# ED/IES SBIR -
# *A Government Funding Program Every Education Technology Developer Needs to Know About*

**Edward Metz, Ph.D.**
**US Department of Education**
**Small Business Innovation Research Program**
**Edward.Metz@ed.gov**
**@edward_metz**
**www.ies.ed.gov/sbir**

IES Institute of Education Sciences

# ED/IES Small Business Innovation Research Program

Through its one annual competition, ED/IES SBIR provides up to $1.1M to for-profit firms for the **R&D**, **pilot testing**, and **evaluation** of new commercially viable education technology games and technologies across many topic areas to support students, educators, or administrators in regular or special education settings.

In recent years **millions of students** in tens of thousands of schools used ED/IES SBIR developed education technologies.




IES Institute of Education Sciences

# ED/IES Small Business Innovation Research Program

- ~$10M annual program budget
- $1.1M for awards includes Phase I ($200K for 8-months for prototype R&D and pilot testing) and Phase II ($900K for 2-years for full-scale R&D and pilot testing)
- Success Rate: ~5 to 7 % in Phase I and ~40 to 50% in Phase II
- 2021 program solicitation will be released late fall 2020, with proposals due 45 days later
- Check out Abstracts from all projects at www.ies.ed.gov/sbir
- Ed Metz will start scheduling calls to discuss project ideas beginning in August

# A Few “Quick Tips” if you are applying to ED/IES SBIR….

1)The concept must be new, doable, and intend to make a significant educational impact

2) Include four different forms of educational research in the proposal

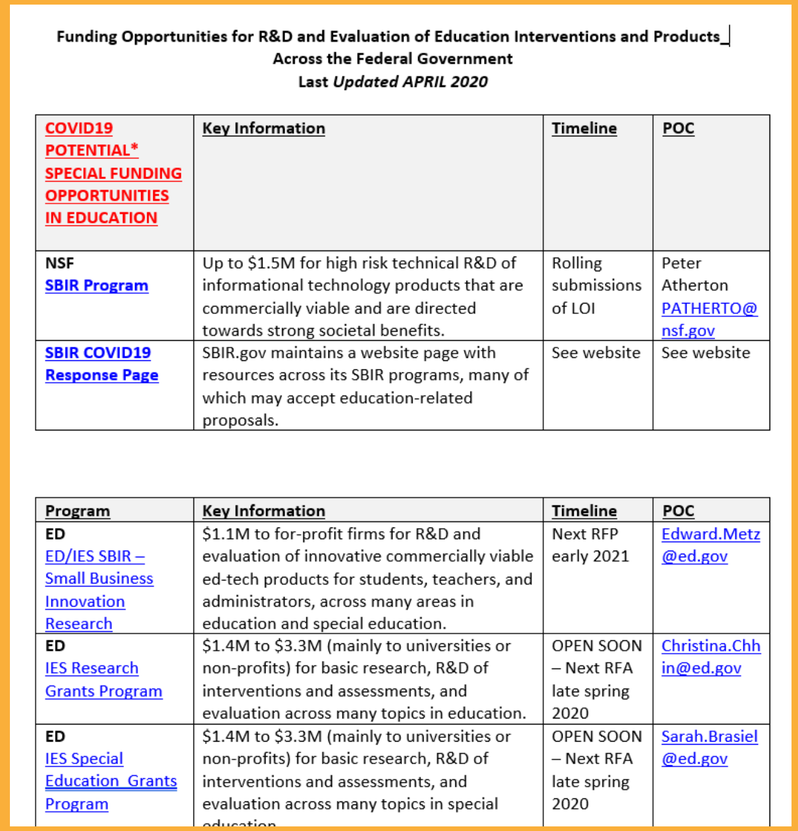
3)Include three letters demonstrating pathways to commercial distribution and sustainability

4)The TEAM includes experts in: ed-research, in ed-practice, high-tech R&D, & business.

# More Funding Opportunities for EdTech

We maintain a document listing current edtech funding opportunities across government agencies.

Find it here: https://www.wilsoncenter.org/federal-games-guild



**Funding Opportunities for R&D and Evaluation of Education Interventions and Products Across the Federal Government**
**Last *Updated APRIL 2020***

| COVID19 POTENTIAL* SPECIAL FUNDING OPPORTUNITIES IN EDUCATION | Key Information | Timeline | POC |
|---|---|---|---|
| NSF SBIR Program | Up to $1.5M for high risk technical R&D of informational technology products that are commercially viable and are directed towards strong societal benefits. | Rolling submissions of LOI | Peter Atherton PATHERTO@nsf.gov |
| SBIR COVID19 Response Page | SBIR.gov maintains a website page with resources across its SBIR programs, many of which may accept education-related proposals. | See website | See website |

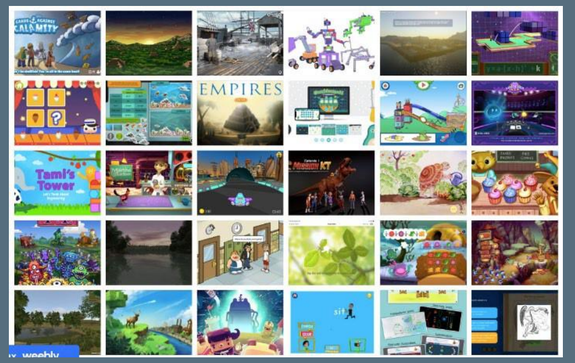
| Program | Key Information | Timeline | POC |
|---|---|---|---|
| ED ED/IES SBIR – Small Business Innovation Research | $1.1M to for-profit firms for R&D and evaluation of innovative commercially viable ed-tech products for students, teachers, and administrators, across many areas in education and special education. | Next RFP early 2021 | Edward.Metz@ed.gov |
| ED IES Research Grants Program | $1.4M to $3.3M (mainly to universities or non-profits) for basic research, R&D of interventions and assessments, and evaluation across many topics in education. | OPEN SOON – Next RFA late spring 2020 | Christina.Chhin@ed.gov |
| ED IES Special Education Grants Program | $1.4M to $3.3M (mainly to universities or non-profits) for basic research, R&D of interventions and assessments, and evaluation across many topics in special education | OPEN SOON – Next RFA late spring 2020 | Sarah.Brasiel@ed.gov |

# The *ED Games Expo*

**A public event to showcase for 100+ edtech learning games and technologies developed through ED/IES SBIR and more than 30 government programs. Attendees demo the technologies and meet the developers, and at the "Office Hours" meet the gov reps, education researchers, and industry partners.**

**The 2021 & 8th Annual Expo will (hopefully*) take place in late winter**

ED GAMES EXPO


IES Institute of Education Sciences

SBIR/STTR Programs at the Department of Energy

# Thank you!

manny.oliver@science.doe.gov

edward.metz@ed.gov

Twitter: @Edward_Metz

LinkedIn: edwardmetz16

IES Institute of Education Sciences

# U.S. Department of Energy's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

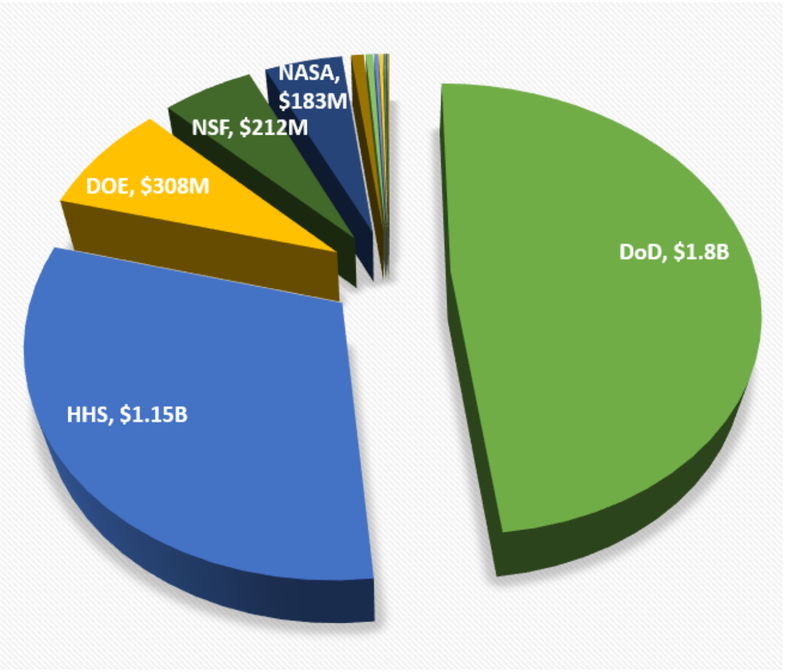
U.S. DEPARTMENT OF ENERGY | Office of SBIR/STTR Programs

SBIR · STTR America's Seed Fund

# DOE SBIR/STTR

- Third largest of agency programs
- Grants in excess of $300 Million annually
- Specific topics, aligned with DOE mission
- Two funding opportunities per year, July and November
- Letter of intent required, non-responsive feedback only is provided

FY 2019 Agency SBIR Budgets




SBIR: $3.28 Billion
STTR: $453 Million

U.S. DEPARTMENT OF ENERGY | Office of SBIR/STTR Programs

SBIR · STTR America's Seed Fund

# FY2022 Phase I Funding Opportunity Announcements

## Release 1

**Jul 12 (topics) → Oct 12 (applications due)**

- Office of Advanced Scientific Computing Research (ASCR)
- Office of Basic Energy Sciences (BES)
- Office of Biological and Environmental Research (BER)
- Office of Nuclear Physics (NP)

https://science.osti.gov/sbir/Funding-Opportunities

U.S. DEPARTMENT OF ENERGY | Office of SBIR/STTR Programs

## Release 2

**Nov 8 (topics) → Feb 22 (applications due)**

- Office of Cyber Security, Energy Security, and Emergency Response (CESER)
- Office of Defense Nuclear Nonproliferation (NA)
- Office of Electricity (OE)
- Office of Energy Efficiency and Renewable Energy (EERE)
- Office of Fossil Energy (FE)
- Office of Fusion Energy Sciences (FES)
- Office of High Energy Physics (HEP)
- Office of Nuclear Energy (NE)

# Specific Topics Aligned with DOE Mission

## Leadership in Clean Energy

- Advanced Turbine Technology
- Clean Coal, Oil and Gas Technologies
- Advanced Materials/Technologies for Nuclear Energy
- Smart Grid Technologies
- Cyber Security
- Energy Storage
- Bio-energy & Biofuels
- Hydrogen & Fuel Cells
- Solar Power
- Water Power
- Wind Energy
- Advanced Manufacturing
- Efficient Buildings & Vehicles

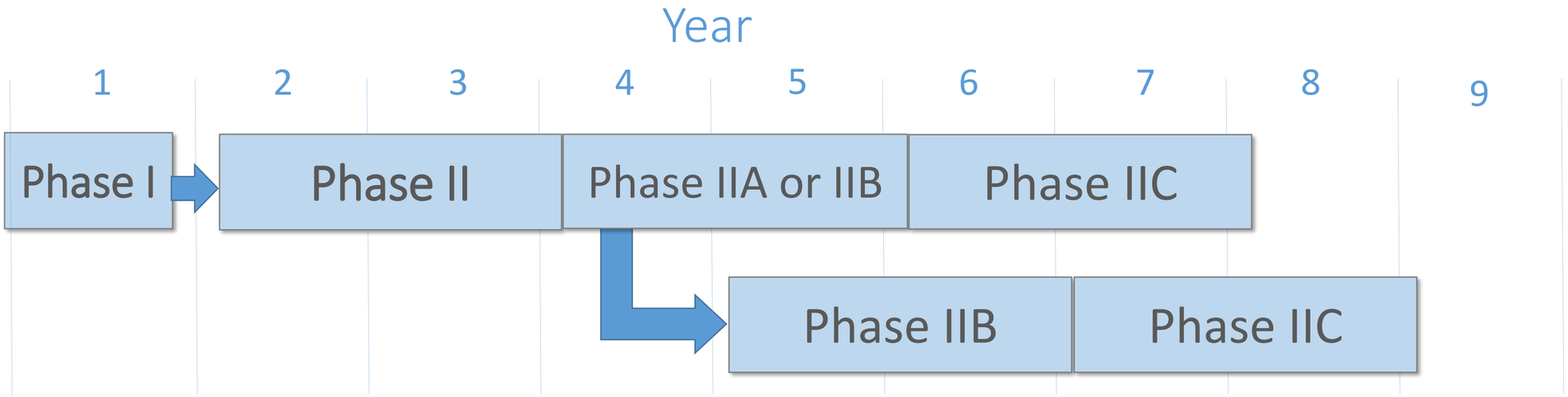
## Leadership in Basic Energy and Engineering Sciences

- Advanced Detectors
- Accelerator technology
- RF Components and Systems
- Data Acquisition, Processing and Analysis
- Fusion Energy Systems
- High Performance Computing & Networking
- Quantum Information Sciences
- Modeling and Simulation
- Atmospheric Measurement Technology
- Genomic Science and Related Biotechnologies
- Advanced Sources:  neutron, x-ray, electron

## Enhancement of Nuclear Security

- Advanced Detectors
- Novel Radiation Monitoring Concepts
- In Situ Remediation
- Facility Deactivation and Decommissioning
- Remote Sensing
- Global Nuclear Safeguards R&D
- Nuclear Detonation Detection

# How does our Funding Work?




## Phase I

- Two annual Funding Opportunity Announcements
- Focused, mission-aligned topics
- Feedback provided on letters of intent
- $200,000/$250,000
- 6 - 12 months duration
- ~ 350-400 awards per year

## Phase II

- Phase I awardees apply for Phase II the following year
- $1,100,000/$1,600,000
- 2 years duration
- ~ 160 awards per year

## Phase IIA/IIB

- For projects that require additional R&D funding to transition to commercialization
- $1,100,000
- 2 years duration
- ~30 awards per year

## Phase IIC

- Pilot program to leverage 1:1 matching funds for commercialization
- $1,100,000
- 2 years duration

# Free Application Assistance

Phase 0 for first-time DOE applicants (yes – its free!)

http://www.dawnbreaker.com/doephase0/

Recorded Topic and FOA Webinars

Online learning center for application process including videos https://science.osti.gov/SBIRLearning

Explore DOE National Lab Collaboration Opportunities:

https://science.osti.gov/sbir/Applicant-Resources/National-Labs-Profiles-and-Contacts

Application Process Q&A Webinars

Email us!

sbir-sttr@science.doe.gov

Join our mailing list!

https://science.osti.gov/sbir

Follow us on Twitter! @DOESBIR

U.S. DEPARTMENT OF ENERGY | Office of SBIR/STTR Programs

SBIR·STTR America's Seed Fund

# Support Programs along the Path to Technology Commercialization

| R&D Proof of Concept | R&D Prototype | IP | Marketing | Commercialization |
|---|---|---|---|---|

| Phase I Grant | Phase II, IIA Grants | Phase IIB, IIC Grants |
|---|---|---|
| Funding Opportunity and Q&A Webinars | | |
| Topic Webinars | | |
| Phase 0 Assistance | | |
| Online learning center and application resources | | |
| National Laboratories collaboration resource | | |
| Commercialization Assistance Program (CAP) | | |
| Energy I-Corps | | |
| PI Meeting | | |
| NERSC Computing Resource | | |
| | Diversity Supplement | |

*Application Assistance*

*Awardee Resources*

U.S. DEPARTMENT OF ENERGY | Office of SBIR/STTR Programs

SBIR · STTR America's Seed Fund

# *HHS/NIH Small Business Programs*
# *2020 Regional SBIR Weeks*


**Stephanie Fertig, MBA**

**HHS Small Business Program Lead, SEED (Small business Education & Entrepreneurial Development)**

**Office of the Director | Office of Extramural Research |National Institutes of Health**


National Institutes of Health
*Office of Extramural Research*

National Institutes of Health
*Turning Discovery Into Health*

# HHS Mission and Divisions

*To enhance the health and well-being of all Americans, buy providing for effective health and human services and by fostering sound, sustained advances in the sciences underlying medicine, public health and social services.*

National Institutes of Health
SBIR $1.0 billion
STTR $146 million

Centers for Disease Control and Prevention
SBIR $11 million

Food and Drug Administration
SBIR $2 million

Administration for Community Living
SBIR $3 million

National Institutes of Health
*Turning Discovery Into Health*

# NIH Mission




*To seek fundamental knowledge about the nature and behavior of living systems and the* ***application of that knowledge to enhance health, lengthen life, and reduce illness and disability****.*

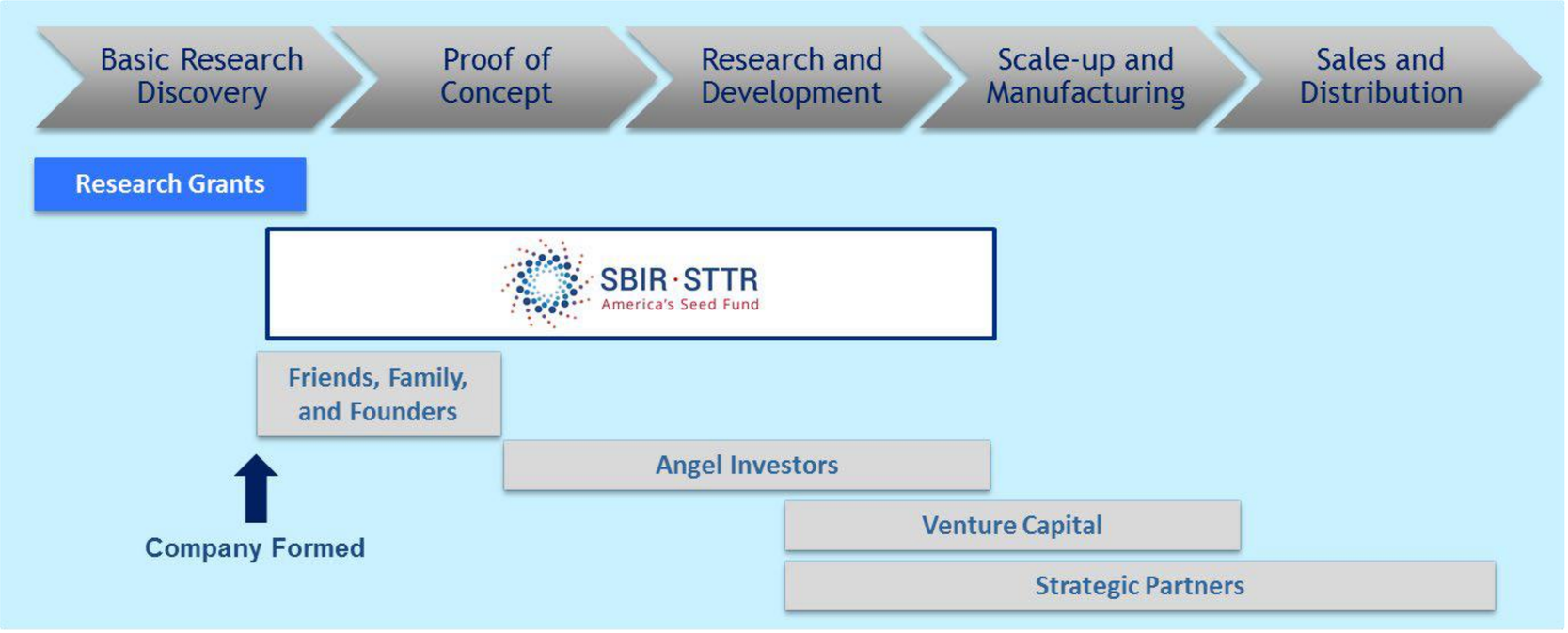
*The Small Business Program helps NIH accelerate discoveries from bench to bedside*

# National Institutes of Health


NIH National Institutes of Health
Office of Extramural Research

# One of the largest sources of early-stage capital for life sciences in the United States

- Not a loan and non-dilutive **capital**
- **IP/data rights** protection through Bayh-Dole Act and SBIR Policy Directive
- Awardees can **leverage funding** to attract investors and partners



