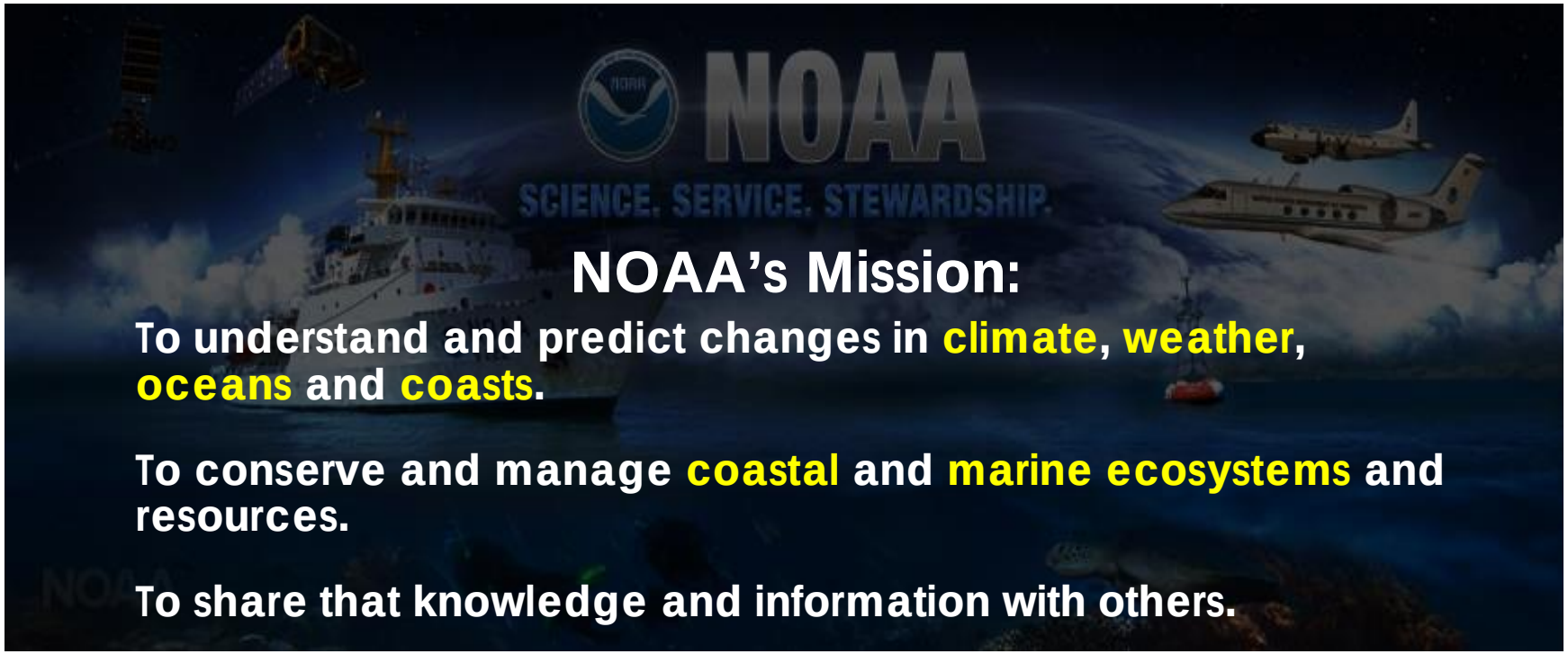
Agency Briefing

Peter Roohr

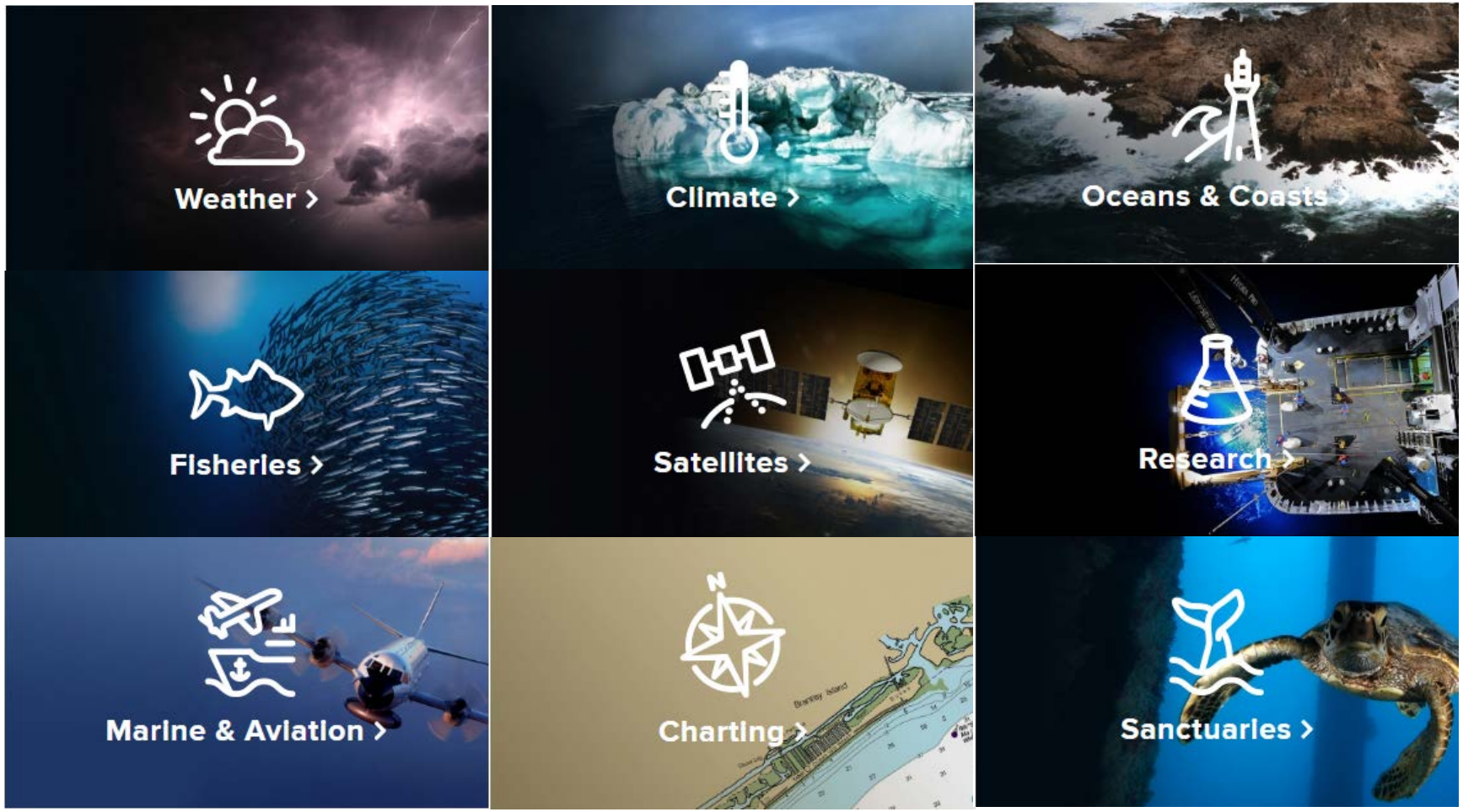
Office of Science & Technology Integration
National Weather Service

SBIR Road Tour
2019

SBIR Road Tour
2019


NOAA
SCIENCE. SERVICE. STEWARDSHIP.
NOAA's Mission:
To understand and predict changes in climate, weather, oceans and coasts.
To conserve and manage coastal and marine ecosystems and resources.
To share that knowledge and information with others.

