

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.
 - Use the dial-in number if you are having trouble with your computer sound

- **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 2023 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 or call us at (301) 903-5707





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

***Eileen Chant
Outreach Manager, DOE Office of SBIR/STTR
Programs***

eileen.chant@science.doe.gov

(301) 578-2386

December 16, 2022

An American flag is shown waving on a flagpole against a bright blue sky with scattered white clouds. The flag is positioned on the left side of the frame, with its stripes and stars clearly visible. The text 'Federal SBIR/STTR Programs Overview' is overlaid in the lower-middle portion of the image.

Federal SBIR/STTR Programs Overview

What is the Federal SBIR/STTR Program?



- A >\$4 Billion early stage nondilutive R&D fund for small businesses
- A mechanism to fund best early-stage high-risk innovation ideas
- Funds ideas that are too high risk for the private sector
- Stimulates technological innovation

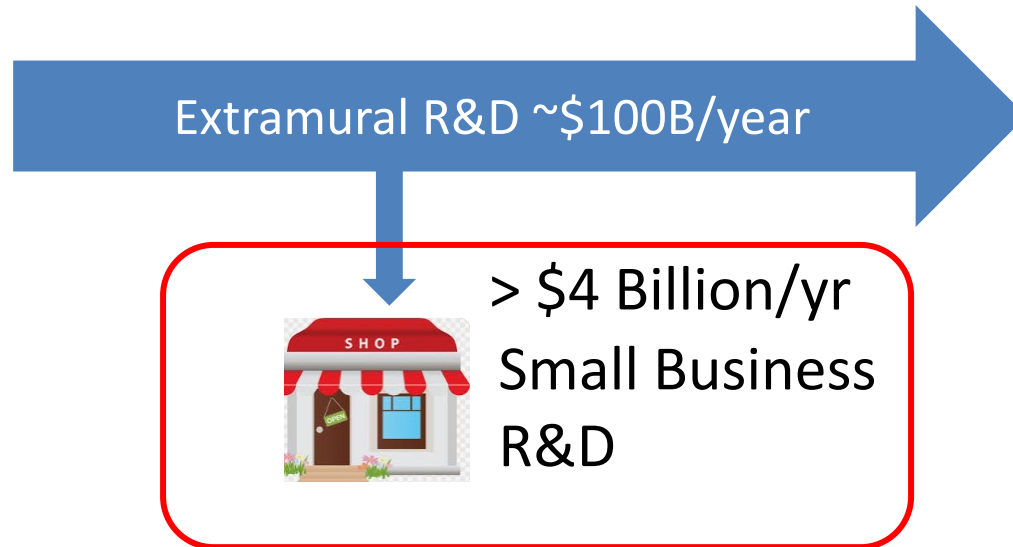
Federally Funded Laboratories



Large & Small Businesses



Universities



FY 2022 SBIR/STTR Budgets by Agency

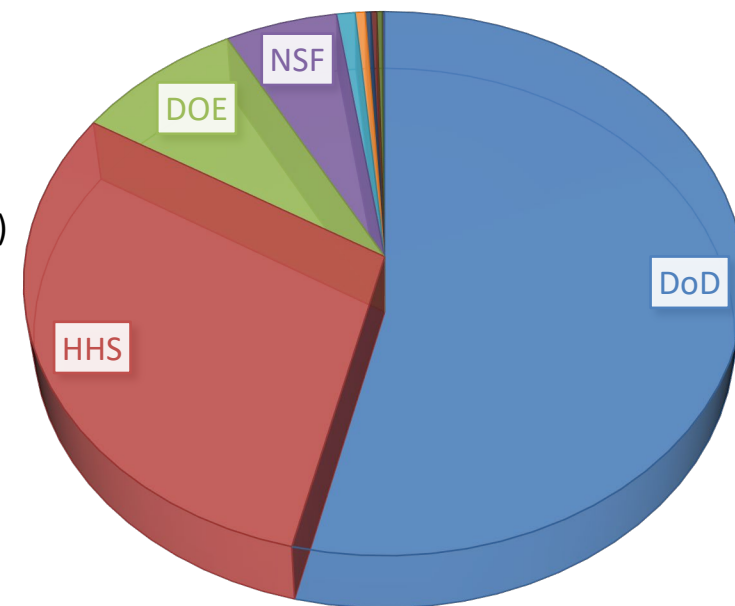


Agency	Budget (Millions)
Department of Defense (DoD)	\$ 2,240
Department of Health and Human Services (HHS), incl. National Institute of Health (NIH)	\$ 1,250
Department of Energy (DOE), incl. Advanced Research Projects Agency (ARPA -E)	\$ 348
National Science Foundation (NSF)	\$ 231
National Aeronautics and Space Administration (NASA)	\$ 215
Department of Agriculture (USDA)	\$ 38
Department of Homeland Security (DHS)	\$ 20
Department of Commerce: National Oceanic and Atmospheric Administration (NOAA), National Institute of Standards and Technology (NIST)	\$ 12
Department of Education (ED)	\$ 12
Department of Transportation (DOT)*	\$ 11
Environmental Protection Agency (EPA)	\$ 5

SBIR & STTR
(> \$1B in extramural R&D)

SBIR only
(> \$100M in extramural R&D)

2022 BUDGETS



SBIR: \$3.85 Billion
STTR: \$532 Million

Contracting agency

Granting agency

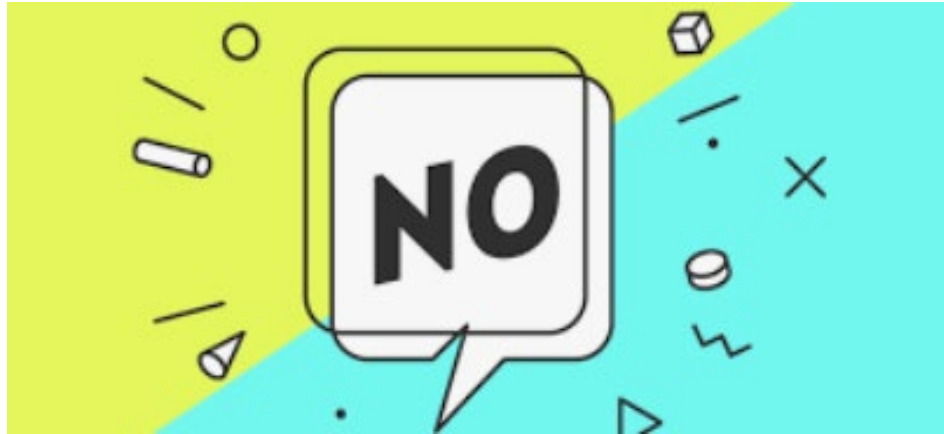
Both



U.S. DEPARTMENT OF
ENERGY

Office of SBIR/STTR
Programs

Are Agencies' Programs all the Same?



- There are *lots* of differences
- Grants vs Contracts
- Focused topics (e.g. DOE), to no topics (e.g. NSF)
- Who will be your customer? Not likely to be DOE
- Application processes, systems and deadlines are all different

Get to know the agencies you are interested in

SBIR vs STTR



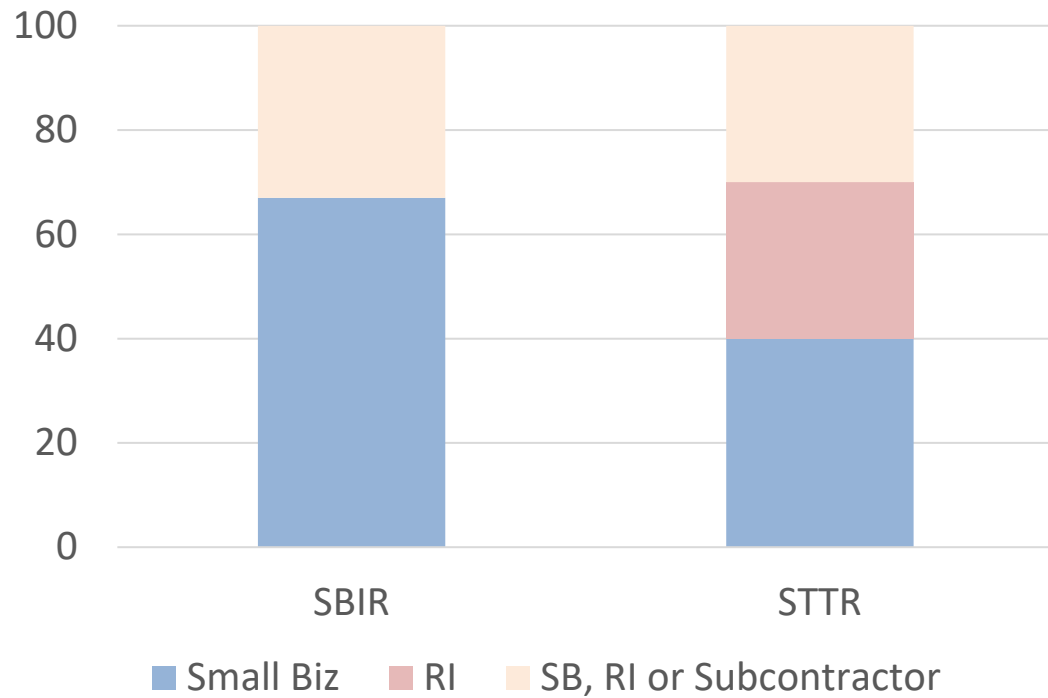
Small Business Innovation Research (SBIR) est. 1982	Small Business Technology Transfer (STTR) est. 1992
<ul style="list-style-type: none">• Allows non-profit research institution partner• Principal Investigator (PI) employee of small business	<ul style="list-style-type: none">• Foster technology transfer between small business concerns and research institutions• Requires non-profit research institution (RI) partner• PI can be employee of either small business or RI
<p><i>If you fulfill requirements of SBIR & STTR, you can submit the same application to both programs</i></p> <p><i>They are two pots of funding</i></p>	