# Phased Programs

*Discovery*
**Phase I**

**Feasibility**

*Development*
**Phase II**

**Full R/D**

*Competing Renewal Award*
***Phase IIB***

$3M for up to 3 years

*Commercialization*

*Commercialization Readiness Pilot (CRP)*

$3M for up to 3 years

***Phase I*** → ***Phase II***

***Fast-Track***

***Direct to Phase II***
***(SBIR only)***

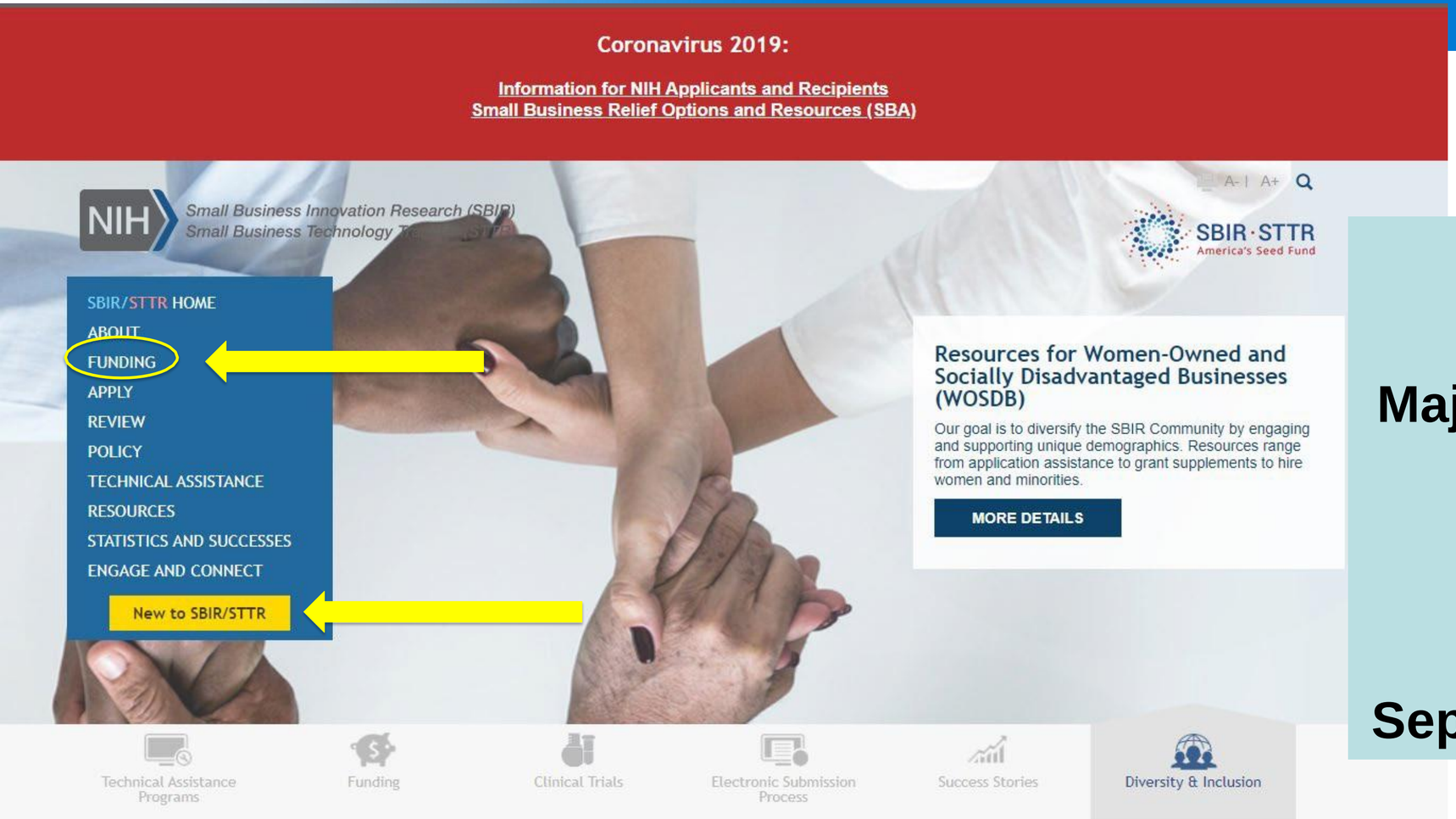
***Only Some ICs Participate***

***Phase I:*** $256,580/1-2 years*

***Phase II:*** $1,710,531/1-3 years*

***NIH has a waiver from the Small Business Administration to exceed these budgets for most topics**

# Small Business Program Website




**https://sbir.nih.gov**

**Majority of the funding goes to investigator initiated applications**

**Standard receipt dates: September 5, January 5, April 5**

# Innovator Support

## Strategy, Finance & Commercialization Experts:
https://sbir.nih.gov/resources/entrepreneurs-in-residence/index.htm

Sr. Regulatory Specialist
Innovator Support Team Lead
Chris Sasiela, PhD

Ethel Rubin, PhD

John Sullivan, MBA

Steve Wolpe, PhD

Entrepreneurs-in-Residence

## Technical Assistance and Training:
https://sbir.nih.gov/tap

## Partnering Opportunities and Pitch Coaching:

BIO International Convention

THE MEDTECH CONFERENCE
Powered by AdvaMed

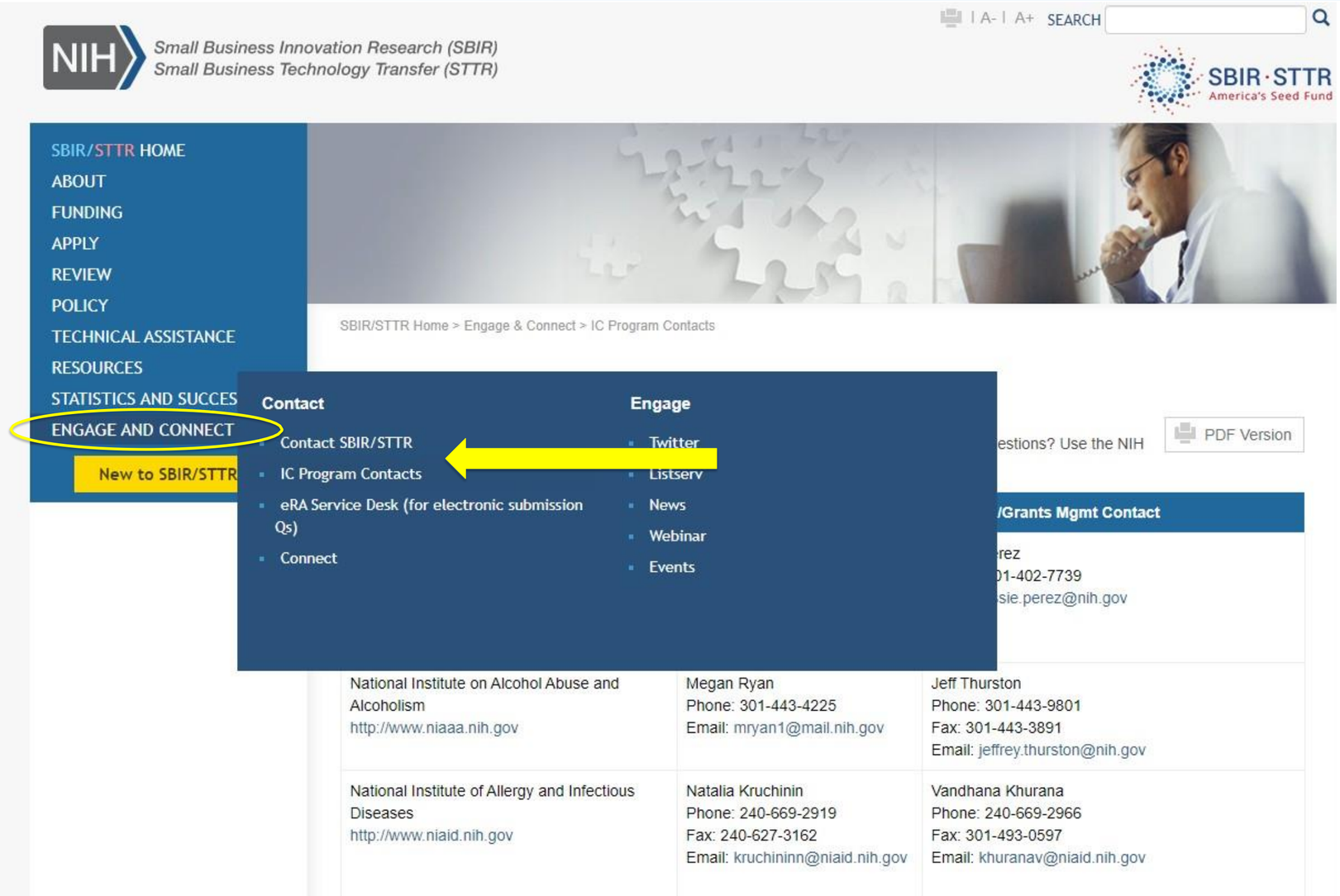
RESI REDEFINING EARLY STAGE INVESTMENTS

LIFESCIENCES™ SUMMIT

ACA
ANGEL CAPITAL ASSOCIATION

NIH National Institutes of Health
Office of Extramural Research

# Most Important Piece of Advice




**Talk to a HHS Program Officer at least a month before the application deadline!**

**List of HHS SBIR Program Managers: https://sbir.nih.gov/engage/ic-contacts**

**Research Portfolio Online Reporting Tools (RePORT): https://report.nih.gov/**

**Not sure who to contact?**
https://public.era.nih.gov/commons/public/servicedesk/initseed.era
**or**
**Email: sbir@od.nih.gov**

# Get Connected!

- Connect with us at https://sbir.nih.gov/engage
- Subscribe to the SBIR/STTR Listserv:

  Email LISTSERV@LIST.NIH.GOV with the following text in the message body: **subscribe SBIR-STTR your name**

- Weekly notification for NIH Guide for Grants and Contracts: https://grants.nih.gov/grants/guide/listserv.htm
- Follow us on Twitter: @NIHsbir
- Read our NIH SBIR/STTR Success Stories
- Contact NIH SBIR/STTR Program Staff: Online Inquiry or Email sbir@od.nih.gov

SBIR · STTR
America's Seed Fund
Powered by SBA

# SBIR Week

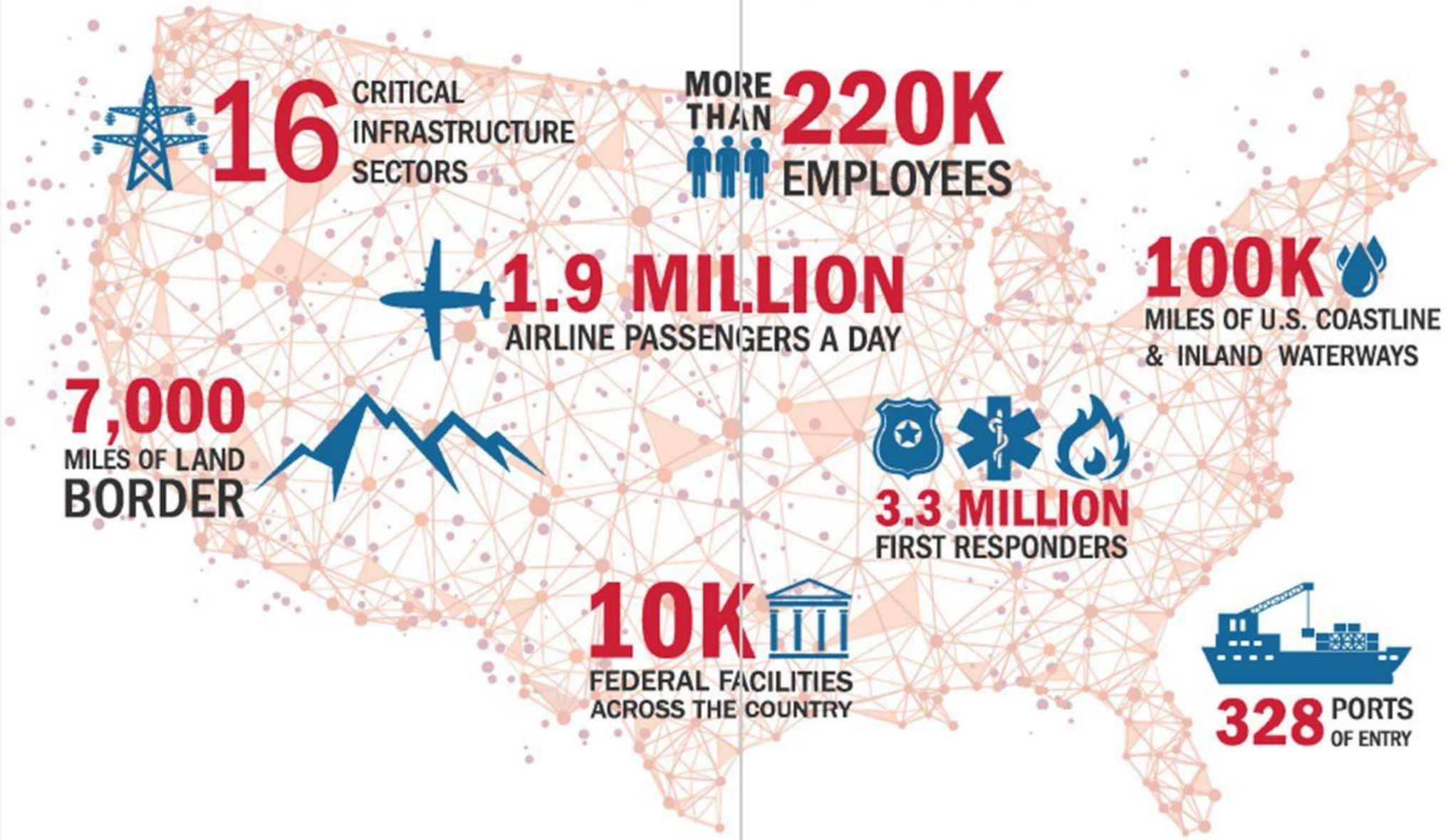
## DHS Small Business Innovation Research (SBIR) Program Overview

Homeland Security

Dusty Lang
DHS SBIR Program Director
Science and Technology Directorate

SBA

# THE SCOPE OF THE DHS MISSION



# DHS FIVE MISSION AREAS

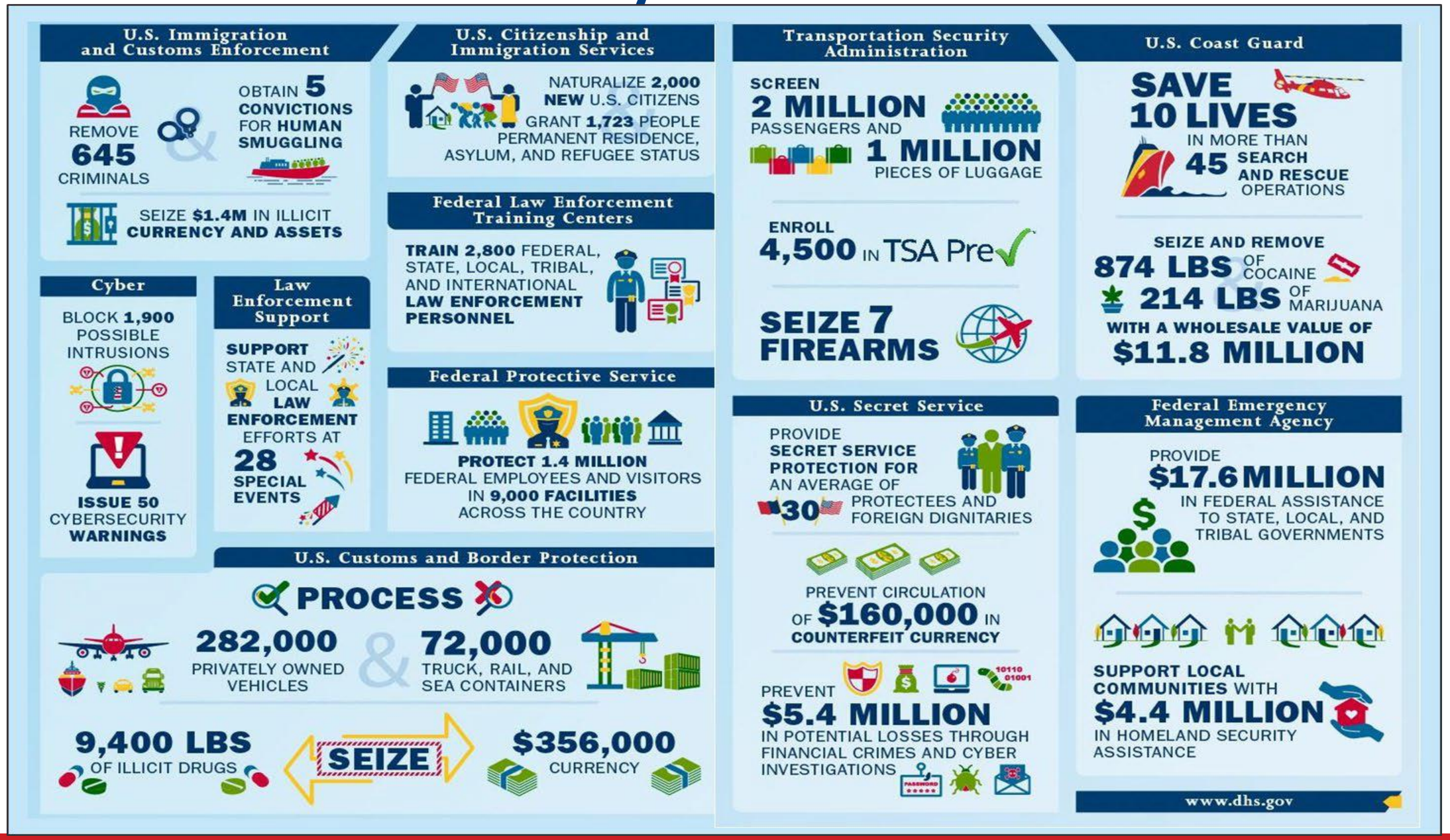

**DIVERSE PERSPECTIVES + SHARED GOALS = POWERFUL SOLUTION$_2$S$_5$**

SBA

# DHS SBIR Supports Operational Component Needs

- Federal Emergency Management Agency (FEMA)
- Customers 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

# Today DHS Will…



# Technology/Topic Areas

**Solicitations cover topics relevant to the Science and Technology Directorate (S&T) and Countering Weapons of Mass Destruction Office (CWMD) that address the needs of DHS operational components**

- Borders and Maritime Security
- Information Sharing Technology
- Interoperability and Compatibility
- Unmanned Aerial Systems
- Critical Infrastructure
- Chemical/Biological Defense
- Cybersecurity
- Probabilistic Analysis for National Threats Hazards and Risks
- Explosives Detection
- First Responder Technologies
- Detecting Bioterrorist Attacks
- Technical Capability Standards for Radiological Detection

S&T Organization: https://www.dhs.gov/science-and-technology/office-mission-and-capability-support
CWMD Organization: https://www.dhs.gov/countering-weapons-mass-destruction-office

# DHS SBIR Program Specifics

**Science and Technology Directorate (S&T) publishes the annual solicitation with topics developed by both S&T and the Countering Weapons of Mass Destruction Office (CWMD) for the DHS Operational Components**

**FY2020 Budget: $18M**

S&T: $14M

CWMD: $4M

## Three Phase Program

| | |
|---|---|
| **DISCOVERY**<br>**Phase I**<br>*Scientific and Technical Feasibility/Proof of Concept* | • $150,000 (funded with SBIR funds)<br>• Up to an additional $6,500 per year may be proposed for Technical Assistance<br>• Minimum 2/3 of Research and Analytical effort by Awardee<br>• Not to exceed 6 months in duration |
| **DEVELOPMENT**<br>**Phase II**<br>*Full Research/R&D Prototype Demonstration* | • $1M (funded with SBIR funds)<br>• $50,000 may be proposed for Technical Assistance<br>• Potential for additional $250,000 (cost match)<br>• Minimum ½ of Research and Analytical effort by Awardee<br>• Generally 24 months in duration |
| **COMMERCIALIZATION**<br>**Phase III** | • Funded with private or non-SBIR government source; no dollar or time limits<br>• Size standards do not apply<br>• Work that derives from, furthers the Phase I/Phase II effort, or brings to conclusion<br>• Can be for products, services or continued R&D<br>• Can be sole sourced, competition determined in Phase I |

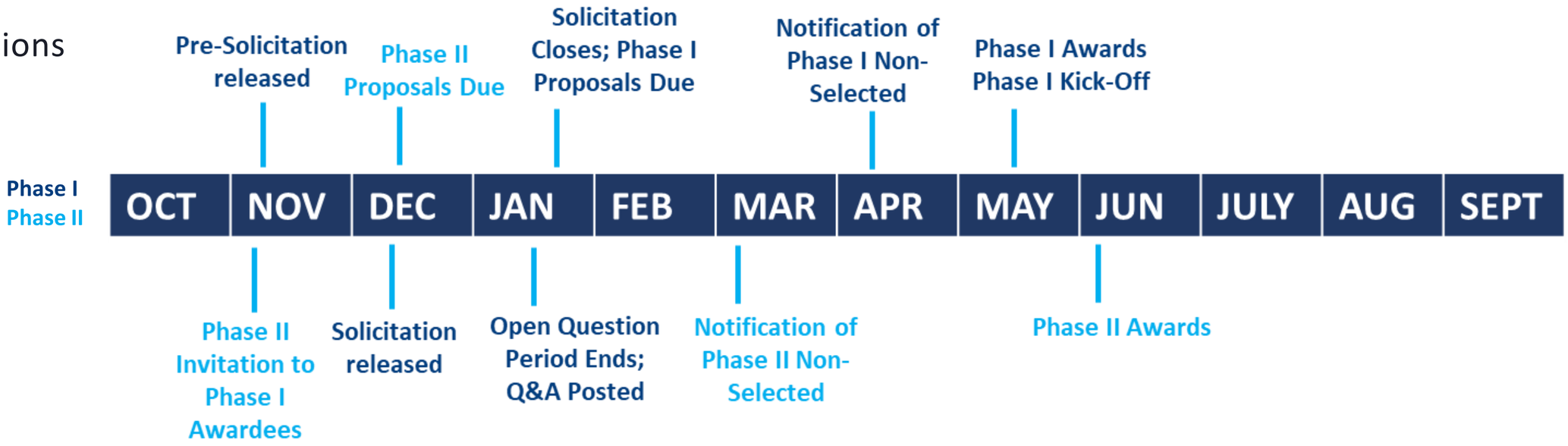
# Annual Solicitation Process and Timeline

**Solicitation information can be accessed via https://sbir2.st.dhs.gov/portal/SBIR/**

- Topics determined by DHS in response to component and HSE needs
- Solicitation released every December

**FY20 Solicitation**

- 9 topics
- 130 submissions
- 26 awards




Timeline provides general schedule information subject to change from solicitation dates and program updates

# Other Funding Opportunities

## Other Agency Technology Solutions (OATS)

- SBIR Policy allows Federal Agencies to award subsequent Phase IIs from other Federal Agencies' Phase I or Phase II
- DHS OATS was established in FY2015 to leverage the SBIR investment of other agencies that can satisfy DHS mission needs
- Typically about four per year

## Commercialization Readiness Pilot Program (CRPP)

- Must derive from a nearly completed DHS SBIR Phase II, be a promising technology with clear technology path and be ready for testing
- $200K, 12 month effort to test Phase II protype results with the focus of raising its Technology Readiness Level (TRL)
- Funds help address transition issues

## Innovation Corps (I-Corps)

- Six-week "Commercialization Bootcamp" managed by National Science Foundation
- Businesses learn their customer base needs
- DHS funds up to five SBIR awardees to participate every year

# Recent Topics

| S&T FY20.1 Topics |
| --- |
| Next Generation 9-1-1 (NG9-1-1) Multimedia content analysis engine capability for the Emergency Communications Cyber Security Center (EC3) |
| Remote Sensor Data Protection and Anti-Spoofing |
| Digital Paging Over Public Television |
| Soft Targets and Crowded Places Security |
| In-building Coverage Analysis System (ICAS) Using Existing First Responder's Radio and Smartphone |
| Handheld Advanced Detection/Imaging Technology System |
| Enhanced Explosives and Illicit Drugs Detection by Targeted Interrogation of Surfaces |
| Urban Canyon Detection Tracking and Identification of Small Unmanned Aerial Vehicles |
| Machine Learning Module for Detection Technologies |

| S&T FY19.1 Topics |
| --- |
| 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 Forensic Analysis |

| CWMD FY19.1 Topics |
| --- |
| Detector Integration with Current and Emerging Networked Systems |
| Unmanned Aerial System Autonomous Search of Limited Area for Radiological Threats |

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

# Success Stories

**Low-Cost IoT Flood Sensor**

- Mesh-networked solar battery flood sensors for early warning and emergency response
  - Over 300in sensors deployed across 7 State/County/municipal government emergency management organizations
  - Final Phase underway for commercial manufacture and stakeholder operational use with unit costs approaching 1/10th of current government sensors.