SBIR Road Tour
2019



SBIR Road Tour
2019

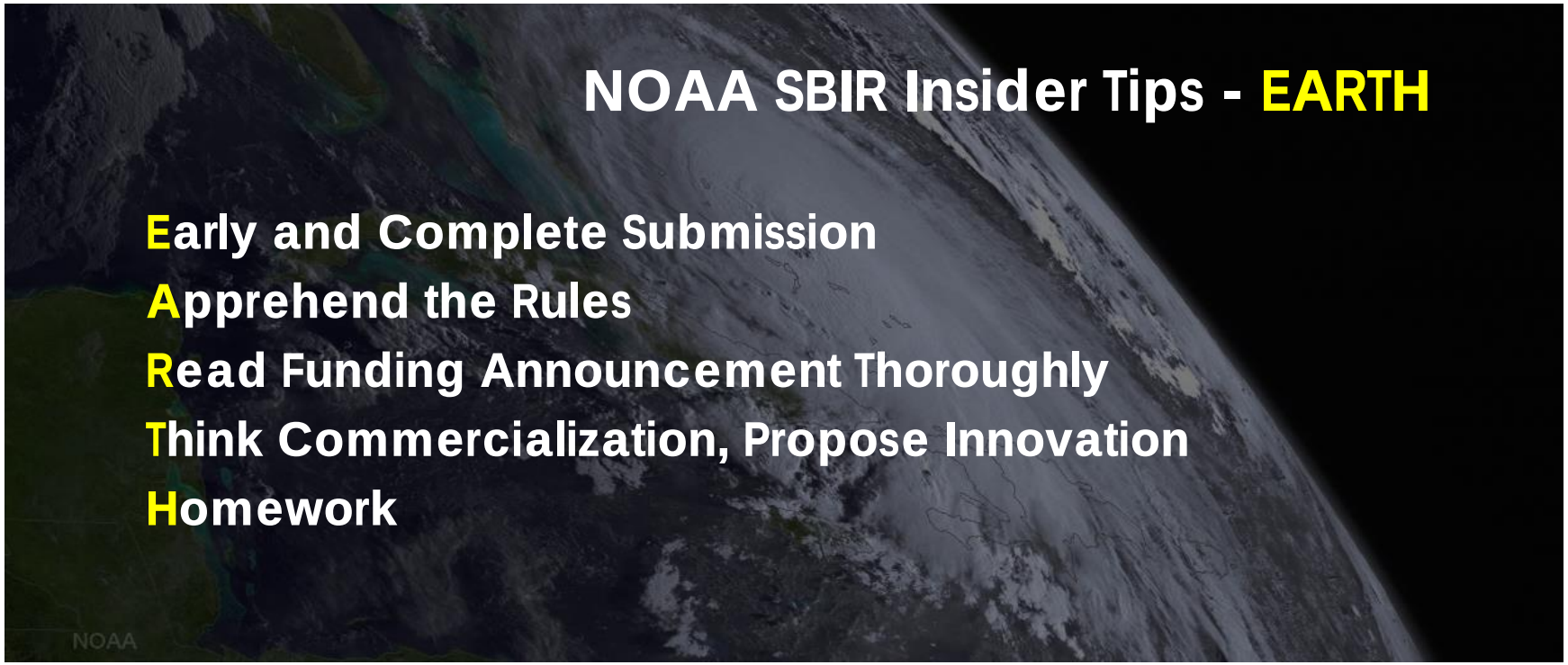
NOAA SBIR Program

Awards	Grants
Funding Announcement	One per fiscal year
Released	October
Proposals due	January
Available via	grants.gov / DoC Grants-Online
Typical Phase I Awards	$120K, 20 to 30
Typical Phase II Awards	$400K, 10 to 20
Proposal Success Rates	Phase I : 20-25%, Phase II : 50-60%

*licensed technology TBD

Subtopic Examples (FY19)

- Aquaculture
  - Contaminants in Shellfish
- Recreational and Commercial Fisheries
  - Underwater Adhesive for Coral Restoration
  - Fishing Gear Entanglements
- Next Generation Observation and Modeling Systems
  - Mapping and Imagery of Seafloor and the Deep Ocean


NOAA SBIR Insider Tips - EARTH
Early and Complete Submission
Apprehend the Rules
Read Funding Announcement Thoroughly
Think Commercialization, Propose Innovation
Homework
NOAA