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

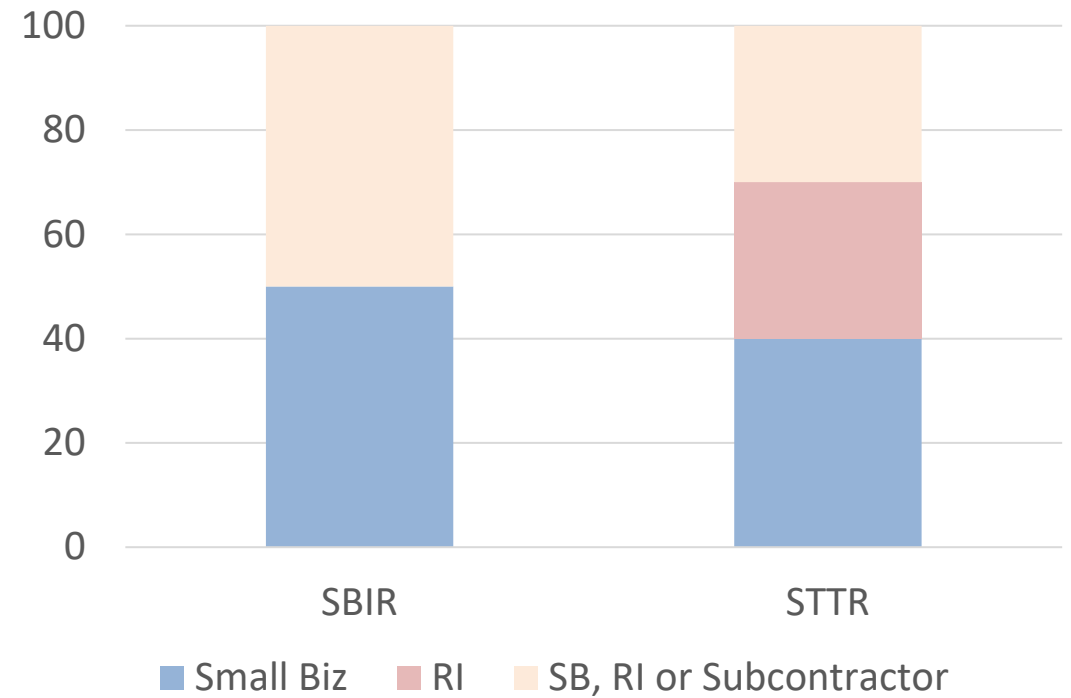


SBIR vs STTR – R&D expenditure requirements in %

Phase I



Phase II



Our [level of effort and max funding workbook](#) can be found on provided link and ensures compliance with these requirements

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
 - SBCs that are majority-owned by multiple venture capital operating companies, hedge funds, or private equity firms, or any combination of these, are not eligible for funding under this FOA. Some agencies allow this, **NOT DOE**.
- Performance of R&D
 - All R&D must be performed in the United States



SBIR and STTR Awards



- Critical, Early-Stage R/R&D funding
 - The SBIR & STTR programs provide funding for innovative, early-stage research
 - Awards process is competitive, i.e. high quality and aligned applications are funded
 - 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



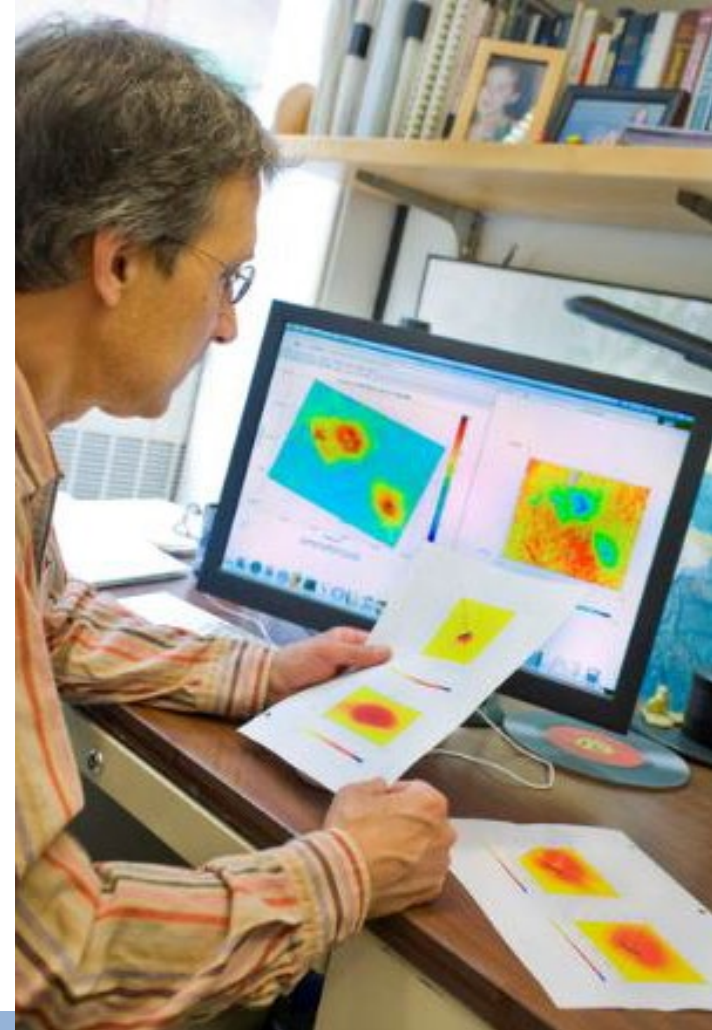
Intellectual Property

- 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



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.



Participating DOE Program Offices –2 Funding Opportunities



Advanced Scientific Computing Research (ASCR)

Cybersecurity, Energy Security & Emergency Response (CESER)

Nuclear Nonproliferation (NNSA)

Fusion Energy Sciences (FES)

Electricity (OE)

Basic Energy Sciences (BES)

Energy Efficiency & Renewable Energy (EERE)

Nuclear Energy (NE)

High Energy Physics (HEP)

Biological & Environmental Research (BER)

Nuclear Physics (NP)

Fossil Energy & Carbon Management (FECM)

Environmental Management (EM)

Release 1: July (release)–October (due)
Release 2: November (release)–February (due)

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



U.S. DEPARTMENT OF ENERGY

Office of SBIR/STTR Programs

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

Specific – but many more topics than you would expect

Review topics at <https://science.osti.gov/sbir/Funding-Opportunities>



Funding Opportunity Announcement

SC-FOA-0002903



C56-15. SOLAR ENERGY TECHNOLOGIES

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

C56-17. WIND ENERGY TECHNOLOGIES

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES
Accepting SBIR Fast-Track Applications: NO	Accepting STTR Fast-Track Applications: NO

- Phase I Application
 - Proof-concept
 - \$200,000/\$250,000 Maximum R&D funding
 - 6-12 months
 - Phase II application due ~9.5 months Phase I start
- Fast-Track Application
 - Fast-Track grants are opportunities to expedite the decision and award of SBIR and STTR Phase I and II funding for scientifically meritorious applications that have a high potential for commercialization.
 - Phase I and Phase II are combined in a single application
 - Clear milestone are required to be met prior to receiving authorization to proceed to Phase II stage
 - \$1,300,000/\$1,850,000 maximum R&D funding
 - Up to 33 months
- Can submit Phase I or Fast-Track for a specific topic/sub-topic pair but not both
- Check topics!