**Systems to rapidly analyze DNA samples**

- Helped Butte County, California positively identified 85 percent of the victims of the Fall 2018 Camp Fire wildfire.

**Malware protection for Internet of Things (IoT) device firmware**

- Implemented in numerous devices, including Hewlett Packard LaserJet printers.

**Secure, end-to-end information sharing and communications from any technology anywhere**

- Awarded a $43 million SBIR Phase III contract by the Department of the Interior's Interior Business Center (a small part of this funding was provided by S&T). Implemented for Defense Information Systems Agency Emerging Technologies Directorate and DHS S&T Directorate

# DHS SBIR Points of Contact

**Dusty Lang**
DHS SBIR Program Director

**Jamie Aziz**
Program Execution Support

**Jolie Stepnowski**
Program Analyst

**Tanisha Walcott**
Program Analyst

## Program Emails:

S&T – stsbir.program@hq.dhs.gov

CWMD - cwmd.sbir@hq.dhs.gov

Phone Number - 202-254-7000

**Marissa Giles**
CWMD, SBIR Program Manager

**Roger Gima**
Program/Technical Analyst

**SBIR Portal Help Desk**
dhssbir@reisystems.com
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

UNITED STATES
DEPARTMENT OF TRANSPORTATION

# Overview of the U.S. DOT's Small Business Innovation Research (SBIR) Program

## SBIR 2020 Road Tour

SBIR
America's Seed Fund
POWERED BY DOT

UNITED STATES
DEPARTMENT OF TRANSPORTATION

**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 DOT Operating Administration | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| Federal Aviation Administration* | | | | | |
| Federal Highway Administration / Intelligent Transportation Systems-Joint Program Office (ITS JPO) | X | X | X | X | X |
| Federal Railroad Administration | | X | X | X | X |
| Federal Transit Administration | X | X | X | X | |
| Federal Motor Carrier Safety Administration | | | | X | |
| National Highway Traffic Safety Administration | | X | X | X | X |
| Office of the Secretary | | 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 (12 topics in FY20)
  - 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 2020-2021
  - Sign up on our website to receive notifications of when topics are posted, as well as solicitation open and close dates
- Other Details
  - Administer Contracts, not Grants
  - Majority VC firms not eligible
  - Program Office does not accept unsolicited proposals

# DOT SBIR Program Details, cont'd

- 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*

- Piloting Pitch Day for Phase I
- Pre-proposal conference calls for Phase II

# DOT Solicitation Process

- Visit volpe.dot.gov/sbir to:
  - View solicitations
  - Sign-up to receive notifications
- Also visit beta.SAM.gov to view the solicitation and other DOT funding opportunities
- Requests for clarifications/questions on research topics can be submitted to the Program Office staff
- Offers must be submitted via secured website

# Other Funding Opportunities

- DOT Office of Small and Disadvantaged Business Utilization: osdbu.dot.gov
- Beta.Sam.gov: Beta.SAM.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

UNITED STATES
DEPARTMENT OF TRANSPORTATION

# U.S. DOT SBIR Contact Information

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

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


# Environmental Protection Agency's Small Business Innovation Research (SBIR) Program

## Reverse Pitch

April Richards, Program Manager

# EPA-SBIR Mission

## EPA:

Protect human health and the environment

## EPA SBIR:

Support development and commercialization of innovative technologies to meet Agency's mission

EPA SBIR
AMERICA'S SEED FUND FOR ENVIRONMENTAL INNOVATION

# EPA SBIR Budget & Awards

Award Budget → ~$5.0 M

## PHASE I:

*Proof Of Concept*

$100,000

6 Months

*Projects awarded as contracts*

## PHASE II:

*Develop & Commercialize Technology*

$400,000

2 Years

Commercialization Option → $100,000

# EPA's SBIR Program

Provide awardees with EPA technical connection

Focus on commercialization

Communicate successful projects

Help to protect the planet

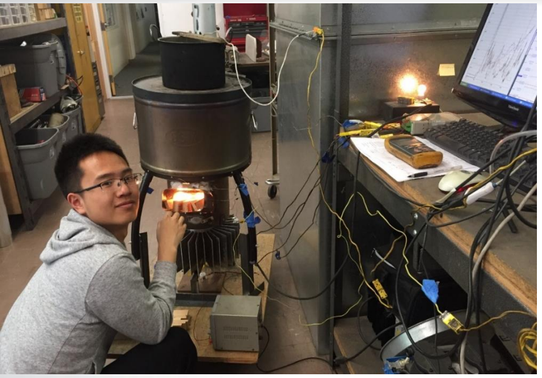
# Solicitation - Broad Focus Areas

- Clean and Safe Water
- Air Quality
- Land Revitalization
- Homeland Security
- Sustainable Materials Management
- Safer Chemicals
- Risk Assessment

# Solicitation Information

- Proposals must be responsive to specific topics
- Success rate:  ~20% over last 5 years
- Timeline:
  - June – annual solicitation released
  - August – proposals due
  - December – projects funded
- More information:
  - Apply at: FedConnect
  - Information at: https://www.epa.gov/sbir/sbir-funding-opportunities
  - Subscribe to SBIR listserv: https://www.epa.gov/sbir/sbir-listserv

# ASAT, Inc: Cottage Grove, OR



ASAT

Developed the ASAT Integrated Stove, an affordable and clean-burning biomass stove for heating, cooking and electricity generation

Partnership with the Gates-funded Global Good organization- sending samples worldwide

ASAT has succeeded in international sales with products in over 30 countries including Nigeria, China and Kenya

Awarded 2020 Tibbetts Award recognizing their success in the SBIR program

# For More Information

**SBIR Contacts**:

April Richards richards.april@epa.gov

Maggie Dietrick dietrick.magaret@epa.gov

**Website**: www.epa.gov/sbir

**Listserv:** https://www.epa.gov/sbir/sbir-listserv

**Program Overview**: https://www.epa.gov/sites/production/files/2020-05/documents/sbir_trifold_updated_2020-508_v6_0.pdf

**SBA SBIR website**: www.SBIR.gov

National Aeronautics and Space Administration


ARTEMIS

# NASA Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR) Program

Gynelle Steele, Deputy Program Executive

SBIR·STTR America's Seed Fund™ POWERED BY NASA

## MISSION

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

---

## VISION

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

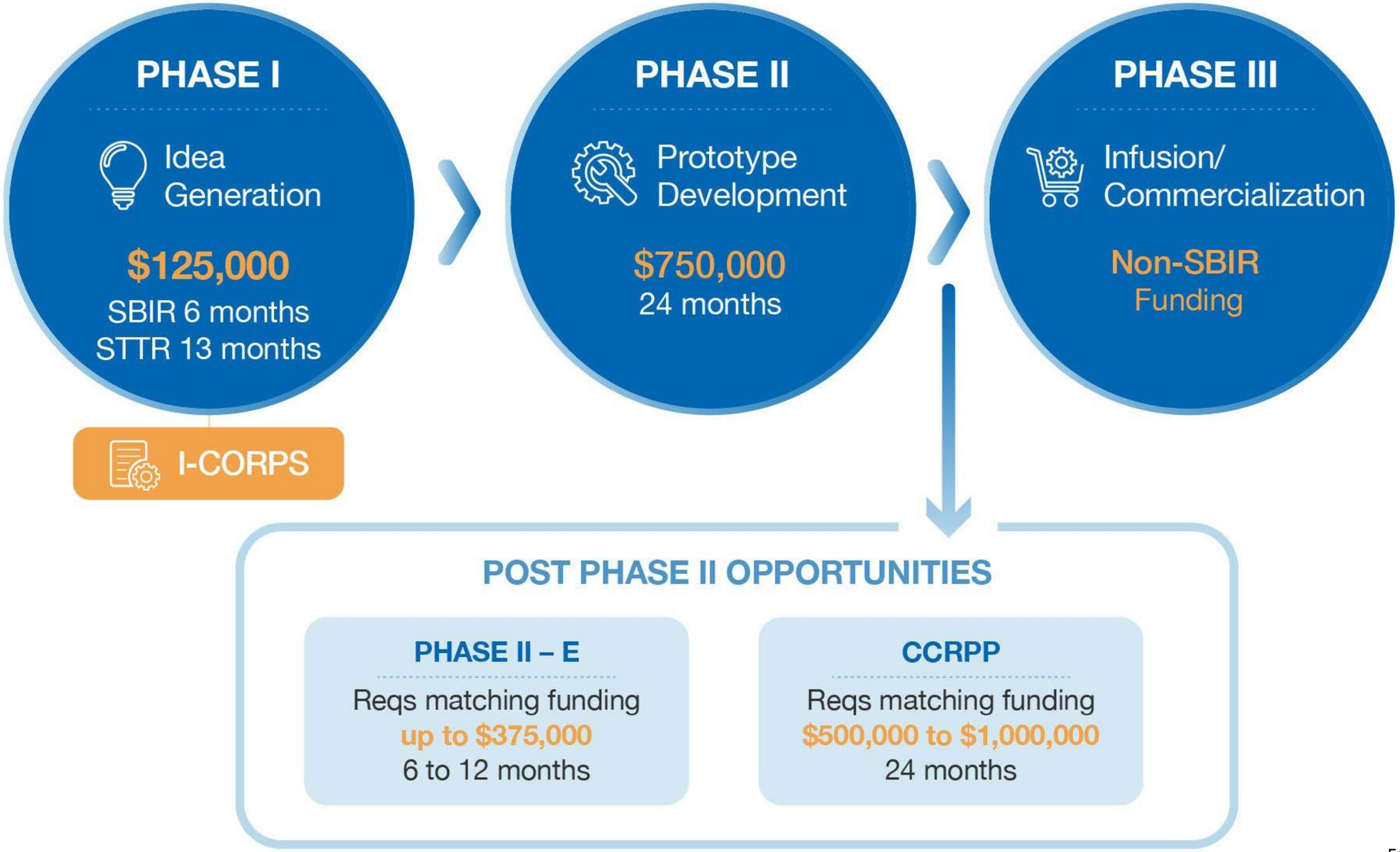
# NASA SBIR/STTR Program

As a program under STMD, the NASA SBIR/STTR Program funds the research, development, and demonstration of innovative technologies that fulfill NASA needs, including those needed for the **Artemis** mission.

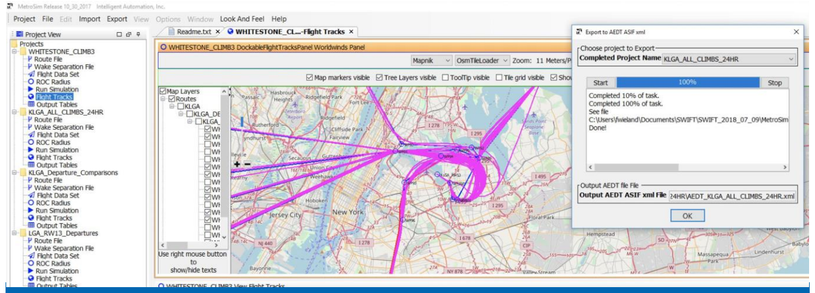
NASA's SBIR/STTR Program has **awarded more than $3.3 billion** to research-intensive American small businesses

Engineers and scientists from **more than 12,000** small businesses in all 50 States, DC and Puerto Rico have participated

# NASA SBIR/STTR Opportunities



# Success Stories



## Intelligent Automation, Inc. - Rockville, MD

**Air Traffic Simulation Technology for High-Population Metroplexes**

**PHASE III SUCCESS:**
The development of MetroSim with the NASA SBIR/STTR Program led to more than $2M in additional funds from NASA, FAA, DOT, the Port Authority of New York and New Jersey, and Navy.

**SNAPSHOT:**
IAI's MetroSim optimizes air traffic by simulating departures, arrivals, and activity in air and on the ground in busy metroplexes, where flights impact each other at a single airport and among traffic at nearby airports. MetroSim evolved out of several NASA SBIR/STTR Awards and has since been used by NASA for flight simulation analysis. MetroSim has also been integrated with FAA and DOT technology, has produced studies for the Port Authority of New York and New Jersey, and is under development to support the Navy.


## Techshot - Greenville, IN

**Space-based Biomanufacturing Facility for Vascular Grafts, Tissues, and Organs**

**POST-PHASE II SUCCESS:**
$1.5M in CCRPP investment from the ISS National Lab

**SNAPSHOT:**
Techshot developed a BioFabrication Facility (BFF) originally under DARPA, received a $1.5M CCRPP from the NASA SBIR/STTR Program supported by the ISS National Lab. BFF the first-ever 3Dprinter capable of manufacturing human tissue in the microgravity condition of space.

# Questions?

Visit our 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
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

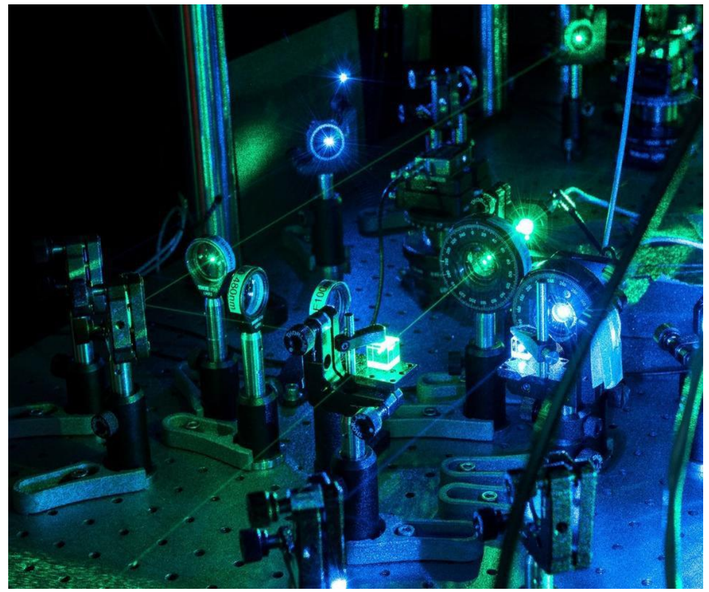



Photo Credit: Curt Suplee/NIST

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 |

TABA: Phase I $6500, Phase II $50,000

NIST FY 2020 SBIR budget - $4.4M

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](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

Success Rate: Phase I ~ 20%, Phase II 50%

NIST awards are cooperative agreements.

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

# FY 2020 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

# 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.***

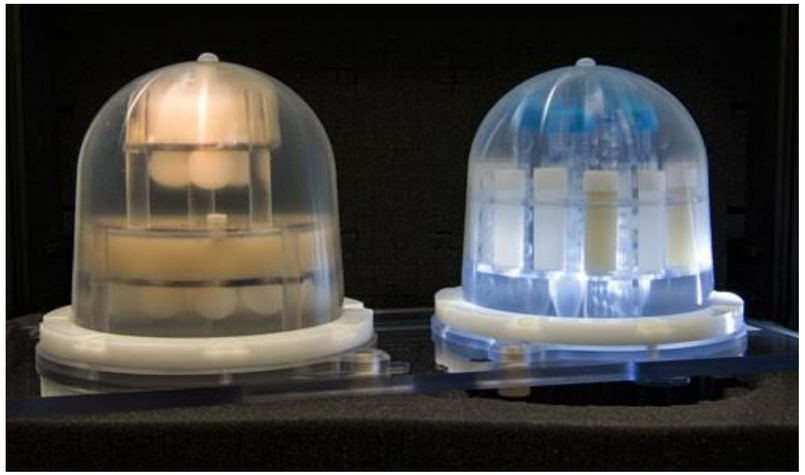
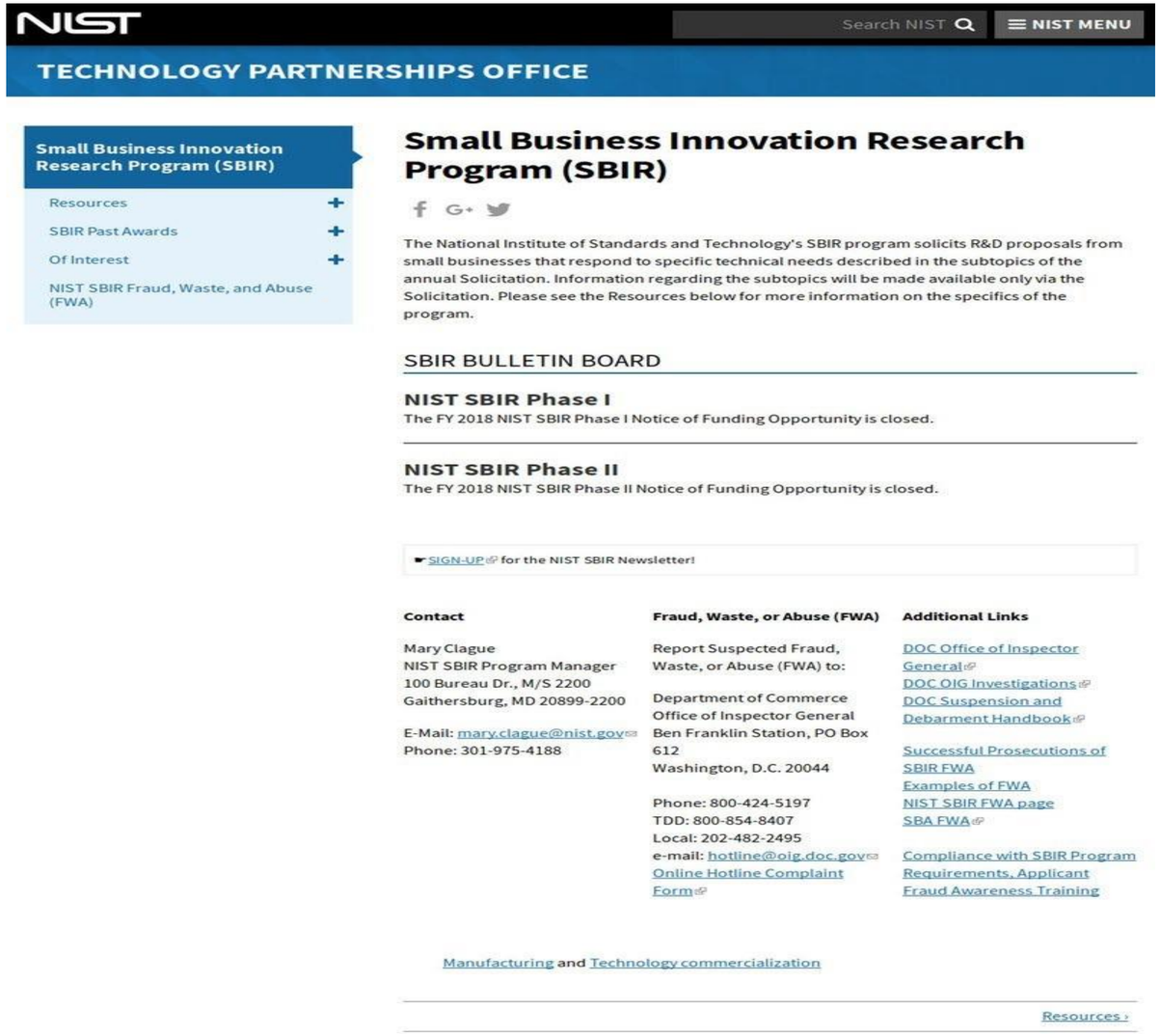