SBIR Road Tour
2019

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION OCEANIC AND ATMOSPHERIC RESEARCH

TECHNOLOGY PARTNERSHIPS OFFICE

Promoting Partnership & Commercialization of NOAA Technology and Innovations

Peter Roohr

National Weather Service

Vince Garcia

NOAA SBIR Program Manager

sbir.inquiry@noaa.gov

techpartnerships.noaa.gov

@NOAASBIR

Flexible Funding Opportunities: The Granting Agencies

Flexible Funding Opportunities: The Granting Agencies

Moderator: SBA
Small Business Administration

Christopher O'Gwin
U.S Department of Energy (DOE)

Patricia A. Weber, DrPH
National Cancer Institute (NCI), National Institutes of Health (NIH)

Linda K. Molnar, PhD
National Science Foundation (NSF)

Elden Hawkes
U.S. Department of Agriculture (USDA)

U.S. Patent and Trademark Office (USPTO)

UNITED STATES
PATENT AND TRADEMARK OFFICE

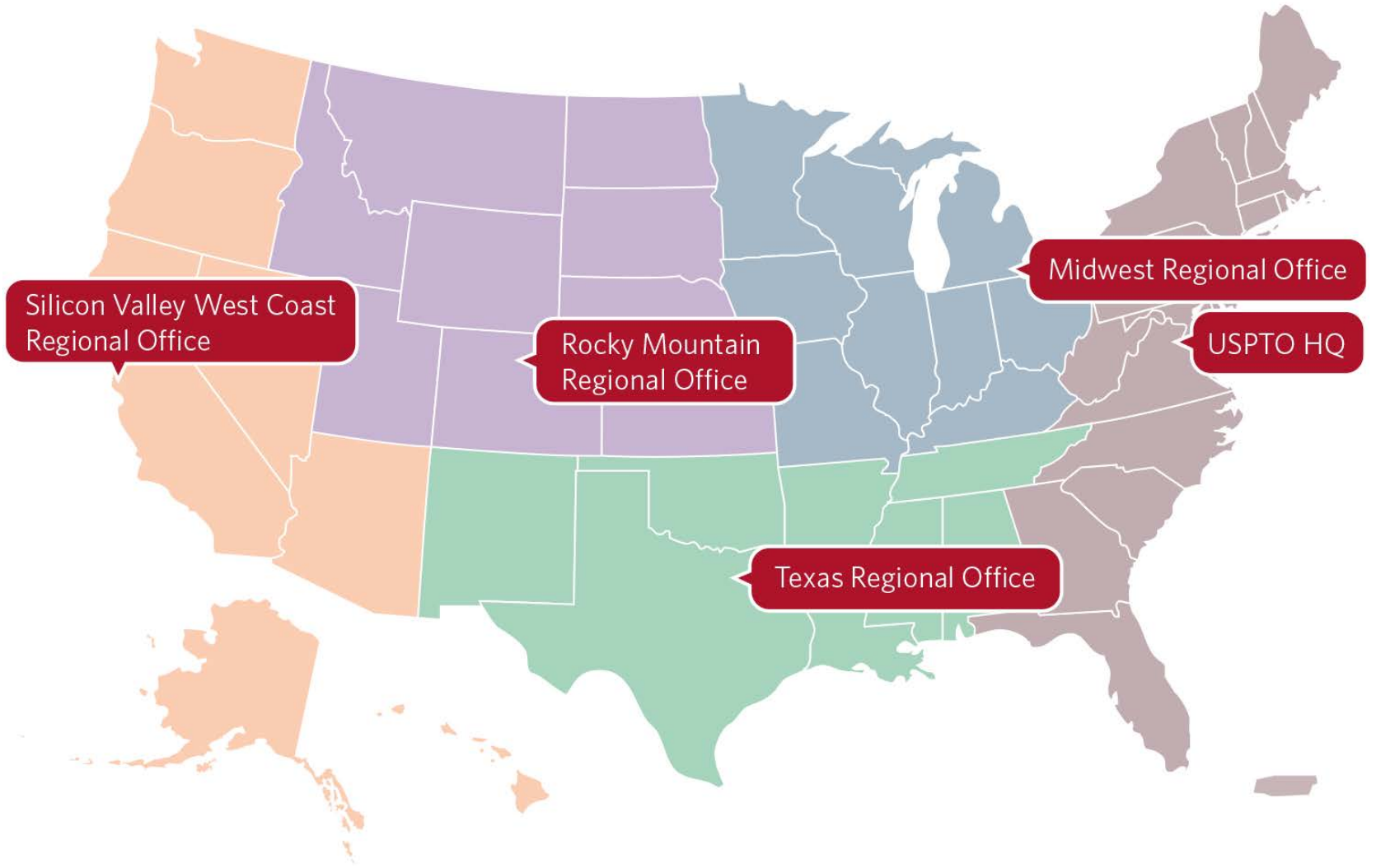