Fast-Track

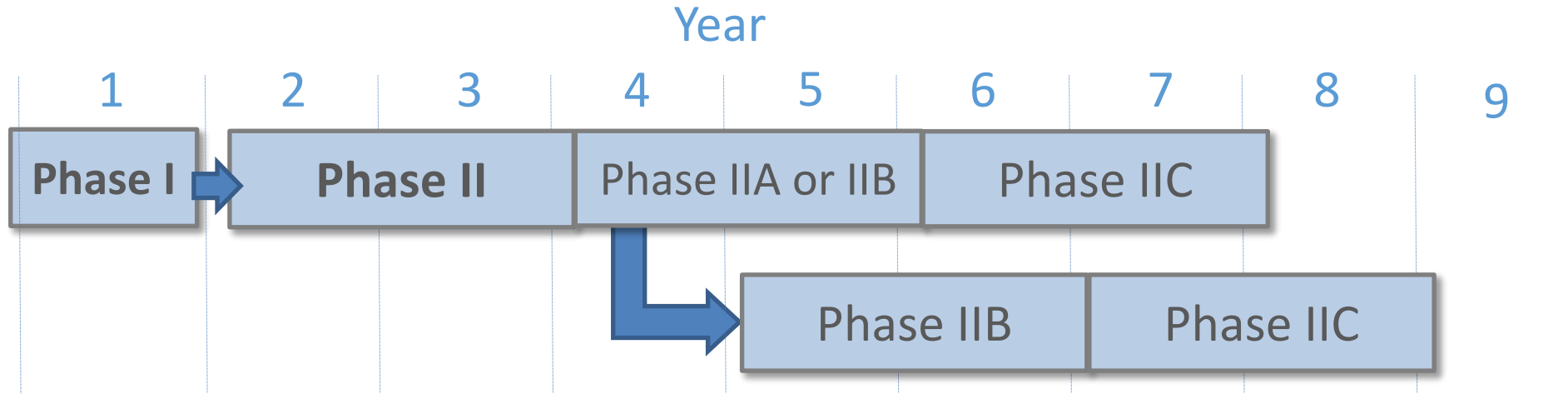


- FOA provides specific guidance on the Fast-Track applications:
 - SBIR & STTR level of effort requirements for Phase I and Phase II stages of Fast-Track projects remain the same
 - Guidance begins on IV.E (p. 42)

SECTION IV – APPLICATION AND SUBMISSION INFORMATION.....	25
A. ADDRESS TO REQUEST APPLICATION PACKAGE.....	25
B. LETTER OF INTENT AND PRE-APPLICATION.....	25
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E. CONTENT AND APPLICATION FORMS (FAST-TRACK ONLY).....	42



How does our Phase I and Phase II funding work?



Phase I	Phase II	Phase IIA/IIB	Phase IIC
<ul style="list-style-type: none"> • Two annual Funding Opportunity Announcements • Focused, mission-aligned topics • Proof of feasibility • Feedback provided on letters of intent • \$200,000/\$250,000 • 6 - 12 months duration • ~ 350-400 awards per year 	<ul style="list-style-type: none"> • Phase I awardees apply for Phase II the following year • Focus on prototype, demonstration and commercialization • \$1,100,000/\$1,600,000 • 2 years duration • ~ 160 awards per year 	<ul style="list-style-type: none"> • For projects that require additional R&D funding to transition to commercialization • \$1,100,000 • 2 years duration • ~30 awards per year 	<ul style="list-style-type: none"> • Pilot program to leverage 1:1 matching funds for commercialization • \$1,100,000 • 2 years duration



Release 2 Technology Areas
Topics Released: November 7, 2022

DOE SBIR & STTR Programs: Technology Areas

Office of Cybersecurity, Energy Security and Emergency Response



- Website: [CESER](#)
- Research Areas
 - Distributed Energy Resource Cyber Protection
 - Other



Office of Defense Nuclear Nonproliferation

- Website: [NNSA](https://www.nnsa.gov)
- Research Areas
 - Radiation Detection
 - Seismic Monitoring
 - Separation and Detection Technologies rare earth, lithium and more
 - Advanced Data Analytics
 - Radionuclide monitoring systems



Office of Electricity

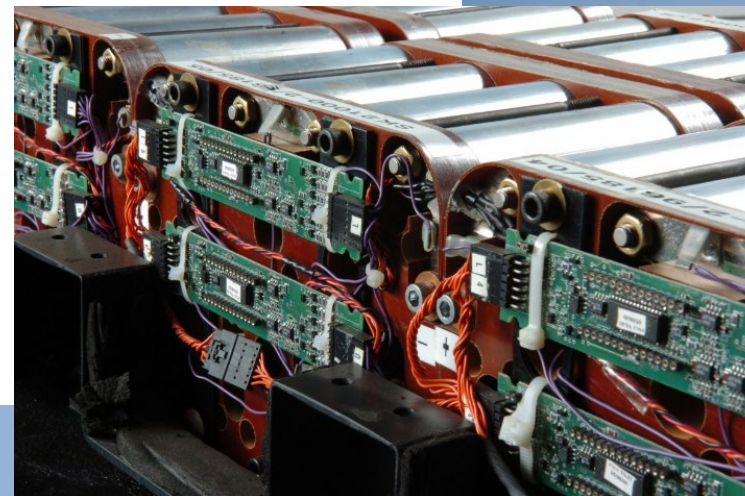
- Website: [OE](#)
- Research Areas
 - Advanced Grid Technologies
 - Energy Storage and Power Conversion for Energy Equity



Office of Energy Efficiency and Renewable Energy

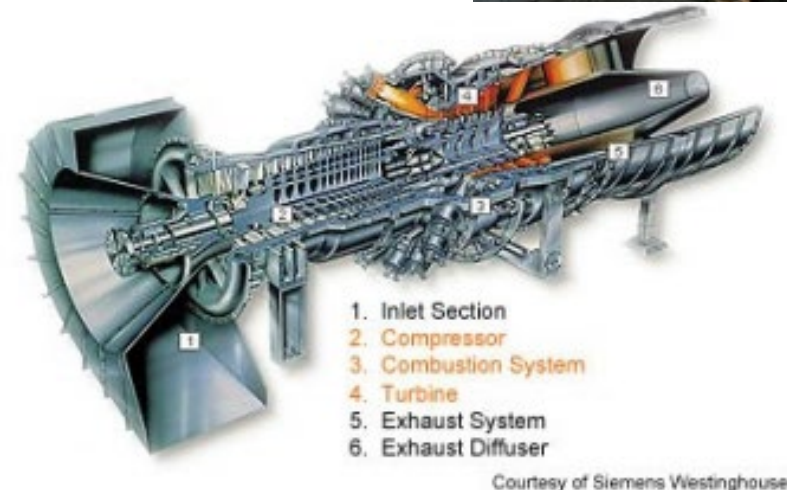


- Website: [EERE](#)
- Research Areas
 - Decarbonization of Agriculture, Buildings, Transport, Industry and their Communities
 - Fuel Cell and Electrolyzer Recycling
 - Vehicles
 - Water Power
 - Solar Energy
 - Hydrogen / Fuel Cell
 - Wind
 - Water
 - Industrial Efficiency and Decarbonization
 - Advanced Materials and Manufacturing
 - Geothermal Technologies



Office of Fossil Energy and Carbon Management

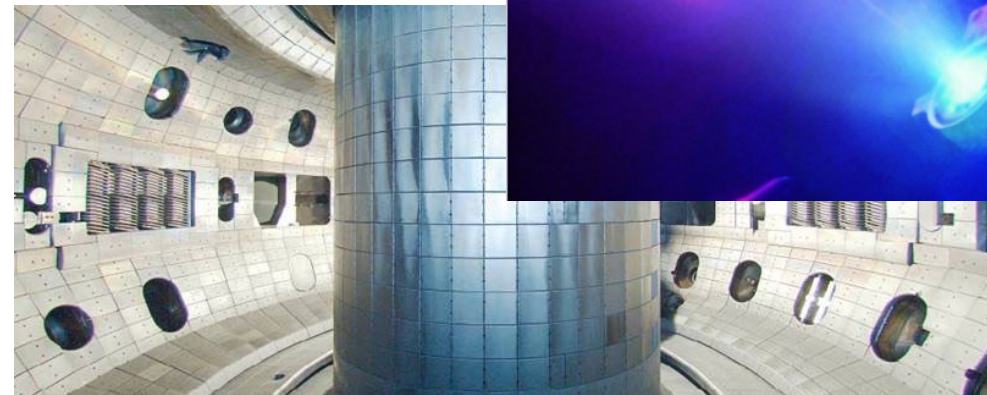
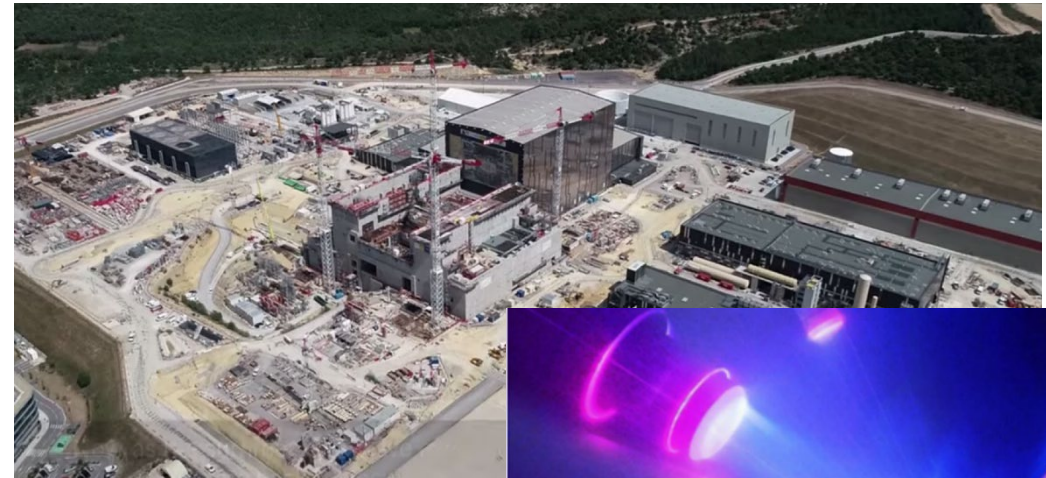
- Website: [FECM](#)
- Research Areas
 - Innovative Energy Systems
 - Carbon Capture, Conversion and Storage
 - Hydrogen Technologies
 - Methane Mitigation
 - Remediation



