

# ***The DOE Webinar is scheduled to begin at 2:00 p.m. ET***

- **Why is there no sound?**

- This webinar is broadcast via your computer. You may need to turn your volume on or up as the sound for this webinar comes through your computer speakers.
  - We recommend using GOOGLE CHROME for this and other DOE SBIR webinars.
  - There is no dial-in number.

- **Will DOE provide access to the recorded webinar after the meeting?**

- Yes, we will post the slides and the recorded webinar on the DOE SBIR/STTR web site.

- **Where can I find the FOA being discussed today?**

- This link will take you to the FY 2021 Phase I Release 2 FOA: <https://science.osti.gov/sbir/Funding-Opportunities>

- **What if my question was not answered at today's webinar?**

- If you have a question about the grant application process, please send us an email at: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov) or call us at (301) 903-5707.





***DOE's  
Small Business Innovation Research (SBIR) and Small  
Business Technology Transfer (STTR) Programs***

***Manny Oliver***

***Director, DOE SBIR/STTR Programs Office***

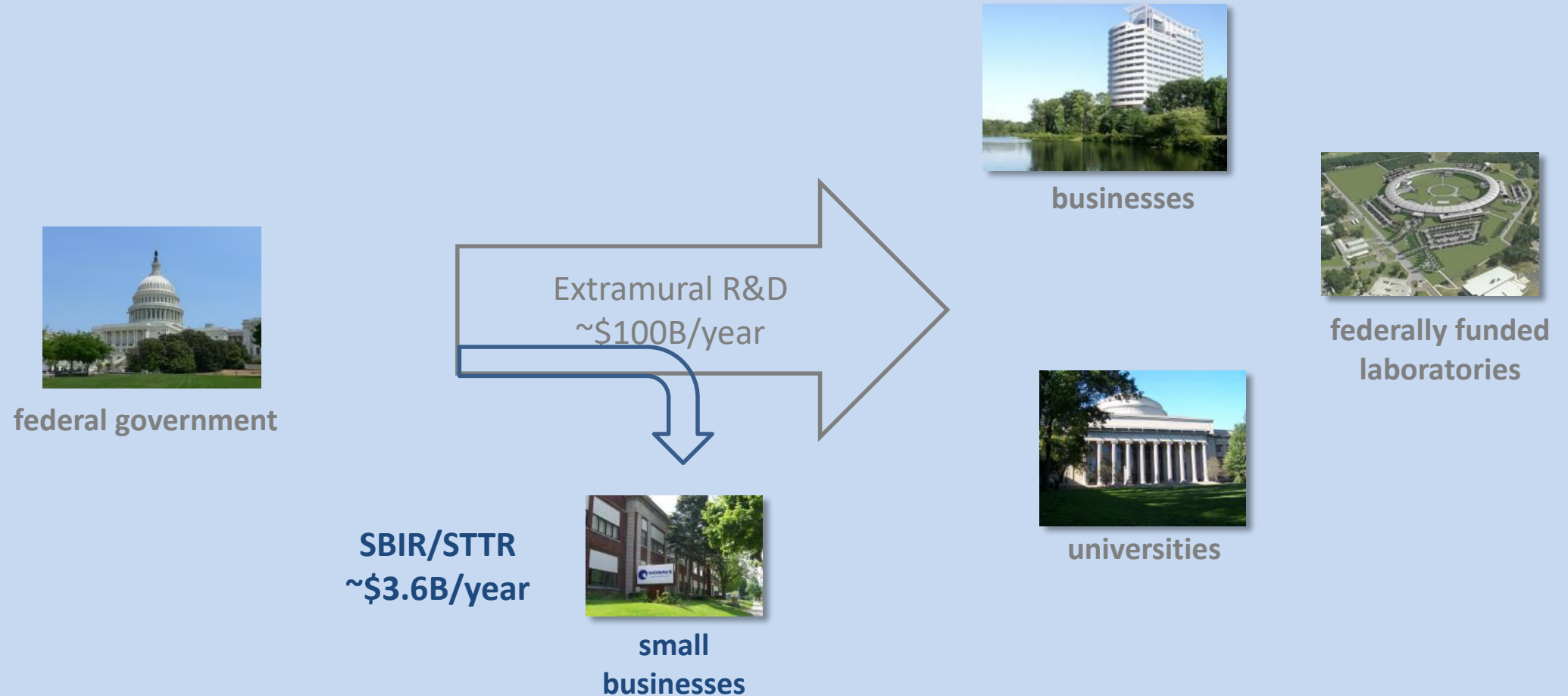
***[manny.oliver@science.doe.gov](mailto:manny.oliver@science.doe.gov), (301) 903-0309***

***December 18, 2020***



# Federal SBIR/STTR Programs Overview

# FEDERAL Extramural R&D



# Program Goals

## **Small Business Innovation Research (SBIR)** *est. 1982*

- Stimulate technological innovation
- Use small business to meet Federal R&D needs
- Foster and encourage participation by women and socially and economically disadvantaged persons in technological innovation
- Increase private-sector commercialization of innovations derived from Federal R&D

## **Small Business Technology Transfer (STTR)** *est. 1992*

- Stimulate and foster scientific and technological innovation through cooperative research and development carried out between small business concerns and research institutions
- Foster technology transfer between small business concerns and research institutions

*SBIR and STTR were reauthorized on December 23, 2016 (P.L. 114-840) through September 30, 2022*



# Major Differences between SBIR & STTR

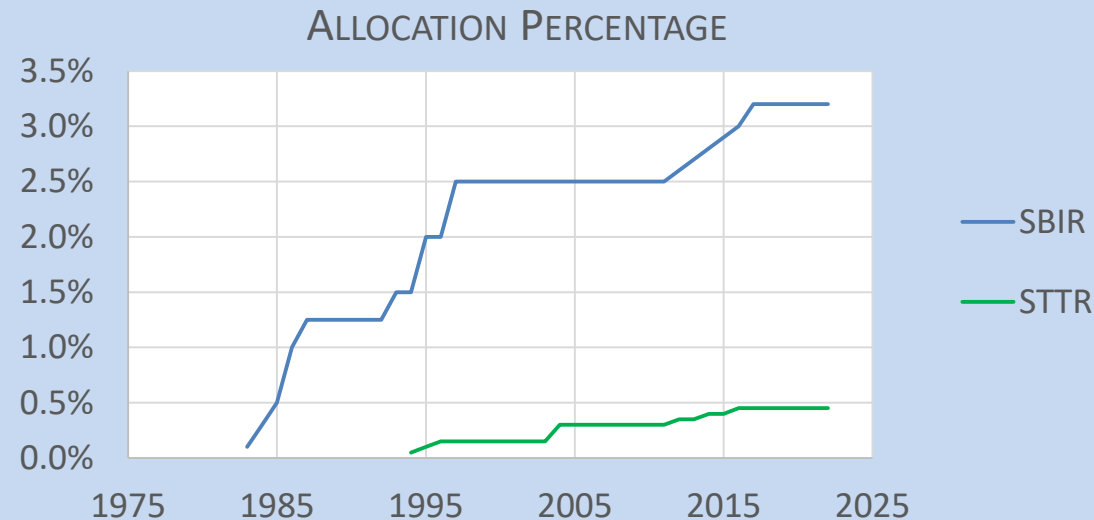
- STTR: Requires collaboration with a Research Institution
  - Research Institution
    - College, University, Federal R&D Laboratory, other non-profit research organization
- Principal Investigator primary employment
  - SBIR: employed by the small business
  - STTR: employed by the small business OR research institution
- Percentage of R/R&D conducted by the small business
  - SBIR
    - Phase I: minimum 2/3 by small business
    - Phase II: minimum 1/2 by small business
  - STTR:
    - Phase I & II: minimum 40% by small business; minimum 30% by research institution
  - Subcontracting is permitted provided the level of effort requirements above are met



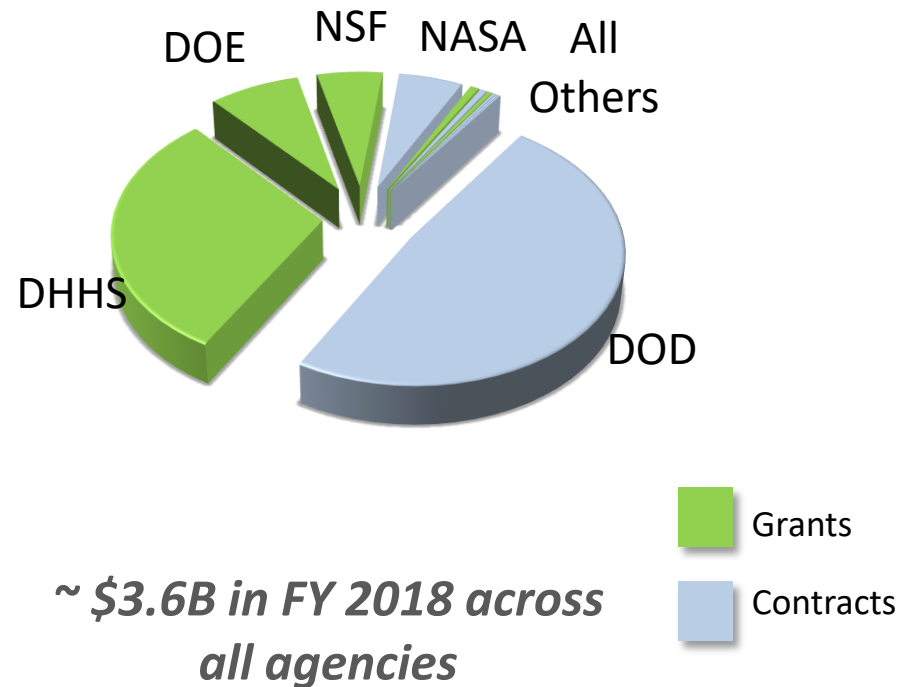


# SBIR & STTR Funding Levels

- Agencies allocate a percentage of their extramural R/R&D budgets for the SBIR & STTR programs
  - SBIR: 3.2% (FY 2020), for agencies with >\$100M in extramural R/R&D
  - STTR: 0.45% (FY 2020), for agencies with >\$1B in extramural R/R&D
- Congress has increased the allocation percentages since the programs were initiated



# Estimated SBIR/STTR Budgets by Agency, FY 2018



AGENCIES WITH SBIR & STTR PROGRAMS	APPROX BUDGET
Department of Defense (DOD)	\$ 1.750 B
Department of Health and Human Services (DHHS), including the National Institutes of Health (NIH)*	\$1.088 B
Department of Energy (DOE), including Advanced Research Projects Agency – Energy (ARPA-E)	\$280.0 M
National Science Foundation (NSF)	\$ 202.4 M
National Aeronautics and Space Administration (NASA)	\$198.0 M
AGENCIES WITH ONLY SBIR PROGRAMS	APPROX BUDGET
Department of Agriculture (USDA)	\$27.0M
Department of Homeland Security (DHS): Science and Technology Directorate (S&T) & Countering Weapons of Mass Destruction Office (CWMD)	\$20.8 M
Department of Commerce: National Oceanic and Atmospheric Administration (NOAA) & National Institute of Standards and Technology (NIST)	\$14.2M
*DHHS also issues contracts	
Department of Transportation (DOT)	\$8.5 M
Department of Education (ED)	\$7.5 M
Environmental Protection Agency (EPA)	\$4.2 M





# Small Business Eligibility for SBIR & STTR

- For-profit U.S. business
- 500 employees or fewer, including affiliates
- Ownership (*applies to all agencies*)
  - Be a concern which is more than 50% directly owned and controlled by one or more individuals (who are citizens or permanent resident aliens of the United States), other small business concerns (each of which is more than 50% directly owned and controlled by individuals who are citizens or permanent resident aliens of the United States), or any combination of these
  - Joint ventures where the entities meet the requirements above
- Portfolio Companies (*some agencies*)
  - Be a concern which is more than 50% owned by multiple venture capital operating companies, hedge funds, private equity firms, or any combination of these. No single venture capital operating company, hedge fund, or private equity firm may own more than 50% of the concern.
- Performance of R&D
  - All R&D must be performed in the United States



# 3 Phases

## PHASE I: FEASIBILITY, PROOF OF CONCEPT

- Award Amount: \$173,075 (guideline), \$259,613 (max.)
- Project Duration: 6-12 months



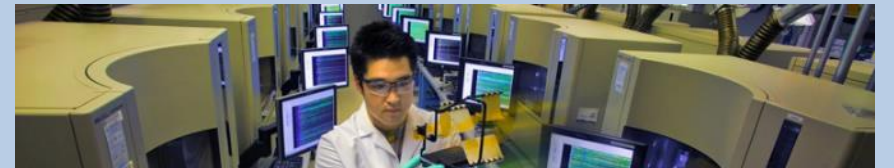
## PHASE II: CONTINUE R/R&D FOR PROTOTYPES OR PROCESSES