uspto

Resources for Small Business Owners, Entrepreneurs, and Independent Inventors

David Le
Rocky Mountain Regional Office

UNITED STATES
PATENT AND TRADEMARK OFFICE
uspto

USPTO offices



Types of intellectual property

Patent

New, inventive ideas

Trademark

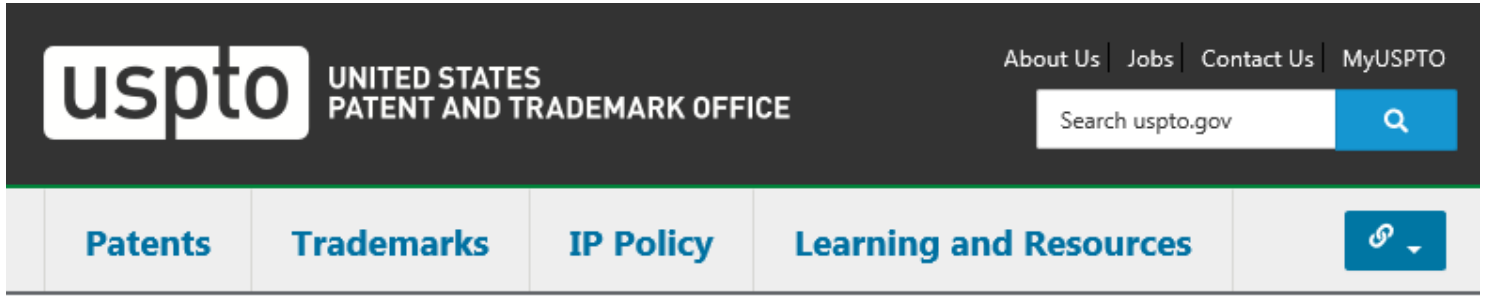
Identifies the origin of goods or services

Copyright

Creative expression stored in a tangible form

Trade secret

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.

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

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

Current events

Information about conferences, conventions and other opportunities to engage.

- Upcoming USPTO Events

Small Entity Status

- Must be
  - an individual or
  - a small business (less than 500 employees) or
  - a non-profit organization
- A 50% reduction in fees