Office of Fusion Energy Sciences

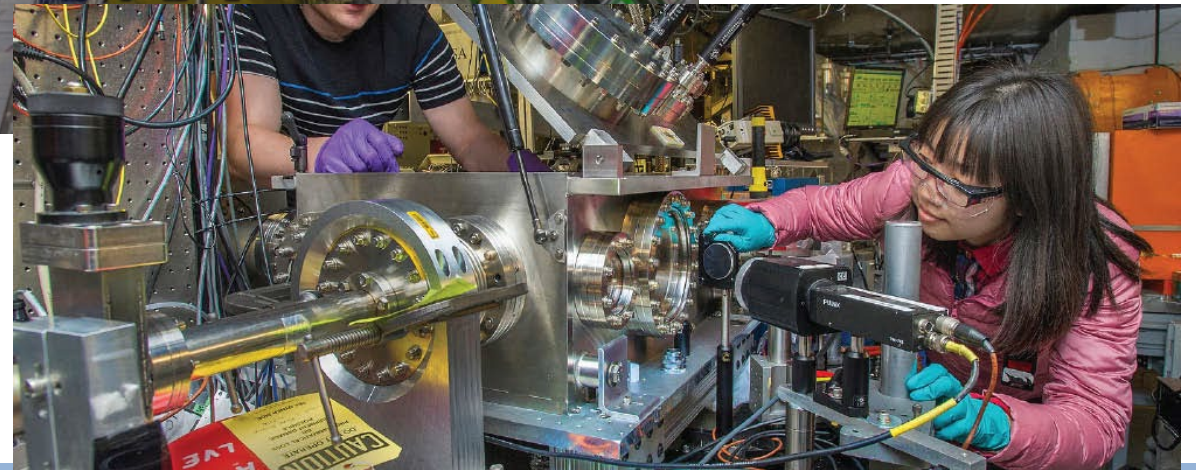
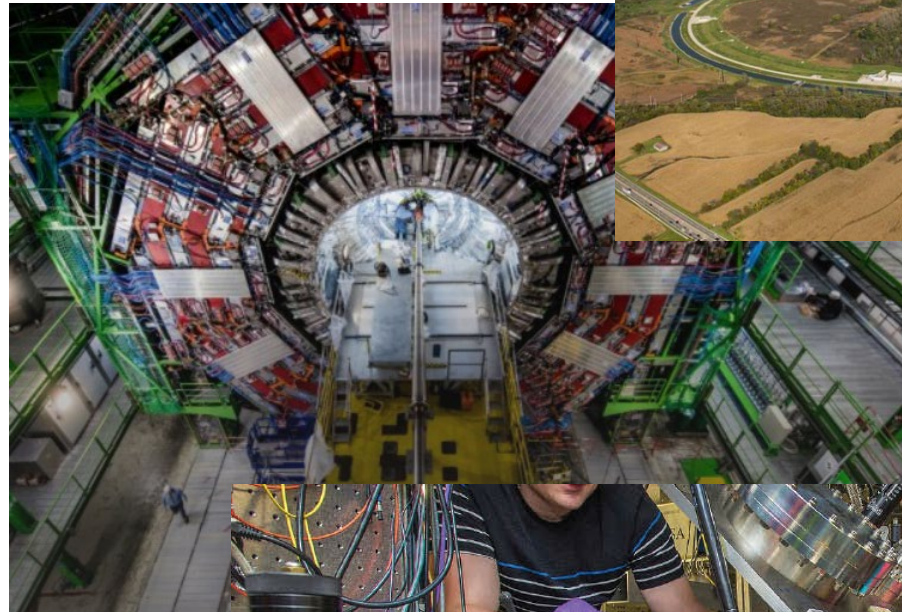


- Website: [FES](#)
- Research Areas
 - Plasma Heating, Fueling and Distruption
 - Superconducting Magnets
 - Low Temperature Plasmas
 - Inertial Fusion Energy



Office of High Energy Physics

- Website: [HEP](#)
- Research Areas
 - Particle Accelerators Advancement
 - Radio Frequency Accelerator Technology
 - Laser Technology
 - High Field Superconducting Magnet Technology
 - Artificial Intelligence for Accelerators



Office of Nuclear Energy

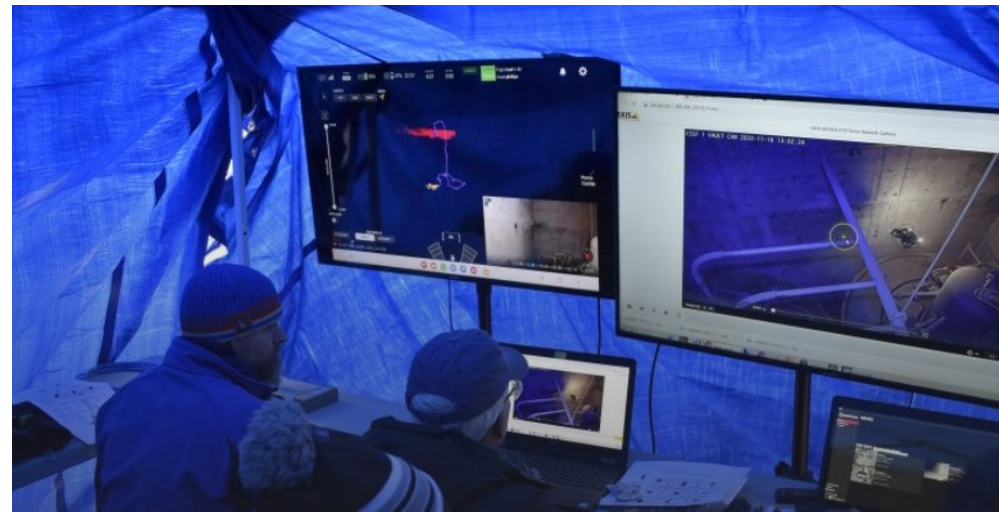
- Website: [NE](#)
- Research Areas
 - Advanced Technologies for NE
 - Advanced Technologies for Nuclear Waste



Office of Environmental Management



- Website: [EM](#)
- Research Areas
 - In-situ characterization
 - Improved treatment methods
 - Improvement for decontamination of equipment



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 screenshot of the DOE Office of Energy Efficiency & Renewable Energy website. The header includes "ENERGY.GOV", "Energy.gov Offices", "National Labs", and a search bar. The main navigation menu lists "About Us", "Initiatives", "SERVICES", "EFFICIENCY", "RENEWABLES", and "TRANSPORTATION". The main content area features a large image of people at a conference with the text "Partnering With Small Businesses to Advance the Mission". To the right are two smaller promotional tiles: "Subscribe to News and Blog >" with a wind turbine image, and "Save Energy, Save Money >" with a house image. Below these is a video player titled "Video: What is Additive Manufacturing?" with a description and a play button.



A row of white wind turbines against a blue sky with light clouds. The turbines are arranged in a line, with the central one being the most prominent. The blades are long and pointed, and the nacelles are rounded. The sky is a clear, bright blue with some light, wispy clouds.

