SBIR & STTR – Applying to DOE

PHASE I APPLICATIONS





About SBIR/STTR Assistance

The Nevada Governor's Office of Economic Development provides assistance to companies in the preparation and submission of SBIR/STTR proposals

The goal is to increase the number of proposals submitted and grants awarded under the SBIR/STTR program to Nevada technology-based small businesses

APIO Innovation Transfer (APIOiX) works in partnership with UNLV's SAGE program (https://www.unlv.edu/econdev/sagesouth) to assist technology-based small businesses (https://apioix.com/sbir-assistance)

- Assessment of the business concept
- Guidance for registration of the company
- Review and input on project pitches and proposals
- Assistance in submitting the proposals



About APIOiX

Programs, Services, and Solutions to Accelerate Innovation Ecosystems

APIOiX accelerates innovation through business development, training, and technical assistance to innovators and inventors at universities, small businesses, and government entities across the globe.





Eligibility for SBIR/STTR Funding

"America's Seed Fund"

Technology based

Diverse portfolio

Commercial application

Non-dilutive funding

STTR requires partnership with a research institute

The Nation's largest source of early stage/high risk funding for start-ups and small business

• In the words of program founder Roland Tibbetts: "to provide funding for some of the best early-stage innovation ideas; ideas that, however promising, are still too high risk for private investors, including venture capital firms."

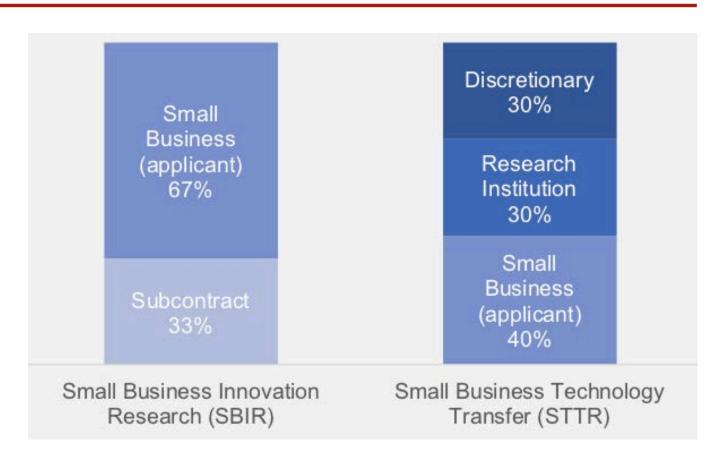




Small Business Technology Transfer Program (STTR)

An STTR project requires the small business, to be teamed with a non-profit research institution

- The applicant is always the small business
- However, the PI for the project can be from the research institution
- The small business and the research institutions must be US based
- The narrative should clearly state what work is done where
- Each entity will need their budgets and budget justifications entered separately





Preparing your Company

Incorporate (LLC is most common followed by "C" Corp.)					
Apply for and obtain EIN					
Register in SAM.gov and obtain UEI (Unique Entity ID) -					
https://www.sbir.gov/sites/defau	https://www.sbir.gov/sites/default/files/Company_Registration_Guide.pdf				
ADDITIONAL REQUIRED REGISTRATIONS AND SUBMISSIONS					
	NASA	HHS	NSF	DOE	DOD/DARPA
Electronic Handbook (EHB)					
eRA Commons					
GRANTS.gov					
NSF Fastlane					
Portfolio Analysis and Management System (PAMS)					
FEDCONNECT.gov					
Funding Accountability and Transparency ANCT					
Subaward Reporting System					
DOD Submission Website					



Preparing your Company – Common Errors

Find the right FOA / study section

Find the right instructions

- The FOA and associated guide need to be followed
- Forms may vary from one FOA to another
- Follow font and margin requirements
- Biosketch format needs to be followed

Upload the right documents to the right place

Ensure that all required documents are included



Preparing your Company – General Tips

SBIR/STTR awards are not academic grants

Eligible to receive award

Product definition – unfulfilled need/customer/market

Right team to develop the product

Resources and time to write the proposal

Be prepared for writing (150 to 450 hours of work) – Success rate is about 15%

Fits the business objectives

Fit with a specific funding opportunity announcement (FOA)

- Understand the goals of the program/solicitation and the review criteria
- Talk to agency program managers

Phase I or Phase II or Fast Track



Department of Energy – SBIR/STTR

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.