***Photo Credit: NIST/PML***

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

# NIST SBIR website




http://www.nist.gov/sbir

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

# Contact Information

**Mary Clague**
NIST SBIR Program Manager
mary.clague@nist.gov
301-975-4188

http://www.nist.gov/sbir

# NOAA's Small Business Innovation Research (SBIR) Program

2020 SBIR/STTR Road Tour

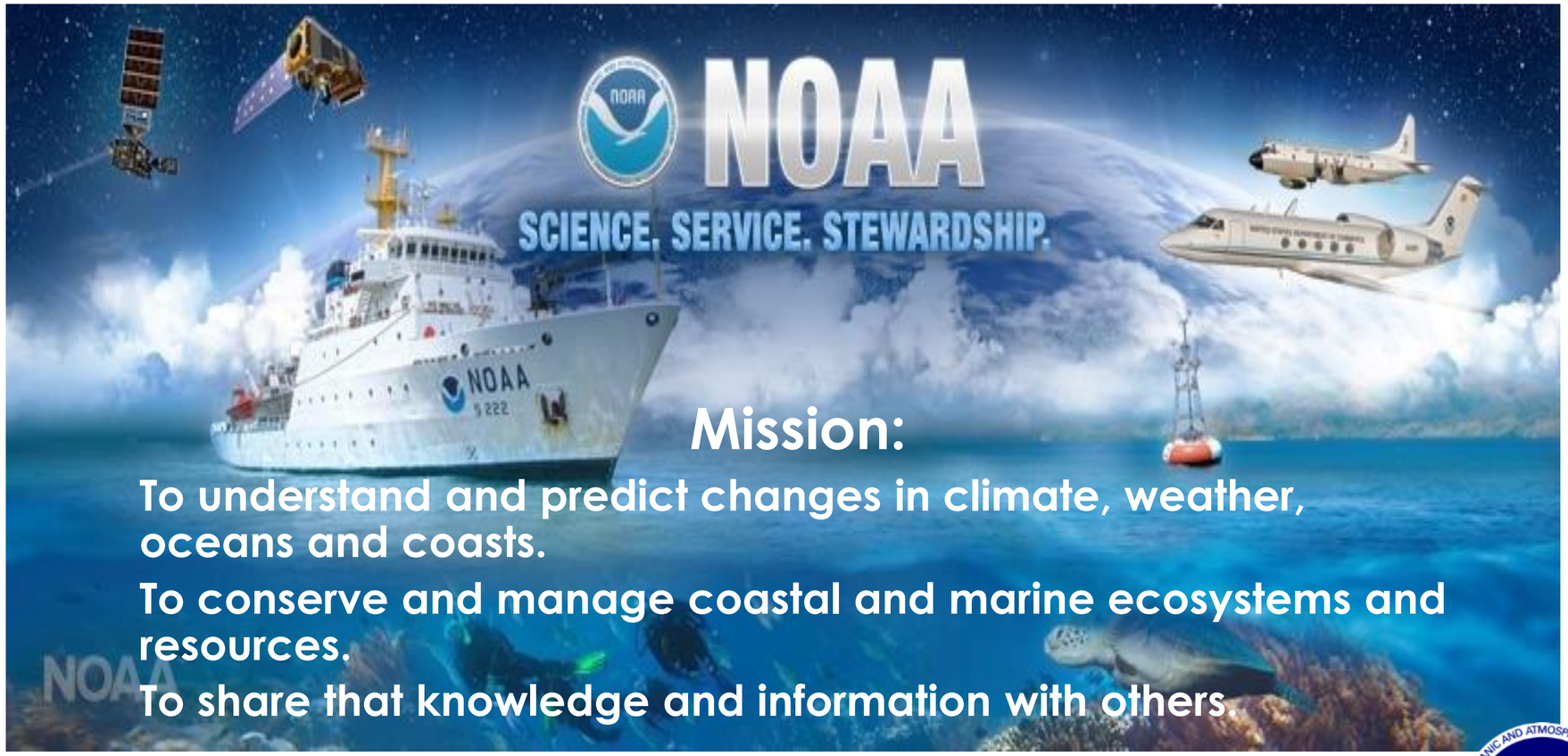
Richard Fulton
SBIR Program Manager
Technology Partnerships Office

# National Oceanic and Atmospheric Administration

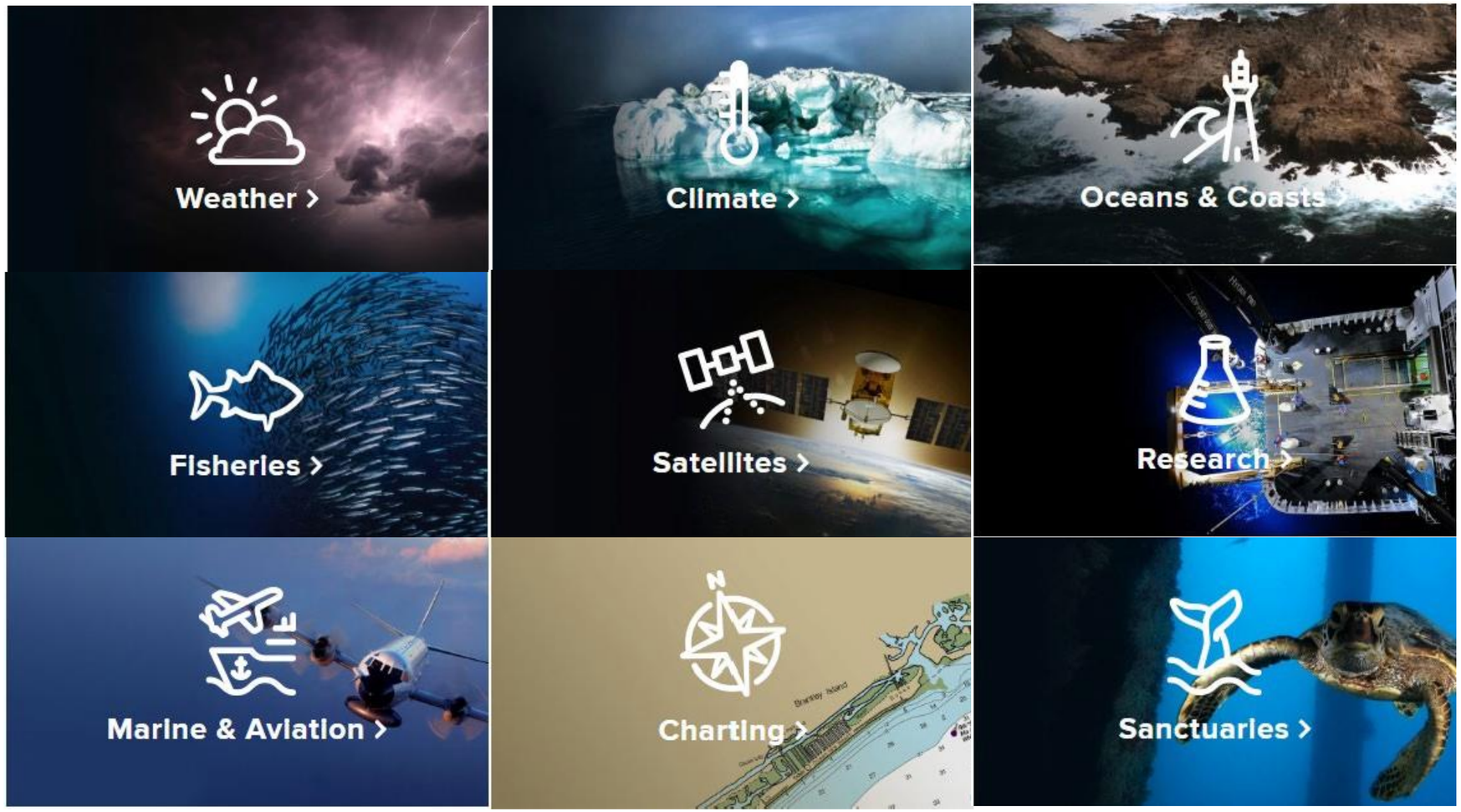
## U.S. Department of Commerce

https://www.noaa.gov/

https://techpartnerships.noaa.gov/SBIR



# NOAA Mission Areas



# NOAA's SBIR Program

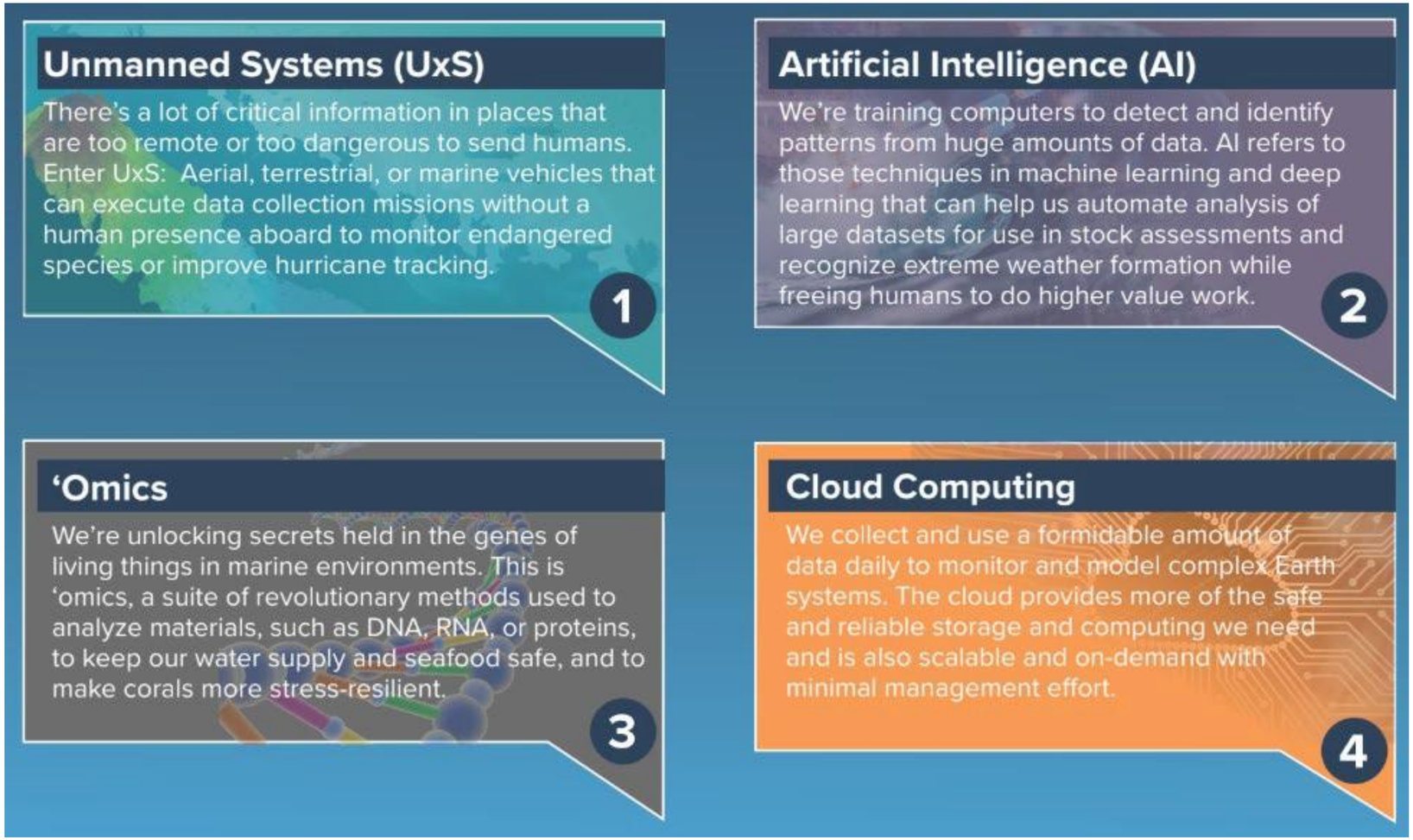
- Funds development of innovative products and services that relate to and benefit NOAA's mission
- Commercial potential is required
- Grants are the funding mechanism…~$10M annual budget
- Commercialization assistance provided to small businesses

# Previous 2019 Funded SBIR Topic Areas

- Aquaculture
- Recreational and Commercial Fisheries
- Weather Service Improvement & Evolution
- Next Generation NOAA Observing Platforms
- Next Generation Observation & Modelling Systems

***Find all of our past requests for proposals and all our funded projects with abstracts on our SBIR web site***

# 2020 NOAA Science & Technology Research Focus Areas




https://nrc.noaa.gov/NOAA-Science-Technology-Focus-Areas

# NOAA's SBIR 3-Phase Competitive Grant Process

**Phase I**
Concept Development
6 months $150,000
~25 awards/year
23% success rate

**Phase II**
Prototype Development
24 months $500,000
~16 awards/year
65% success rate

**Phase III**
Commercialization
No NOAA SBIR funding

## Annual Solicitation-to-Award Process

Publish Phase I Solicitation → Proposal Submission → Evaluation → Award Phase I

Publish Phase II Solicitation → Proposal Submission → Evaluation → Award Phase II

* NOAA does not have an STTR program

# Next NOAA SBIR Phase I Schedule


* Phase II follows a different staggered annual schedule

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION OCEANIC AND ATMOSPHERIC RESEARCH

# TECHNOLOGY PARTNERSHIPS OFFICE

Promoting Partnership & Commercialization of NOAA Technology and Innovations

**Richard Fulton**
**NOAA SBIR Program Manager**
**NOAA.SBIR@noaa.gov**
**301.628.1067**

**techpartnerships.noaa.gov**

**@NOAASBIR**

# Small Business Innovation Research and Small Business Technology Transfer Program

## *National Science Foundation*

*July 2020*

America's SEED FUND
SBIR.STTR

# NSF SBIR/STTR Program

- Approximately **$200 million program** that focuses on translating deep-technology innovations into commercial impact

- Centralized program led **by dedicated Program Directors** with relevant technical and commercial (startup/industry/investment) experience

- Awards via flexible **grants**

- Phase I, II and supplements can add up to **approximately $2 million**

# Technology Areas

NSF encourages proposals in **all areas of science and engineering**. An exact fit into a topic or subtopic is not required.

- Advanced Manufacturing (M)
- Advanced Materials (AM)
- Biological Technologies (BT)
- Chemical Technologies (CT)
- Distributed Ledger (DL)
- Environmental Technologies (ET)
- Instrumentation and Hardware Systems (IH)
- Medical Devices (MD)
- Other Topics (OT)
- Photonics (PH)
- Quantum Information Technologies (QT)
- Semiconductors (S)
- Wireless Technologies (W)

# 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
- **Startup Creation:** Many Phase I awardees have only recently been incorporated

# Good Fit vs. Bad Fit

## You might be a good fit if…

- ✓ You need to do **significant technical R&D** needed to overcome challenging technical hurdles in the creation of a new product or service
- ✓ You have **a unique and defensible technical innovation** that promises to create a durable competitive advantage for your firm
- ✓ Your company is structured and staffed for **aggressive commercialization** of the new product/service
- ✓ You have **significant understanding of market and customer** indicating potential to meet an unmet commercial need

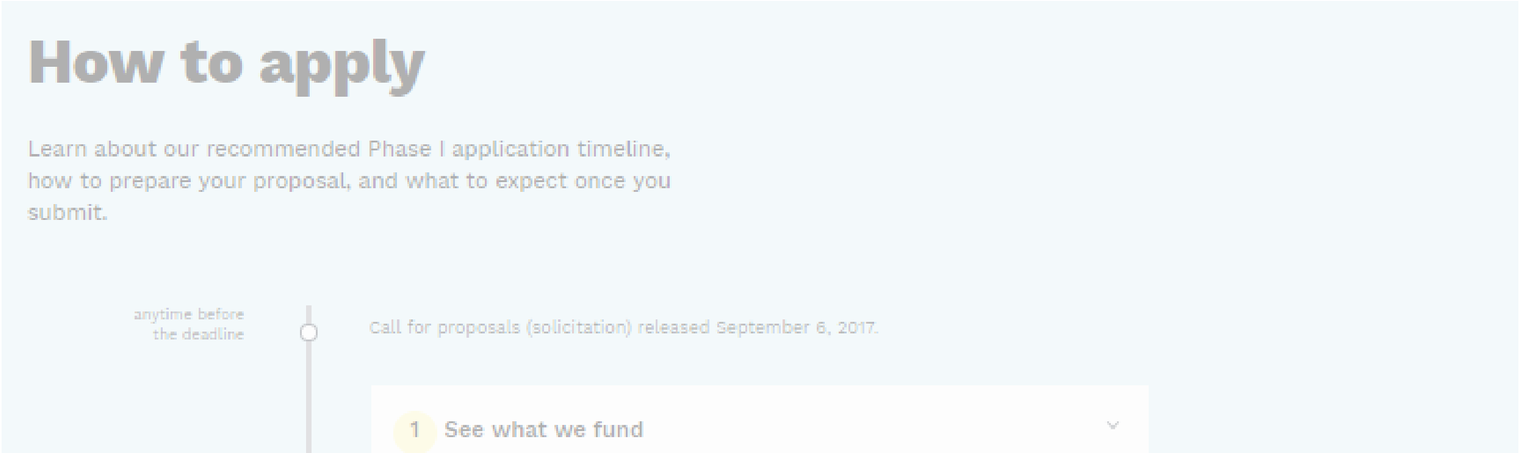
# Good Fit vs. Bad Fit

You might not be a good fit if…

- ✓ Your goal is to do basic research (i.e. primary goal is knowledge creation and/or dissemination
- ✓ Your goal is to do contract R&D to serve the needs of the funding agency
- ✓ Your product/service has already been proven viable and requires incremental improvement/evaluation/optimization/scale-up

# First steps: seedfund.nsf.gov/apply

- Submit a 3-page Project Pitch and a Program Director will respond in < 3 weeks
- Project Pitches are accepted anytime and require no other government registrations
- If invited, full proposals are accepted any time during an open submission window. (Remaining 2020 submission windows close in September, and December 2020).



# THANK YOU!

*Ben Schrag*

***sbir@nsf.gov***

***@NSFSBIR***

***https://seedfund.nsf.gov***

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

# USDA SBIR Program Goals

- Meet federal **research and development (R&D)** needs by stimulating technological **innovation**
- Increase private-sector **commercialization** of innovation derived from federal R&D funding
- Foster and encourage **participation** in innovation and entrepreneurship by women and socially/economically disadvantaged individuals

SBIR

# USDA SBIR Program

- Annual Budget ~$25 M
- Funding Opportunities for grants – SBIR only
  - Phase I  = 8 Months/$100,000
  - Phase II = 2 Years/$600,000
- FY 2020: Phase I (16.1%)
    - 435 Phase I applications submitted
    - 70 Phase I awards
- FY 2020 Phase II (42.6%)
    - 68 Phase II applications submitted
    - 29 Phase II awards
  - Technical and Business Assistance (TABA)

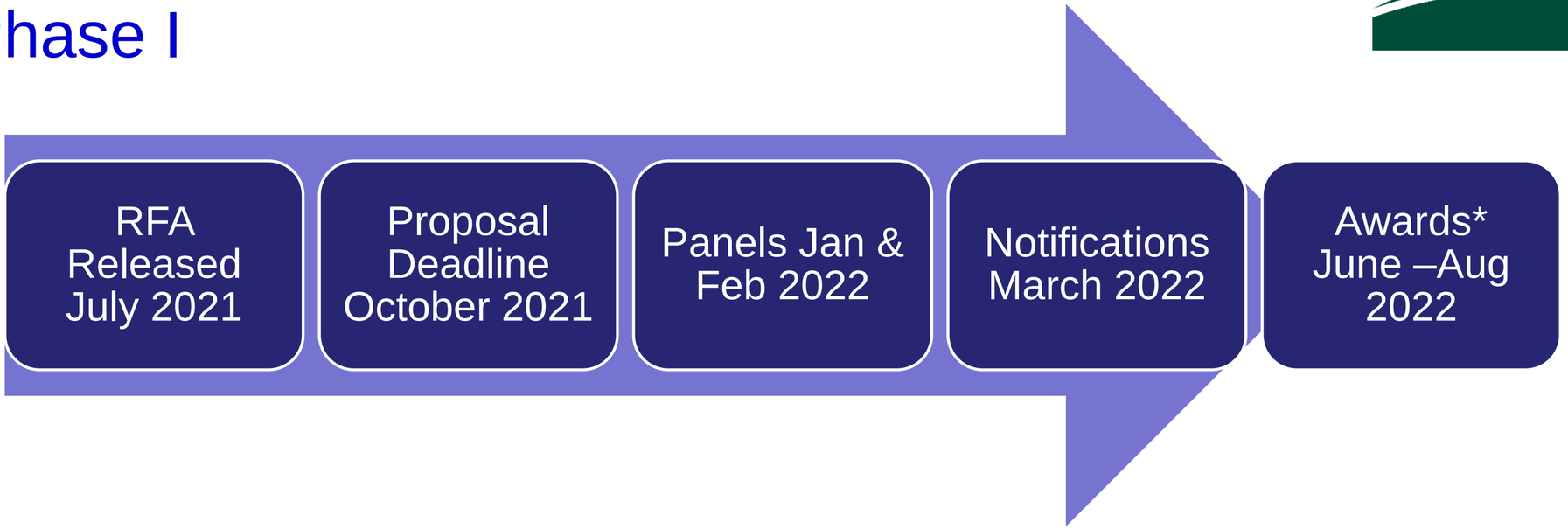
# SBIR Topic Areas

| | |
|---|---|
| **8.1** Forests & Related Resources | **8.6** Rural & Community Development* |
| **8.2** Plant Production & Protection (Biology) | **8.7** Aquaculture |
| **8.3** Animal Production & Protection | **8.8** Biofuels & Biobased Products |
| **8.4** Conservation of Natural Resources | **8.12** Small & Mid-Sized Farms* |
| **8.5** Food Science & Nutrition | **8.13** Plant Production & Protection (Engineering) |

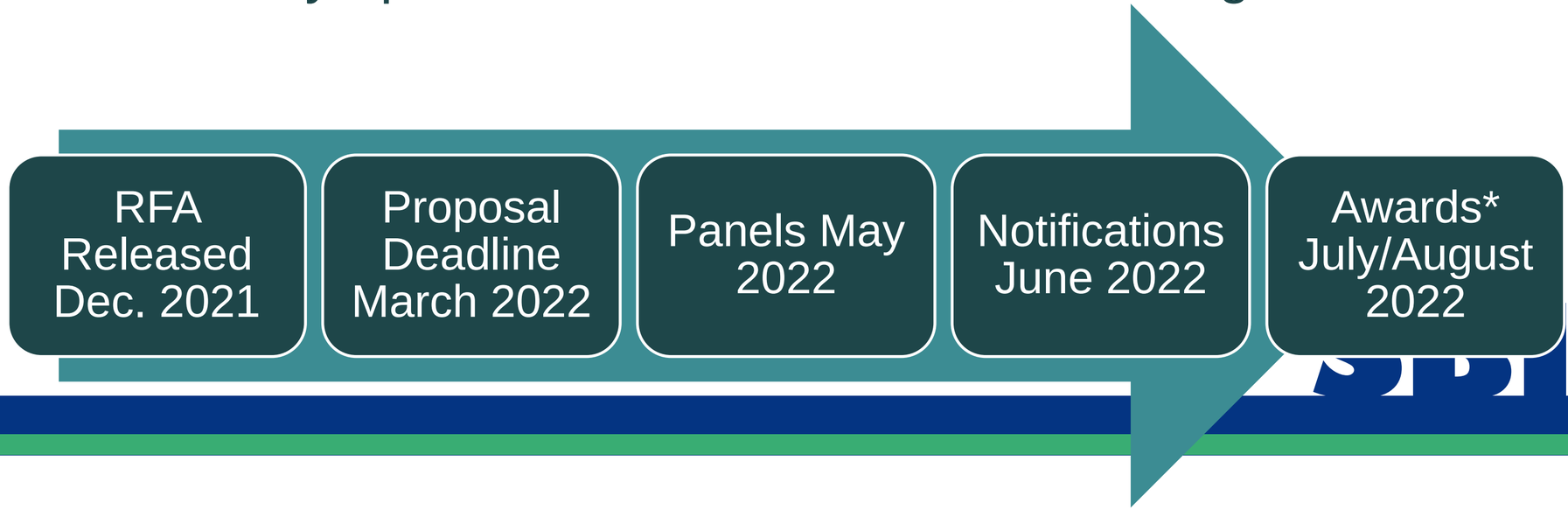
* Off the shelf technologies are accepted

# FY 2021 Timeline

## Phase I




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



# USDA SBIR REVIEW PROCESS

- Proposals are evaluated by confidential peer review using outside experts from academia, industry, non-profits and federal labs
  - Ad-hoc reviewers as needed
  - Reviewers must sign COI and Confidentiality form
- All applicants receive verbatim copies of reviews
- Phase I applicants that were not selected for funding are able to reapply for Phase I funding during the next solicitation cycle.
- Phase II applicants are only able to apply one time per Phase I proposal, no resubmissions.