- Award Amount: \$1,153,834 (guideline), \$1,730,751 (max.)
- Project Duration: 2 years
- Additional Phase II awards can be made



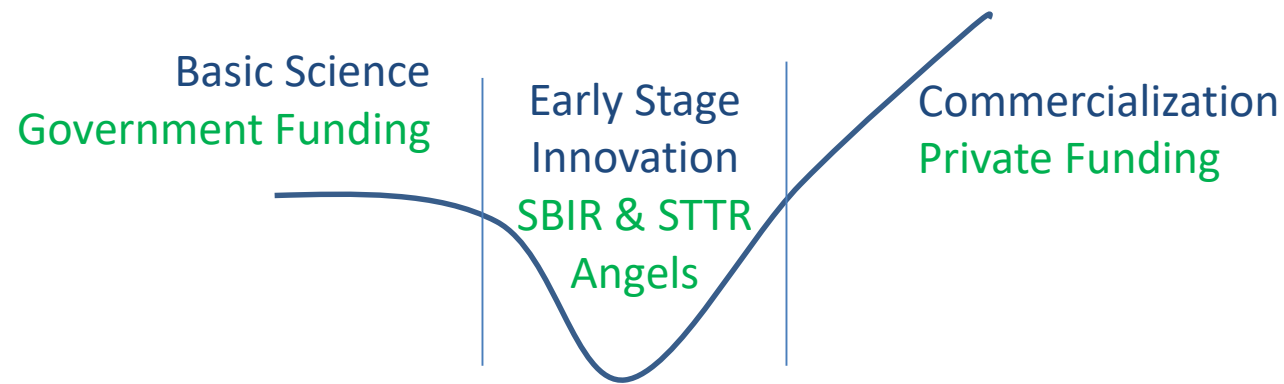
## PHASE III: COMMERCIALIZATION

- Federal or Private Funding (non-SBIR/STTR funds)
- No dollar or time limits



# SBIR and STTR Awards

- Critical Early Stage R/R&D funding
  - The SBIR & STTR programs provide funding for innovative, early stage research
  - SBIR & STTR awards provide credibility when seeking investors or partners
- SBIR/STTR awards are executed as grants or contracts
  - No repayment
  - No dilution of company equity
  - No cost sharing is required for Phases I and II



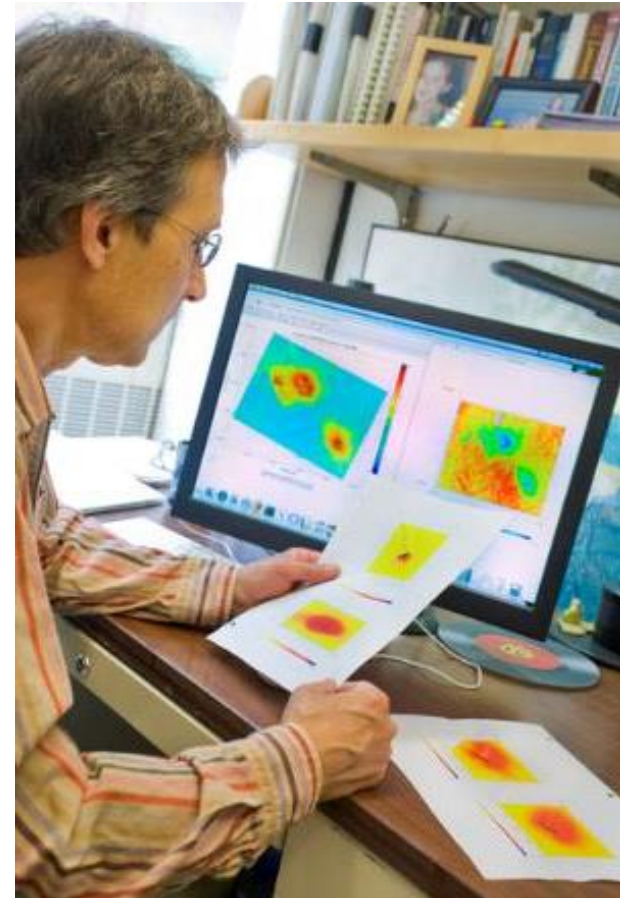
# Intellectual Property

- Patent rights
  - Small business concerns normally retain the principal worldwide patent rights to any invention developed with Government support
- Government Use
  - The Federal Government receives a royalty-free license for Federal Government use



# Data Protection

- Protection Period
  - Data generated from Phase I and II awards is protected from public disclosure for a minimum of 20 years from the start of your award. New policy change implemented in 2019
- Government Use
  - The Government retains a royalty-free license for Government use of any technical data delivered under an SBIR award, whether patented or not



# Commercialization Assistance

- In addition to funding for research and development, funding is provided to assist small businesses commercialize their innovations
  - Phase I: \$6,500
  - Phase II: \$50,000
  - Funding levels increased in FY 2019
- Companies can select their own vendors to provide assistance or use a vendor that is funded directly by DOE





# U. S. Department of Energy Mission

- **DOE's Mission** is to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions.
  - **Goal 1:** Catalyze the timely, material, and efficient transformation of the nation's energy system and secure **U.S. leadership in energy technologies**.
  - **Goal 2:** Maintain a **vibrant U.S. effort in science and engineering** as a cornerstone of our economic prosperity, with clear leadership in strategic areas.
  - **Goal 3:** Enhance **nuclear security** through defense, nonproliferation, and environmental efforts.

## Program Offices Participating in the DOE SBIR/STTR Programs

Cyber Security, Energy Security & Emergency Response
Electricity
Energy Efficiency & Renewable Energy
Fossil Energy
Nuclear Energy
Advanced Scientific Computing Research
Basic Energy Sciences
Biological & Environmental Research
Fusion Energy Sciences
High Energy Physics
Nuclear Physics
Defense Nuclear Nonproliferation
Environmental Management





Release 1 Technology Areas  
Topics Released: July 15<sup>th</sup> 2020

DOE SBIR & STTR Programs: Technology Areas



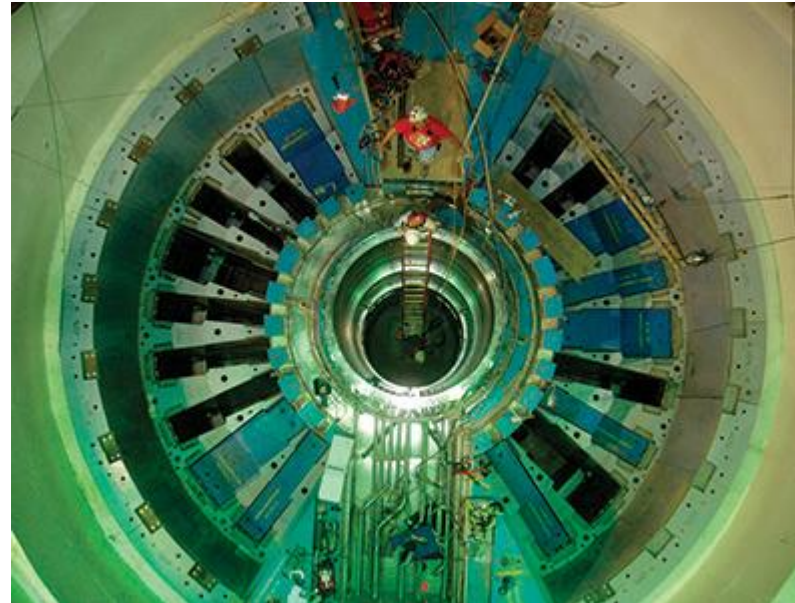
# Office Advance Scientific Computing Research

- Website: [Advanced Scientific Computing Research](#)
- Research Areas
  - High Performance Computing
  - High Performance Networking
  - Edge Computing
  - Artificial Intelligence
  - Quantum Computing



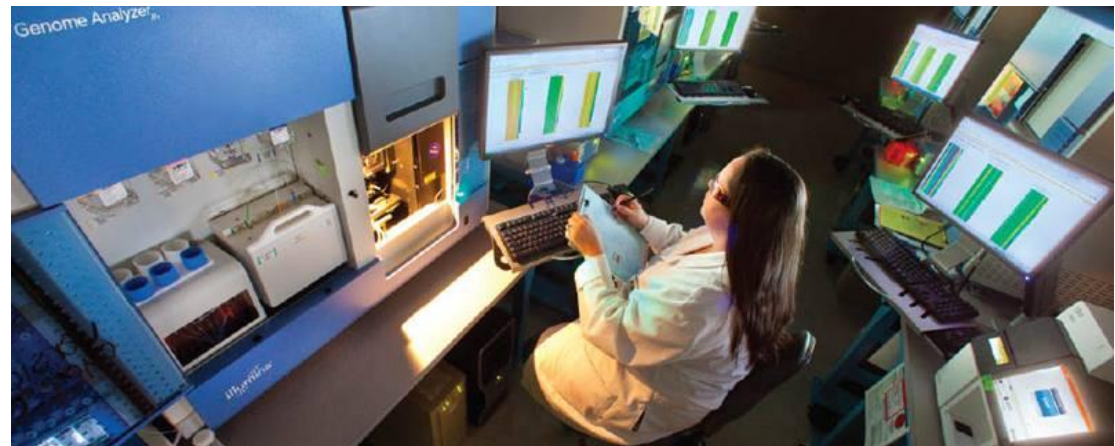
# Office Basic Energy Sciences

- Website: [Basic Energy Sciences](#)
- Research Areas
  - Technologies to Support Advanced X-ray, Electron, and Neutron-based Scientific Instruments
  - Advanced Materials for Energy Systems



# Office Biological and Environmental Research

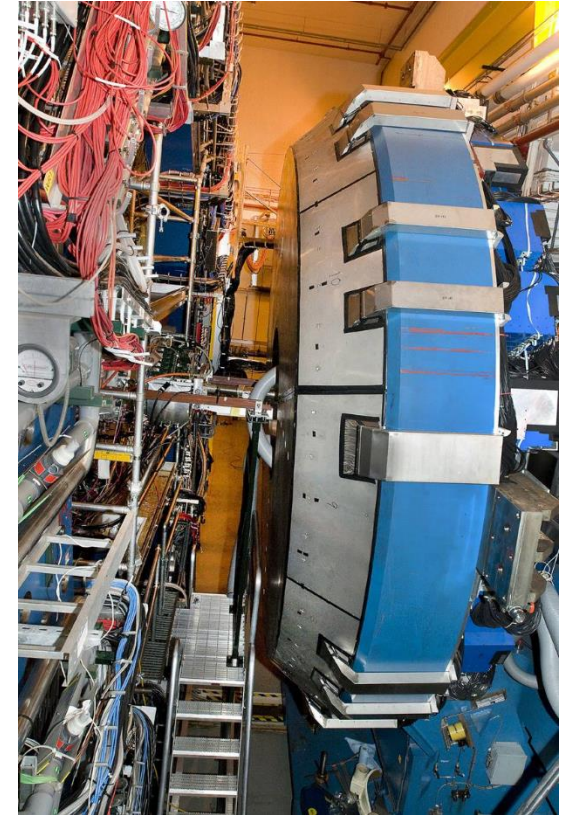
- Website: [Biological and Environmental Research](#)
- Research Areas
  - Scientific Tools for Subsurface and Atmospheric Monitoring
  - Tools and Technologies for Biological Synthesis and Structural Biology Relating to Bioenergy





# Office Nuclear Physics

- Website: [Nuclear Physics](#)
- Research Areas
  - Technologies to Support Advanced Accelerators
  - Nuclear Isotope Production







Release 2 Technology Areas  
Topics Released: November 9<sup>th</sup> 2020

DOE SBIR & STTR Programs: Technology Areas



# Office of Cyber Security, Energy Security & Emergency Response

- Website: [Office of Cybersecurity, Energy Security and Emergency Response](#)
- Research Areas
  - Cybersecurity
    - resilient energy delivery systems are designed, installed, operated, and maintained to survive a cyber-incident while sustaining critical functions
  - Energy Security
    - improve the ability of energy sector stakeholders to prevent, prepare for, and respond to threats, hazards, natural disasters, and other supply disruptions