DOE SBIR & STTR Programs: Application & Award Process

Operation of the DOE SBIR and STTR Programs



Technical Expertise Leveraged Throughout DOE

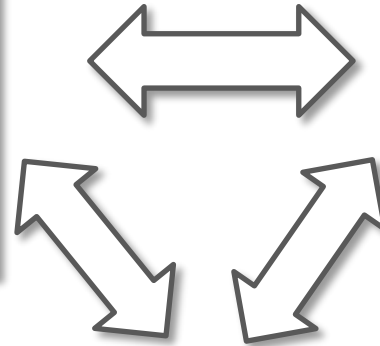
DOE Program Office

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

Single Grants Office for Awardees

DOE Chicago Office

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



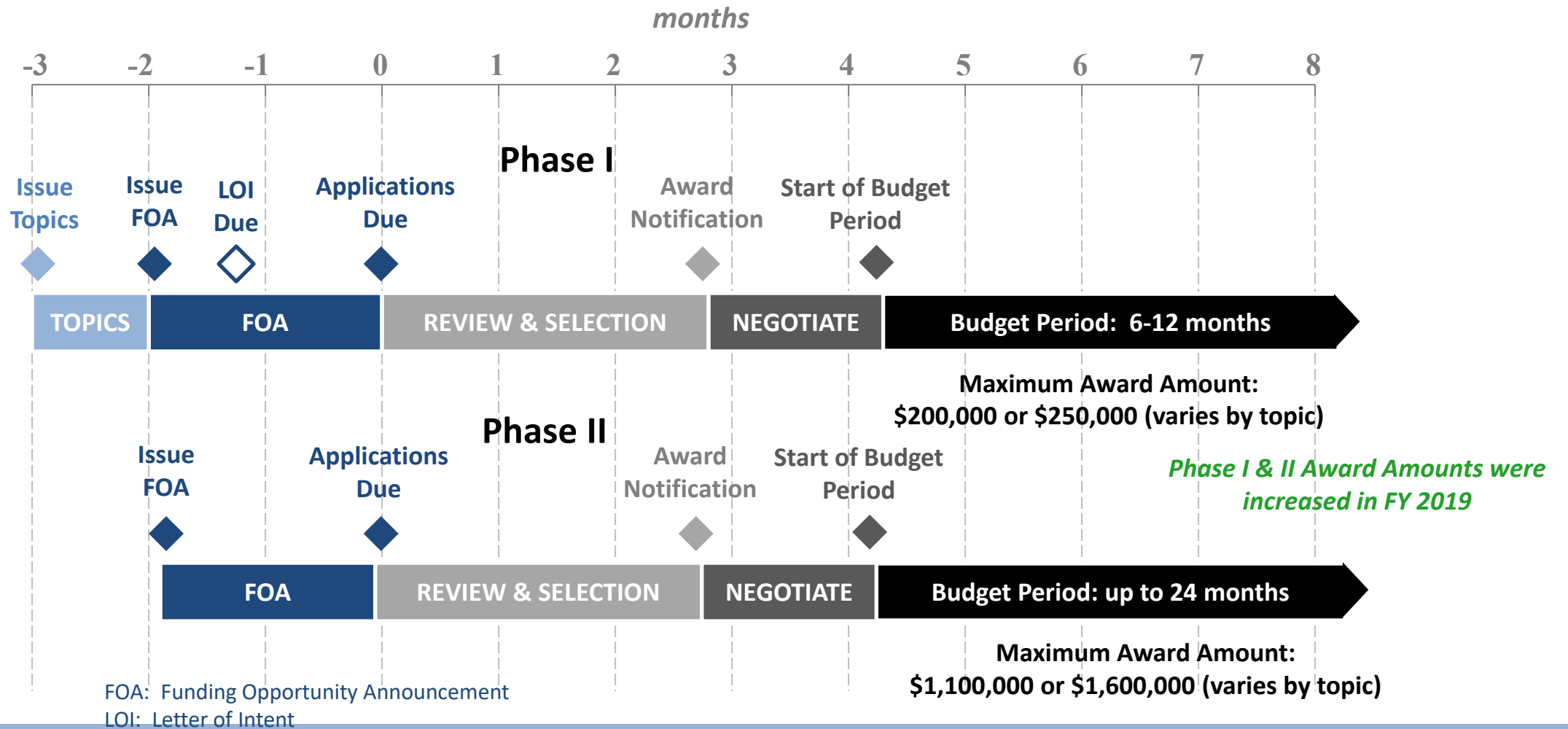
Single Administrative Office for Applicants

DOE SBIR/STTR Programs Office

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



Application & Award Timelines



Schedule: FY 2023 Phase I, Releases 1 & 2



Phase I FOA Schedule	Release 1	Release 2
Topics Issued	Monday, July 12, 2022	Monday, November 7, 2022
Webinar(s)	Week of July 18, 2022	Week of November 14, 2022
FOA Issued	Monday, August 8, 2022	Monday, December 12, 2022
Webinar(s)	Friday, August 12, 2022	Friday, December 16, 2022
Letters of Intent (LOI) Due	Monday, August 29, 2022	Tuesday, January 3, 2023, 5PM ET
Non-Responsive LOI Feedback Provided	Monday, September 19, 2022	Tuesday, January 24, 2023
Applications Due	Tuesday, October 11, 2022	Tuesday, February 23, 2023
Award Notification	Tuesday, January 03, 2022*	Monday, May 15, 2023*
Projected Grant Start Date	Monday, February 13, 2023	Monday, June 26, 2023

**preliminary dates subject to change*



Schedule: FY 2023 Phase II, Releases 1 & 2



Phase II FOA Schedule	Release 1	Release 2
FOA Issued	Monday, October 17, 2022	Monday, February 27, 2023
Letters of Intent Due (All Phase II Applications)	Tuesday, November 8, 2022	Wednesday, March 29, 2023
Full Applications Due	Tuesday, December 6, 2022	Tuesday, April 18, 2023
Award Notification	Tuesday, February 21, 2023*	Monday, July 10, 2023*
Grant Start Date	Monday, April 3, 2023	Monday, August 21, 2023

**preliminary dates subject to change*



Application Assistance



[Phase 0 application assistance](#) for first-time DOE applicants
(open now for Phase I Release 1!)

Email us!

General questions: sbir-sttr@science.doe.gov

Get Connected!

Subscribe to our mailing list: <https://science.osti.gov/sbir>

Stay Connected!



Recorded Topic and FOA Webinars

Ask-Us Anything During the Application Process

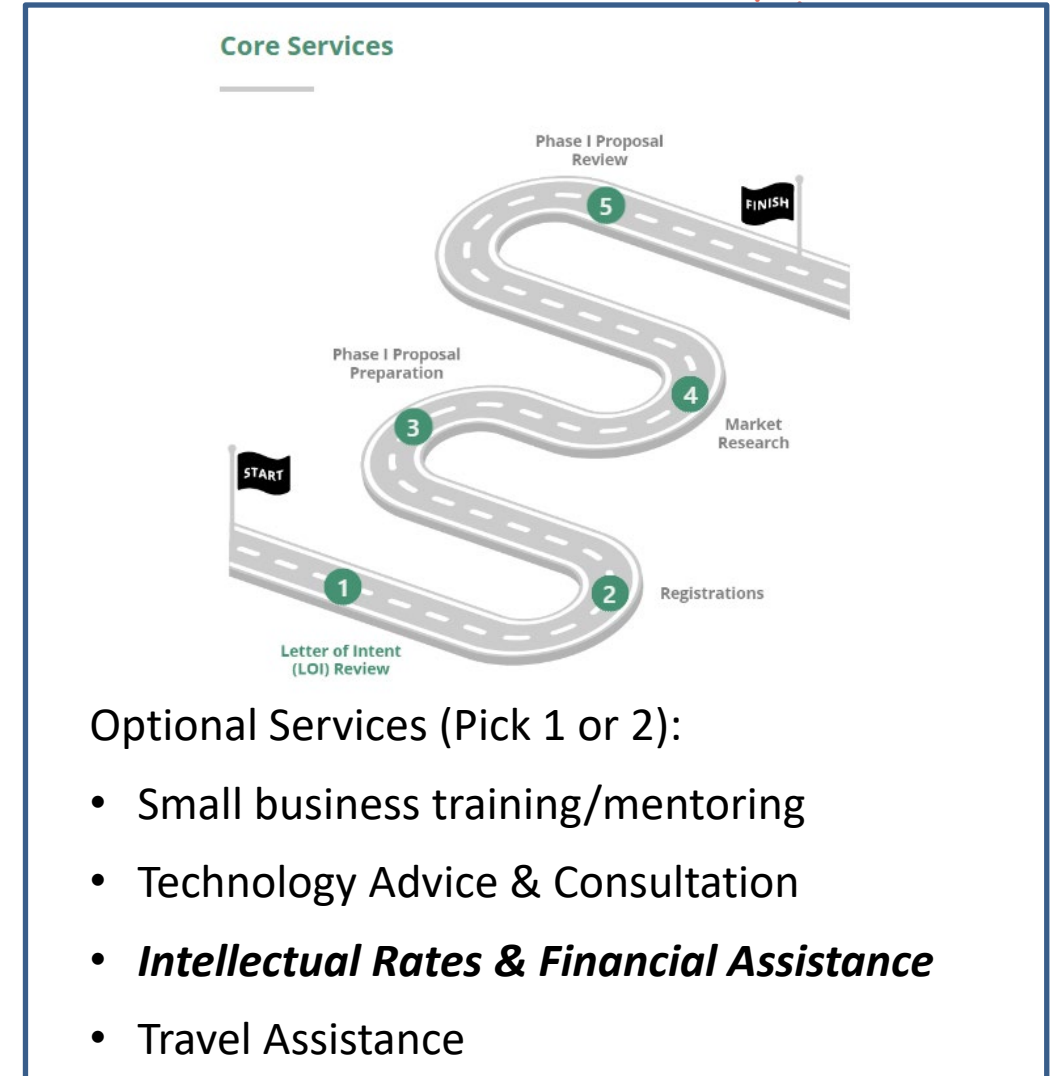


Being on our mailing list
is the most important
way to stay up to date on
our funding
opportunities!



Phase 0 Application Assistance

- Do you need help preparing your first DOE SBIR/STTR Phase I application?
- All first –timers are eligible (first come-first serve)
- Go/No-go discussion and decision:
 - Responsive to topic
 - Novel idea
 - Ability to conduct the proposed R&D
- [Apply portal](#) opens when Topics are released
- “Ample” opportunity to enroll
- Phase 0 program informational webinar hosted by provider.
- [Signup for Phase 0 mailing list](#)



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



U.S. Department of Energy

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

Topics

FY 2023

Phase I

Release 2

Version 2, November 17, 2022

- 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 and Carbon Management
- Office of Fusion Energy Sciences
- Office of High Energy Physics
- Office of Nuclear Energy



U.S. DEPARTMENT OF
ENERGY

Office of SBIR/STTR
Programs

More about Topics



- DOE Mission-Focused Specific Topics
- At Topic Webinar (recorded), DOE Program Managers discuss the topic then Q&A
- Recordings of topic webinars available on our [funding opportunities](#) page.