Micro Entity Status

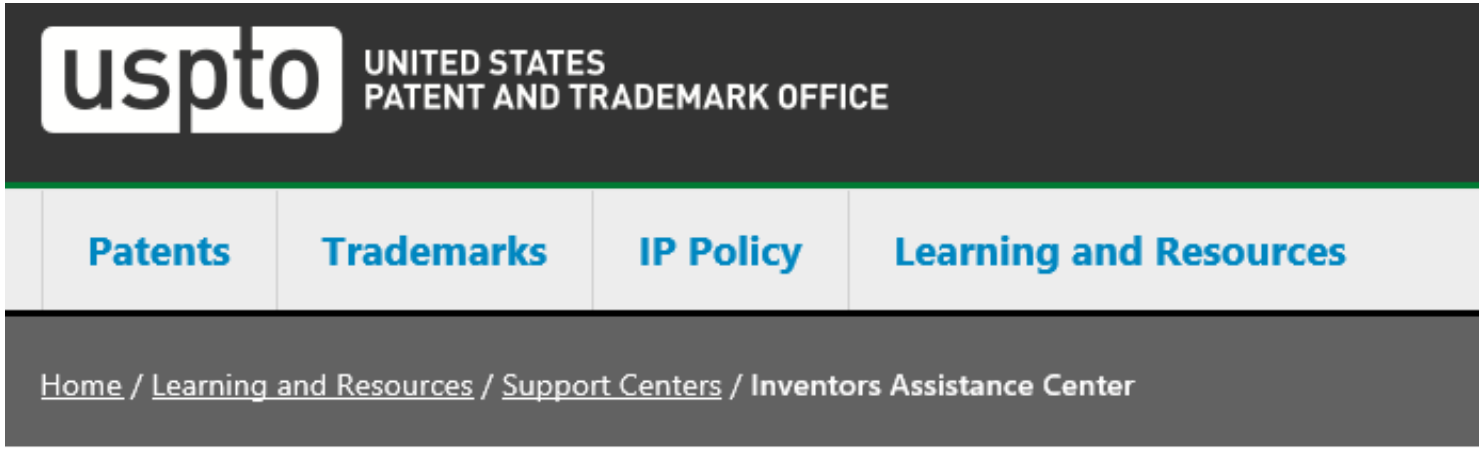
- Qualify as a small entity and
  - Filed no more than four previous applications
  - Income not greater than 3x median income
    - January 2019: $184,116
  - Not assigned to other than a micro-entity
  - Inventions assigned to employer don’t count against you
- A 75% reduction in fees

Trademark Assistance Center (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

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.