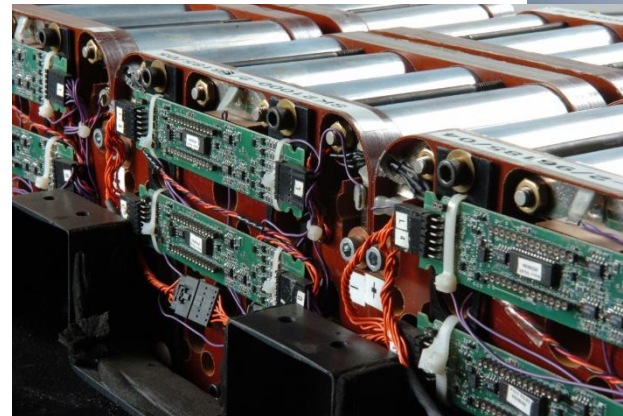
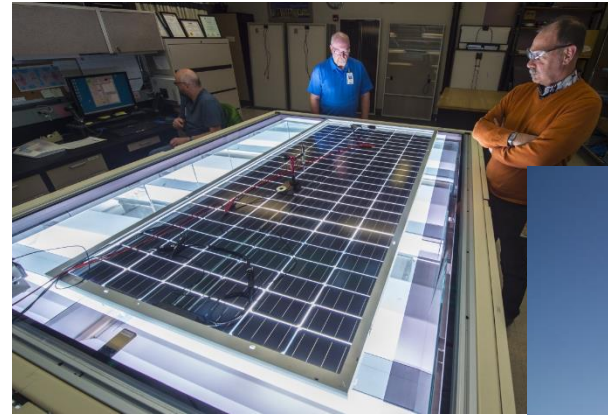
# Office of Electricity

- Website: [Office of Electricity](#)
- Research Areas
  - Smart Grid
  - Microgrids
  - Energy Storage



# Office of Energy Efficiency and Renewable Energy

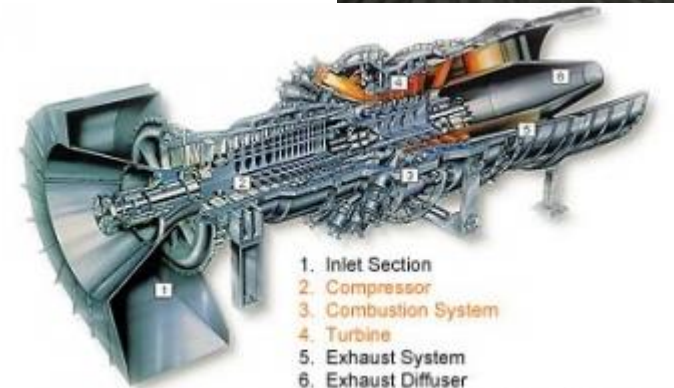
- Website: [Office of Energy Efficiency and Renewable Energy](https://www.eere.energy.gov)
- Research Areas
  - Renewable Power
    - Solar
    - Geothermal
    - Wind
    - Water
  - Sustainable Transportation
    - Vehicles
    - Bioenergy
    - Hydrogen & Fuel Cells
  - Buildings & Manufacturing
    - Buildings
    - Advanced Manufacturing





# Office of Fossil Energy

- Website: [Office of Fossil Energy](#)
- Research Areas
  - Advanced Power Generation
    - Advanced turbines
    - Supercritical CO<sub>2</sub> Power Cycles
    - Solid Oxide Fuel Cells
  - Carbon Capture, Utilization, and Storage Technologies



Courtesy of Siemens Westinghouse

# Office of Nuclear Energy

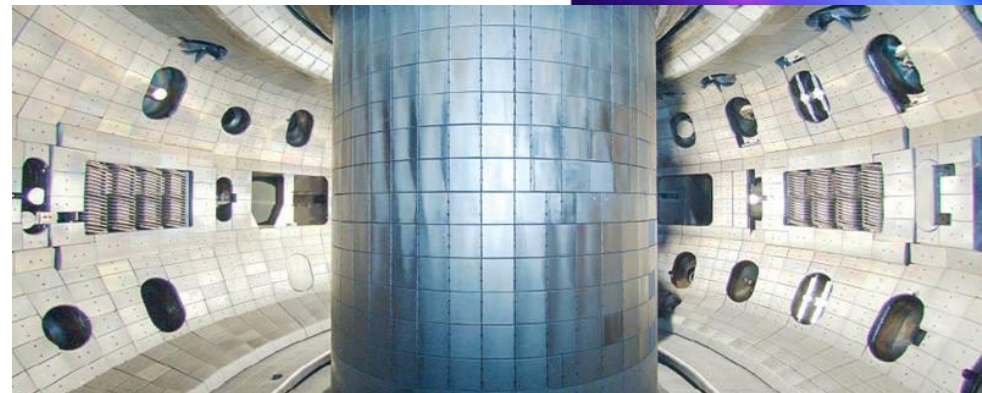
- Website: [Office of Nuclear Energy](#)
- Research Areas
  - Light Water Reactor Sustainability
  - Advanced Reactor Technologies
  - Advanced Technologies for Nuclear Waste





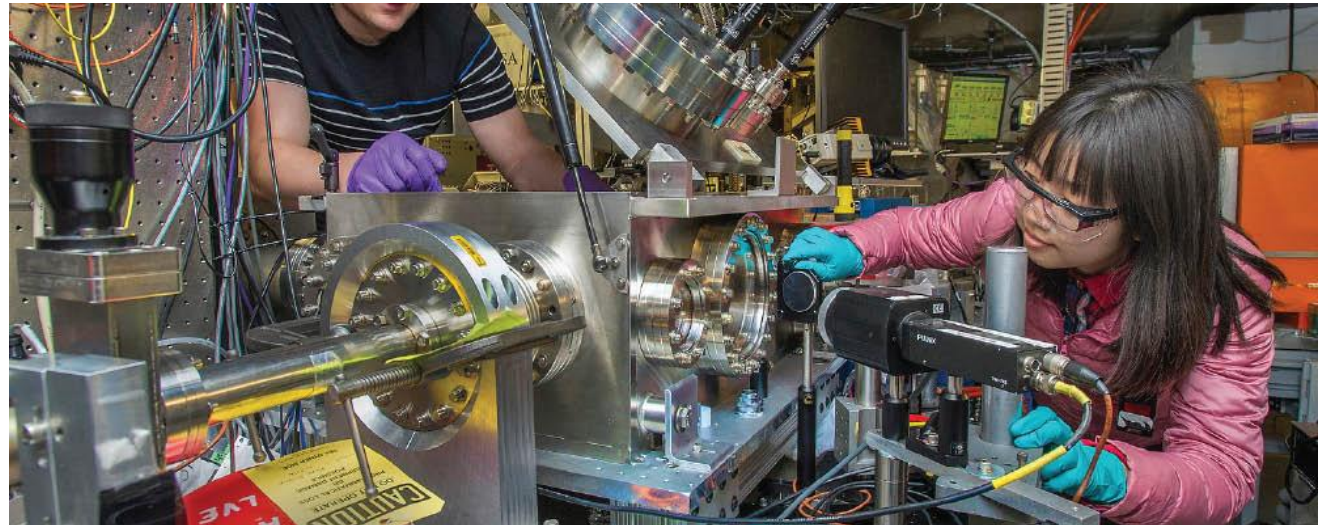
# Office Fusion Energy Sciences

- Website: [Fusion Energy Sciences](#)
- Research Areas
  - Advanced Materials and Technologies to Support High Temperature and Inertial Fusion
  - Low Temperature Plasma Technologies



# Office High Energy Physics

- Website: [High Energy Physics](#)
- Research Areas
  - Technologies to Support Advanced Accelerators (Detectors, Electronics, Lasers, Superconducting Materials)
  - Technologies Supporting Quantum Information Sciences





# Office Defense Nuclear Nonproliferation

- Website: [Office of Defense Nuclear Nonproliferation](#)
- Research Areas
  - Radiation Detection
  - Remote Sensing
  - Nuclear Detonation Detection



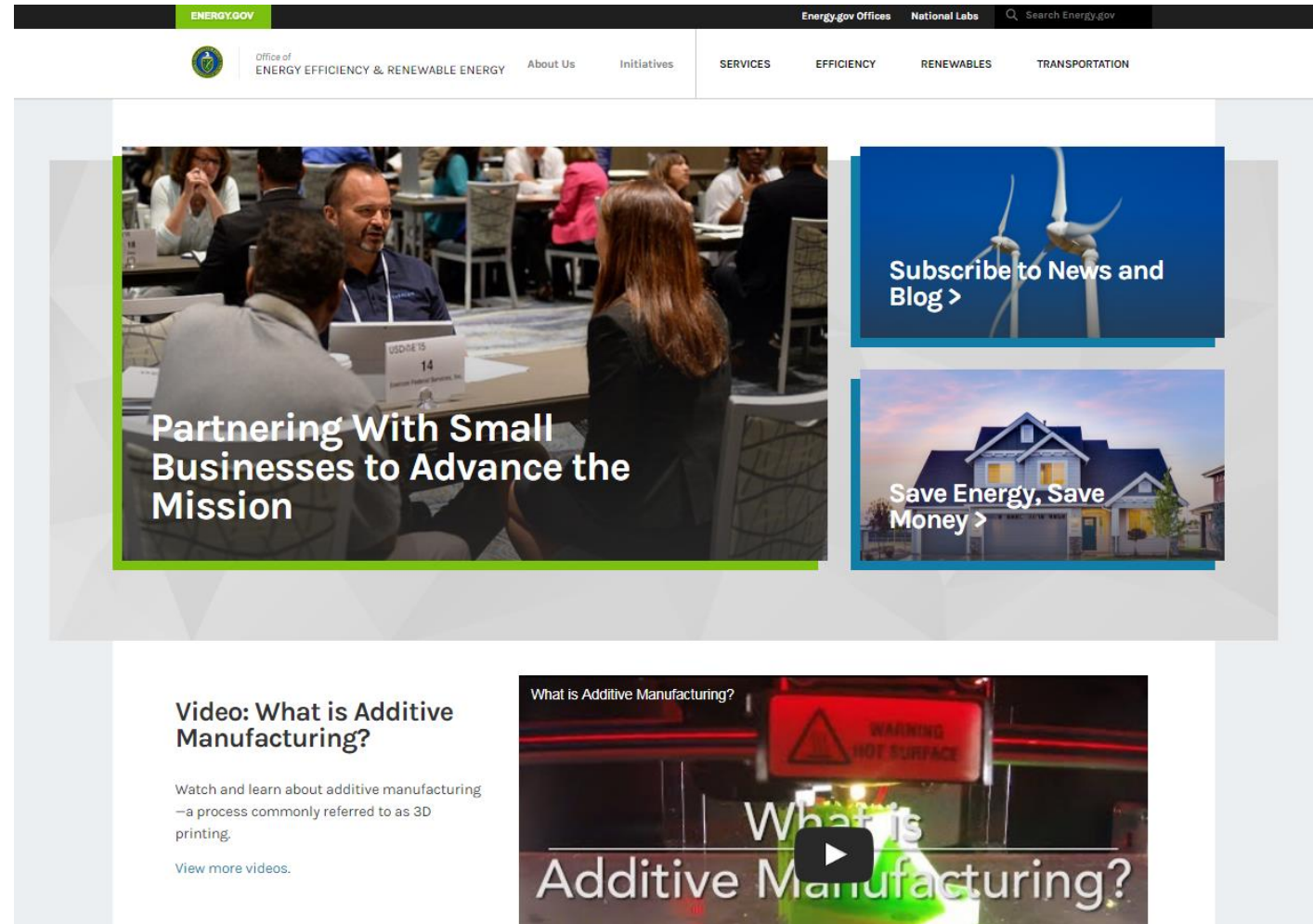
# Office Environmental Management

- Website: [Office of Environmental Management](#)
- Research Areas
  - Technologies to Support Remediation and Decommissioning of Nuclear/Chemical sites



# Information Available at DOE Program Office Websites

- Mission
- Funding Priorities and Announcements (non-SBIR)
- Technical Reference Data and Reports
- Workshop & Conference Proceedings
- Contact Information





A photograph of a wind farm with several white wind turbines. The central turbine is in sharp focus, showing its three blades and nacelle. Other turbines are visible in the background, slightly out of focus. The sky is a clear blue with some light, wispy clouds.