Department of Energy – SBIR/STTR

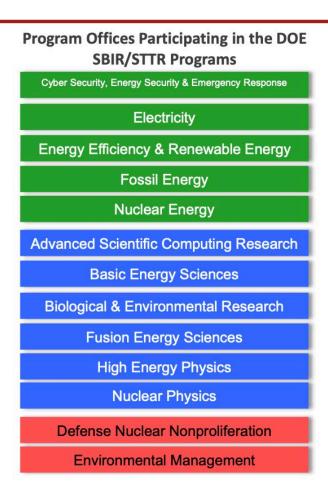
Funding is in the form of grants (not contracts)

Projects must be commercializable and meet DOE missionspecific R&D needs

Research topics are developed by DOE technical program managers

More than sixty technical topics and 250 subtopics

DOE SBIR/STTR Program Details





DOE – SBIR/STTR Phases

Phase I: Feasibility, Proof of Concept

- Award Amount: \$171,053 (\$256,580 Max)
- Duration: 6 12 months

Phase II: Continue Development

- Award amount: \$1,140,354 (\$1,710,531 Max)
- Duration: Two years (additional Phase II awards possible)

Phase III: Commercialization

- Non SBIR/STTR federal funds, private funds
- No time limit



Commercialization Assistance (TABA)

Funds (beyond the funds for R&D) are provided to assist with commercialization efforts

Phase I: \$6,500

Phase II: \$50,000

Companies can select their own vendors to provide assistance or use a vendor that is funded directly by DOE



DOE -SBIR/STTR Funding Opportunities

DOE Funding and Dates



Laboratories

Search

Universities

User Facilities

Funding

Initiatives

Programs

Q

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

Science Features

About

Funding Opportunities

Closed FOAs

Applicant Resources

Awardee Resources

Frequently Asked Questions Partnering Resources

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

Funding Opportunities

Fiscal Year		
FY24 (Future)	FY23 (Current)	FY22 (Closed)

2023

Phase I	Release 1	Release 2
Topics Issued	Monday, July 11, 2022	Monday, November 7, 2022
Document	Phase I Release 1 Topics	
Phase 0 Application Assistance (free for first time applicants) starts	Monday, July 11, 2022	Monday, November 7, 2022
Topic Webinar, week of	Webinar 1: Topics 1-15 ☐ Slides ☐ Webinar 2: Topics 16-24 ☐ Slides ☐	Monday, November 14, 2022*
FOA Issued	Monday, August 8, 2022	Monday, December 12, 2022
Document	DE-FOA-0002783 🖹	
FOA Webinar	Friday, August 12, 2022 🗗 Slides 🗐	Friday, December 16, 2022*
Letters of Intent (LOI) Due	Monday, August 29, 2022 5:00pm ET	Tuesday, January 3, 2023 5:00pm ET
Non-responsive LOI Feedback Provided	Monday, September 19, 2022	Tuesday, January 24, 2023
Full Applications Due	Monday, October 17, 2022 11:59pm ET	Tuesday, February 21, 2023 11:59pm ET
Award Notification	Tuesday, January 10, 2023**	Monday, May 15, 2023**
Projected Grant Start Date	Tuesday, February 21, 2023	Monday, June 26, 2023
Awardee Webinar, week of	March 3, 2023	July 10, 2023
Energy I-Corps Kickoff	April 2023	September 2023
Principal Investigator Meeting	June 2023	October 2023



DOE SBIR/STTR Funding Opportunity Announcement

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



FY 2021 PHASE I RELEASE 1

FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:
DE-FOA-0002359
FOA TYPE: NEW
CFDA NUMBER: 81.049

AMENDMENT 000001:

Pages 4 & 5 Added Leaders to Table of Contents Page 38 Updated Current and Pending Support AMENDMENT 000002: Page 27 Updated Required Documents Table Pages 9, 28 &53 Corrected Grant Start Date