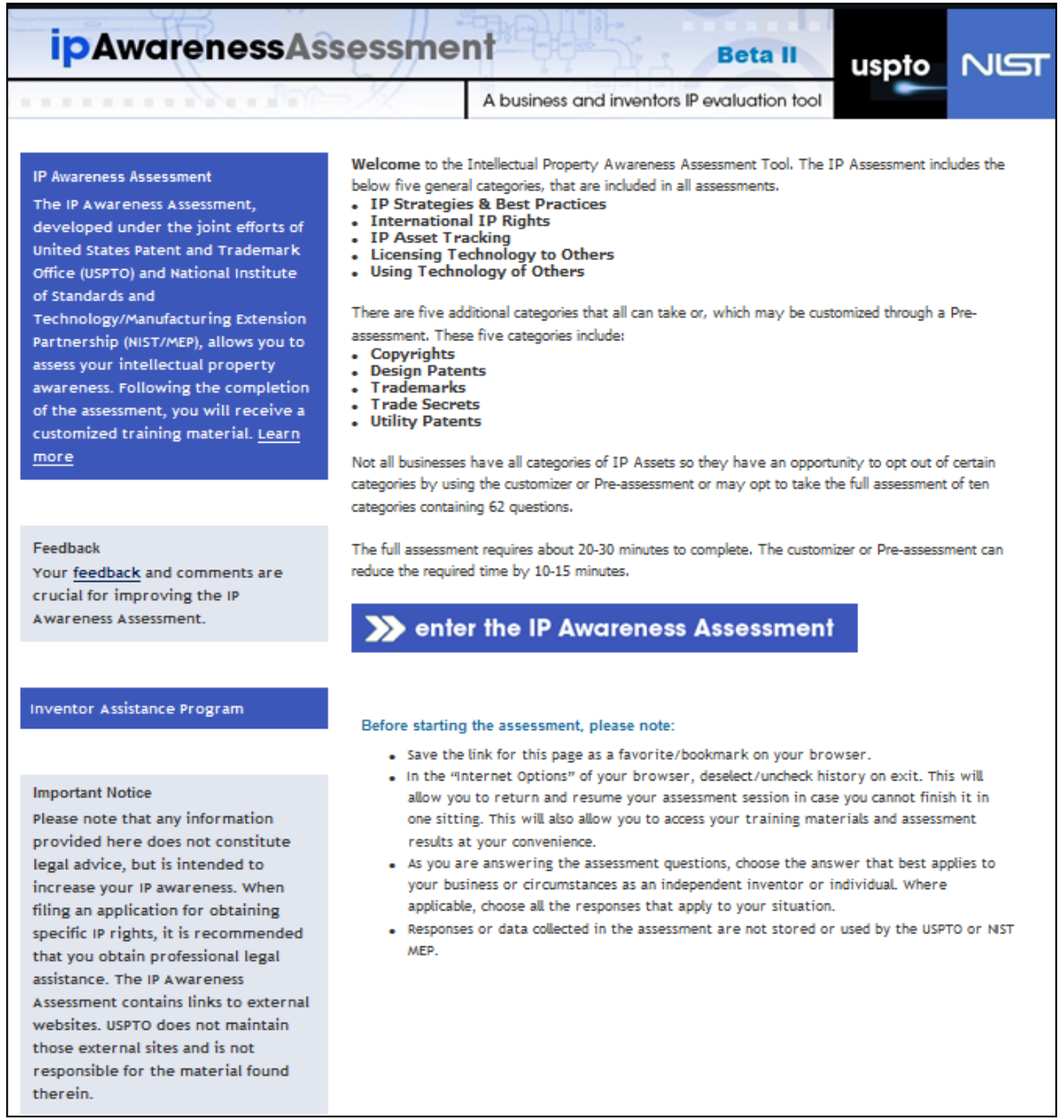
What IAC can do for you

- 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 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.