# DOE SBIR & STTR Programs: Application & Award Process



# Operation of the DOE SBIR and STTR Programs

## DOE Program Office

- Develop Topics
- Identify Reviewers (Scientific Peer Review)
- Recommend Awardees
- Oversee Projects

*Technical Expertise Leveraged  
Throughout DOE*

## DOE Chicago Office

- Negotiate Grants
- Issue New and Continuation Awards
- Grant Closeout

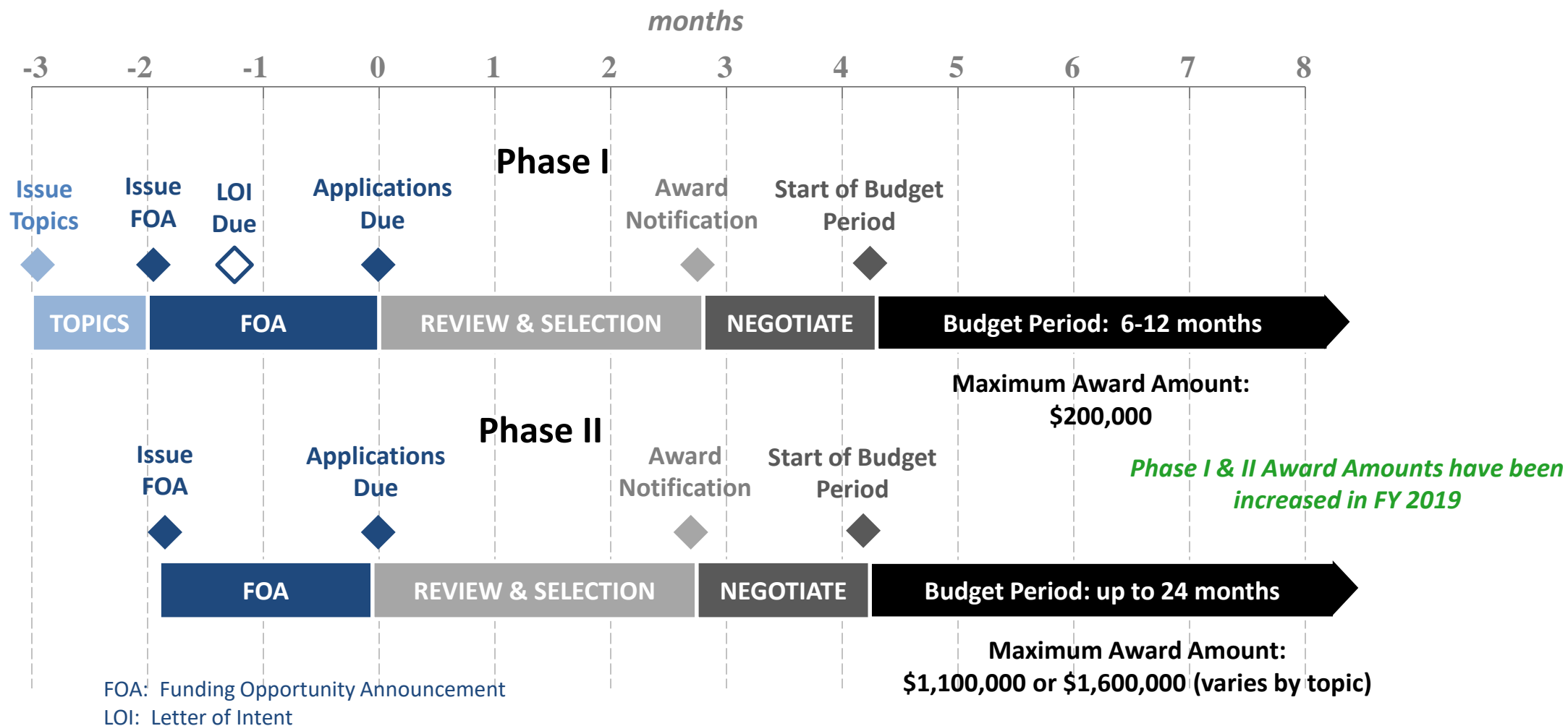
*Single Grants Office for Awardees*

## DOE SBIR/STTR Programs Office

- Develop Funding Opportunity Announcements
- Administer Review and Selection Process
- Ensure Compliance with SBIR/STTR Legislation
- Conduct Outreach

*Single Administrative Office for Applicants*

# Application & Award Timelines



# FY 2021 SBIR/STTR Phase I Funding Opportunity Announcements

## Phase I Release 1

- 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)

## Phase I Release 2

- 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)
- Office of Environmental Management (EM)

# Schedule: FY 2021 Phase I, Releases 1 & 2

Phase I FOA Schedule	Release 1	Release 2
Topics Issued	Monday, July 13, 2020	Monday, November 9, 2020
Webinar(s)	Week of July 20, 2020	Week of November 16, 2020
FOA Issued	Monday, August 24, 2020	Monday, December 14, 2020
Webinar(s)	Friday, August 28, 2020	Friday, December 18, 2020
Letters of Intent (LOI) Due	Tuesday, September 8, 2020	Monday, January 4, 2021
Non-Responsive LOI Feedback Provided	Monday, September 28, 2020	Monday, January 25, 2021
Applications Due	Monday, October 19, 2020	Monday, February 22, 2021
Award Notification	Monday, January 11, 2021*	Monday, May 17, 2021*
Projected Grant Start Date	Tuesday, February 22, 2021	Monday, June 28, 2021

*\*preliminary dates subject to change*





## Schedule: FY 2021 Phase II, Releases 1 & 2

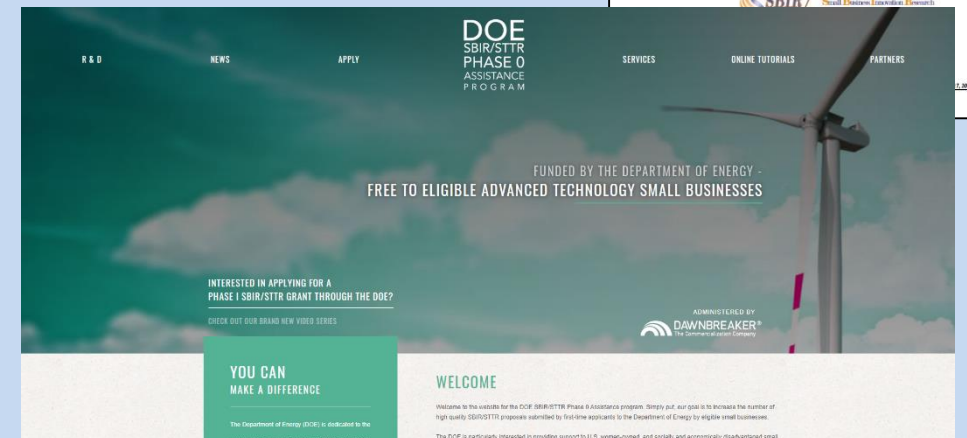
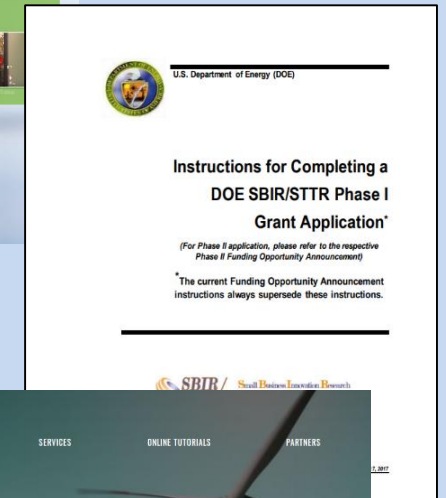
Phase II FOA Schedule	Release 1	Release 2
FOA Issued	Monday, October 19, 2020	Monday, March 01, 2021
Letters of Intent Due (Second or Third Phase II only)	Tuesday, December 8, 2020	Wednesday, March 31, 2021
Full Applications Due	Tuesday, January 5, 2021	Tuesday, April 20, 2021
Award Notification	Monday, March 22, 2021*	Tuesday, July 12, 2021*
Grant Start Date	Monday, May 3, 2021	Monday, August 23, 2021

*\*preliminary dates subject to change*



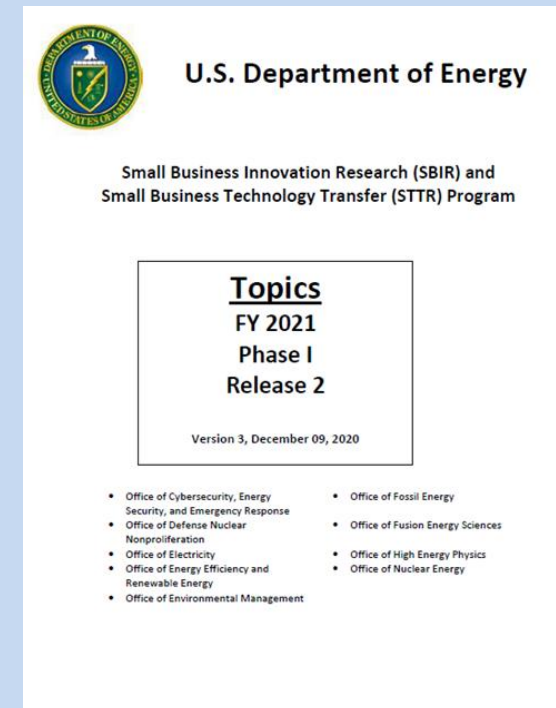
# Assistance for the Application Process

- Telephone: (301) 903-5707, 8:30am – 5:00pm, M-F, ET
- Online
  - We have an online learning system to assist new applicants:
    - <https://science.osti.gov/SBIRLearning>
  - Additional resources can be found on our website including our Phase I application guide:
    - <https://science.osti.gov/sbir/Applicant-Resources>
- Personalized Application Assistance (it's free!)
  - Phase 0 Application Assistance Program
  - Created to assist first-time applicants from under-represented groups (socially and economically disadvantaged small businesses, women-owned small businesses, and small businesses from under-represented states) prepare high quality applications
  - Any first-time applicant is eligible to apply for assistance
  - <http://www.dawnbreaker.com/doephase0/>



# Topics

- Topics Document
  - DOE primarily uses focused topics
  - Issued 4 weeks prior to the FOA
- Communication with DOE program managers
  - Open communication permitted about [topic scope](#)
- Webinar
  - DOE program managers discuss their topics
  - Applicants submit questions in advance or during the webinar
  - Webinars are recorded and available at our website





# Example Topic

- Topic & Subtopic
  - You must specify the topic and subtopic in your letter of intent and application
- Topic Header
  - Lists the maximum award amounts for Phase I & Phase II and whether SBIR & STTR applications are accepted
- Program Manager
  - Each subtopic lists the responsible DOE program manager
- Other Subtopic
- References

[Return to Table of Contents](#)

## 11. SEMI-AUTONOMOUS INTELLIGENT CONTROL FOR SYNCHROTRON AND FEL X-RAY SOURCES

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Applications: YES	Accepting STTR Applications: YES

This topic seeks development that targets small, secure, locally networked, audit-able, semi-autonomous "human-in-the-loop" control systems for synchrotron and Free-Electron Laser (FEL) facilities. The next generation of very high flux light and particle sources will require a matching innovation leap in current diagnostic and controls technology. Given the very high measurement rates (of order TeraByte/s) and the control complexity (100s of distributed and interrelated control parameters in e.g. FEL sources), these facilities present a microcosm on the future of semi-autonomous human-supervised control systems (Industry 4.0 standards) that use swarms of small form-factor commercial edge machine learning hardware for on-detector analysis and collaborative inference. Application should enable small, locally networked, semi-autonomous control systems. These systems are comprised of electron beam steering magnets, beam position monitors, undulator settings, real-time spectra and power measurements, etc. This collection of controls and diagnostics span up to many 100s of meters and so distributed devices must communicate via a local sub-network. Transactions should be authenticated via Transport Layer Security (TLS) handshake that enable moving encryption for the device-to-device data transactions needed for collaborative machine learning inference generation.

Grant applications are sought in the following subtopics:

- Development of "Human-in-the-Loop" Semi-autonomous Intelligent Control Systems for Real-time Synchrotron and FEL X-ray Tuning and Experimentation**  
Grant applications are sought for systems that require minimal intermittent interaction with distant data centers. Each device should be capable of small adaptation to its machine learned models based on local input and use intermittent connections to remotely hosted data centers with High Performance Computing (HPC) for full model retraining. Furthermore, the ensemble of collaborating devices should maintain inter-device awareness via a data dissemination protocol such that inter-device communication is not only authenticated, but also the recent trust-state of an individual device is known to all potential receiving devices and accordingly corroborated by the ensemble. Indexing the human environment should use voice and/or facial recognition to identify the presence of specific individuals and encode that configuration into the decision chain record. Certain configurations of individuals should unlock certain machine controls that otherwise remain locked to human interaction.

Questions – Contact: Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

- Other**  
In addition to the specific subtopic listed above, the Department invites grant applications in other areas that fall within the scope of the topic description above.

Questions – Contact: Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

### References:

- Grossetete, P., 2019, What does 5G Look Like for Industrial IoT, Cisco. <https://blogs.cisco.com/internet-of-things/what-does-5g-look-like-for-industrial-iiot>

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# Technology Transfer Opportunities (TTOs)

- An opportunity to transfer inventions made by a DOE National Lab or university to your small business for commercialization
- Awardees receive
  - an SBIR/STTR grant and
  - an option to license the technology
- Please review TTO information section at the beginning of the topics document if you plan to submit an application to a TTO.



## Example Technology Transfer Opportunity Topic

- Technology Transfer Opportunity
  - The topic or subtopic will be clearly labeled
- Research Organization
  - The DOE National Lab or university responsible for the TTO is listed along with contact information and other references
  - Please contact the Lab or university to obtain information about the TTO
- DOE Program Manager

**c. TECHNOLOGY TRANSFER OPPORTUNITY: Wind Turbine Blade Design for Small Wakes**

This is a [Technology Transfer](#) Opportunity to license and commercialize a wind turbine blade technology developed and patented by DOE's Sandia National Laboratories (SNL). The small wake rotor design patent ([US Patent 10,400,743](#)) describes a wind turbine blade design that has a less stable wake than the typical maximum efficiency aerodynamic design. By slightly changing the axial induction, an important aerodynamic performance parameter of a wind turbine, the wind in the rotor wake recovers to the freestream airspeed more quickly.