FOA Issue Date:	August 24, 2020
Submission Deadline for Letters of Intent:	Tuesday, September 8, 2020, 5:00 PM Eastern Time
Submission Deadline for Pre-Applications:	N/A
Pre-Application Response Date:	N/A
Submission Deadline for Applications:	Monday, October 19, 2020, 11:59 PM Eastern Time

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



FY 2021 PHASE II RELEASE 1

FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:
DE-FOA-0002380
ANNOUNCEMENT TYPE: INITIAL
CFDA NUMBER: 81,049

AMENDMENT 000001:
Page 6 Corrects Phase IIA Eligibility
Pages 63-65 Amended Diversity Supplements

FOA Issue Date:	October 22, 2020
Submission Deadline for Letters of Intent:	Tuesday, December 8, 2020 5:00 PM Eastern
Submission Deadline for Pre-Applications:	N/A
Pre-Application Response Date:	N/A
Submission Deadline for Applications:	Tuesday, January 5, 2021 11:59 PM Eastern



DOE – SBIR/STTR Funding Opportunities

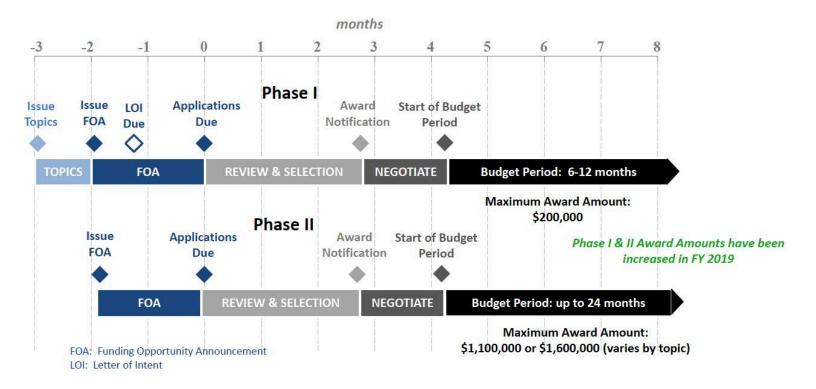
Table of Contents

- I. Funding Opportunity Description
- II. Award Information
- III. Eligibility Information
- IV. Application Submission Information
- V. Application Review Information
- VI. Award Administration Information
- VII. Questions/Agency Contacts
- VIII. Other Information
- IX. Appendices/Reference Materials



DOE SBIR/STTR Funding Opportunity Announcement

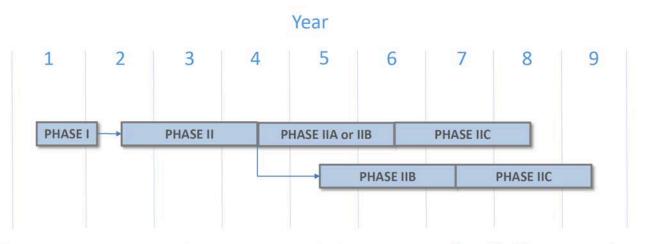
Application & Award Timelines





DOE SBIR/STTR Awards

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 Funding Opportunity Announcement

Phase I grants resulting from this competition will be made during FY 2021 to small businesses with maximum award sizes between \$200,000 and \$250,000. Refer to the individual topic for its respective maximum award size (a proposal submitted that exceeds the maximum award size for the respective topic will be declined without review). The period of performance will depend on the scope of the effort but will not exceed 12 months. Please note that the Phase II grant application will be due approximately 9.5 months after the grant start date. This will be the only opportunity to submit a Phase II application for Phase I awards made under this FOA. Grantees that select a Phase I period of performance of 9 months or less will be able to complete their Phase I project prior to submission of their Phase II grant application. Grantees that select a Phase I longer than 9 months will be able to continue R&D after their Phase II application is submitted but will not be able to utilize these results in the preparation of their Phase II application.

The grant application should concentrate on research that will contribute to proving scientific or technical feasibility of the approach or concept. Success in a DOE Phase I is a prerequisite to further DOE support in Phase II.

Only awardees issued Phase I grants under this FOA are eligible to submit a Phase II application under the corresponding FY 2022 Phase II FOA, i.e., FY 2022 Phase II Release 1.