SBIR

# University and Government Scientist Involvement in USDA SBIR Program

- Strongly encouraged
- Scientists may serve as consultants or receive a subcontract and continue to work full time at their home institution
  - Phase I: 1/3  of budget
  - Phase II: 1/2 of budget
- Scientists may serve as the principal investigator on an SBIR grant, by reducing employment at their home institution to 49% for the duration of the grant and if the SBIR research is performed someplace other than their research lab
  - Usually not acceptable for university or government scientists to serve as consultants and have all the research done in their lab
- Develop a Cooperative Research and Development Agreement (CRADA) with a USDA Lab or License USDA innovation

SBIR

# Review Criteria

- Scientific and Technical Feasibility
- Importance of the Problem
- Investigator and Resource Qualifications
- Budget
- Format
- Duplication
- Reviewer’s Recommendation

SBIR

# Factors that Improve Chances for Commercial Success

- High Scientific/Technical Merit/Commercial Potential
- Good Consultants, CRADA
- Business Expertise
- Strong letters of Support from Phase III Partners, End-Users, Consumers and Investors
- Clear Understanding of Entry and Sustainability in the Market

SBIR

# Factors that Improve Chances for Commercial Success

**"Additional factors that will be considered in the review process include whether a Phase I or II application involves a CRADA with a USDA laboratory, or a license to a USDA technology."**

**In the event that two or more applications are of approximately equal merit, the existence of a CRADA with a USDA laboratory or a license to a USDA technology will be an important consideration."**

SBIR

# U.S. Department of Agriculture

## Small Business Innovation Research Program

**Melinda Coffman**

**805 Pennsylvania Ave**

**Kansas City, MO 64105**

**Phone: (202) 430-3002**

**E-mail: melinda.coffman@usda.gov**

**SBIR@usda.gov**

**Web Site: www.nifa.usda.gov/sbir**

SBIR

SMALL BUSINESS INNOVATION RESEARCH SMALL BUSINESS TECHNOLOGY TRANSFER

# AIR FORCE SBIR/STTR

## An Overview

**Presenter: James A.Sweeney III**

**U.S.Air Force SBIR|STTR Chief Strategic Communications Officer**

U.S. AIR FORCE SBIR-STTR

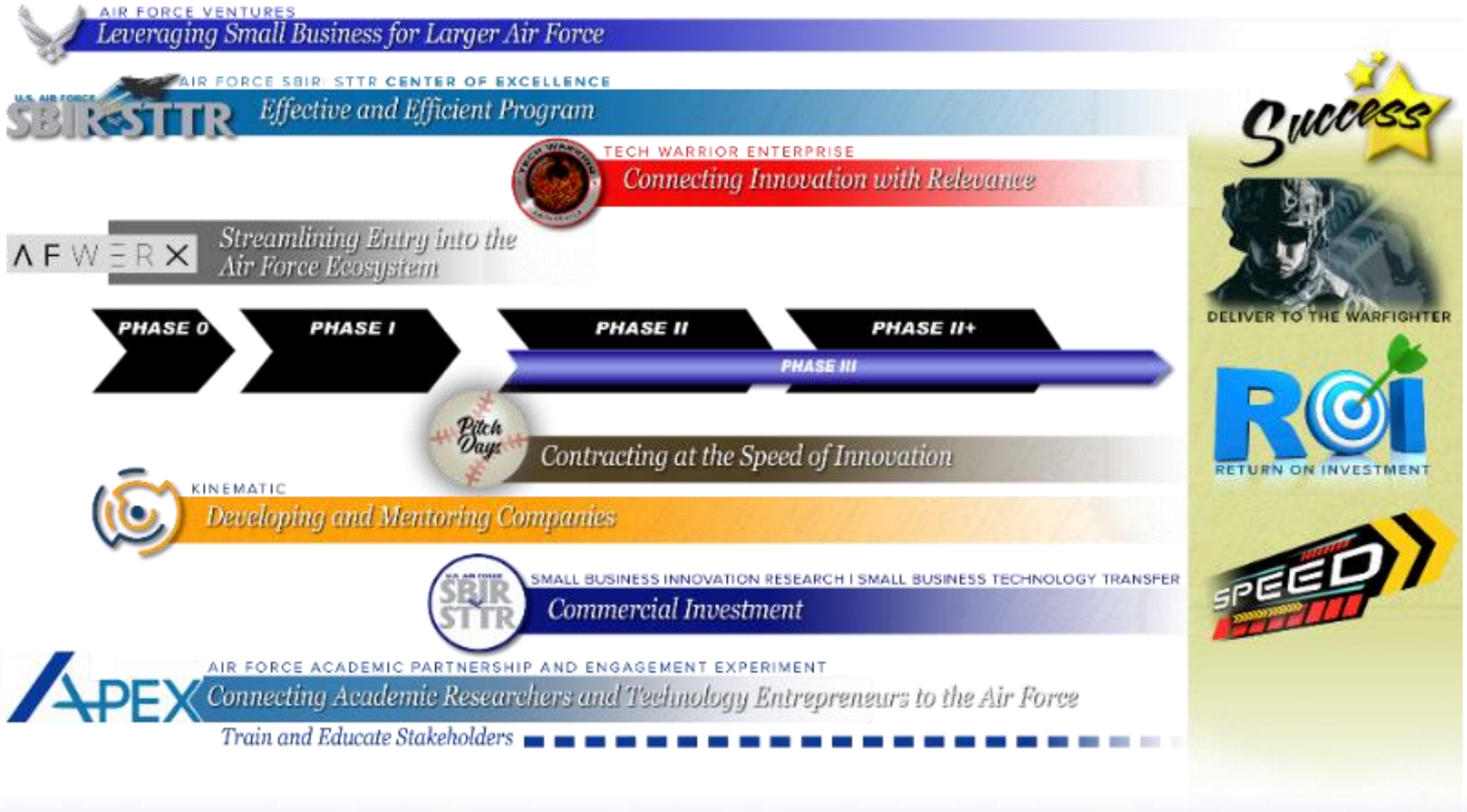
https://www.afsbirsttr.af.mil

# Air Force SBIR/STTR
# "Problem Statement"

*The "Challenge" to SBIR Transition has always been "The Valley of Death" (i.e., SBIR dollars run out)!!*

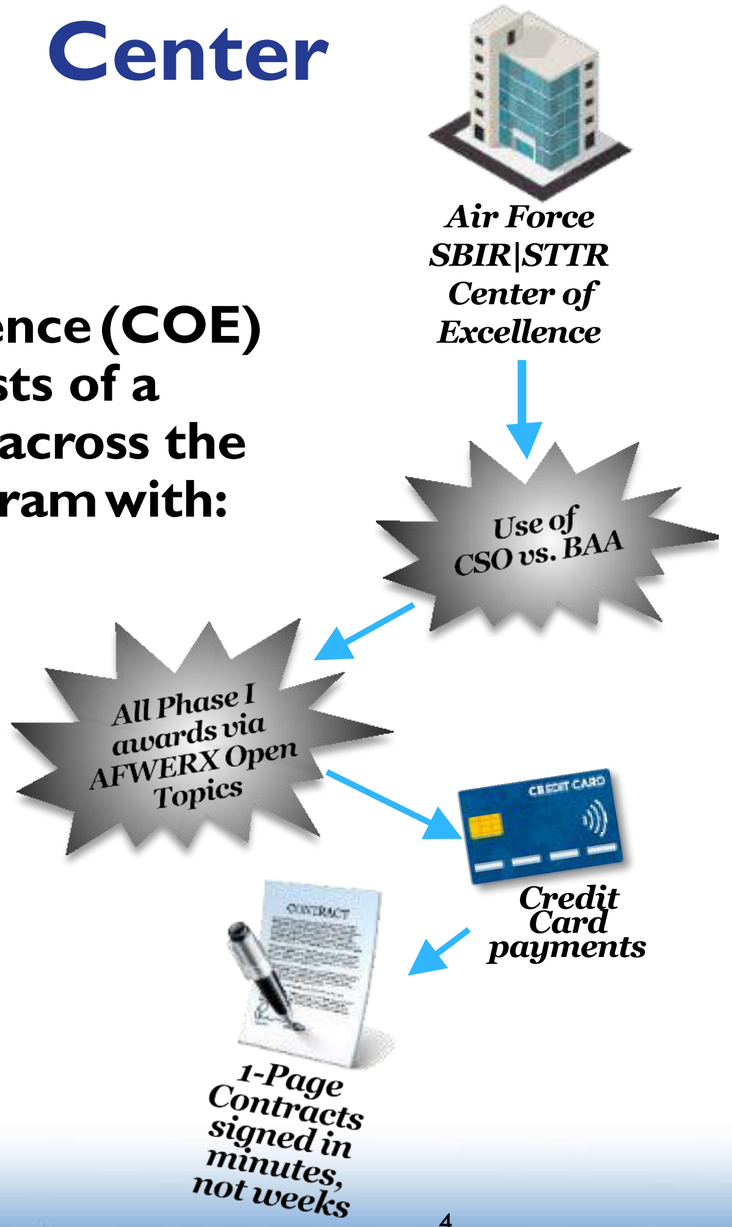
*Solving this problem is/continues to be the North Star for Air Force SBIR Program!!*

# Air Force SBIR|STTR Roadmap



# Air Force SBIR|STTR Center of Excellence

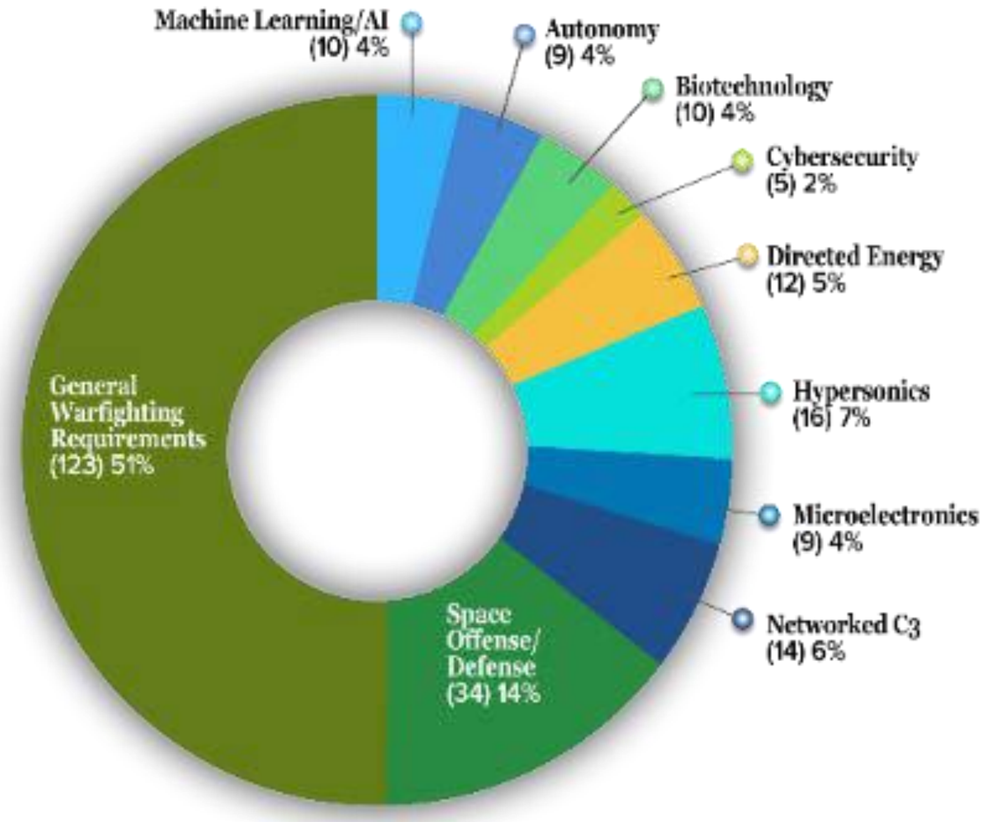
- **The Air Force SBIR/STTR Center of Excellence (COE) is headquartered in Dayton Ohio and consists of a 100+ government/contractor team located across the US providing the Air Force SBIR/STTR program with:**
  - **Executive Leadership**
  - **Business Operations**
  - **Communications/Marketing**
  - **Contracting Services**
  - **Financial Management**
  - **Infrastructure Support**
  - **Technology Commercialization**



# Air Force is doing things a "Bit Differently"

- **Goal: Reduce time between close of proposal period and award of contract (both Phase I and II)**
- **Current averages are ~170 calendar days for Phase I and 180+ calendar days for Phase II**
- **We have already Demonstrated:**
  - Reduced the average time to contract award
  - Working to reduce all of the times
  - Focus on the Cash flow challenges for companies
  - Demonstrated we can drive average down with open innovation bulk awards (Phase I proposals and Direct to Phase 2 (D2P2) for the current FY)

# Total SBIR|STTR Topics in BAA19.1/2/3; 19.A/B/C and D2P2




The technology areas: 5G, Nuclear Modernization and Quantum Science did not have any topics that aligned to these areas for the Air Force SBIR|STTR Program.

# SBIR|STTR Statistics FY 2015 - 2019

**SBIR**

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| SBIR Topics | 158 | 167 | 157 | 218 | 198 |
| Budget | $285.2M | $293.8M | $357.5M | $542.9M | $698M |
| **SBIR Phase I** | | | | | |
| Proposals | 2031 | 1910 | 1926 | 3534 | 4721 |
| Awards | 337 | 297 | 267 | 358 | 1211 |
| **SBIR Phase II** | | | | | |
| Proposals | 465 | 447 | 410 | 370 | 1188 |
| Awards | 493 | 167 | 209 | 224 | 451 |

**STTR**

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| STTR Topics | 85 | 29 | 38 | 37 | 45 |
| Budget | $39M | $44.1M | $50.1M | $81.6M | $98M |
| **STTR Phase I** | | | | | |
| Proposals | 274 | 196 | 267 | 316 | 50 |
| Awards | 76 | 85 | 56 | 458 | 121 |
| **STTR Phase II** | | | | | |
| Proposals | 56 | 82 | 75 | 77 | 78 |
| Awards | 16 | 48 | 30 | 33 | 52 |

*FY19 data is as of 9/30/19*

# Air Force SBIR/STTR

## *“going forward”*

The AF SBIR/STTR program has never
had a brighter light (opportunity) to
impact and provide achievable benefit(s)
to the WarFighter!

**https://www.afsbirsttr.af.mil/**

U.S. ARMY SBIR|STTR

*Dr. Matt Willis, Director*
*Army Prize Competitions & Army Applied SBIR Program*

# Small Business Igniting Big Innovation

The Army SBIR|STTR Programs align innovative small businesses with urgent U.S. Army priorities to turnover game-changing solutions to our most critical customer—the Soldier.

**Innovation Through Collaboration:**

- Break down barriers to working with the Army
- Stimulate technological innovation
- Partner with small businesses to meet Army research and development needs
- Connect awardees with subject matter experts to guide technology maturation

# Army Needs Drive Our Focus

We invest in topics and technologies that align with urgent Army modernization priorities, as well as the  DoD's key science and technology areas, and focus on what is likely to transition to actual Army use.

We bring together Army technical and acquisition subject matter experts to identify critical Army capability gaps, evaluate the technology adoption landscape across Army programs, and provide crucial feedback to Army SBIR|STTR awardees.

**Our partnership doesn't end with an award.** We work with companies every step of the technology maturation process—which may lead to a larger, long-term contract with the Army's research and acquisition enterprise—with the goal to commercialize their technology.

# We Release Topics a Little Differently

- To respond to urgent Army needs, and to increase flexibility beyond the pre-determined announcements, **we release topics on an ad hoc, rolling basis,** which maximizes the initial cash-flow for companies while minimizing the time to contract.
- A smaller portion of Army SBIR|STTR looks at the current and anticipated war-fighting technology needs and releases topics during three specific solicitation periods throughout the fiscal year.

# Army Modernization Priorities

The Army is committed to funding its modernization priorities and enabling areas, which will drive development for the future multi-domain operating environment.

- Long Range Precision Fires (artillery)
- Next Generation Combat Vehicle (armor)
- Future Vertical Lift (aviation)
- Army Network
- Air and Missile Defense
- Soldier Lethality (infantry)
- Assured Positioning, Navigation, and Timing
- Synthetic Training Environment

# Criteria to Identify Technology Ecosystems

- Overlap with Army needs
- Technical subject matter expertise in the private sector
- Opportunity for small business market growth

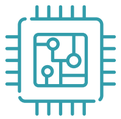

AI / ML


Chemical and Biological


Electronic Warfare


Network Technologies


Software Modernization


Advanced Materials and Manufacturing

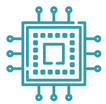

Cyber


Human Performance


Position, Navigation, and Timing


Sensors


Autonomy


Electronics


Immersive


Power


Weapons Systems

"Equally important is a more **business-friendly SBIR approach** which streamlines proposal requirements, reduces time to capital, and incentivizes rapid contracting. This sends a clear message to the American innovation community that commercial success and technology partnership with the Army are not mutually exclusive."
*-Honorable Christine Wormuth, U.S. Secretary of the Army*

# Learn More

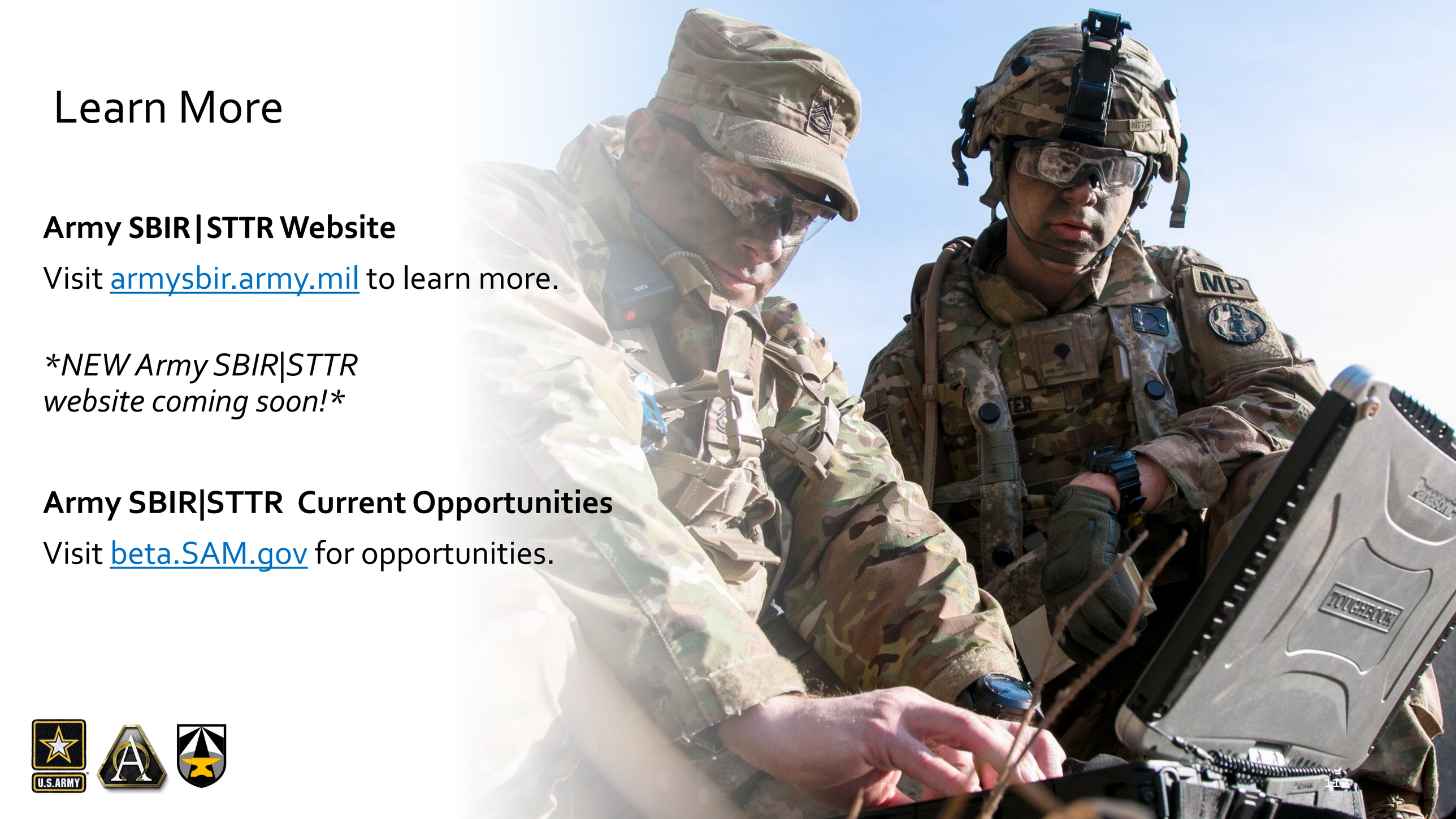
**Army SBIR|STTR Website**

Visit armysbir.army.mil to learn more.