C56-08. ADVANCED GRID TECHNOLOGIES

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: NO
Accepting SBIR Fast-Track Applications: NO	Accepting STTR Fast-Track Applications: NO

Electricity is the lifeblood of modern society, and many of the quality-of-life improvements in human history have been catalyzed by widespread access to affordable electricity. The ability to control, shape, and condition electric power is critical, and requires the use of power electronics. The electric power grid is facing increasing stress due to fundamental changes in both supply-side and demand-side technologies. On the supply-side, there is a shift from large synchronous generators to smaller, lighter units (e.g., gas-fired turbines) and variable inverter-based energy resources (renewables) with utility scale energy storage. On the demand-side, there is a growing number of distributed energy resources, as well as a shift from large induction motors to rapidly increasing use of electronic converters in buildings, industrial equipment, and consumer devices. The monitoring and control systems used for operations are also transitioning from analog systems to systems with increasing data streams and more digital control and communications from systems with a handful of control points at central stations to ones with potentially millions of control points distributed throughout the grid.

Grid modernization will require the adoption of advanced technologies, such as advanced power electronics, smart meters, automated feeder switches, fiber optic and wireless networks, energy storage, and other new hardware. It must also encompass and enable the application of intelligent devices, next-generation components, cybersecurity protections, advanced grid modeling and applications, distributed energy resources, and innovative architectures. Integration of these technologies will require a new communication



Subtopics



- Letter of Intent and Application must specify same Topic and Subtopic
- Open communication permitted about the topic scope with DOE Technical Topic Managers
- *Reading references is highly recommended*

b. Grid-Enhancing Technologies to Reduce Electricity Delivery Losses and Improve T&D Systems Energy Efficiency and Utilization

With the development of the Smart Grid, especially in the distribution grid, and with the possibility of load modeling, control over the peaks of energy demand becomes vital. The peaks of demand are serious problems and present themselves in the electrical system.

Transmission congestion and distribution system overloading have recently become more of an issue as we move to the grid of the future. Congestion occurs when the scheduled or actual flows of electricity are restricted either by physical capacity constraints on a particular device or by operational safety constraints designed to preserve grid reliability. At a load level system overloading occurs when a distribution transformer loading exceeds its design parameters resulting in reduced power quality, premature equipment failure and in some cases can lead to fires.

Another issue that needs to be addressed is that transmission and distribution (including substation) "T&D" have losses of the wires and equipment that the energy passes through. The energy losses greatly depend on the physical characteristics of the system and how is operated. T&D losses between 6% and 8% are currently considered normal. In 2005 according with the data from the Energy Information administration, T&D losses amounted to almost \$19.5 billion.

Energy-enhancing technologies would help reduce the line losses, congestion, and equipment losses. Some examples are Flexible AC Transmission Systems (FACTS), technology component to increase distribution transformer efficiency, wide area monitoring system etc.

Energy efficiency is one of the easiest and most cost-effective ways to combat climate change, reduce energy costs for consumers, and improve the competitiveness of U.S. businesses. Energy efficiency is also a vital component in achieving net-zero emissions of carbon dioxide through decarbonization.

Applications are sought on technology impact to reduce wire losses, transmission congestion, distribution system overloading and improve T&D efficiency. Applicants must describe the targeted use-case with sufficient detail their technology will address. Desired technologies are affordable, readily available, and show significant performance improvements over currently available technologies.

Questions – Contact: Fernando Palma, fernando.palma@hq.doe.gov

References: Subtopic a:

1. U.S. Department of Energy, Office of Electricity Delivery & Energy Reliability, 2015, Power Electronics Systems for the Electric Grid, Ensuring the Flexibility, Reliability, and Resilience of The Future Grid, *Power Electronics Factsheet*, March 2015, https://www.energy.gov/sites/prod/files/2016/06/f32/OE%20Factsheet%20Power%20Electronics_0.pdf (October 31, 2022)
2. U.S. Department of Energy, Office of Electricity Delivery & Energy Reliability, 2011, Power Electronics Research and Development, *Program Plan*, April 2011, https://www.energy.gov/sites/prod/files/oeprod/DocumentsandMedia/OE_Power_Electronics_Program_Plan_April_2011.pdf (October 31, 2022)



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
- *There are no TTOs in this solicitation*



Funding Opportunity Announcement (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

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



FY 2023 PHASE I RELEASE 2

FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:
DE-FOA-0002903
FOA TYPE: NEW
CFDA NUMBER: 81.049

FOA Issue Date:	December 12, 2022
Submission Deadline for Letters of Intent:	January 3, 2023 5:00PM Eastern Time
Submission Deadline for Applications:	February 23, 2023 11:59PM Eastern Time



U.S. DEPARTMENT OF
ENERGY

Office of SBIR/STTR
Programs

Letters of Intent (LOI)



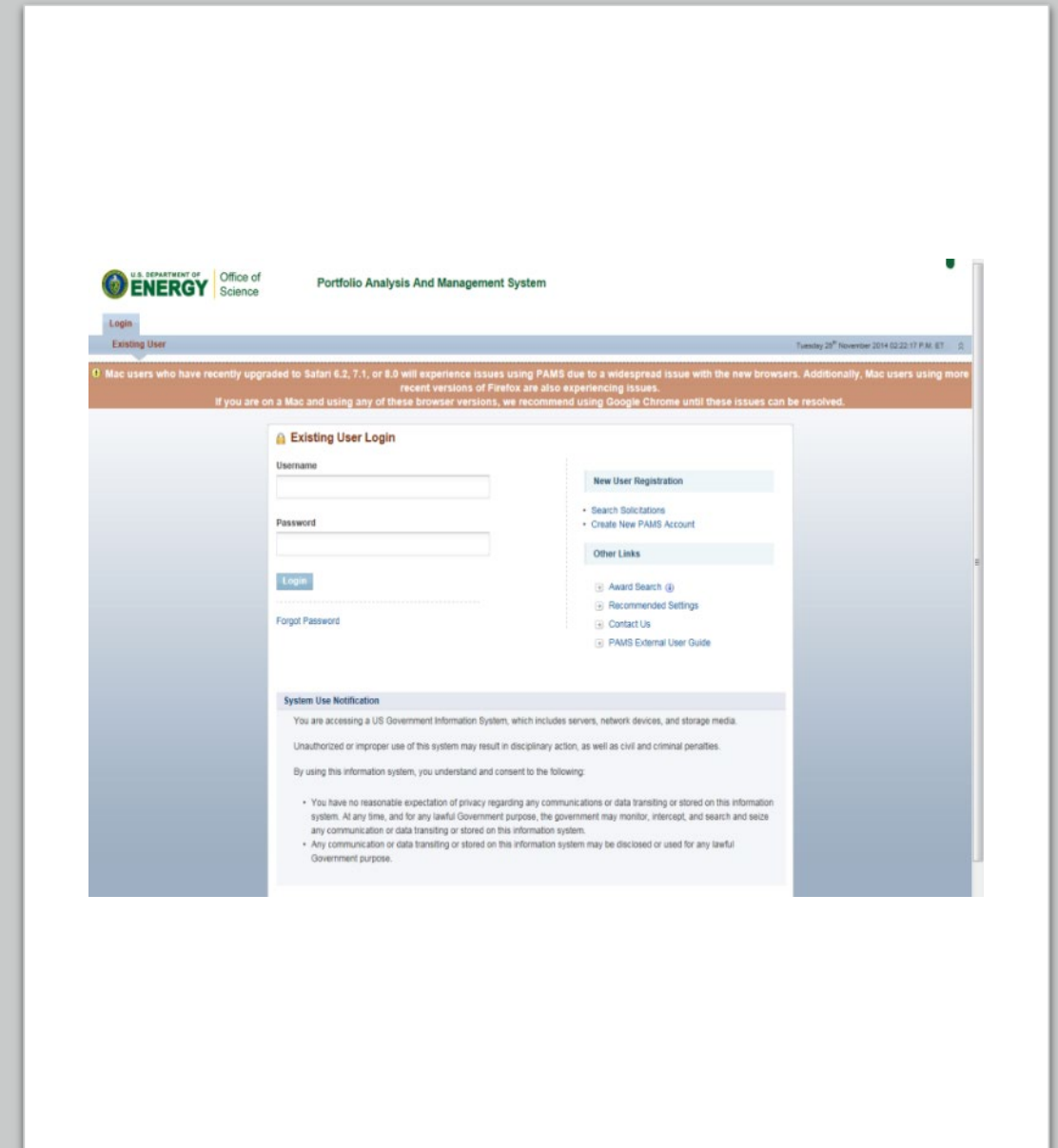
- Requirement
 - You must submit an LOI by the due date to be eligible to submit an application
- Primary purpose
 - begin reviewer assignment to reduce award selection time
 - due 3 weeks after FOA is issued
- Secondary purpose
 - provide email notification to applicants who appear to be non-responsive; 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
- Phase I or Fast-Track Application
- 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 is Required

- Submit LOI online directly to the DOE Portfolio Analysis and Management System (PAMS) website: <https://pamspublic.science.energy.gov/>
 - Due Tuesday, January 3, 2023 by 5 PM EDT
 - 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



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
 - Applicants must register with SAM at <https://www.sam.gov/> and obtain a Unique Entity Identifier (UEI)*
 - Complete a SAM registration.
 - Must be updated annually
 - 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

*DUNS was replaced by UEI in April 2022. No more DUNS & Bradstreet

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.



[How to Register with Grants.gov](#)

Updated on March 21, 2020

Learn how to create a Grants.gov account so you can subscribe to funding opportunity notifications and apply for federal grants using Grants.gov Workspace. This video also explains how to associate a UEI with an applicant account. (Note: This is an optional step).