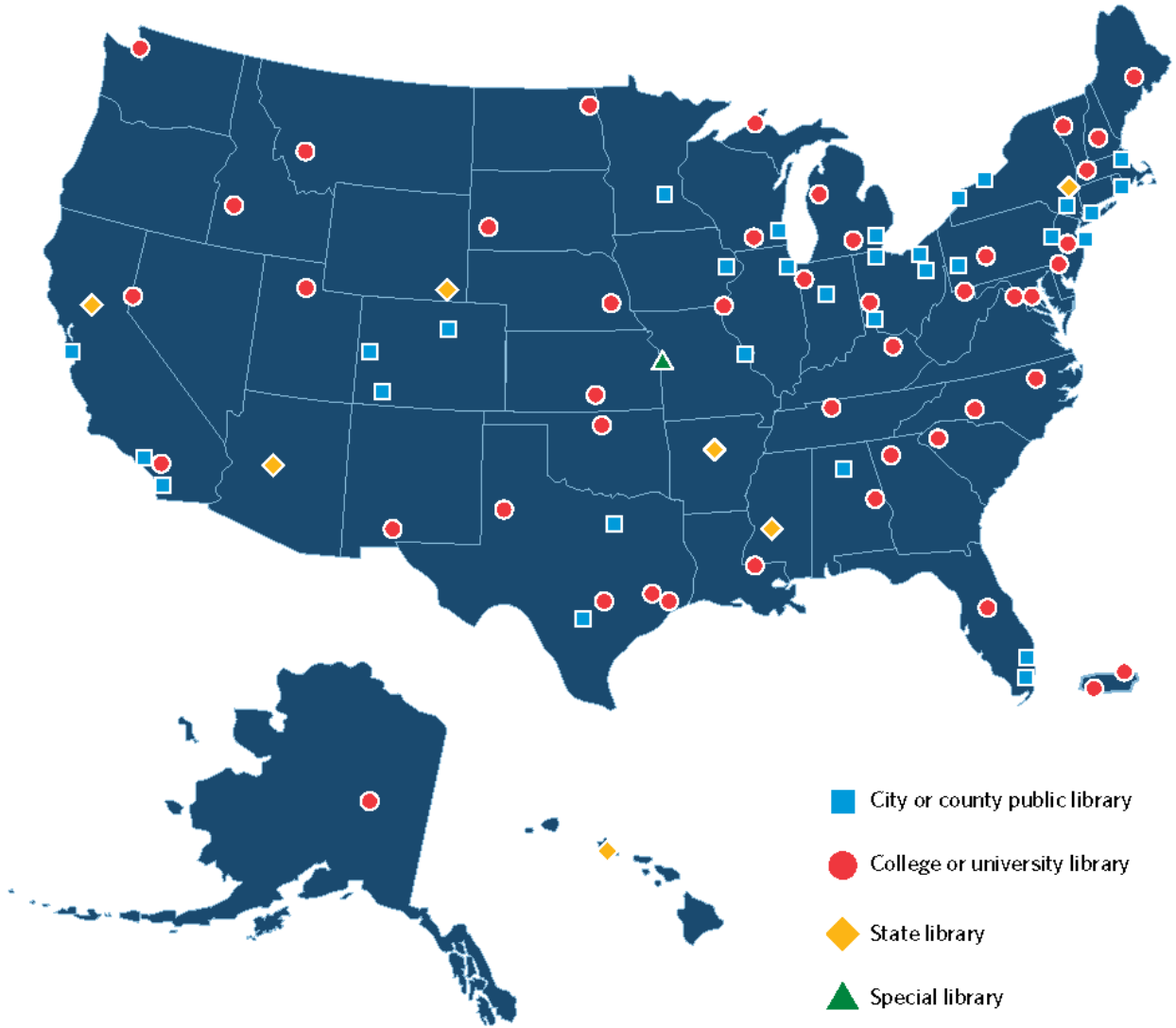
Pro Se Assistance Program

The Pro Se Assistance Program is the United States Patent and Trademark Office's comprehensive pilot to expand outreach to inventors who file patent applications without the assistance of a registered patent attorney or agent (also known as "pro se" filing). On this page, you will find information about the program and how it works, and guides and resources for some of the most common issues that pro se applicants encounter.

If you've got a great idea for an invention but you're not sure what a patent is or why you might need one, watch the animated video below.


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 Center (PTRC) locations



Patent pro bono program

- ProBoPat at the Mi Casa Resource Center
- Located in Denver, Colorado
- Assists inventors in Colorado, Montana, New Mexico, Utah, and Wyoming
- Contact Executive Director Jennifer Rothschild at probopat@micasaresourcecenter.org or (303) 539-5643

Thank you!

rockymountain@uspto.gov

303-297-4600

www.uspto.gov

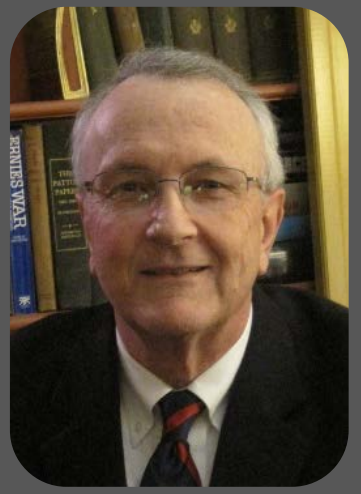
Surprising Opportunities with DoD and NASA

Surprising Opportunities with DoD and NASA

Moderator: SBA
Small Business Administration

Derek Bramble
National Aeronautics and Space Administration (NASA)

Anne Neumann
Defense Advanced Research Projects Agency (DARPA)



Richard McNamara
Naval Sea Systems Command (NAVSEA)

Mario Rios
U.S. Air Force (USAF)

Inside the Head of an Evaluator: Common Mistakes

Inside the Head of an Evaluator: Common Mistakes

Moderator: SBA
Small Business Administration

Dusty Lang
Department of Homeland Security (DHS)

Robert Renner
Marine Corps Systems Command (MARCOR)

Linda K. Molnar, PhD
National Science Foundation (NSF)

Anthony Aldrich
U.S. Special Operations Command (SOCOM)

SBIR Road Tour

SEEDING AMERICA'S FUTURE INNOVATIONS ™