Approximately 40% of Phase I awardees submitting a Phase II application will receive a Phase II award. Instructions and eligibility requirements for submitting Phase II grant applications will be posted at a later date on the internet at https://www.grants.gov/.

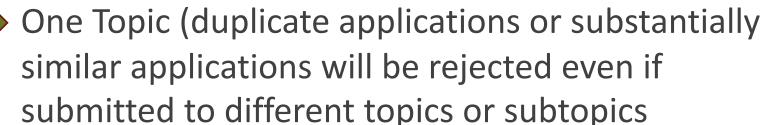


DOE SBIR/STTR Funding Opportunity Announcement

Package information https://www.grants.gov/

Submit a letter of intent (one per proposal, limits on number of LOIs)

One proposal



Need a Portfolio Analysis and Management System (PAMS) Account

https://pamspublic.science.energy.gov/

Commercialization plans are required for Phase I and Phase II



DOE SBIR/STTR Topics Announcement



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 2, November 19, 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

Schedule

	1
Event	Dates
Topics Released:	Monday, November 9, 2020
Funding Opportunity Announcement Issued:	Monday, December 14, 2020
Letter of Intent Due Date:	Monday, January 04, 2021
Application Due Date:	Monday, February 22, 2021
Award Notification Date:	Monday, May 17, 2021*
Start of Grant Budget Period:	Monday, June 28, 2021

* Date Subject to Change

	Table of Changes			
Version	Date	Change		
Ver. 1	Nov. 09, 2020	Original		
Ver. 2	Nov. 19, 2020	 Topic 13, subtopic c: Updated Technical Point of Contact Topic 20, subtopic c: Updated Technical Point of Contact Topic 20, subtopic d: Updated Technical Point of Contact Topic 20, subtopic e: Updated Technical Point of Contact Office of Nuclear Energy: Updated Program Overview 		



DOE – TOPICS Example

- Topic & Subtopic 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

10. BIOENERGY

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

The Bioenergy Technologies Office (BETO) has a mission to help transform the Nation's renewable and abundant biomass resources into cost-competitive, high-performance biofuels, bioproducts, and biopower. BETO is focused on forming partnerships with key stakeholders to develop technologies for advanced biofuels production from lignocellulosic and algal biomass as well as waste resources. In FY 2021, BETO is focusing on broadening participation-related topics (see below).

All applications to this topic must:

- Include projections for price and/or performance improvements that are tied to a baseline (i.e. MYPP and/or state of the art products or practices);
- Propose a tightly structured program which includes technical milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative:
- Explicitly and thoroughly differentiate the proposed innovation with respect to existing commercially available products or solutions;
- · Include a preliminary cost analysis;
- · Provide a path to scale up in potential Phase II follow on work;
- · Fully justify all performance claims with thoughtful theoretical predictions or experimental data; and
- Be based on sound scientific principles (i.e. abides by the law of thermodynamics).

Grant applications are sought only in the following subtopics. Please note that while proposals are being requested in these subtopics, distribution of awards across these subtopics will be based on the quantity and quality of proposals received.

Note: In addition to the subtopics below, BETO is considering proposals in response to Topic 11 - Joint Topic: Polymers Upcycling and Recycling.

a. Small Business Bioenergy Technologies Increasing Community Partnerships

This subtopic encourages submission of innovative research proposals from bioenergy small businesses to develop a community-scale preliminary design package of their products and/or processes and engage community stakeholders to assess desirability and feasibility of the small business' proposed design.

Bioenergy feedstock development and deployment can strengthen economic growth, national energy security, and environmental benefits through optimizing domestic biomass resources to produce biofuels, bioproducts, and biopower. Public perception and knowledge of bioenergy is highly variable [1], so despite the benefits, local communities may be unaware or uncertain about the available opportunities. Bioenergy small businesses are uniquely positioned to develop community-scale technologies and technological processes. Examples include small-scale solutions to recover nutrients and energy from waste, such as urban food waste; use of energy crops on marginal lands to manage fertilizer runoff; or use of algae to abate costs of wastewater treatment.