**NEW Army SBIR|STTR website coming soon!**

**Army SBIR|STTR  Current Opportunities**

Visit beta.SAM.gov for opportunities.



# *Chemical and Biological Defense (CBD)*

## *Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (STTR)*

## *at The Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD)*

*Mr. Larry Pollack*
*CBD SBIR/STTR Program Manager*

# Technology Areas of Interest

- BLUF: Very niche specific technology requirements

- Physical Science & Technology
  - Detection
    - Point Detection
    - Standoff Detection
  - Individual Protection
  - Collective Protection
  - Hazard Mitigation (e.g., Decontamination)

# Technology Areas of Interest (cont'd)

- Medical Science & Technology
  - Vaccines/Pre-treatments
  - Biological Countermeasures (Therapeutics primarily targeting CDC Category A&B pathogens)
  - Chemical Countermeasures (Therapeutics primarily targeting nerve agents, vessicants, and select Toxic Industrial Chemicals)
  - Medical Diagnostics
- Digital Battlespace Management
  - Modeling & Simulation
  - Data Fusion
  - Disease Surveillance
  - Health & Human Effects

# Chemical and Biological Defense
# CBD SBIR & STTR Programs

- **Topics**
  - Average 8 new SBIR topics annually and 1 new STTR topic every other year
- **Proposal Selection**
  - Phase I: 2 - 4 awards per topic; average 3 Phase I projects
  - Phase II: 50% of Phase I projects transition to a Phase II project award
- **Contract Awards**
  - Phase I: up to $167,500 per award; 6-month Period of Performance (no option period)
  - Phase II: up to $1.1M per award; 24-month Period of Performance

# How to contact us?

**Mr. Larry Pollack**
**Chemical and Biological Defense SBIR/STTR Program Manager**
**Joint Science & Technology Office for Chemical and Biological Defense**
**Fort Belvoir, Virginia**

**lawrence.p.pollack2.civ@mail.mil**

**(571) 616-6037**

**WWW.CBDSBIR.NET**

# SBPO

## Small Business Programs Office

Jennifer Thabet, Program Director

**Small Business Support Team** 703-526-4170 | sbir@darpa.mil

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

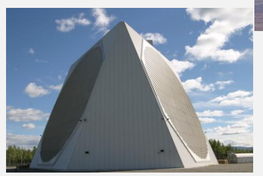
# Breakthrough Technologies and Capabilities for National Security

*Military Application*

**Communications/ Networking**

**Stealth**

**Radar Arrays**



**Precision Guidance & Navigation**

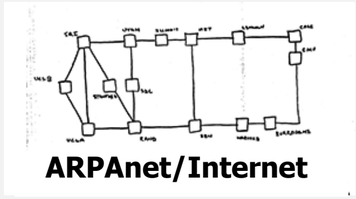
**UAVs**

**IR Night Vision**

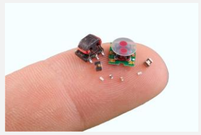
**Hypersonics & LEO Satellites**

**1960s** **1970s** **1980s** **1990s** **2000s** **2010s** **2020s**

*Commercial Transition*

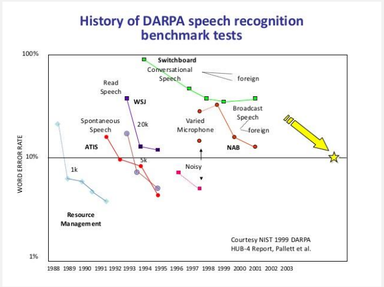


**ARPAnet/Internet**



**Microelectronics:** VLSI, CAD, manufacturing, IR, RF, MEMS

**Information Technology:** timesharing, client/server, graphics, GUI, RISC, speech recognition




**Revolutionizing Prosthetics**

**Materials Science:** semiconductors, superalloys, carbon fibers, composites, thermoelectrics, ceramics

## DARPA's role: Pivotal early investments that change what's possible

# DARPA Structure



Dr. Stefanie Tompkins (Director)

Dr. Peter Highnam (Deputy Director)

## Technical Offices

Office Directors
Program Managers

## Support Offices

SBPO, Comptroller,
Contracts Management, etc.

- Advanced science & technology, above and beyond Service Labs; not requirements driven.
- Revolutionary, high-payoff research that bridges the gap between fundamental discoveries and ultimate defense use.

# DARPA Characteristics

SBIR·STTR
POWERED BY INNOVATORS
MOVING TECHNOLOGY FORWARD

- $3B Funding Agency
- Revolutionary Change
- High Risk Tolerance
- Program Manager Centric
- Just-In-Time Topic Development

**SBIR Program**

**3.2% of all extramural RDT&E**

**FY21 - $93.4M**

**STTR Program**

**.45% of all extramural RDT&E**

**FY21 – $13.5M**

# DARPA Technical Offices

SBIR·STTR
POWERED BY INNOVATORS
MOVING TECHNOLOGY FORWARD

## BTO
### BIOLOGICAL TECHNOLOGIES OFFICE

- Detect and characterize threats
- Rapid, scalable protection and countermeasures
- Warfighter overmatch
- Non-traditional platforms and capabilities

## DSO
### DEFENSE SCIENCES OFFICE

- Frontiers in math, computation & design
- Limits of sensing & sensors
- Complex social systems
- Anticipating surprise

## I2O
### INFORMATION INNOVATION OFFICE

- AI to the mission
- Advantage in cyber operations
- Confidence in the information domain
- Resilient adaptable, and secure systems

## MTO
### MICROSYSTEMS TECHNOLOGY OFFICE

- Embedded intelligence / localized processing
- Spectral dominance
- Microsystem integration for functional density and security
- Disruptive microsystem defense applications

## STO
### STRATEGIC TECHNOLOGY OFFICE

- Mosaic Warfare: Joint all-domain lethality with continuous speed and adaptability
- Tools and infrastructure for interoperable, adaptive kill webs
- Sensors and non-kinetic effects

## TTO
### TACTICAL TECHNOLOGY OFFICE

- Tactical systems
- Platforms, systems, and technologies that enable new warfighting constructs
- Reimagine missions across maritime, ground, air and space domains

# SBIR/STTR Program Broad Agency Announcement (BAA)

SBIR·STTR
POWERED BY INNOVATORS
MOVING TECHNOLOGY FORWARD

| | |
|---|---|
| DARPA issues an out-of-cycle BAA for its SBIR/STTR Program | Out-of-cycle BAA allows DARPA SBIRs/STTRs to be more responsive to Tech Office needs and funding streams.<br>FY21 SBPO BAA was released January 04, 2021. |
| Topics are released under this BAA as they are approved | This ensures SBIR/STTR funding opportunities are aligned with DARPA's primary technology programs and avails small businesses the benefits associated with integration into established program communities.<br>Note – Other DoD agencies only issue SBIR/STTR topics during three pre-determined announcements. |
| Topics are released as Phase I, Direct to Phase II (DP2) or both | Allows Program Managers to cast a broad net for potential solutions as DP2 allows DARPA to make a Phase II SBIR award to a small business concern, without regard to whether the firm was provided Phase I award. |
| Companies must propose to specific topic(s) before BAA close | Proposals are evaluated based on three (3) criteria: (1) Technical Merit and Innovation of Proposed Approach, (2) Qualification of Key Personnel and Facilities, and (3) Potential for Commercialization. |

# SBIR/STTR Program Structure

| Phase | SBA SBIR/STTR Program | DARPA SBIR/STTR Program |
|---|---|---|
| Phase I (optional) | $259,613 cap (12 months)<br>Feasibility Study | $225,000 (~10 months)<br>Feasibility Study |
| Phase II* | $1,730,751 cap (24-36 months)<br>Adoptions/Co-funds<br>Continued Research and Prototype | $1,500,000 (24-36 months)<br>Adoptions/Co-funds<br>Continued Research and Prototype |
| Phase II Enhancement | $1:$1 Match (up to 12 months) | $1:$1 Match (up to 12 months)<br>Up to $500K |
| Phase III | No time limit<br>No SBIR funds | No time limit<br>No SBIR funds |

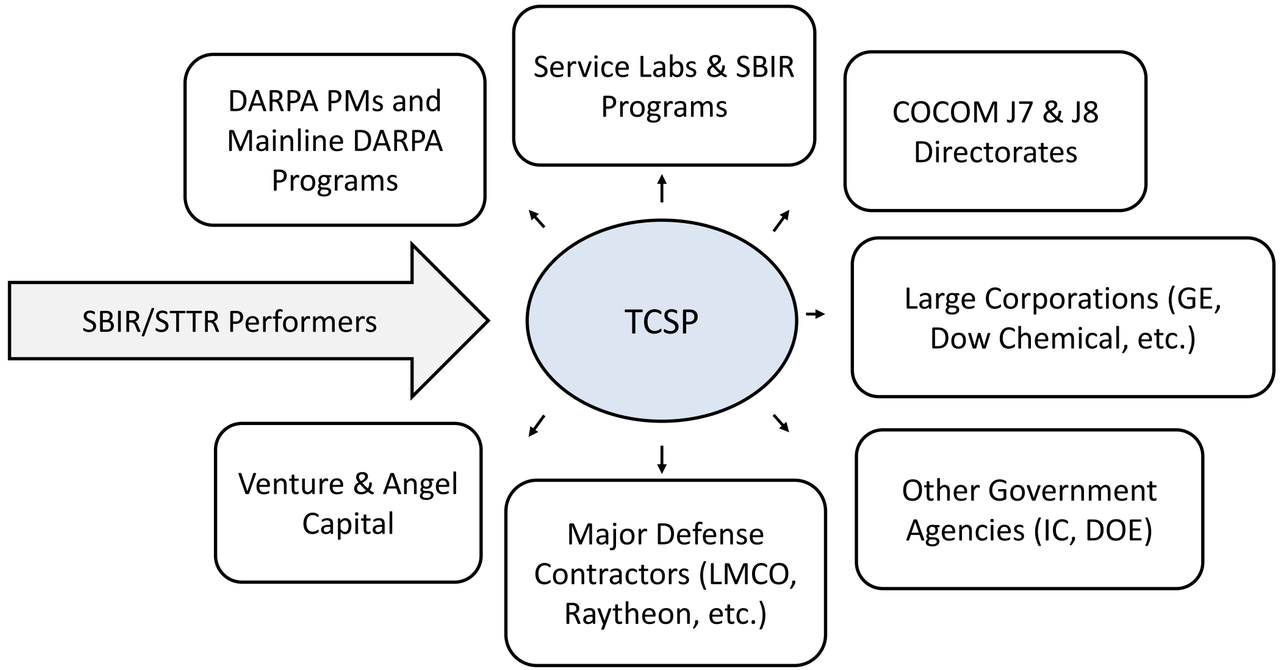
*Phase II values can exceed these numbers if funds are available and by using a simple waiver process.

Note: There is no cap on the amount of non-SBIR/STTR funding that can be applied to a SBIR/STTR.

# Transition and Commercialization Support Program (TCSP)

SBIR·STTR
POWERED BY INNOVATORS
MOVING TECHNOLOGY FORWARD

**The TCSP works with small businesses to ensure that DARPA SBIR/STTR technology investment has impact within the DoD Acquisition Chain and U.S. Technology Community.**




- **TCSP works with Phase II awardees across all six DARPA Tech Offices (~200 active projects)**
- **TCSP costs covered by DARPA SBPO**

# Technology Transition Support

SBIR·STTR
POWERED BY INNOVATORS
MOVING TECHNOLOGY FORWARD

**The goal is to maximize SBIR/STTR companies' potential to move their technology beyond Phase II, and into other research and development programs for further maturity.**

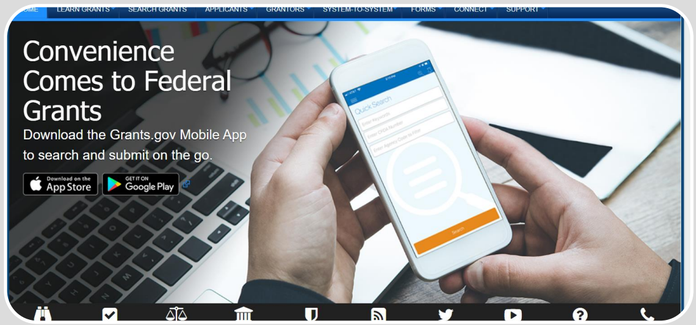
## TCSP supports DARPA SBIR/STTR performers by:

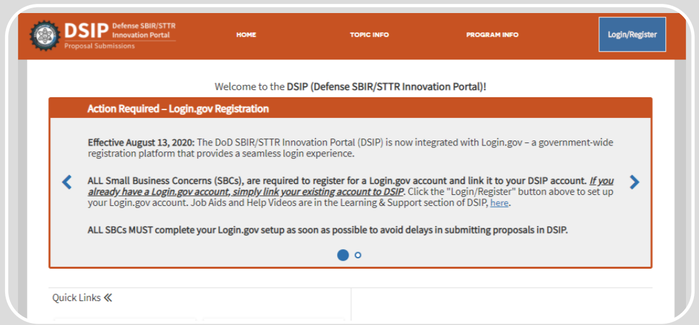
- Promoting match making:
  - Develop listings of potential end-users, collaborators, partners and funding sources
  - Assist with articulation of business value proposition and marketing posture
  - Facilitate discussions for technologies of interest between companies and potential funding sources
  - Host meet-and-greet events for direct interactions with government agencies & primes
- Documenting and tracking transition results and successes
- Providing fact sheets on topics such as responding to BAAs; alternative funding options
- Maintaining alumni list for targeted technology requests
- Assisting with business planning:
  - Provide business planning advice
  - Identify funding and collaboration opportunities
  - Maintain an extensive network of connections
  - Provide feedback on Commercialization Plans and marketing materials
- Assisting in Phase II Enhancement application processes
- Sending weekly opportunity alerts to all current and past performers that includes:
  - Daily beta.sam.gov posting reviews for new solicitations
  - Agency-level SBIR/STTR solicitations
  - Topical conferences and training events

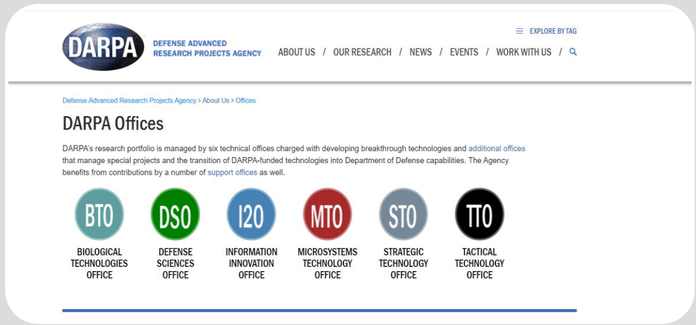
# Doing Business With DARPA

SBIR·STTR
POWERED BY INNOVATORS
MOVING TECHNOLOGY FORWARD

## Do Your Research - Become familiar with the challenges and opportunities of National Security.




Visit www.grants.gov or www.beta.sam.gov to view DARPA Broad Agency Announcements (BAAs), Research Announcement (RAs), and Requests for Proposals (RFPs).

Visit www.dodsbirsttr.mil to view DoD SBIR and STTR Program Announcements.

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.

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

# DARPA Small Business Programs Office (SBPO)

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

**Jennifer Thabet**
Program Director


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

www.darpa.mil

# *Defense Health Agency SBIR/STTR Program: Enabling Biomedical and Healthcare Solutions*

*CDR Tatana Olson, PhD*
*Program Director*
*DHA SBIR/STTR Program*

# Agency Introduction

- DHA is a joint, integrated Combat Support Agency that enables the Army, Navy, and Air Force medical services to provide a **medically ready force and ready medical force**
- Supports the delivery of integrated, affordable, and high quality health services to more than 10 million Military Health System (MHS) beneficiaries
- Supports the Assistant Secretary of Defense for Health Affairs in management and oversight of Defense Health Program (DHP) RDT&E appropriation (does not execute research efforts)
- Manages and execute S&T funds, ensuring they **align to requirements and are positioned to transition** into formal product development efforts

# DoD Component Participation

## SBIR + STTR Programs:

- Air Force
- Army
- Navy
- Defense Health Agency
- Defense Advanced Research Projects Agency
- Missile Defense Agency

## SBIR Program only:

- Defense Threat Reduction Agency
- Joint S&T Office for Chemical and Biological Defense
- National Geospatial Agency
- Special Operations Command
- Defense Microelectronics Activity
- Defense Logistics Agency

# DHA SBIR/STTR Program

- DHA SBIR/STTR Annual budget:
  - FY20 SBIR $60.6 Million, FY20 STTR $8.5 Million
  - FY21 SBIR $63.1 Million, FY21 STTR $8.8 Million
- Provide Phase I and Phase II funding opportunities
- Direct to Phase II, Phase II Enhancement, and Sequential Phase II mechanisms are also utilized on a limited basis
- In-house transition assistance through a Technical Assistance Advocate begins at the awarding of a Phase I contract
- Topics align to broader research program areas, which is important to supporting transition into product development

# Biomedical R&D Investment Approach

***Primarily targeted in areas, or environments, that are militarily unique for which there are limited or no commercial partners or interests***

- The DoD leads in key biomedical research areas: e.g. prolonged field care, en route care, forward surgical/intensive critical care, hemorrhage control and blood products
- The DoD leverages in areas where commercial technologies exist and can be tailored for military use: e.g. medical simulation and training, diagnostic systems, pain management, infectious diseases
- The DoD watches areas of emerging interest: e.g. Medical Radiological Defense and other tech areas like Artificial Intelligence

**How can we apply this approach?**

# Summary of Major Research Investments
## *Defense Health Program*

### Medical Simulation & Information Sciences (JPC-1)

- Theater/Operational Medicine
- Medical Resourcing
- Information Technology Infrastructure and Data Management

### Military Infectious Diseases (JPC-2)

- Bacterial
- Parasitic
- Viral
- Information & Devices

### Military Operational Medicine (JPC-5)

- Injury Prevention and Reduction
- Psychological Health and Resilience
- Physiological Health
- Environmental Health and Protection
- Wearable Sensors

### Combat Casualty Care (JPC-6)

- Neurotrauma & Traumatic Brain Injury
- Hemorrhage Control & Resuscitation
- Forward Surgical- EN Route Care
- Photonics & Light-Based Innovation for Severe Injury

### Radiation Health Effects (JPC-7)

- Post-exposure mitigation of radiation injury
- Protection and prevention
- Mechanism of radiation injury
- Development of biodosimetry tools

Photos courtesy of DoD

# Recent DHA SBIR Topic Examples

- **Military Infectious Diseases**
  - DNA-encoded Antibody Gene Transfer for HIV Immunoprophylaxis or Maintenance Therapy
  - Novel Antibiotic for the Treatment of Multidrug-Resistant Pseudomonas Aeruginosa Infections

- **Military Operational Medicine**
  - Portable Computerized Dynamic Posturography and Balance Training System to Deliver Sensory Organization Tests in Clinic and Field Environments
  - Efficient Measurement of Intermediate-Level Impulse Noise and Sub-concussive Blast Exposure on Service Members in Operational Military Environments
  - Algorithm and Associated Integration Hardware for Capturing Context-sensitive Metadata for Health Risk Assessments
  - Wearable Radio Frequency Weapon Exposure Detector

# Recent DHA SBIR Topic Examples Cont'd

- **Military Operational Medicine – Cont'd**
  - Underwater Blast Lung Computational Model
  - Prevention Device Suitable for Exposure to Blast or Concussive Forces

- **Combat Casualty Care**
  - Advanced Blood Transportation Container
  - Body-Conformal Terahertz Medical Imager
  - Handheld Non-Contact Laser Ultrasound Medical Scanner
  - Oxygen Generation for Deployed Army Casualty Care

- **Radiation Health Affects**
  - Radioprotector Medical Countermeasure to Prevent the Effects of Acute Radiation Syndrome