Wind turbine blades that are designed to create wakes that dissipate more rapidly have the potential to reduce down-turbine turbulence and concomitant wake effects on other turbines. This can reduce capital costs for commercial wind development by allowing wind turbines to be spaced closer together and reducing the power production losses from the wake effects. This, in turn, could potentially reduce the land or sea footprint of a wind plant by as much as half, with additional spillover benefits from reducing balance-of-plant costs. A blade design recently patented by SNL creates a faster-mixing wake that can advance these goals. The new blade technology could be applied to new wind projects, and to repowering of older wind farms to reduce array losses and increase Annual Energy Production. The repower market is expected to be \$25 billion through 2030 [3]. This topic area seeks proposals from entities interested in licensing this innovative technology and advancing its transfer to the commercial market.

**Licensing Information:**

Sandia National Laboratories  
For business/partnership inquiries.  
Debi Hudgens, PhD, MBA, CLP  
Licensing Executive  
Tel: 505-284-1596  
Email: [dhudgen@sandia.gov](mailto:dhudgen@sandia.gov)  
Patent: USPTO 10,400,743 <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetacgi%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10,400,743.PN.&OS=PN/10,400,743&RS=PN>  
Sandia tracking number: 17139  
This patent is available for either exclusive ("period of restraint") or non-exclusive.  
<https://ip.sandia.gov/>

Questions – Contact: Ben Hallissy, [Benjamin.Hallissy@ee.doe.gov](mailto:Benjamin.Hallissy@ee.doe.gov)



# Funding Opportunity Announcement (FOA)

- FOA
  - Available at the [DOE SBIR website](#) or [Grants.gov](#) and includes information on
    - Anticipated number of awards and funding available
    - Eligibility
    - Application Requirements
    - Review Criteria
    - Award Administration
  - Open for approximately 9 weeks
- Communications with DOE program managers
  - Open communication permitted to clarify the [scope of the topic](#) and subtopic prior to submitting an application

DEPARTMENT OF ENERGY (DOE)  
SMALL BUSINESS INNOVATION RESEARCH (SBIR)  
SMALL BUSINESS TECHNOLOGY TRANSFER (STTR)



FY 2021 PHASE I RELEASE 2

FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:  
DE-FOA-0001360  
FOA TYPE: New  
CFDA NUMBER: 81.049

FOA Issue Date:	December 14, 2020
Submission Deadline for Letters of Intent:	Monday, January 4, 2021 5:00 PM Eastern
Submission Deadline for Pre-Application:	N/A
Pre-Application Response Date:	N/A
Submission Deadline for Applications:	Monday, February 22, 2021 11:59 PM Eastern



# Letters of Intent (LOI)

- Requirement
  - You must submit an LOI by the due date to be eligible to submit an application
- Primary purpose
  - begin reviewer assignment to reduce award selection time
  - due 3 weeks after FOA is issued
- Secondary purpose
  - provide email notification to applicants who appear to be non-responsive; you may submit an application if you receive this notification
  - Applicants whose LOI appears responsive will NOT receive a notification
- Limits
  - Small businesses may submit only 10 letters of intent (and 10 applications) per solicitation
  - Each letter of intent and application must be unique

## Content of LOI

- Title
- Topic and Subtopic
- Abstract (<500 words)
  - *Provide sufficient technical detail to enable reviewer assignment*
  - Non-proprietary
- List of Collaborators
- Small Business Information
  - Name, address
  - Business Official and contact information
  - Principal Investigator



# Letter of Intent (LOI) Submission

- Submit LOI online directly to the DOE Portfolio Analysis and Management System (PAMS) website: <https://pamspublic.science.energy.gov/>
  - Select “Create New PAMS Account” (if you do not have an account)
    - No prior registrations (SAM, etc.) are required to submit a LOI
  - Submit your abstract as a PDF file
  - Utilize the [LOI instructions](#) available at the DOE website to ensure that you submit all the required information
  - For additional details on the LOI submission process, see the FOA

The screenshot shows the DOE Portfolio Analysis and Management System (PAMS) login page. At the top, the U.S. Department of Energy logo and 'Office of Science' are visible, along with the title 'Portfolio Analysis And Management System'. Below this is a navigation bar with 'Login' and 'Existing User' links. A date and time stamp 'Tuesday 25th November 2014 02:22:17 P.M. ET' is on the right. A warning banner for Mac users is present. The main content area is titled 'Existing User Login' and contains fields for 'Username' and 'Password', a 'Login' button, and a 'Forgot Password' link. To the right, there is a 'New User Registration' section with links for 'Search Solicitations' and 'Create New PAMS Account', and an 'Other Links' section with links for 'Award Search', 'Recommended Settings', 'Contact Us', and 'PAMS External User Guide'. At the bottom, a 'System Use Notification' section contains a disclaimer about the system being a US Government Information System and a list of terms of use.

# Letter of Intent: Sample Abstract

ABC LLC will develop a new class of low cost battery separator materials for lithium ion batteries. It is anticipated that the cost of this separator will be 70% lower than separator materials available today and will be a critical factor in reaching the \$150/kWh cost target specified in topic 4b for lithium ion batteries for electric vehicle applications.

*Clearly explain why the proposed R&D is responsive to the subtopic*

These separators will utilize a new optically-activated method of producing pores in nano-structured polyolefin films. This optical pore formation method results in a 10x increase in the speed of creating porous films. During Phase I, ABC LLC will (1) develop the compositions and methodology for formulating the dense nano-structured polyolefin films and (2) carry out preliminary feasibility studies to characterize the appropriate optical intensities and wavelengths to achieve uniform, high speed, pore formation. It is anticipated that multiple iterations will be required to optimize the composition and nanostructure of the precursor films to achieve the desired porosity and process speeds. All processing work will be carried out at ABC LLC but polymer characterization will leverage capabilities of the Polymer Lab at State University to evaluate the structure, porosity, tortuosity, and thermal properties of the polymer films. In addition we will be collaborating with Lion Battery Inc. who will do preliminary battery testing of our separator materials to identify any manufacturing or performance issues of the separators.

*Provide sufficient technical detail about the R&D so that DOE program managers can select reviewers with appropriate technical expertise.*

***Do not include proprietary information in a letter of intent.***





# Application Process: Registrations

- Applications must be submitted through [Grants.gov](https://www.grants.gov)
- Registration at Grants.gov is a 3 step process
  1. Obtain a DUNS number (This will be replaced by a [Unique Entity Identifier \(UEI\)](#) in the near future.)
  2. Complete a SAM registration.
    - Must be updated annually
  3. Complete Grants.gov registration
    - Start this process as early as possible!
- See the Grants.gov website for instructions
- Small Business Administration (SBA) company registry
  - Small businesses must register at the SBA company registry (<http://www.sbir.gov/registration> ) and submit a copy of their registration with their grants.gov application

## Introduction to Grants.gov Video Series

The [Introduction to Grants.gov Video Series](#) covers the complete Grants.gov application process, from registering and creating a Grants.gov account to finding funding opportunities and completing an application package.



### Applicant Registration for Grants.gov, Part 1

Published on Aug 3, 2015

Learn how to get a DUNS number and register with the System for Award Management (SAM) before you register as an applicant on Grants.gov.



### Applicant Registration for Grants.gov, Part 2

Published on Aug 3, 2015

Learn how to complete the Grants.gov registration process after getting a DUNS number and registering with SAM.



### Understanding User Roles in Grants.gov

Updated on Feb 18, 2016

Learn about applicant user roles within the Grants.gov system and how these roles impact the application process.



### Searching for Funding Opportunities on Grants.gov

Updated on Feb 18, 2016

Learn about Grants.gov's powerful search engine, which allows users to find and apply for federal grants in a variety of ways.



### What is in a Grant Opportunity on Grants.gov?

Updated on Feb 18, 2016

Learn about the information that is included with every posting of a federal grant opportunity on Grants.gov.



### What's in an Application Package on Grants.gov?

Published on Aug 3, 2015

Learn all you need to know about filling in required fields on downloaded federal grant application packages.



### Submitting the Application Package on Grants.gov

Published on Aug 3, 2015

Learn how to submit a completed application package on Grants.gov.



### Confirmation Emails from Grants.gov

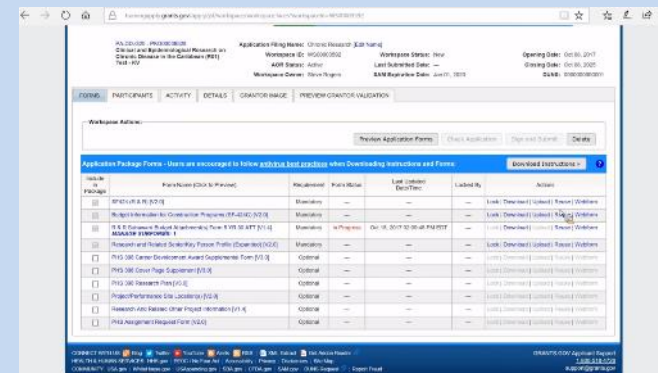
Published on Aug 3, 2015

Learn about the various confirmation emails users may receive after submitting a grant application through Grants.gov.



# Completing a Grants.gov Application

- **Workspace**
  - Online application completion and submission
  - Online tutorials are available
  - <https://www.grants.gov/applicants/workspace-overview.html>



# Important Elements of Your Application


- Project Narrative
  - Page and word limits
    - Phase I: 15 pages, 7,500 words
    - Phase II: 20 pages, 10,000 words
- Budget & Budget Justification
- Key Personnel
  - Provide a resume for each person listed on the budget form
- Commercialization Plans
  - Phase I commercialization plan
    - an example can be found here at <https://science.osti.gov/sbir/Applicant-Resources/Grant-Application>
  - Phase II commercialization plan
- SBIR/STTR Information form
- Data Management Plan

YOUR APPLICATION MUST INCLUDE THE FOLLOWING DOCUMENTS:

Name of Document	Format	Attach to
Application for Federal Assistance, SF-424 Form	PDF	
Research and Related: Budget Form	PDF	
Additional Senior Key Persons, if applicable	PDF	Field A. 9
Additional Equipment, if applicable	PDF	Field C. 11
Budget Justification	PDF	Field K
Research and Related: Senior/Key Person Profile Form	PDF	
Biographical Sketch for each person	PDF	Appropriate Block
Current & Pending Support for each person, if applicable	PDF	Appropriate Block
Research and Related: Other Project Information Form	PDF	
Project Abstract and Summary	PDF	Field 7
Project Narrative	PDF	Field 8
Bibliography and References Cited, if applicable	PDF	Include in Project Narrative
Facilities and Other Resources, if applicable	PDF	Include in Project Narrative
Equipment, if applicable	PDF	Include in Project Narrative
Other—Data Management Plan	PDF	Field 12
Other—Level of Effort Worksheet	PDF	Field 12
Other—Letter of Commitment for consultant, sub-award, or research institution, if applicable	PDF	Field 12
Other—Letters of Support, if applicable	PDF	Field 12
Other—SBA Company Registration	PDF	Field 12
Authorization for non-DOE/NNSA FFRDCs, if applicable	PDF	Field 12

# Completing an Application

- Important documents to assist you with completing the application package
  - Topics Document, Funding Opportunity Announcement, & Instructions are available at the [DOE SBIR/STTR website](https://www.doesbirlearning.com/)
  - Online tutorials are available at <http://www.doesbirlearning.com/>



U.S. Department of Energy


Small Business Innovation Research (SBIR) and  
Small Business Technology Transfer (STTR) Program

**Topics**  
FY 2021  
Phase I  
Release 2

Version 3, December 09, 2020


- Office of Cybersecurity, Energy Security, and Emergency Response
- Office of Defense Nuclear Nonproliferation
- Office of Electricity
- Office of Energy Efficiency and Renewable Energy
- Office of Environmental Management
- Office of Fossil Energy
- Office of Fusion Energy Sciences
- Office of High Energy Physics
- Office of Nuclear Energy

DEPARTMENT OF ENERGY (DOE)  
SMALL BUSINESS INNOVATION RESEARCH (SBIR)  
SMALL BUSINESS TECHNOLOGY TRANSFER (STTR)



FY 2021 PHASE I RELEASE 2  
FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:  
DE-FOA-0002360  
FOA TYPE: New  
CFDA NUMBER: 51.049

FOA Issue Date:	December 14, 2020
Submission Deadline for Letters of Intent:	Monday, January 4, 2021 5:00 PM Eastern
Submission Deadline for Pre-Application:	N/A
Pre-Application Response Date:	N/A
Submission Deadline for Applications:	Monday, February 22, 2021 11:59 PM Eastern




U.S. Department of Energy (DOE)

**Instructions for Completing a  
DOE SBIR/STTR Phase I  
Grant Application\***

*(For Phase II application, please refer to the respective  
Phase II Funding Opportunity Announcement)*

\*The current Funding Opportunity Announcement  
instructions always supersede these instructions.