[Intro to Grants.gov User Roles](#)

Updated on April 20, 2018

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



[How to Search for a Federal Grant on Grants.gov](#)

Updated on Nov 20, 2017

Learn about Grants.gov's powerful search engine, which allows users to find and apply for federal grants in a variety of ways. This video also shows how registered users can subscribe to opportunity notifications generated from saved search criteria.



[What's in a Grant Opportunity on Grants.gov?](#)

Updated on April 27, 2018

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



[Intro to Applying on Grants.gov](#)

Updated on April 27, 2018

Learn how easy it is to apply for a federal grant using Grants.gov Workspace. This video serves as an introduction to the apply process.

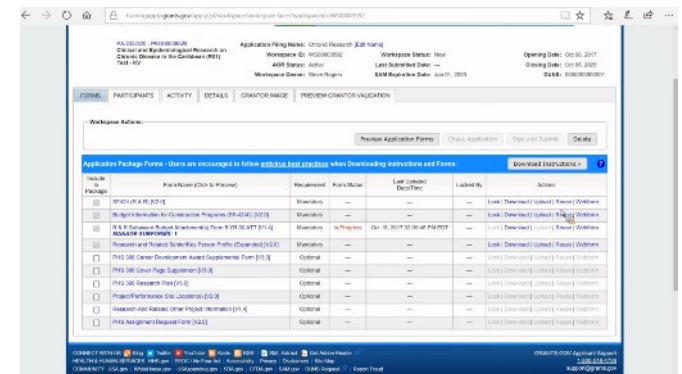
<https://www.grants.gov/web/grants/applicants/applicant-training.html>



Completing a Grants.gov Application



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



Elements of Your Phase I Application

- Project Narrative
 - 15 page max, 7,500 words
- Budget & Budget Justification
- Key Personnel
 - Provide a resume for each person listed on the budget form
- Commercialization Plans
 - 4 page max, 2000 words)
 - an example can be found here at <https://science.osti.gov/sbir/Applicant-Resources/Grant-Application>
- 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— Disclosure of Foreign Relationships	PDF	Field 12
Other—Level of Effort & Max Funding 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
Other – Company Commercialization Report from SBIR.gov for STTR-Only applications, if applicable	PDF	Field 12
Authorization for non-DOE/NNSA FFRDCs, if applicable	PDF	Field 12
Authorization for DOE/NNSA FFRDC, if applicable and if available	PDF	Field 12
Research and Related: Sub-award Budget Form, if applicable	PDF	

Budget Justification for each Sub-award	PDF	Appropriate Block
SF-LLL, Disclosure of Lobbying Activities, if applicable	PDF	
Project/Performance Site Location(s)	PDF	
SBIR/STTR Information Form	PDF	
Phase I Commercialization Plan	PDF	Field 8
Company Commercialization Report from SBIR.gov for SBIR or Both SBIR/STTR applications, if applicable	PDF	Field 9



Elements of Your Fast-Track Application

- Project Narrative
 - 25 page max, 12,500 words
- Budget & Budget Justification
- Key Personnel
 - Provide a resume for each person listed on the budget form
- Commercialization plan
 - 15 page max
- SBIR/STTR Information form
- Data Management Plan
- Technical and Business Assistance (TABAs)
 - \$56,500 in total
 - \$6,500 to be used in Phase I
 - \$50,000 to be used in Phase II


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— Disclosure of Foreign Relationships	PDF	Field 12
Other—Level of Effort & Max Funding 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
Other – Company Commercialization Report from SBIR.gov for STTR-Only applications, if applicable	PDF	Field 12
Authorization for non-DOE/NNSA FFRDCs, if applicable	PDF	Field 12

Authorization for DOE/NNSA FFRDC, if applicable and if available	PDF	Field 12
Research and Related: Sub-award Budget Form, if applicable	PDF	
Budget Justification for each Sub-award	PDF	Appropriate Block
SF-LLL, Disclosure of Lobbying Activities, if applicable	PDF	
Project/Performance Site Location(s)	PDF	
SBIR/STTR Information Form	PDF	
Fast-Track Commercialization Plan	PDF	Field 8
Company Commercialization Report from SBIR.gov for SBIR or Both SBIR/STTR applications, if applicable	PDF	Field 9



Essential Application Documents

- 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://doe-sbir-sttr.gov)
 - Online tutorials are available at <https://doetutorials.dawnbreaker.com/>



U.S. Department of Energy


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

Topics
FY 2023
Phase I
Release 2

Version 2, November 17, 2022

- 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 and Carbon Management
- 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 2023 PHASE I RELEASE 2

FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:
DE-FOA-0002903
FOA TYPE: NEW
CFDA NUMBER: 81.049

FOA Issue Date:	December 12, 2022
Submission Deadline for Letters of Intent:	January 3, 2023 5:00PM Eastern Time
Submission Deadline for Applications:	February 23, 2023 11:59PM Eastern Time




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.



Updated August 1, 2022

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.



Company Commercialization Report Changes



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

- For SBIR and Both applicants, the CCR is attached to Question 8 of SBIR/STTR Information Form, if applicable
- For STTR-only applicants, the CCR is attached to Field 12 of the R&R Other Project Information Form

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



Reauthorization



- SBIR/STTR Extension Act of 2022 was signed into law on September 30, 2022, extending the program for 3 years.
- What you need to know now regarding required changes:
 - You are now **required** to submit a Disclosure of Foreign Relationships using the form on: <https://science.osti.gov/sbir/Applicant-Resources/Grant-Application>
 - Your application may be declined if the form is not included
 - The disclosure is attached to Field 12 of the Research and Related Other Project Information Form
 - Even if your small business has no foreign relationships, you must complete the form to certify



Foreign Relationships Form



- Six questions about participation in foreign talent recruitment, funding, owners, partners, technology licensing, IP sales with entities in countries of concern
- Two questions on financial obligations, business agreements, relationship with any foreign entity
- Don't forget to sign



Top Application Errors



Updating SAM registration at the last minute – and unable to submit on Grants.gov

Fail to submit letter of intent by the deadline

Fail to check level of effort is compliant (see slide 6)

Fail to meet PI effort requirements (a minimum of 3 hours/week on average)

Incorrect/missing marking of proprietary data. Instructions in FOA

Missing letters of commitment, required for each consultant and subaward

Proposing a technology that is not new

Unresponsive to the subtopic/ Not clearly addressing technology need

Not including the required documents

Proposal reflects unfamiliarity with the current literature

Budget form and budget justification are in agreement (to the penny). Subawards too!

Not fully reading the FOA!!



What makes you a good fit with DOE?



Application Review Criteria

1/3

Technical Merit

1/3

Ability to Carry Out the Project

1/3

Impact

- Responsiveness to the topic & subtopic
- Must be technology development R&D!
- Idea is novel
- Solid work plan to prove feasibility
- Your team is composed of the right expertise
- Potential impact if R&D is successful



