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

National Science Foundation

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America's SEED FUND
SBIR.STTR

Small Business Innovation Development Act of 1982

- Based on an NSF pilot program in the 1970s
- Applies to all Federal agencies funding > $100M of extramural research
- Sets aside a percentage for R&D funding to small businesses to meet the following goals:
  - Stimulate technological innovation in the private sector
  - Use small business to meet federal R&D needs
  - Foster and encourage participation by minorities and disadvantaged persons in technological innovation
  - Increase private-sector commercialization of innovations derived from federal R&D
- Total budget of ~$2.5B in FY2017

SBIR/STTR Agencies

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SBIR + STTR Programs

Department of Defense (DoD)

Department of Health and Human Services (HHS)

Department of Energy (DoE)

National Aeronautics and Space Administration (NASA)

National Science Foundation (NSF)

SBIR Program only:

Department of Agriculture (USDA)

Department of Education (DoEd)

Department of Transportation (DoT)

Environmental Protection Agency (EPA)

Department of Homeland Security (DHS)

Department of Commerce (DoC)

How do agencies differ?

- What's the same
  - Non-dilutive funding for R&D in phases
  - Document-based process, long lead times
  - IP rights, confidentiality, public abstract/title disclosure
- What's different
  - Agency value proposition
  - Agency topics: breadth and depth
  - Deadline dates and frequency
  - Review process (internal vs. external, commercial weight)
  - Deliverables (grant vs. contract)

National Science Foundation basics

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

NSF as an agency is:

- **Investigator-driven**
- **Merit-based**
- **Organized around scientific peer review**
- **Focused on advancing science and creating broader National impacts thereby**

Basics of NSF SBIR/STTR

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

Technology Areas

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

AND

- Other Topics

What we fund

R&D to overcome significant technical hurdles

- ✓ **Novel, proprietary technical innovations (“technical moat”)**
- ✓ **Prove feasibility/viability of a new product/process/service**
- ✓ **High technical risk, early-stage development**

A compelling commercial opportunity

- ✓ **Game-changing technology in chosen market segment**
- ✓ **Product-market fit validated by customers/partners**
- ✓ **Company/team with structure and focus geared toward aggressive commercialization**

What we do not fund

- ✘ **Basic research (i.e. where primary goal = knowledge creation)**
- ✘ **Incremental improvements to an existing product/service/process**
- ✘ **Projects/teams/opportunities that lack strong chance of commercial success**
- ✘ **Projects where NSF funding cannot make a big impact on company's prospects**
- ✘ **Analytical/market studies of existing technology/product/service/ process**

Program Portfolio Statistics

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

Strong commercial outcomes

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Solid Power closes $20M Series A investment round

Tuesday September 11, 2018 0 comments Tags: Louisville, Solid Power, Doug Campbell

Attune Medical closes $16m Series C

SEPTEMBER 5, 2018 BY FINK DENSFORD — LEAVE A COMMENT

Benson Hill Biosystems Raises $60 Million to Improve Food and Ingredients

PRESS RELEASE PR Newswire
Sep. 10, 2018, 07:00 AM

ThousandEyes Builds On Vision With $50M Series D Round

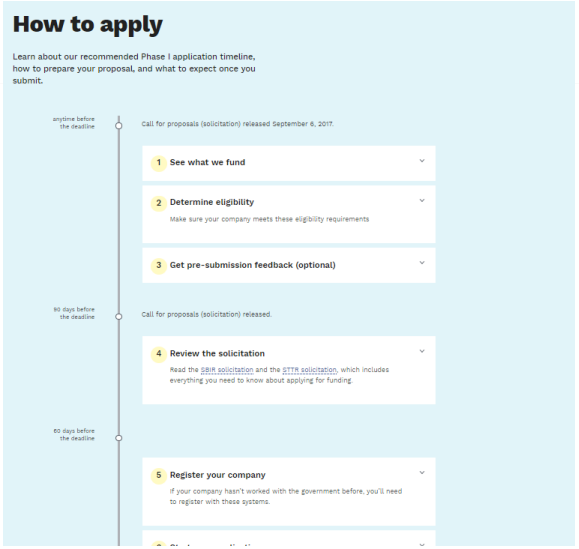
ClearMotion raises $115 million for 'digital chassis' that makes car rides smoother

Gardena-Based 3DEO Raises $14M to Advance Metal 3D Printing ...

PhaseBio Secures $34M in Series D Financing

What next?

- **Read the steps on the Apply page of NSF SBIR/STTR website, seedfund.nsf.gov/apply**
- **Submit a 2-3 page Project Pitch and a Program Director will respond to it within 3 weeks**
- **Full proposals are accepted when there's an open window**
- **Quarterly windows close in March, June, September, and December**
- **Solicitations: NSF 20-527 (SBIR) and NSF 20-528 (STTR)**



The Project Pitch (introduced 2019)

1. The Technology Innovation. (Up to 500 words)
Describe the technical innovation that would be the focus of a Phase I project, including a brief discussion of the origins of the innovation as well as explanation as to why it meets the program's mandate to focus on supporting research and development (R&D) of unproven, high-impact innovations.

2. The Technical Objectives and Challenges. (Up to 500 words)
Describe the R&D or technical work to be done in a Phase I project, including a discussion of how and why the proposed work will help prove that the product or service is technically feasible and/or significantly reduce technical risk. Discuss how, ultimately, this work could contribute to making the new product, service, or process commercially viable and impactful. This section should also convey that the proposed work meets the definition of R&D, rather than straightforward engineering or incremental product development tasks.

3. The Market Opportunity. (Up to 250 words)
Describe the customer profile and pain point(s) that will be the near-term commercial focus related to this technical project.

4. The Company and Team. (Up to 250 words)
Describe the background and current status of the applicant small business, including key team members who will lead the technical and/or commercial efforts discussed in this Project Pitch.

THANK YOU!

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