SBIR / STTR Small Business Innovation Research  
Small Business Technology Transfer

Updated August 1, 2017



# Data Management Plan

- Purpose – Disseminate, as widely as possible, data generated with public funding
- Requirement – All SBIR and STTR applications must select one of the two Data Management Plan (DMP) options below:
  - Option 1
    - The Option 1 DMP is: “It is anticipated that all generated digital data will be protected as SBIR/STTR data and therefore will not be publicly shared during the applicable SBIR/STTR data protection period.” If any data generated under this award are published, an effort will be made to also release any related digital data that is not protected SBIR/STTR data.”
    - Please note that if you do not include a DMP with your application, Option 1 for the DMP will be assumed for your application. However, If you plan to publicly disclose generated digital data, you must provide a DMP under Option 2.
  - Option 2
    - If you plan to publicly disclose technical data during the data protection period or, for data not expected to be asserted as protected SBIR/STTR rights data , please submit a DMP. Use the DMP requirements outlined in the FOA.



# Top Application Errors

- Serious Errors (Applications Ineligible for Review or Administratively Declined)
  - **Failed to update SAM registration early—unable to submit application to Grants.gov by deadline**
  - **Failed to submit a Letter of Intent (LOI) by the LOI deadline**
    - A LOI needs to be submitted by the LOI deadline each application.
      - Please note: The project title and topic/subtopic designation included in the LOI need to match the application.
  - **Failed to accurately calculate level of effort (for SBIR and/or STTR)**
    - Use [Level-of-Effort worksheet](#) to assist you with the calculation
  - **Failed to meet Principal Investigator hours requirement**
    - Principal Investigator must devote at least 3 hours per week on average for the duration during Phase I project
      - Example: 12 month project: at least 156 hours (52 weeks x 3 hours/week), List the hours explicitly in your budget justification
- Other Errors (may limit funding eligibility or delay award processing, if recommended for award)
  - **Failed to properly mark proprietary data**
    - See FOA for instructions
  - **Failed to complete budget form(s) correctly**
    - Amounts in the budget form should be rounded to the nearest dollar and only include funds requested for the grant excluding any outside source funding.
    - Amounts listed on the budget form should match the amounts listed on the budget justification (unless explicitly labeled as other funding from outside sources).
    - Include a completed subaward budget form for each subaward included in the application. (Subaward budget form(s) total should match the amount for subaward listed in the small business budget form.)
  - **Failed to include Letter(s) of Commitment**
    - Submit a Letter of Commitment for each Consultant and Subaward in Field 12 of the Research & Related: Other Project Information Form



# SBIR vs. STTR

- DOE uses the same topics for SBIR & STTR
  - All topics accept SBIR applications; some topics may not accept STTR applications so please check the topic header prior to submission
- Applicants can apply to either or both SBIR & STTR programs with a single application
  - If you apply to both programs, you must meet the requirements for both



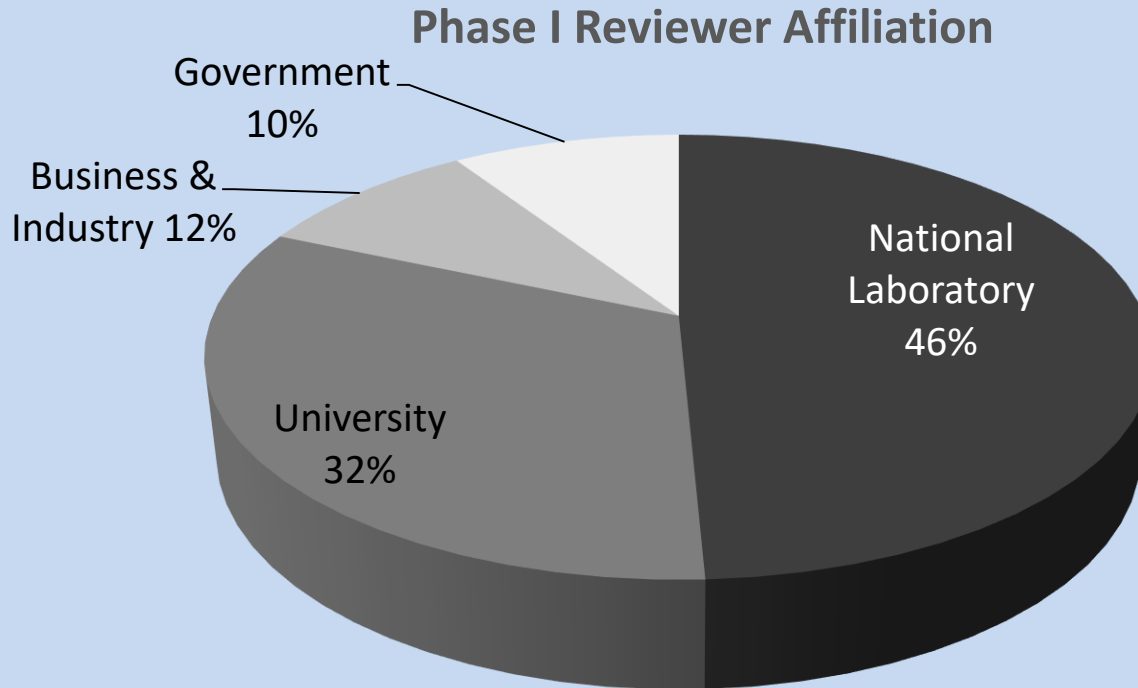
# Review and Selection of Applications

- DOE primarily uses external peer review to evaluate your applications
  - Typically at least 3 technical reviewers
  - 1 reviewer for the Phase II commercialization plan
- Review Criteria (equally weighted)
  - Strength of the Scientific/Technical Approach
  - Ability to Carry Out the Project
  - Impact
- Selection
  - DOE ranks the most meritorious applications—award selections are made based on available funding
- You will be notified of the decision on your application within 90 days of the application deadline
  - Reviewer comments will be made available to you through PAMS. Use this feedback constructively to improve future applications





# Technical Reviewer Affiliation

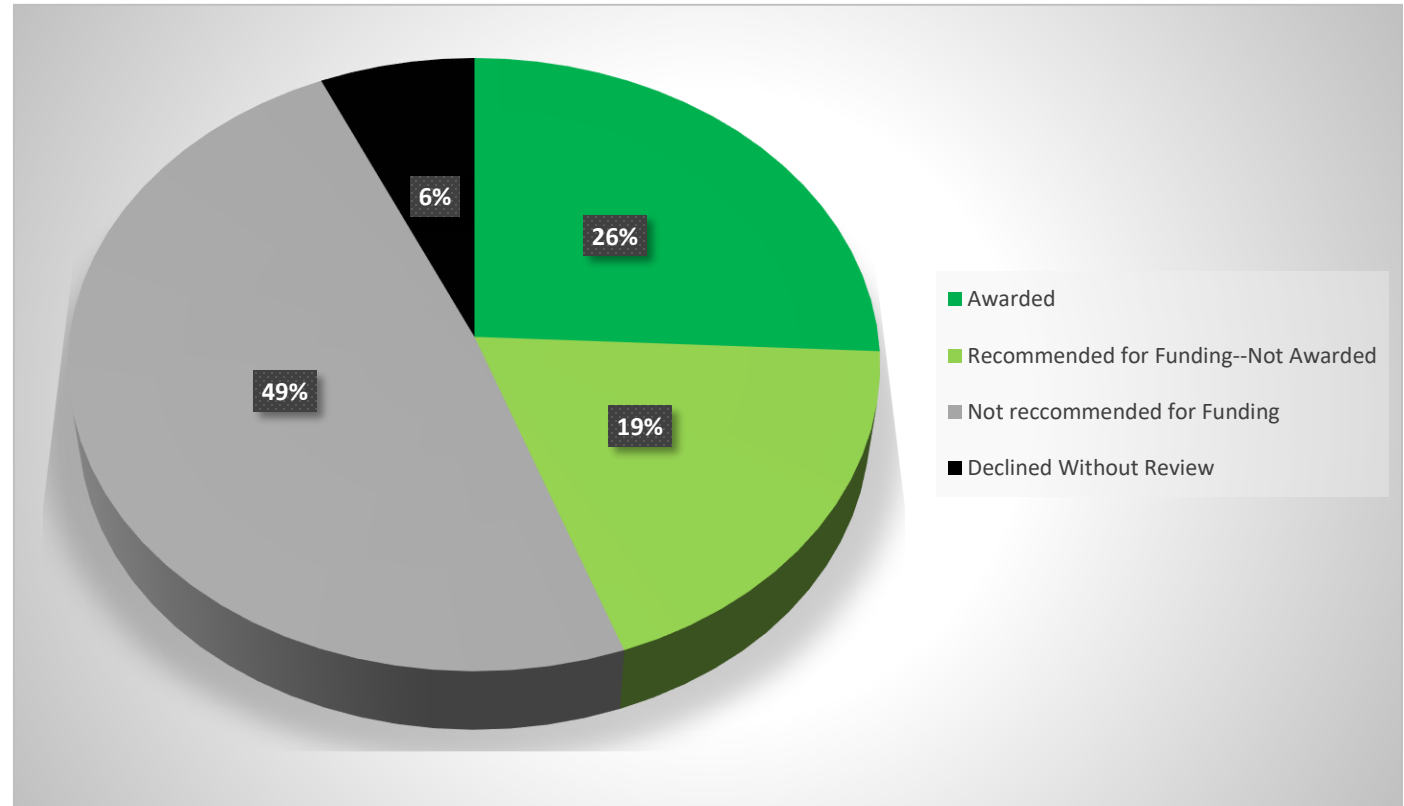


- Reviewers agree that (1) they will keep application information confidential and (2) they do not have a conflict of interest in reviewing the application.



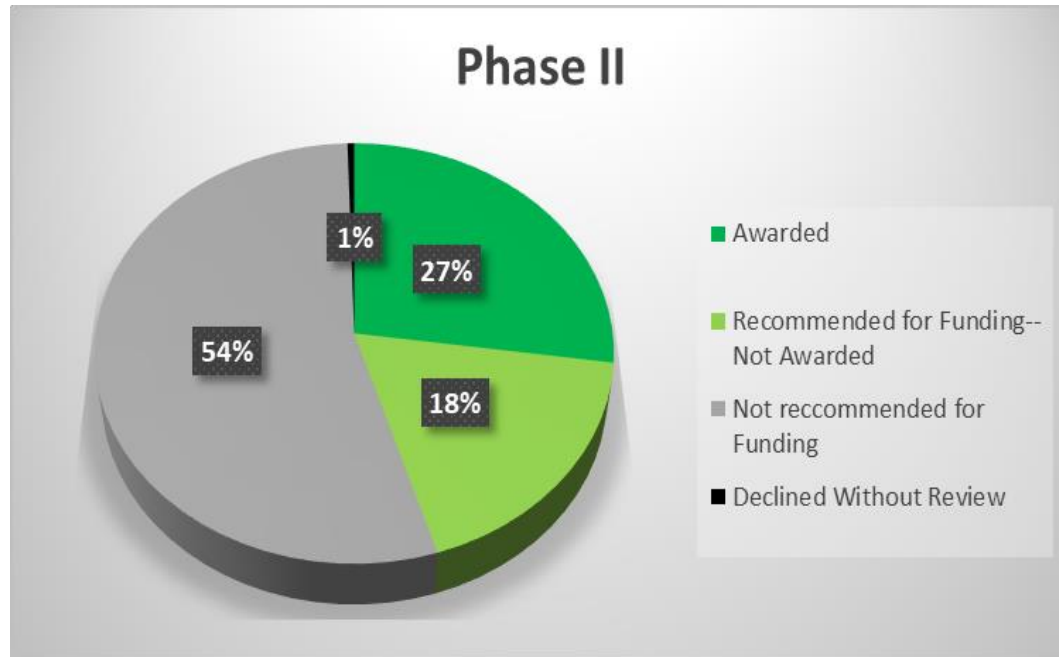
# Phase I Application & Award Statistics for FY 2020