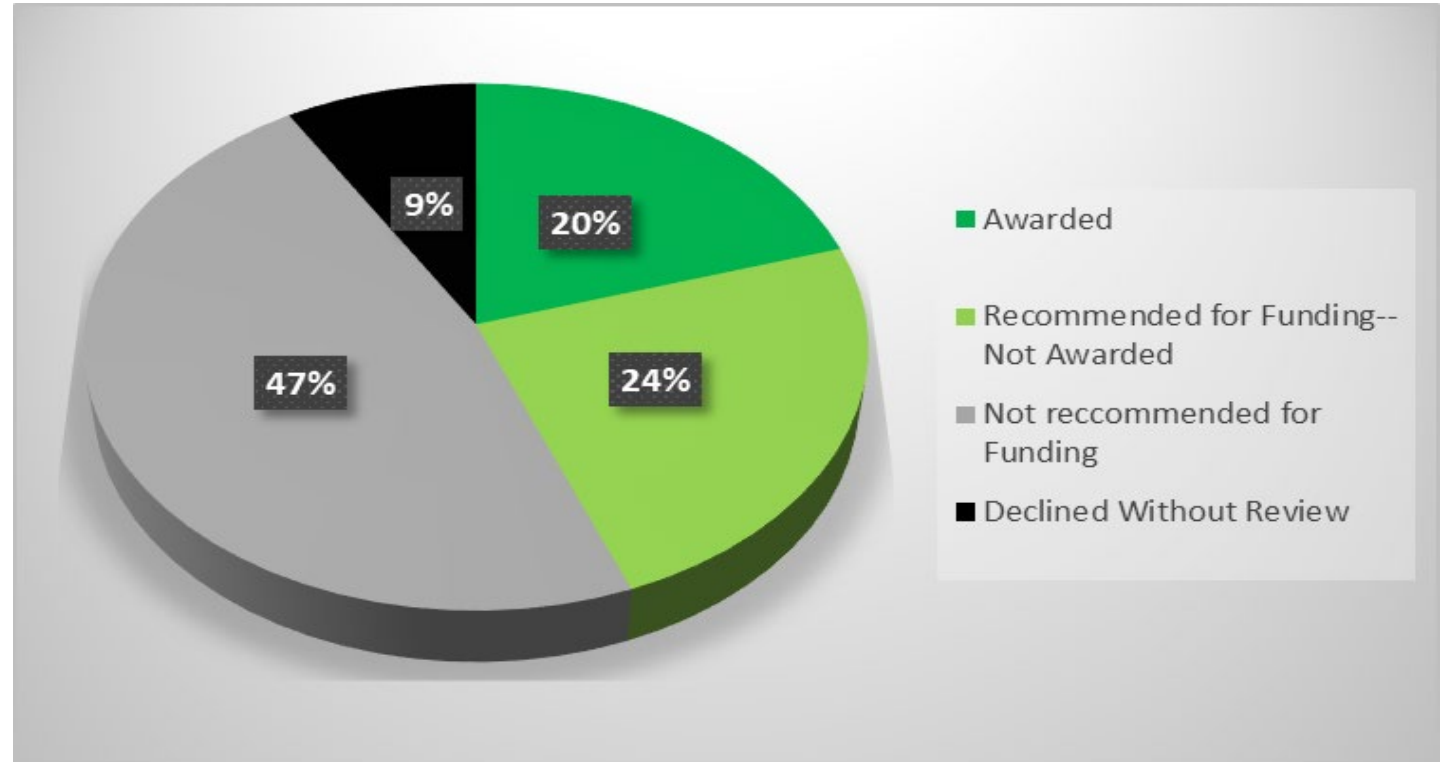
Review and Selection of Applications

- DOE primarily uses external peer review to evaluate your applications
 - Typically at least 3 technical reviewers
 - 1 reviewer for the Phase II commercialization plan
- 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



Phase I Application & Award Statistics for FY 2022

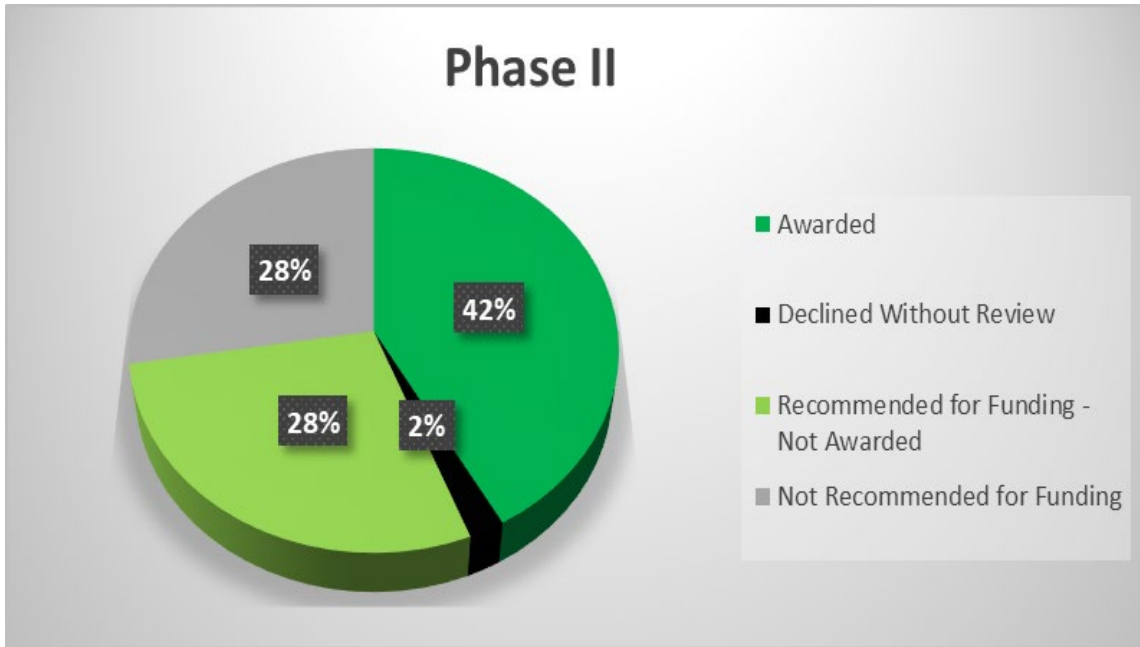
- Phase I
 - 2,073 applications
 - 419 awards



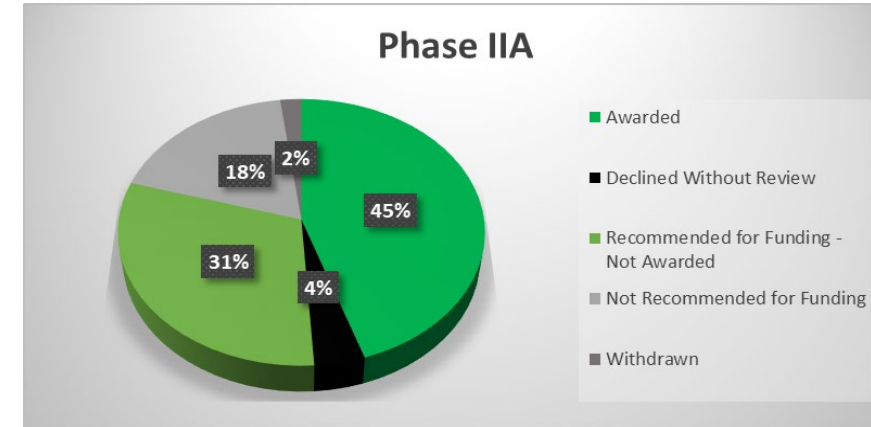
Phase II Application & Award Statistics for FY 2022



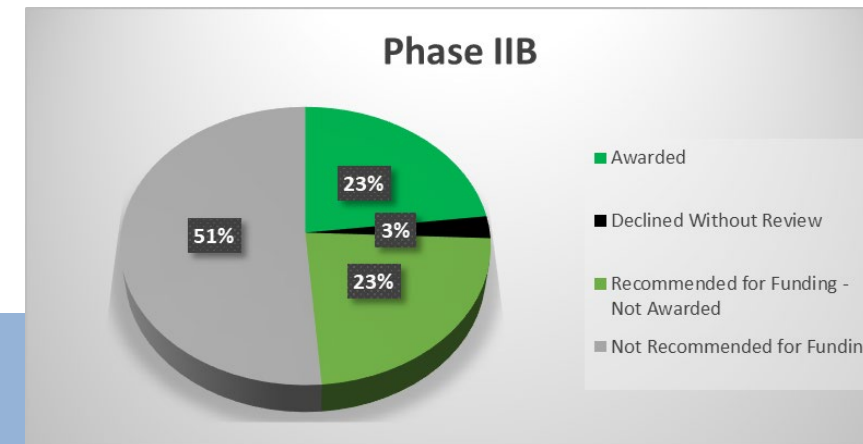
- Phase II
 - 417 applications
 - 175 awards



- Phase IIA
 - 49 applications
 - 22 awards



- Phase IIB
 - 78 applications
 - 18 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



- New for Applicants and Awardees! [DOE SBIR/STTR Partnering Resources](#)
 - Looking for SMEs, collaborators, subcontractors?
 - Understand related research being done at research institutes
 - Email carol.rabke@science.doe.gov to discuss your partnering needs



Technical and Business Assistance (TABA)

\$6,500 above maximum award amount in Phase I

- [Select your own vendor](#)
- [Use DOE vendor](#)

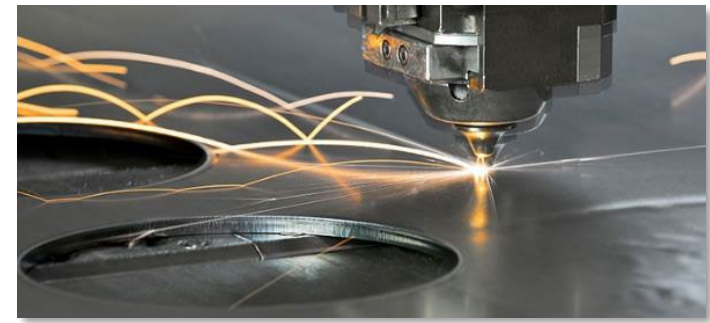
\$50,000 above maximum award for Phase II

[Select your own vendor](#) only

- [Energy I-Corps](#)
 - 40 are selected
 - Designed to educate on entrepreneurial concepts
 - 2 months training at no cost to participants
 - Customer discovery process



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



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.



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>



U.S. DEPARTMENT OF
ENERGY

Office of SBIR/STTR
Programs

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

E-mail: 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



Other DOE Resources



Early-Stage
Innovation
SBIR & STTR
Angels

Commercialization
Private Funding



Partnering with National Laboratories

National Labs – POCs and Core Capabilities

Technology Commercialization Fund (TCF)

Demonstration Facilities: Idaho, NREL, ORNL

Office of Clean Energy Demonstrations

Loan Programs Office

Lab-Embedded Entrepreneurship Program (LEEP)

American-Made Challenges

National Energy Research Scientific Computing Center (NERSC)



U.S. DEPARTMENT OF
ENERGY

Office of SBIR/STTR
Programs

A Road filled with Challenges



- Years to take hard tech to market
- Consider all potential funding sources
 - Visit SBIR.gov for all agencies info
- Understand the Market
- It takes a team! Researchers, Entrepreneurs & more
- Develop an application work plan & read the FOA!
- Take advantage of [Phase 0](#) and other resources!



Email us:

eileen.chant@science.doe.gov

sbir-sttr@science.doe.gov

Call Us: (301) 903-5707



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Thank you!