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The preliminary design package should include identification and siting of appropriate feedstock(s), labscale testing of potential feedstock(s), relevant products (biofuel, bioproduct, and/or biopower), outreach to potential community stakeholder partner(s), and an education and outreach plan for the community, based on the bioenergy project.

Proposers are strongly encouraged to develop partnerships with local stakeholders in underserved communities such as those within Federally-designated Opportunity Zones [2]. Community stakeholders could include schools, hospitals, local restaurants and other businesses, non-profits, local government, or other local organizations. Applicants that propose partnerships with entities that operate at higher levels, like state or regional, should emphasize how their project will deliver measurable impact at the community level.

Appropriate projects could include, but are not limited to, a preliminary design package proposing:

- · A conversion process treating local sources of biomass.
- . Opportunities for use of the resulting product or products within the community
- Cultivating energy crops to reduce fertilizer runoff to improve local water quality.
- Integration of the small business' technologies into complementary, existing local infrastructure.
- Small business' processes' ability to meet local regulatory needs (e.g., recycling rates or waste diversion goals).
- · Replicability of the process in other communities.

Applications must:

- meaningfully include plans/methodology for local stakeholders' input in the development of their preliminary design package.
- · include an education and outreach plan to demonstrate the planned benefits for the community.

Applications that propose the following will not be considered for award under this subtopic:

Use versions of technologies that already exist at the community scale.

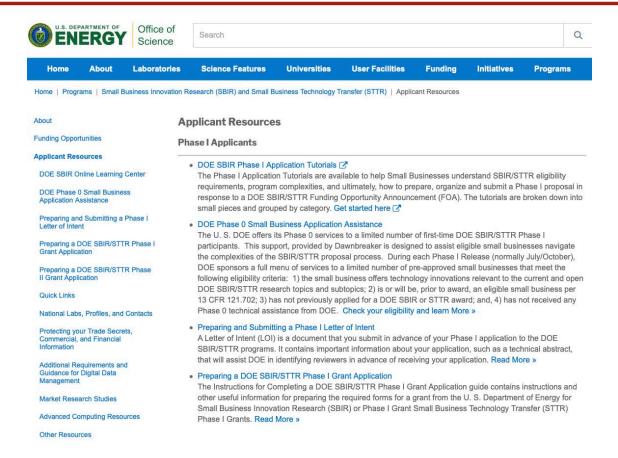
The main objective of a Phase I award is developing a preliminary design package of their technology, product, or process deployed at the community scale and derived from stakeholder input. In Phase I the majority of research emphasis is placed on evaluating and testing unknowns of integrating the technology at the community scale with their specific stakeholder group(s) rather than on developing a new technology. Some unknowns include technology performance parameters to better support the local economy and public acceptance of the technology.

Phase II of this topic involves deployment of the proposed technology into the community at a pilot scale.

Questions - Contact: Devinn Lambert, Devinn.Lambert@ee.doe.gov.



DOE Applicant Resources





DOE – Letter of Intent

Requirement

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 nonresponsive
- Can still submit a proposal
- Responsive LOIs will NOT receive a notification

Limits

Small businesses may submit only 10 letters of intent (and 10 applications) per solicitation

Submit LOI online via the DOE Portfolio Analysis and Management System (PAMS) website: https://pamspublic.science.energy.gov/

Content of LOI

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



Phase I Application Checklist

Following requirements must be satisfied	
Registrations	SAM, PAMS, Grants.gov
Topic & subtopic selection	Only one
Budget & budget justification	Comply with maximum allowed costs, including TABA,
Project Summary	Abstract – no proprietary details
Project narrative	7,500 words
Proprietary information	Indicate inclusion of proprietary information – marked as required
Subcontractors/research institutions	Letter of commitment & separate budgets & budget justifications
Consultants	Letter of commitment
Commercialization documents	Commercialization plan
Disclosure of foreign relationships	Mandatory disclosure



Phase I – Instructions & Proposal Element

DOE Instructions

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

Commercialization Plans

- Phase I commercialization plan (Example: https://science.osti.gov/sbir/Applicant-Resources/Grant-Application)
- Phase II commercialization plan