# DHA SBIR/STTR Funding Map

**Topics**


**DoD BAAs**
21.1, 21.2, and 21.3
21.A, 21.B, and 21.C

**Phase I**

**Feasibility Study**
**$250K,** 6 Months

**Phase II**

**Prototype Development**
**$1.1M,** 2 Years

**PH II Enhancement**
1:1 matching funds up to **$550,000**

**Phase III**

**Commercialization**
Federal Government or Private Industry $
No SBIR/STTR Funds

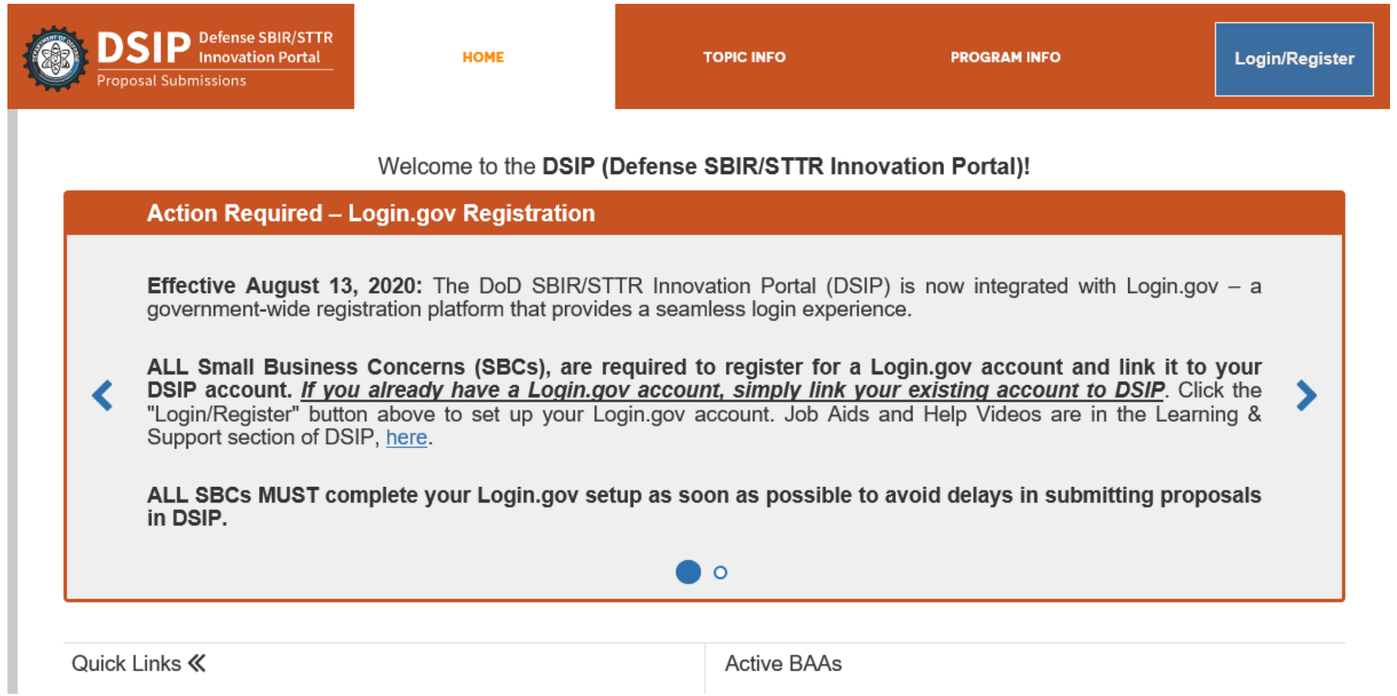
# DoD SBIR/STTR BAAs

- DoD SBIR/STTR Office establishes six DoD SBIR/STTR Broad Agency Announcements (BAA) and respective mandated dates
- Each BAA has a: Pre-release, Open and Close period
- During the pre-release period the Government does not accept proposals, but small businesses can discuss technical questions directly with the Topic Authors

| SBIR 21.1<br>STTR 21.A | SBIR 21.2<br>STTR 21.B | SBIR 21.3<br>STTR 21.C |
|---|---|---|
| Pre-Release<br>8 Dec 20 | Pre-Release<br>21 Apr 21 | Pre-Release<br>25 Aug 21 |
| Open<br>14 Jan 21 | Open<br>21 May 21 | Open<br>23 Sep 21 |
| Close<br>4 Mar 21 | Close<br>17 Jun 21 | Close<br>22 Oct 21 |

# DoD SBIR/STTR BAA & Proposal Submissions

- Upcoming Announcements
- Instructions
- Topics
- Archives
- FAQs
- Help
- SITIS




**https://www.dodsbirsttr.mil/submissions/login**

# Proposal Tips

- Read the BAA thoroughly
- Take advantage of the pre-release period of the Broad Agency Announcement when you can contact topic authors directly
- Don’t miss critical Phase II proposal information on the topic
  - You are never just proposing to the Phase I—the Phase I is intended to prove the feasibility of your approach to Phase II
- Phase III is the author’s working concept of the future state of the technology, but it is always a good idea to identify additional commercial potential.
- Submit early!
- Ultimately, successful DHA SBIR and STTR efforts must demonstrate a better/faster/cheaper approach with a meaningful non-DoD market and attention to fielding specifics

# Contact Information

**Mr. JR Myers, Project Manager**: james.r.myers38.civ@mail.mil

**Ms. Colleen Gibney, Deputy Project Manager**: colleen.n.gibney.civ@mail.mil

**Ms. Amanda Cecil, Operations Manager**: amanda.l.cecil3.ctr@mail.mil

**Ms. Dominique Quesada, DHA SBIR/STTR Analyst**: dominique.m.quesada.ctr@mail.mil

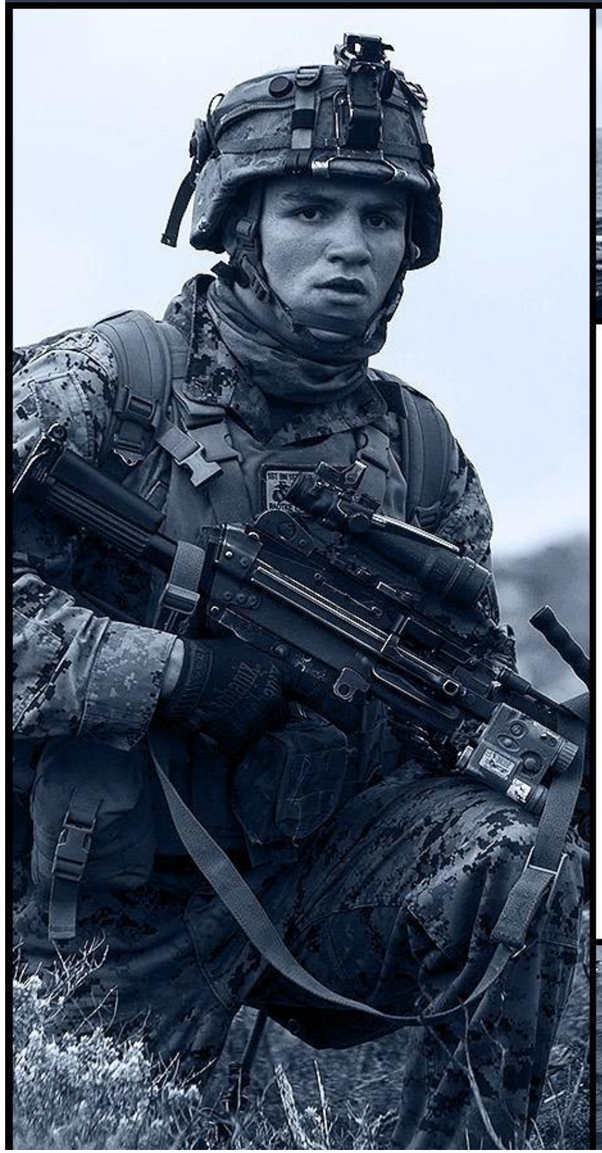
**Ms. Danielle Wilson, Army SBIR/STTR Analyst**: danielle.m.wilson55.ctr@mail.mil

**Ms. Andrea Renner, Technical Assistance Advocate**: andrea.k.renner.ctr@mail.mil

# Questions?

# DEFENSE LOGISTICS AGENCY

THE NATION'S COMBAT LOGISTICS SUPPORT AGENCY



# DLA Research & Development Small Business Innovation Program Overview


*Kristen Eads*

*Project Manager and Outreach Support*


***SBA Virtual Roadshow, 2020***


WARFIGHTER FIRST

# MISSION, VISION & LINES OF EFFORT

For more information, visit: https://www.dla.mil/

## MISSION:

Sustain Warfighter readiness and lethality by delivering proactive global logistics in peace and war.

## VISION:

The Nation's Combat Logistics Support Agency... global, agile and innovative; focused on the Warfighter First.

## WHY:

To serve the Warfighter and our Nation!


**PEOPLE AND CULTURE ARE AT THE HEART OF EVERYTHING WE DO**

# SBIP OVERVIEW

## THE SUSTAINMENT CHALLENGE

Diminishing supply for consumable parts and modern threats to supply chain security result in a variety of risks to our aging weapons systems, to the defense industrial base and, by extension, to DoD's ability to support national defense. Addressing critical supply chain gaps and security threats through innovative research projects, DLA will help cultivate the American defense industrial base and mitigate single points-of-failure along the supply chain which threaten the longevity of weapons systems.

## WARFIGHTER READINESS - THE BENEFITS

- Through competitive awards, DLASBIP provides small businesses with an opportunity to solve some of the nation's most difficult defense challenges and transition their innovations and technologies to government programs of record.
- By pursing innovative manufacturing solutions to qualify new sources of supply for critical parts, DLASBIP is facilitating new entrants to the defense industrial base.

## STRONG PARTNERSHIPS

U.S. Navy * U.S. Air Force * U.S. Army
DLA Land & Maritime * DLA Aviation * DLA Troop Support
Pratt & Whitney * Sikorsky/Bell Helicopter * Lockheed Martin

# NUCLEAR MODERNIZATION

***Maintain** nuclear systems readiness • **Qualify** alternate sources of supply • **Improve** availability of consumable parts with limited or diminishing sources of supply*

AREAS OF INTEREST: Reverse Engineering Technical Data Packages, Domestic Small Business Manufacturing, Source Qualification

## FEATURED EFFORTS & WEAPONS SYSTEMS PRIORITIES





## NUCLEAR MODERNIZATION SUCCESS STORY

DLA qualified a new source of supply for ALCM RAM Fin Seals within one year of project commencement. This effort resolved a four year no-source requirement gap for the DLA Nuclear Enterprise Support Office (NESO). The project team won a DOD ManTech award in 2019 for the innovative approach and rapid delivery of the mission critical parts.

Current List of NSNs Eligible for Proposal: https://www.dla.mil/SmallBusiness/SmallBusinessInnovationPrograms/

# FORCE READINESS & LETHALITY

***Improve*** *life cycle performance through technological advancement, innovationand reengineering •* ***Mitigate*** *single points-of-failure that threaten the readiness of weapons systems used by our Warfighters*

AREAS OF INTEREST: Re-engineering, Value Engineering, Advanced Manufacturing, Technical Data Packages, Source Qualification.

## FEATURED EFFORTS





## FORCE READINESS & LETHAITY SUCCESS STORY

A DLA SBIP company used advanced manufacturing to resolve decades old inefficiencies resulting in a seamless, crashworthy, ballistically -tolerant, self- sealing, universal fuel cell that will conform to MIL-DTL27422F.

# SUPPLY CHAIN INNOVATION

***Improve*** *lead times •* ***Reduce*** *lifecycle costs •* ***Maintain*** *a secure and resilient supply chain •* ***Provide*** *opportunities for small business industrial base to enhance supply chain operations with technological innovations.*

AREAS OF INTEREST: Additive / Advanced Manufacturing Technologies, Sensor Technologies, Blockchain, Troop Support, Distribution, Virtual Reality, Warehouse Robotics

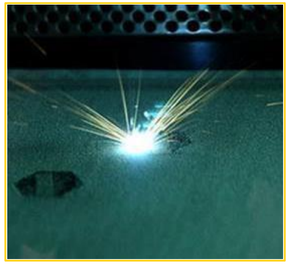
## FEATURED EFFORTS





## SUPPLY CHAIN INNOVATION SUCCESS STORY

A network of SBIP firms created an additive manufacturing in-situ process monitoring sensor suite that transitioned to several NASA locations, a DoD research facility and toseveral OEMs. A strong partnership with industry experts and a DoD OEM made the project a success.



# SUPPLY CHAIN RISK REDUCTION

***Secure** the microelectronics supply chain • **Develop** a domestic supply of rare earth elements • **Adopt** industrial base best practices associated with counterfeit risk reduction*

AREAS OF INTEREST: Track &Trace Technologies, Domestic Sources of Strategic Materials, Rare Earth Separations and Recycling Technologies, Anti-Counterfeit / Anti- Tamper Technologies

## FEATURED EFFORTS




## SUPPLY CHAIN RISK REDUCTION SUCCESS STORY

A SBIP company is addressing a DoD supply chain priority to tag microelectronic circuit boards with a single anti-counterfeit, track-and-track and data storage technology. The company is working with an OEM to track circuit boards for the MK48 Torpedo Guidance and Control Section from the power supply manufacturer through the multi-site assembly and production test process.

# 2020/ 2021 OPPORTUNITIES TO ENGAGE

| SBIR 20.2 STTR 20.B | SBIR 20.3 STTR 20.C | SBIR 21.1 STTR 21.A (Tent) | SBIR 21.2 STTR 21.B (Tent) |
|---|---|---|---|
| Requirement Planning 3/27/20 | **Requirement Planning 7/22/20** | Requirement Planning 10/20/20 | Requirement Planning 3/20/21 |
| Pre-Release 5/6/20 | Pre-Release 8/25/20 | Pre-Release 11/24/20 | Pre-Release 4/21/21 |
| Open 6/3/20 | Open 9/23/20 | Open 1/6/21 | Open 5/19/21 |
| Close 7/2/20 | Close 10/22/20 | Close 2/10/21 | Close 6/17/21 |
| **Evaluations 10/2/20** | Evaluations 1/20/21 | Evaluations 5/10/21 | Evaluations 4/15/21 |
| Awards (NLT) 1/2/21 | Awards (NLT) 4/20/21 | Awards (NLT) 8/10/21 | Awards (NLT) 7/15/21 |

**For more Information, visit DoD SBIR / STTR SBIR:** https://www.dodsbirsttr.mil


DEFENSE
LOGISTICS
AGENCY

# MISSILE DEFENSE AGENCY

19-MDA-10212 (12 Sep 19)

## *Advanced Research Overview*

# Missile Defense Agency Mission

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









**Missile Defense Capability Globally Deployed**

# Missile Defense Agency Lines of Effort
## In Support Of The National Defense Strategy

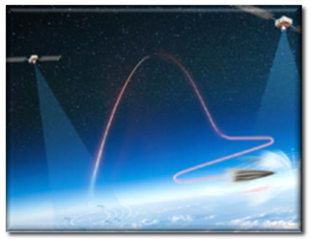
- Build **Warfighter confidence** through focus on **readiness and sustainment**



- Increase engagement **capability and capacity** to outpace emerging threats

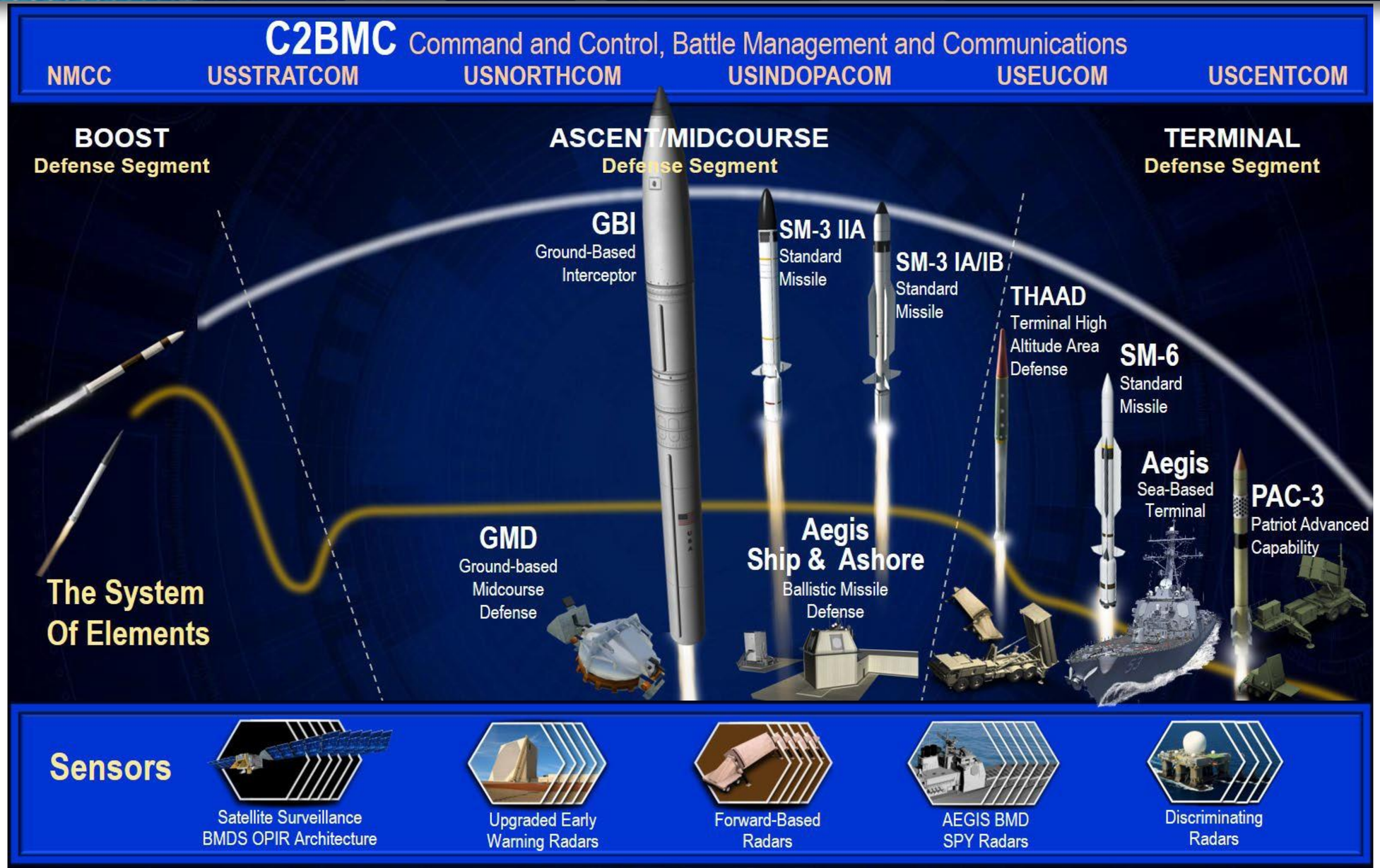



- Increase **speed of delivery** of new capability to address the **evolving threat**

**Today's Missile Defense System Meets Today's Threat but Requires Additional Capacity and Advanced Capability to Outpace the Evolving Threat**

# Missile Defense Agency Mission



# 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

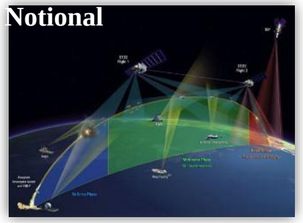
- **BMDS Testing**
  - Affordable targets
  - Scene generation
  - HWIL
  - Rapid analysis SW toolkits
  - Predictive analysis & modeling
  - Range safety

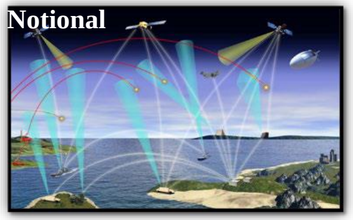
- **Sensors**
  - EO/IR and radar
    - T/R modules
    - FPAs
  - Signal & data processing algorithms
  - Rad-Hard technology
  - Telescopes & antennas
  - Windows & radomes

Approved for Public Release
19-MDA-10212 (12 Sep 19)

# 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 |

# Broad Agency Announcement (BAA)

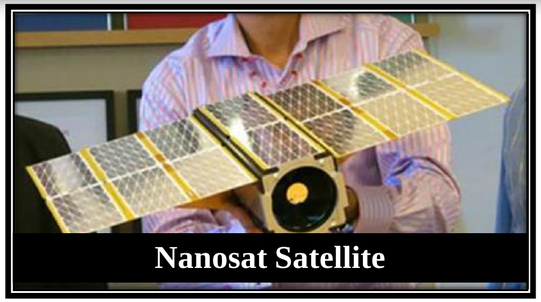
- **A competitive research and development contracting approach in the form of a general agency announcement:**
  - Identifies areas of research interest
  - Evaluates proposals based on peer or scientific reviews against individual merits rather than against each other
- **Meets full and open competition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

# Rapid Innovation Fund (RIF) Program

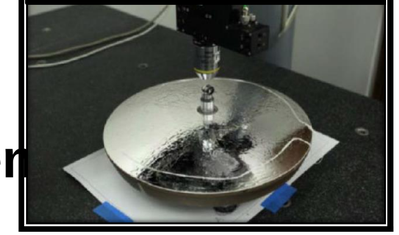
- **Established under FY11 Defense Authorization Act (Section 1073)**
  - A competitive, merit-based program
  - Accelerate fielding of innovative technologies into military systems
  - Typically, all MDA RIF projects are a SBIR Phase II follow-on
  - Prioritization is given to small business
- **Key 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 harden mirrors
- Developed high-speed test instrumentation

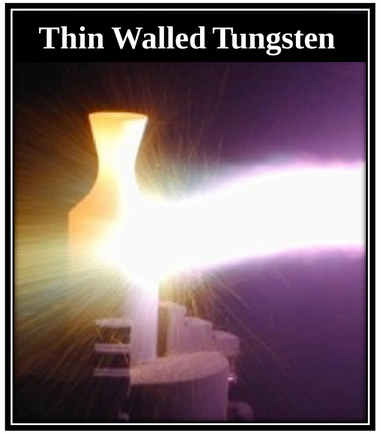

Nanosat Satellite

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

Approved for Public Release
19-MDA-10212 (12 Sep 19)

# Robert L. Smith

Director
Department of Navy (DON)
Small Business Innovation Research (SBIR)
Small Business Technology Transfer (STTR)


## Virtual SBIR Weeks

## 2020

www.navysbir.com

# Phase I

**Annually**
**~170 Topics**
**2,200+ Proposals**
**~450 Awards**



## When Do SBCs Participate?

| NOTIONAL ANNUAL DoD BAA SCHEDULE | | | |
|---|---|---|---|
| **BAA** | **Pre-Release** | **Open** | **Close** |
| **FYxx.1/A** | November | January | February |
| **FYxx.2/B** | April | May | June |
| **FYxx.3/C** | August | September | October |

# Phase II Types

**Annually**
**~225 Awards**

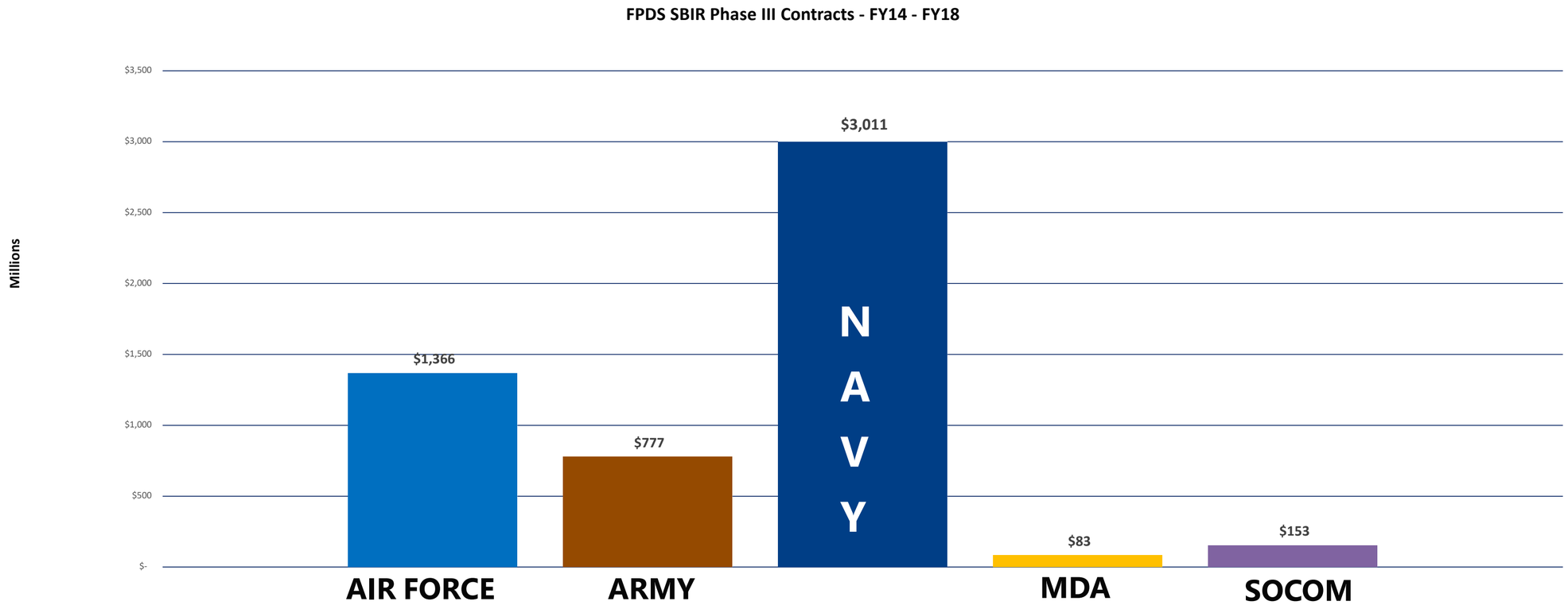


- ***Initial*** – SBCs may submit an Initial Phase II proposal during Phase I. All Phase I awardees may participate.
- ***Second Phase II Awards***
  - ***Sequential*** - One additional Phase II award under the same topic, to the same SBC, from the same agency/SYSCOM/organization, for the same project to continue work on the initial Phase II project
  - ***Second*** - SBIR Policy Directive Section 4(b)(7) allows an SBC that received a Phase I/II award from one agency to receive a (single) Phase II award from another agency (topics FY13 and forward)
  - ***Reachback*** - May "invite" any Phase I awardee to propose for a Phase II award (DON topics only, prior to FY13)
- ***Direct to Phase II*** – SBC must have completed Phase I milestones using non-SBIR funds.