- Phase I
  - 1,605 applications
  - 414 awards

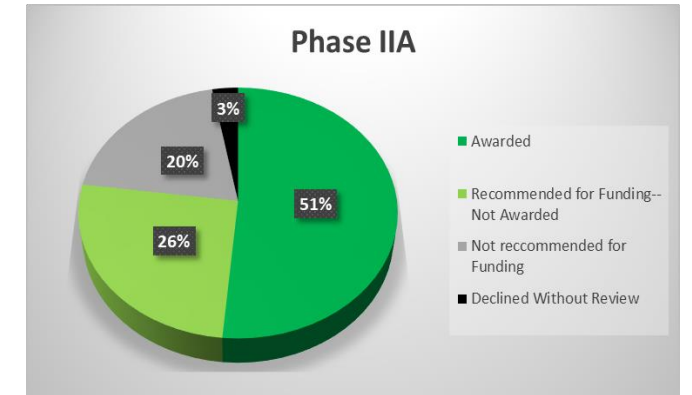


# Phase II Application & Award Statistics for FY 2020

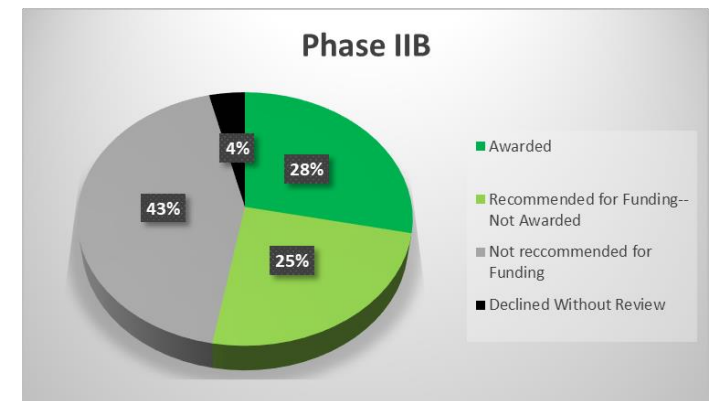
- Phase II
  - 455 applications
  - 198 awards



- Phase IIA
  - 35 applications
  - 18 awards



- Phase IIB
  - 53 applications
  - 15 awards



# Phase I Principal Investigator Meeting

- Phase I Principal Investigators are expected to attend a two day DOE SBIR/STTR Principal Investigator Meeting held in the DC area
  - Release 1: June
  - Release 2: October
- Objectives
  - In-person meetings with DOE program managers and DOE Commercialization Assistance provider
  - Presentations relating to Phase II and Commercialization
  - Small business networking
- You may include the cost for the trip (registration, travel) in your Phase I budget
- Exceptions
  - If the DOE program office that funds your topic has a separate principal investigator meeting, you will be notified that your participation in the Phase I PI meeting is optional





# Commercialization Assistance

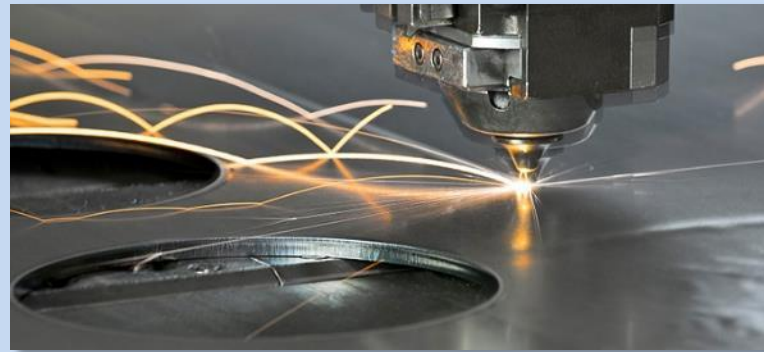


- DOE Commercialization Assistance
  - Phase I assistance
    - Assistance with development of Phase II commercialization plans
    - Or, Industry-specific business consultant
  - Phase II assistance
    - Flexible offerings to meet a variety of commercialization needs
    - Or, Industry-specific business consultant
  - Vendor website: <http://www.larta.org/doecap>
- Company-selected commercialization assistance vendor
  - Companies may select their own vendor(s) to provide commercialization assistance
  - Company must include this vendor(s) as a subcontractor or consultant in their Phase I or II application
  - Up to \$6,500 for Phase I
- Energy I-Corps for SBIR/STTR
  - New pilot program for Phase I awardees with a focus on customer discovery



# Commercialization

- DOE topics are drafted by program managers who are aware of the important technology roadblocks that are preventing progress in their mission areas
- Small business applicants are expected to address the commercialization challenges and ensure that there is a profitable, self-sustaining, business opportunity
  - Phase I & II Applications must include Commercialization Plans
  - Commercialization Plans can accommodate long commercialization timeframes
  - Ability to address adjacent markets can also be included in your commercialization plan
- DOE performs follow-up surveys to track commercialization outcomes of its SBIR/STTR awards

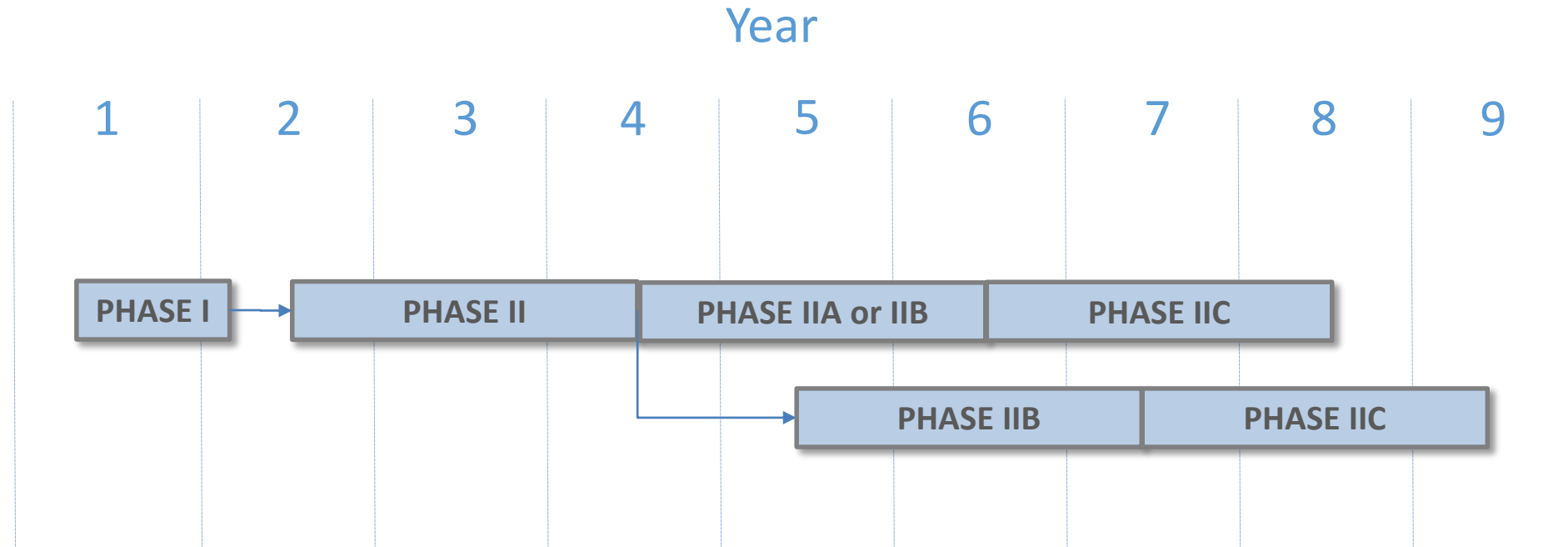


# Support for Deep Tech Projects

- DOE supports technology development that may require more than a single, conventional Phase I/II award to complete prototype/process development
- Funding Strategies
  - Larger award sizes
    - DOE has included topics with Phase I awards up to \$450,000 and Phase II awards up to \$4,500,000
  - Collaborative Proposals
    - Topics may solicit small businesses to collaborate on multi-disciplinary projects where individual small businesses each receive their own Phase I/II award
  - Second Phase II awards
    - DOE offers second Phase II awards to complete or supplement prototype/process development



# DOE Award Timeline



**Phase IIA:** For projects requiring more time and funding than available with a single Phase II award to complete prototype or process development

**Phase IIB:** For projects that have successfully completed prototype or process development and require additional R&D funding to transition an innovation towards commercialization

**Phase IIC:** Pilot program to leverage matching funds for commercialization







**DOE SBIR & STTR Programs: Examples of Phase III Success**  
**<https://science.osti.gov/sbir/SBIR-STTR-Phase-III-Success-Stories>**

## IMPACT

Ground-breaking characterization tool enabling 3D, element sensitive, high resolution imaging for next-generation energy-efficient and nanotechnology devices



**DOE OFFICES:** Basic Energy Sciences (BES), High Energy Physics (HEP).

**TECHNOLOGY:** table-top, femtosecond pulsed x-ray lasers for imaging and time-resolved spectroscopy with applications in semiconductor industry, bio-imaging and neuroscience.

**COMMERCIALIZATION TIMELINE:** SBIR support starting in 2002 with a DOD grant and 6 DOE SBIR Phase II award since 2007. \$14M in product sales; >\$13M in two rounds of investments by Intel Capital, Kairos Ventures and Colorado Impact Fund.





SiNode's core technology was developed at the Center for Electrical Energy Storage (CEES) at Argonne National Laboratory in partnership with Northwestern University



**DOE OFFICES:** Energy Efficiency and Renewable Energy (EERE), Vehicle Technologies Office (VTO).

**TECHNOLOGY:** “graphene-wrapped” silicon anode for Li-ion batteries with 50% higher performance.

**COMMERCIALIZATION TIMELINE:** Private investment from Energy Foundry after DOE Phase I. DOE Phase II in 2014. Immediately after, \$4M contract from automotive consortium with DOE share.  
In 2018, formation of Nanograph, joint venture with Tokyo-based company.  
In 2019, additional Series A Angel investment for a total of \$5.5M.



**TELESCENT**

**DOE OFFICES:** Advanced Scientific Computing Research (ASCR).

**TECHNOLOGY:** Fiber optic interconnects.

**TIMELINE:** 3 DOE SBIR Phase II awards and a Phase IIB since 2010. First Phase II lead to significant Angel Investments.

**ROI:** \$5M in product sales rapidly growing. \$15M in Angel Investments. 36 employees. Deployed in 15 large data centers. Customers include Verizon. 38+ patents.

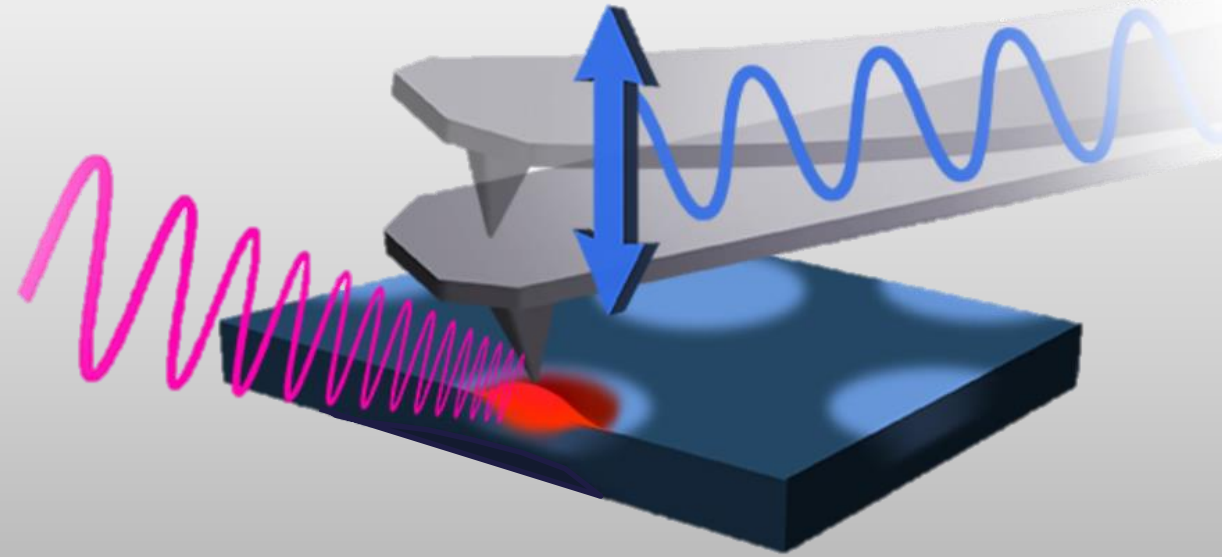
**TAKEAWAY MESSAGE:** Game-changing technology born from a String Theory mathematical representation.



U.S. DEPARTMENT OF  
**ENERGY**

**SBIR/STTR Programs  
Office**





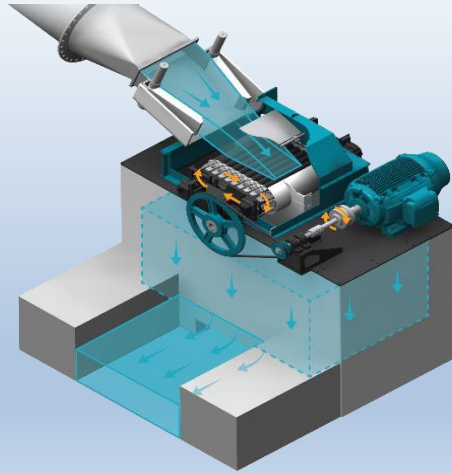
**DOE OFFICES:** Basic Energy Sciences (BES).