SBIR/STTR Information form

Data Management Plan



DOE – Sample Commercialization Plan

Four Pages Maximum

Market Opportunity

- Product or service to be brought to market
- Elaborate on competitors and competitive advantage or value proposition to the customer
- Describe customers and anticipated sales to those customers

Company/Team

Capabilities as they relate to the commercialization of the technology

Intellectual Property (not necessarily limited to patents)

- State of current intellectual property
- Differentiate your existing intellectual property from prior art
- Describe new anticipated intellectual property

Revenue Forecast

 Mandatory: "1/3rdof DOE Phase II SBIR/STTR awardees stop working on their technology after their Phase II award because they discover the market for their technology is too small"



Most Frequent Errors

Serious Errors (Applications Ineligible for Review or Administratively Declined)

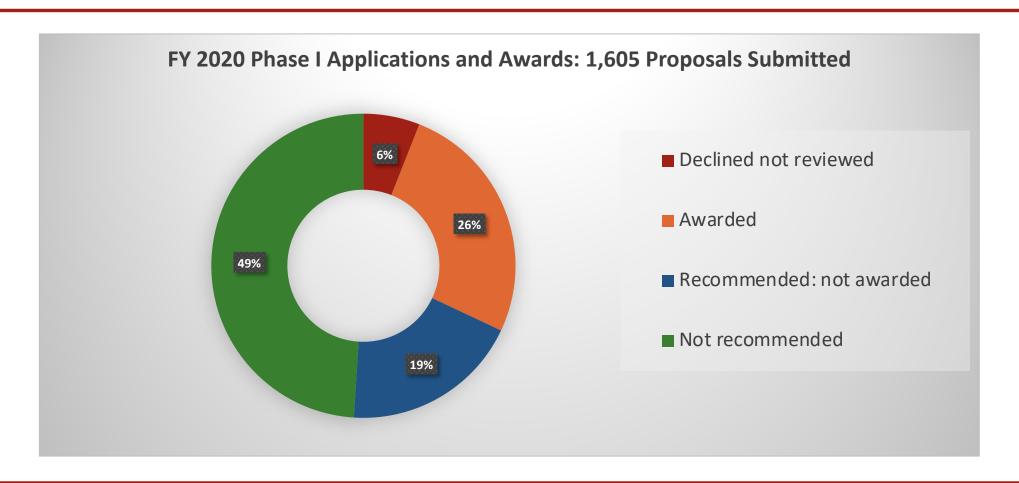
- Failed to update SAM registration early—unable to submit application to Grants.gov by deadline
- Failed to submit a Letter of Intent (LOI) by the LOI deadline
 - A LOI needs to be submitted by the LOI deadline each application (LOI project title and topic/subtopic designation need to match the application)
- 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
 - At least 3 hours per week on average for the duration during Phase I project Example: 12-month project = 156 hours

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 should be rounded to the nearest dollar and only include funds requested for the grant
 - Amounts listed on the budget form should match the amounts listed on the budget justification
 - Include a completed subaward budget form for each subaward
- Failed to include Letter(s) of Commitment
 - Submit a Letter of Commitment for each Consultant and Subaward