# DON SBIR Leads in Phase III Execution



## DON accounted for 55% of DoD SBIR Phase III Funding between FY14 - FY18.



# Transition Assistance

## The SBIR/STTR Transition Program (STP)



- **11-month Navy-specific program (*NavySTP.com*)**
- **Provides services to assist with transition of technologies through:**
  - Business mentoring
  - Education
  - Networking
- **Services provided by Business Consultants and Market Researchers**
  - Mentoring on Government/prime contractor relationships
  - Conducting market research appropriate to transition targets
  - Identifying leads for potential transition opportunities
  - Promoting technologies on the Virtual Transition Marketplace (VTM) − an online, searchable showcase accessible to Government and private sector
  - Assisting with exhibiting at Forum for SBIR/STTR Transition (FST) and Focused Technology Events

# What is Success?




www.navysbir.com/success

- Transitioning a company's SBIR effort into products, tools, or services that benefit the Navy acquisition community.
- Securing non-SBIR funding to enhance ongoing projects with expanded research, development, test, or evaluation to accelerate transition and commercialization.

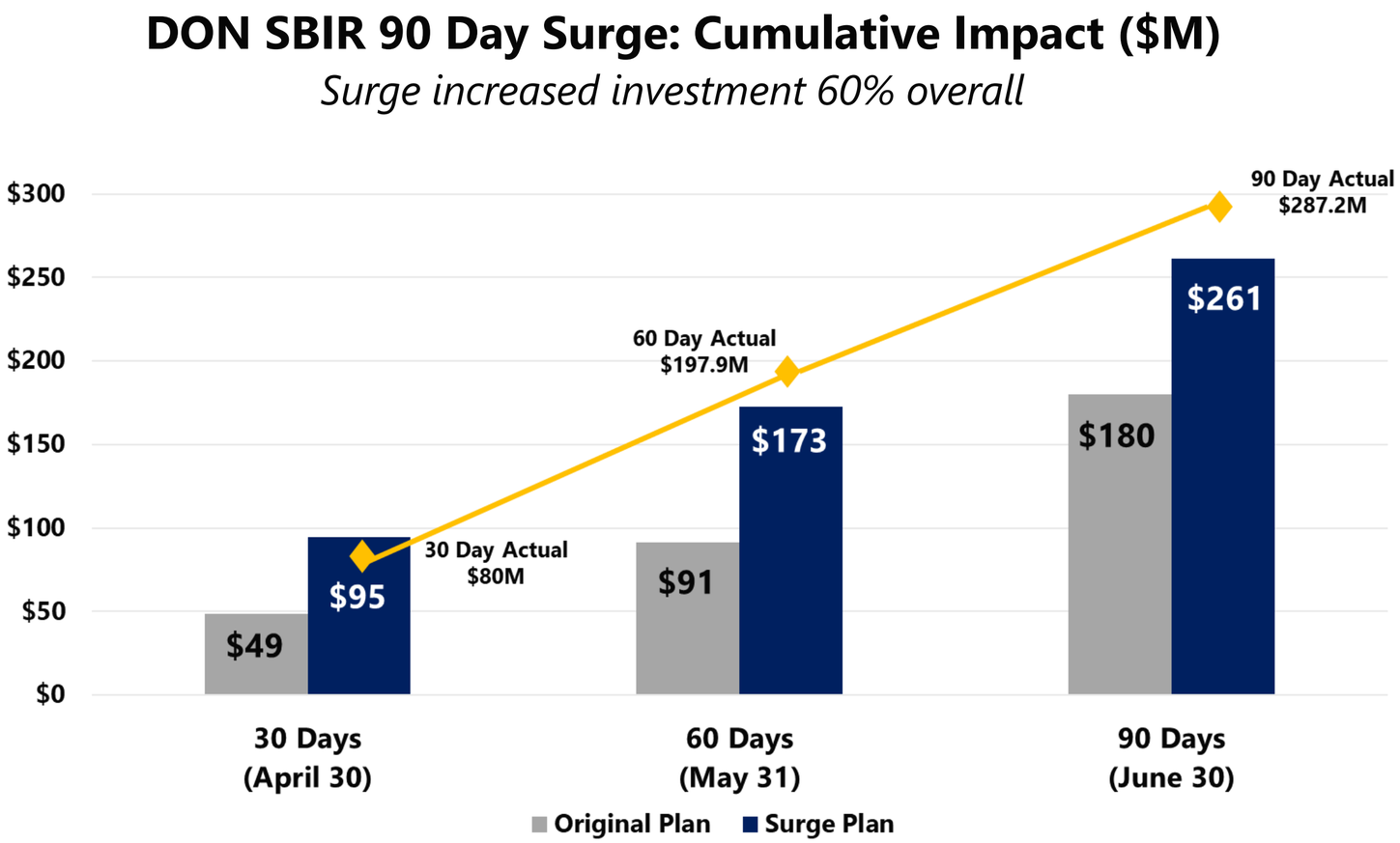
# Leveraging Innovation at the Speed of Small Business



- **Making the small business partner experience our priority**
  - Easier proposals
  - Accelerated awards
  - Faster payments
- **Relying on small business for innovative technology solutions**
  - Evolving to match the pace of innovators
  - Broader topics
  - No business is too small
- **Rapidly delivering naval and national benefits**
  - Benefits business
  - Benefits naval forces
  - Benefits our nation

# Supporting the Sustainment of the Defense Industrial Base






- Execute 700 contract actions worth $250M in 90 days
- Issued the 20.4 BAA
  - ✓ Five-month BAA planning process accomplished in 2 weeks
  - ✓ Four topics focused on manufacturing of deployable systems, digital logistics, maintenance, and sustainment
  - ✓ Closed 28 May

# Keep In Touch With DON SBIR/STTR




**Website**
www.navysbir.com

**Email**
navy-sbir-sttr@navy.mil

**Twitter**
@donsbir

**LinkedIn**
www.linkedin.com/company/donsbir

# Department of Defense

## Small Business Innovation Research (SBIR)
## Small Business Technology Transfer (STTR)
## Program Overview

*Name: Ms. Susan Celis*
*Position: DoD SBIR/STTR Program Manager*

# DoD SBIR/STTR Program Goals

- Stimulate technological innovation for DoD to maintain technological superiority and military readiness to deter military operations from U.S. adversaries.
- Increase private sector commercialization of Federal R&D to increase competition, productivity, and economic growth.
- Stimulate a partnership of ideas and technologies between innovative small businesses and research institutions (STTR).
- Through a competitive awards-based program, SBIR/STTR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization.
- By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated and the United States gains entrepreneurial spirit as it meets its specific R&D needs.

# Modernization Technology Priorities

## The SBIR/STTR Program is aligned to support these USD R&E priorities

**Artificial Intelligence (AI)**

- The DoD will leverage AI to enable U.S. forces to operate more effectively and efficiently. As a Department, we are evaluating which of our processes and procedures can be enabled via adoption of AI technology to meet warfighter needs and Defense priorities.

**Biotechnology**

- Biotechnology is an engineering discipline that utilizes or exploits living systems to produce a wide range of technologies and products. Future advances in biotechnology will provide new operational capabilities to the Department of Defense across multiple domains, spanning material & systems, military medicine, warfighter performance, and chem-bio defense.

**Autonomy**

- Autonomy extends and complements human capabilities. Advantages include persistence, size, speed, maneuverability, and reduced risk to human life. The DoD targets seamless integration of diverse unmanned/mixed team capabilities that provide flexible options for the Joint Force.

**Cyber**

- Cyber is a unique operational domain with significant security challenges and potential leap-ahead capabilities for military operations requiring enhanced command, control and situational awareness, and autonomous operations. Ability to gain and maintain the U.S. technological edge in cyberspace in the face of rapid evolution is essential to maintaining mission readiness.

**Directed Energy**

- When directed energy matures to a deployable capability, our armed forces will have the potential to defend against several types of threats with great precision and minimal collateral damage, at minimal cost per engagement. High Energy Laser (HEL) technology development and advancements in hardware are making laser weapon systems increasingly viable.

**Fully Networked Command, Control, and Communications**

- Fully Networked Command, Control, and Communications technology encompasses the capability to acquire, process, and disseminate information across force elements. DoD requires a clear path to robust C4I with multiply redundant fully-networked “Comms.” Existing capabilities require sufficient protection against an increasing threat, in pervasiveness and effectiveness.

**Hypersonics**

- Hypersonic weapons travel five or more times the speed of sound. There is a focus on the tactical capability that these sorts of weapons bring to theater conflicts or regional conflicts. Very quick response, high speed, highly maneuverable, difficult to find and track and kill. We are modernizing our offensive and defensive force structure to both utilize and deter this capability.

**Microelectronics**

- Microelectronics have been rapidly evolving as the demand for inexpensive and lightweight equipment has increased, and have been incorporated into countless DoD systems. Our modernization ability is jeopardized by foreign microelectronics (ME) production, actions, and investments. We must develop and deliver next generation microelectronic technologies to enhance lethality, ensure critical infrastructure, and achieve economic competitiveness..

**Quantum Science**

- Quantum computers pose an impending threat to secure communications. Continued US dominance in quantum information science will keep us ahead of these risks, and NSA crypto-modernization will protect our most sensitive communications against a quantum computer attack. Quantum sensing will deliver new and assured precision position, navigation, and timing capabilities, keeping our forces safe in GPS-denied theaters. Quantum networks will deliver drastically enhanced sensors for finding and fixing elusive targets, and will deliver resource multiplying effects for commercially developed quantum computers to solve DoD's hardest analytical problems.

**Space**

- The U.S. way of war, across all domains, is dependent on timely and assured space effects. Adversary capabilities and advancements require us to move quickly to a more defendable and resilient space posture. Added protection and resiliency to our current spacecraft fleet is essential.

**5G**

- 5G will bring about wireless, ubiquitous connectivity across humans, machines, and the Internet of Things. DOD will adapt 5G and next generation technologies to "operate through" congested and contested spectrum and in spite of compromised networks to ensure maximum readiness, lethality, and partnering among allies. 5G prototyping and experimentation will be conducted in collaboration with the defense industry and commercial suppliers to accelerate U.S. prominence in the 5G global ecosystem.

Visit: https://www.cto.mil/modernization-priorities/ for more information..

# Participating DoD Components

- Department of the Army
- Department of the Navy
- Department of the Air Force
- Defense Advanced Research Projects Agency
- Defense Health Agency
- Defense Logistics Agency
- Defense Microelectronics Activity
- Defense Threat Reduction Agency
- Chemical and Biological Defense
- Missile Defense Agency
- National Geospatial-Intelligence Agency
- Office of Secretary of Defense
- Space Development Agency
- United States Special Operations Command

# SBIR / STTR Program Phases

| Phase | SBIR/STTR |
|---|---|
| Phase I (optional) | $256,580 cap (~10 months) Feasibility Study |
| Phase II* | $1,710,531 cap (24-36 months) Adoptions/Co-funds<br>Continued Research and Prototype |
| Phase II Enhancement | $1:$1 Match (up to 12 months) Up to $500k |
| Phase III | No time limit No SBIR funds<br>Commercialization |

| | SBIR | STTR |
|---|---|---|
| **Program Differences** | • A minimum of 2/3 of the research/work must be performed by the proposing Small Business in Phase I<br>• A minimum of 1/2 of the research/work must be performed by the proposing Small Business in Phase II<br>• Primary employment of the Principal Investigator must employed by the small business | • **Small Businesses MUST partner with a U.S. Research Institution**<br>• At least 40% of the work must be performed by the proposing Small Business<br>• At least 30% of the work must be performed by the Research Institution<br>• Small Businesses must manage and control the STTR funding agreement<br>• Principal Investigator may be employed at either the Small Business or the Research Institution |

*Phase II values can exceed these numbers if funds are available and by obtaining a waiver from SBA.

**Prerequisite**
To receive an SBIR or STTR award, the awardee must qualify as a Small Business Concern (SBC) as defined by SBA regulations at 13 C.F.R. §§ 701-705. The eligibility requirements for the SBIR/STTR programs are unique and do not correspond to those of other small business programs.
PDF

Read agency instructions for specific funding and proposal guidelines.

# DoD SBIR/STTR Process

Topic Development

Broad Agency Announcement

Proposal Submission

Proposal Evaluation/Selection

Contract Award

# OSD Transitions SBIR Technology (OTST) Pilot Program

Under the SBIR Commercialization Readiness Program (CRP), OUSD (R&E) created the OSD Transitions SBIR Technology (OTST) Pilot Program. The OTST pilot program is an interim technology maturity phase (Phase II), inserted into the SBIR development process to:

- Identify and harvest SBIR technologies suitable for transition to our Warfighter
- Provide investment strategies to mature and transition the technologies
- Accelerate SBIR technology incorporation and transition into Programs of Record through shared SBIR and Program investment
- Accelerate transitions to Phase III for acquisition programs
- Help bridge the valley of death

For more information contact: Mr. Matthew B. Williams, OUSD (R&E) Technology Portfolio Manager
matthew.b.williams.civ@mail.mil

# OTST Investment Strategies

The OTST Pilot Program includes two (2) Transition Funding Strategies. The funding levels associated with the these strategies reflects the OTST Programs Commitment to Transition the SBIR Technology.

**(The following Transition Strategies are in Funding Priority Order)**

**A. Phase II Enhancement (e)** – Shared Development of a SBIR Phase II Project between the OTST Program and the Assistant Director's (AD) or Funding Sponsor. The Funding Sponsor is eligible for SBIR matching funds up to $1.0M. SBIR funds are applied to a Phase II contract. The funding from the Sponsor is applied, concurrently, to a Phase II or III contract.

- **Transition Probability = MEDIUM - HIGH**

**B. Accelerated Transition (AT)** – The Funding Sponsor Commits to Transition the SBIR Technology and Acquisition Funding has been identified; matching funds variable - SBIR Funding Not-to-Exceed $1.7M.

- **Transition Probability = MEDIUM - HIGH**

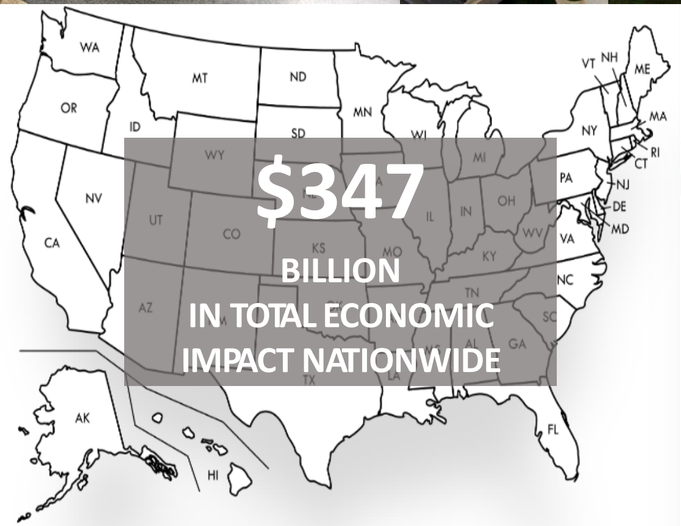
*If the Funding Sponsor is committed to Transitioning the Technology, the OTST Program may/will provide up to **$1.7M** in SBIR funding. (see Phase II.5 funding guideline). The sponsor will enter into a Technology Transition Agreement (TTA) with the OTST program and be able to clearly show the Acquisition Plan and Funding Required to Transitioning the Technology.*

# DoD SBIR/STTR Economic Impact 1995-2018

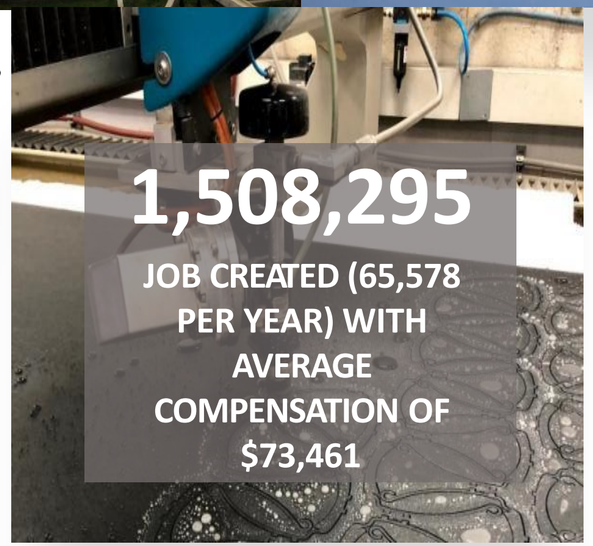
**$121**
BILLION
IN TOTAL SALE OF
NEW PRODUCTS AND
SERVICES

**22:1**
RETURN ON THE DoD
INVESTMENT

**$28**
BILLION
IN SALES OF NEW
PRODUCTS TO U.S.
MILITARY




**$347**
BILLION
IN TOTAL ECONOMIC
IMPACT NATIONWIDE



**1,508,295**
JOB CREATED (65,578
PER YEAR) WITH
AVERAGE
COMPENSATION OF
$73,461

Visit: https://www.sbir.gov/impact to read the full DoD SBIR/STTR Economic Impact Report

# DoD SBIR/STTR Success Stories

## Army SBIR Topic: A02-245, Ultra High Efficiency Blower System for Engine and Vehicle Application


In the mid 1990s Army's Tank Automotive Research, Development and Engineering Center, partnered with EMPto develop an ultra-high efficiency engine fan. By 2010 EMP's Mini- Hybrid Cooling System had become the industry standard for transit buses. Sales began to grow and jobs were created.

## MDA SBIR Topic: MDA05-034, Radar Advanced Receiver / Exciter (RARE)

Under the SBIR program, Colorado Engineering, Inc., a woman-owned small business based in Colorado Springs, Colorado, developed a ground-breaking computing architecture that enabled the creation of a SAA radar design capable of fitting on a UAV. Development of the RARE architecture first started under a 2006 SBIR contract from the Missile Defense Agency (MDA) seeking more afford-able and flexible systems for ground-based radar for ballistic missile defense. Colorado Engineering completed development of the foundational technology under a 2010 U.S. Air Force SBIR contract focused on development of an onboard SAA sensor suite, including an air-to-air radar. The technology has since been explored for a variety of military and civilian applications.

## Navy SBIR Topic: N06-016, Cabin Insulation System for the V-22


In 2006, a small Wyoming manufacturing company specializing in aircraft covers applied for a $5,000 Phase Zero Small Business Innovation Research (SBIR) grant from the state of Wyoming. Ten years and several federal SBIR contract awards later, that company—Kennon Products—designed, manufactured, and installed a state-of-the-art cabin liner system for use in the Presidential V-22 helicopter fleet.

**Visit: https://www.sbir.gov/news/success-stories for more information.**

# Defense SBIR / STTR Innovation Portal (DSIP)

- Proposal Submission
  - SBIR/STTR Phase I, Direct to Phase II, or Phase II proposals to any DoD Component must be submitted through the DSIP.
- Topic Search
- Topics Q&A

https://www.dodsbirsttr.mil/submissions/login



DSIP is an SBIR Phase III success story that originated with NASA!


# Get in Touch

Visit: https://rt.cto.mil/rtl-small-business-resources/for moreinformation.
Email: DoDSBIRSupport@reisystems.com to subscribe to our ListServ.

## Questions? Contact us!

703.214.1333

DoDSBIRSupport@reisystems.com

## Connect with us!

facebook.com/dodsbir

@dodsbir