**TECHNOLOGY:** Nanoscale IR spectroscopy through AFM.

**TIMELINE:** 5 DOE SBIR Phase II awards in 2010 - 2017. Critical to validate a large potential market.

**ROI:** By 2018 Anasys' growing sales made the acquisition by Bruker possible.

**TAKE-AWAY MESSAGE:** Intensive multi-disciplinary R&D with significant advances in multiple disciplines like IR lasers, optics, AFM probes, mechanics, and electronics.



**DOE OFFICES:** Energy Efficiency and Renewable Energy (EERE).

**TECHNOLOGY:** low civil work hydropower turbines

**IMPACT:** tap into the undeveloped 70 GW hydropower potential at drops between 5 and 20 feet. Preserving the environment.

**TIMELINE:** founded in 2009. One Phase II SBIR followed by \$10M investment from three-billion-dollar family investment firms. Currently expanding manufacturing.

**STRENGTHS:** Knowing there is a market. Balanced leadership. Vision.

# DOE Office of Inspector General: Fraud, Waste & Abuse



# DOE Office of Inspector General

## *Combating Fraud*

- *What types of fraud are found in the SBIR Program?*
- Application Process
  - submitting a plagiarized proposal
  - providing false information regarding the company, the Principal Investigator (PI), or work to be performed
  - seeking funding for work that has already been completed
- During Award
  - using award funds for personal use or for any use other than the proposed activities
  - submitting plagiarized reports or reports falsely claiming work has been completed
  - claiming results for an award that were funded by a different source





# DOE Office of Inspector General

## *Knowing the Rules*

- ***Which SBIR rules should you be particularly familiar with?***
  - Duplicate or overlapping proposals may not be submitted to multiple agencies without full disclosure to all agencies.
  - The company must meet SBA's requirements for a small business, including being majority American owned and have 500 employees or fewer.
  - For SBIR: The PI's primary employment must be with the company during the grant period. The PI may not be employed full time elsewhere.
  - For SBIR: For Phase I, a minimum of two thirds of the research effort must be performed by the grantee company; for Phase II, a minimum of one-half of the research effort must be performed by the grantee company. Work performed by a university research lab is NOT work completed by the grantee company.
  - University employees participating on an SBIR award should disclose their involvement to the university as well as their use of university facilities.
  - R&D must be performed in the United States.



# DOE Office of Inspector General

## *Consequences*

- ***What Happens If You Break the Rules?***
  - If you commit fraud or other wrongdoing in applying for or carrying out an SBIR award, we will investigate.
  - We refer violations of civil or criminal law to the Department of Justice (DOJ). If DOJ prosecutes you for fraud or false statements, you may be sentenced to prison and required to pay full restitution. If DOJ pursues a civil action under the False Claims Act, you may have to pay treble damages and \$11,000 for each false claim. In addition, DOE may terminate your awards and debar you from receiving grants or contracts from any federal agency.



# Recent Prosecution

Friday, September 11, 2015

## **Scientists Sentenced To Prison For Defrauding The Small Business Innovation Research Program**

Tampa, Florida – U.S. District Judge Virginia Hernandez Covington has sentenced Mahmoud Aldissi (a/k/a Matt) and Anastassia Bogomolova (a/k/a Anastasia) for conspiracy to commit wire fraud, wire fraud, aggravated identity theft, and falsification of records. Aldissi was sentenced to 15 years in federal prison and Bogomolova was sentenced to a term of 13 years. As part of their sentences, the court entered a money judgment in the amount of \$10.6 million, representing the proceeds of the crime, and ordered them to pay \$10.6 million in restitution. Aldissi and Bogomolova were found guilty on March 20, 2015.

According to testimony and evidence presented during the month-long trial, through their two companies, Fractal Systems, Inc., and Smart Polymers Research Corp., Aldissi and Bogomolova fraudulently obtained approximately \$10.5 million of small business research awards from the federal government. In order to be awarded contracts, they submitted proposals using the stolen identities of real people to create false endorsements of and for their proposed contracts. In the proposals, they also lied about their facilities, costs, the principal investigator on some of the contracts, and certifications in the proposals.

<https://www.justice.gov/usao-mdfl/pr/scientists-sentenced-prison-defrauding-small-business-innovation-research-program>

# DOE Office of Inspector General

## *Reporting Fraud*

- The Department of Energy's Office of Inspector General (OIG) promotes the effective, efficient, and economical operation of DOE's programs and operations through audits, inspections, investigations, and other reviews.
- Within DOE OIG, the Office of Investigations is responsible for investigating any fraudulent acts involving DOE, its contractors or subcontractors, or any crime affecting the programs, operations, Government funds, or employees of those entities.
- ***If you want additional information or to report wrongdoing***

Internet: [ig.energy.gov](http://ig.energy.gov)

E-mail: [ighotline@hq.doe.gov](mailto:ighotline@hq.doe.gov)

Telephone: 202-586-4073

Hotline: 800-541-1625

Fax: 202-586-5697

U.S. DEPARTMENT OF ENERGY  
OFFICE OF INSPECTOR GENERAL  
ATTN: OFFICE OF INSPECTIONS  
1000 INDEPENDENCE AVENUE, SW  
MAIL STOP 5D-031  
WASHINGTON, DC 20585





Questions? *Please submit any question you may have via the Q&A field, center bottom of you screen.*

### **Contact information:**

- DOE SBIR/STTR Operations Call Center: 301-903-5707 (M-F, 8:30am to 5:00 ET)
- DOE SBIR/STTR Email: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)

### **Our Website:**

- DOE SBIR/STTR Main Website: <https://science.osti.gov/sbir>
- DOE SBIR/STTR Online Learning Microsite: <https://science.osti.gov/SBIRLearning>

**Subscribe to our Mailing List:** <https://public.govdelivery.com/accounts/USDOESCIENCE/subscriber/new>

**DOE Phase 0 Application Assistance Program:** <http://www.dawnbreaker.com/doephase0/>

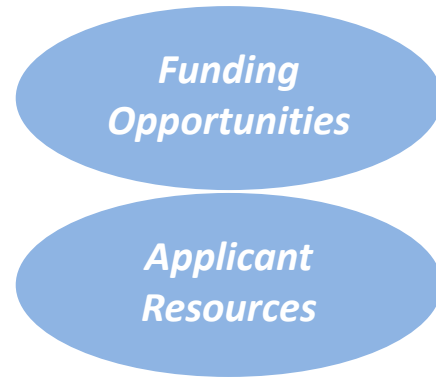
- Applications accepted from the release of topics to two weeks prior to grant application due date

### **Provide Feedback**

- Submit suggestions for improving the SBIR & STTR Programs: <https://science.osti.gov/sbir/Anonymous-Feedback>

# DOE SBIR webpage

<https://science.osti.gov/sbir>



The screenshot shows the DOE SBIR/STTR webpage. At the top, there is a navigation bar with links for "SC Home", "Organization", "Jobs", and "Contact". Below this is the "U.S. DEPARTMENT OF ENERGY" logo and the "Office of Science" logo, followed by a search bar. A blue navigation bar contains links for "Home", "Programs", "Laboratories", "User Facilities", "Universities", "Funding", "Science Features", and "About". Below this, a white bar indicates the current page is "Programs" and lists "Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)". The main content area features a large image of a woman's face with the title "Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)". To the left of this image is a vertical list of links: "About", "Funding Opportunities", "Applicant Resources", "Awardee Resources", "Frequently Asked Questions", "Research Areas & Impact", "Awards", "Outreach & Events", "SBIR/STTR Phase III Success Stories", and "Reporting Fraud". The "Funding Opportunities" and "Applicant Resources" links are circled in blue. Below the main content area, there is a section titled "What is SBIR and STTR?" which provides a brief overview of the programs and lists several technical topics supported by DOE.

SC Home Organization Jobs Contact DOE Home

U.S. DEPARTMENT OF ENERGY Office of Science

Search

Home Programs Laboratories User Facilities Universities Funding Science Features About

Programs | Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

About

Funding Opportunities

Applicant Resources

Awardee Resources

Frequently Asked Questions

Research Areas & Impact

Awards

Outreach & Events

SBIR/STTR Phase III Success Stories

Reporting Fraud

**Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)**


**What is SBIR and STTR?**

The SBIR and STTR programs are U.S. Government programs, intended to help certain small businesses conduct R&D. At DOE, funding takes the form of grants. Projects must have the potential for commercialization and meet specific DOE mission-specific R&D needs.

DOE offers more than sixty technical topics and 250 subtopics, spanning research areas that support the DOE mission in:

- Energy Production
- Energy Use
- Fundamental Energy Sciences
- Environmental Management, and
- Defense Nuclear Nonproliferation

# DOE Funding Opportunities Tab



Office of  
Science

Search

Q

HomeProgramsLaboratoriesUser FacilitiesUniversitiesFundingScience FeaturesAbout

Home | Programs | Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) | Funding Opportunities

About

Funding Opportunities

Closed FOAs

Applicant Resources

Awardee Resources

Frequently Asked Questions

Research Areas & Impact

Awards

SBIR/STTR Phase III Success Stories

Outreach & Events

Reporting Fraud

Contact the DOE SBIR/STTR Programs Office

Address

U.S. Department of Energy  
SC-29/Germantown Building  
1000 Independence Ave., SW  
Washington, DC 20585

Phone

Tel(301) 903-5707  
Fax(301) 903-5488

Email

Send us a message  
[sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)

Funding Opportunities

Fiscal Year: [FY22](#) (Future), [FY21](#) (Current), [FY20](#) (Closed)

2021

Phase I	Release 1	Release 2
Topics Issued	Monday, July 13, 2020	Monday, November 09, 2020
Document	<a href="#">Phase I Release 1 Topics</a>	
Topic Webinar, week of	Webinar 1: <a href="#">Topics 1-27</a> <a href="#">Slides</a> Webinar 2: <a href="#">Topics 29-38</a> <a href="#">Slides</a>	Monday, November 16, 2020**
FOA Issued	The Week of August 24, 2020	Monday, December 14, 2020
Document		
FOA Webinar	Friday, August 28, 2020 **	Friday, December 18, 2020**
Letters of Intent (LOI) Due	Tuesday, September 8, 2020 5:00pm ET	Monday, January 04, 2021 5:00pm ET
Non-responsive LOI Feedback Provided	Monday, September 28, 2020	Monday, January 25, 2021
Full Applications Due	Monday, October 19, 2020 11:59pm ET	Monday, February 22, 2021 11:59pm ET
Award Notification	Monday, January 11, 2021*	Monday, May 17, 2021*
Projected Grant Start Date	Tuesday, February 22, 2021	Monday, June 28, 2021
Principal Investigator Meeting		
**Registration link will be posted here, one week prior to the webinars. To receive this link automatically via email, please join our Mail List.		
*Preliminary dates subject to change		

Documents and  
Webinars for  
Topics and FOAs  
are posted here

# Federal SBIR webpage

*general  
information for  
those new to SBIR*

The screenshot shows the sbir.gov website. At the top, the URL [sbir.gov](http://sbir.gov) is displayed in blue. The header includes the SBIR·STTR America's Seed Fund™ logo, the text "POWERED BY SBA", and navigation links for Login/Register, Contact Us, and Search. A horizontal menu bar contains links for Home Links, About, Funding, Awards, News, Events, Resources, and Tutorials. Below this is a search bar with the text "Looking for SBIR/STTR Funding? Search the Open Funding Topics" and a magnifying glass icon. The main content area features the SBIR·STTR America's Seed Fund™ logo, the text "POWERED BY SBA", and a section titled "SBIR/STTR Policy Directive" with a link to "View SBIR/STTR Policy Directive". Below this, a notice states: "SBA finalized an updated Policy Directive on May 2, 2019. SBA combined the SBIR and STTR Policy Directives into a single guidance documents." The bottom section is divided into three columns: "Quick Links" with links for Overview and Policy Directive; "Information for..." with links for Applicants and Awardees; and "I Want to..." with links for Start a Small Business and Register my company.

**sbir.gov**

SBIR·STTR  
America's Seed Fund™  
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Home Links About Funding Awards News Events Resources Tutorials

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**SBIR/STTR Policy Directive**  
Please see the preamble for a summary of the changes and comments from the review process.  
[View SBIR/STTR Policy Directive](#)

SBA finalized an updated Policy Directive on **May 2, 2019**.  
SBA combined the SBIR and STTR Policy Directives into a single guidance documents.

**Quick Links**

- Overview
- Policy Directive

**Information for...**

- Applicants
- Awardees

**I Want to...**

- [Start a Small Business](#)
- [Register my company](#)

*Search topics  
across all federal  
agencies*