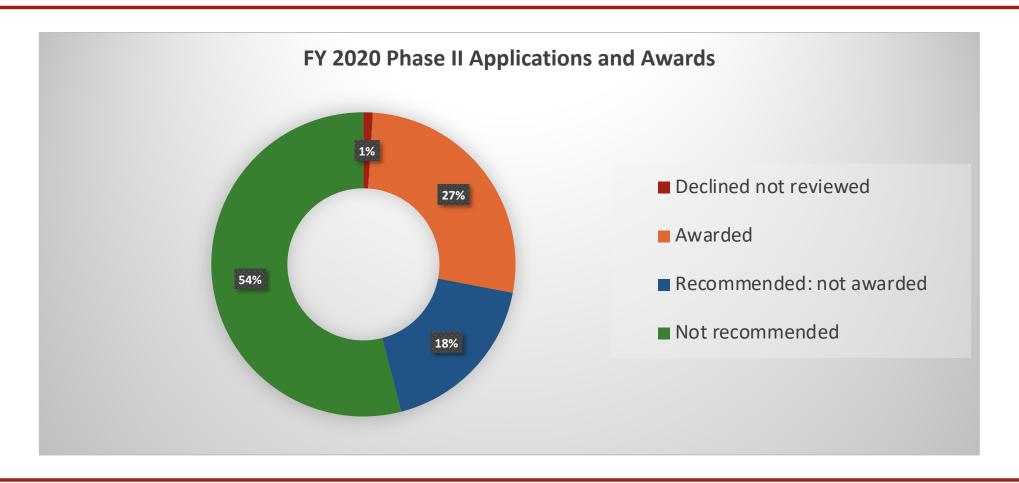


DOE SBIR/STTR Statistics FY 2020





DOE SBIR/STTR Statistics FY 2020





Resources

APIOiX Small Business and Technical Assistance: https://apioix.com/sbir-assistance

Provide general information and email link to obtain additional information

SBIR / STTR Tools & Resources: https://apioix.com/tools-resources

 Links to finding grant solicitations, examples of successful proposals (Phase I, Phase II, Fast Track), NSF Project Pitch rubric, budget templates for NIH and NSF Phase I proposals, budget justification templates for NSF and NIH

APIOiX Learning Center: https://apioix.com/learning-center

 Access to presentations on SBIR/STTR topics such as budgeting basics, subcontracting, how to write a winning proposal, basics of customer discover, and agency specific requirements.

SBIR presentations and slides: https://www.sbir.gov/tutorials/accounting-finance/

Salary validation: https://www.bls.gov/oes/current/oes_nat.htm#11-0000

NIH annotated SF424: https://grants.nih.gov/grants/ElectronicReceipt/files/Annotated_Forms_SmallBus_forms-e.pdf



Thank You



Arundeep S. Pradhan, MS Pharm Ad., RTTP has been engaged in technology transfer for over 30 years; was at the forefront of creating the biotech burst in Salt Lake City; helped develop the first biotech roadmap for Colorado; and, helped create the first biotech incubator and the first translational research development center in Portland, Oregon. Mr. Pradhan served on the AUTM Board, was the AUTM President in 2009, and AUTM Foundation President and Board Chair in 2011. He was the interim CEO of a research tools startup and currently serves as the president of Apio Innovation Transfer (APIOiX) and as the CEO and the vice-president for business development of Practical Biotechnology, an oncology therapeutics startup. Mr. Pradhan managed technology transfer offices at the University of Utah, Colorado State University Research Foundation, and Oregon Health and Science University. He continues to work with clients across the globe. arundeep@apioix.com



Ray Wheatley, MS CLP(E) is former Director for Technology Commercialization in the Office for Technology Development at the University of Texas Southwestern Medical Center, retiring in 2015 with 31 years of service. Mr. Wheatley and his staff evaluated over 2,500 new invention disclosures which led to more than 650 issued US patents and hundreds of foreign patents. These efforts resulted in more than 900 negotiated option agreements, license agreements and intellectual property management agreements generating more than \$178 million in license revenues. In addition, over 30 start-up companies were created. He has worked with US and foreign companies, including major pharmaceutical companies, venture capital firms and leading medical device manufacturers. He has been an invited speaker at many national and international meetings and has spoken on a variety of topics, most notably on negotiation skills and advanced licensing topics, ray@apioix.com



Michael Batalia, PhD is a serial entrepreneur and an expert in academic technology commercialization. He is also a member of the Mission II Team for the Perlan Project, an effort to fly engineless aircraft to the edge of space. He has over 16 years of experience in academic technology transfer, intellectual property management, and licensing at Wake Forest University as executive director of commercialization and North Carolina State University as associate director then director of technology transfer. Dr. Batalia is active regionally and internationally in support of technology transfer and biotechnology. He has served on the Boards of the Association of University Technology Managers, the North Carolina Biotechnology Center, the Biotechnology Advisory Committee of Piedmont Triad, and the North Carolina Center of Innovation for Nanobiotechnology. He is a co-founder of Wide Eyed Technologies and the CSO for Arctic, Inc. michael@apioix.com

