

National Science Foundation



America's
SEED FUND
SBIR.STTR

Introduction

The U.S. National Science Foundation (NSF) is a federal agency dedicated to research and education across the fields of science and engineering. NSF employs a merit review process and a budget of \$8.5 billion to fund startups with science, engineering, and technology-based innovations that improve the quality of life for Americans and stimulate economic activity.

The NSF Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program funds early-stage research and development (R&D) projects with the potential for societal benefit and commercial success.

America's Seed Fund powered by NSF enables startups and small businesses to de-risk technologies for commercialization and make them more attractive to private capital. Startups who apply for NSF funding also benefit from the feedback of technical and commercial experts on the review panel and validation of the merit review process.

America's Seed Fund powered by NSF funds startups with ...



IMPACT



TECHNOLOGY INNOVATION



MARKET PULL



SCALE



☼ Phases of Funding

NSF SBIR/STTR awards can provide up to \$2 million in non-dilutive funding over three years.

Phase I

up to \$256,000 for proof-of-concept R&D projects for six to 12 months

Phase II

up to \$1 million for prototype development over the course of 24 months

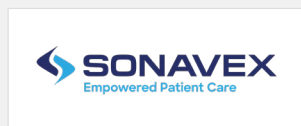
Phase IIB

up to \$500,000 in supplemental funding; NSF matches \$1 for every \$2 of private investment

Accel Member Case Studies

SONOVEX, INC.

[Sonavex was awarded Phase I and Phase II SBIR grants](#) to develop a novel approach to measuring vascular flow that enables early detection of localized post-operative clot formation, a cause of common and costly surgical failures. The Baltimore-based company and Johns Hopkins spin-out announced the Phase II award in 2017



as part of a \$3 million series A funding round and has since received FDA clearance for two products.

PATH EX

[PATH EX was awarded Phase I SBIR grant](#) in 2017 to validate a novel blood cleansing therapeutic for diseases such as sepsis. A [Phase II SBIR grant](#) followed in 2018 for the ongoing development of a dialysis-like platform that in pre-clinical studies has demonstrated a more than 95% reduction in the concentration of bacteria in the bloodstream in a single pass. In 2019 the FDA granted Breakthrough Device designation for the PATH EX device, CycloPE. The startup company has raised seed



funding from angel and early-stage investors and has won multiple startup award competitions.

Research Topics

NSF focuses on deep technologies based on discoveries in fundamental science and engineering, and funds almost all areas of technology (except for clinical trials and schedule I controlled substances). There are several relevant solicitation topics for medical technologies.

- ☼ [Medical Devices](#)
- ☼ [Biomedical Technologies](#)
- ☼ [Digital Health](#)
- ☼ [Nanotechnology](#)
- ☼ [Biological Technologies](#)

[A full list of topics is available here.](#)

Tips for Applicants

- ☼ Reach out early to discuss your R&D project ideas with [NSF Program Directors](#) responsible for relevant solicitation topics.
- ☼ Demonstrate that your R&D project has high technical risk and strong commercialization potential.
- ☼ Read the solicitations carefully to ensure all requirements are met.
- ☼ NSF funding does not support clinical trials.
- ☼ Phase II supplements strengthen commercialization strategy and follow-on investment.
- ☼ Unsuccessful applicants may request a debrief call with Program Director.

Application and Review Process

PROJECT PITCH

Interested in NSF funding? The first step is to submit a Project Pitch to determine if your idea is a good fit. The NSF accepts Project Pitch submissions any time during the year and usually responds in about one month. Your Project Pitch should answer four key questions:

1. **What is the technical innovation** and how does it meet the NSF mandate to support unproven, high-impact R&D?
2. **How will the proposed R&D help prove the technical feasibility and commercial viability of the product?**
3. **What is the market opportunity** and the near-term commercial focus of the project?
4. **What is the status of your small business** and who is the team that will lead the proposed project?

[Submit your Project Pitch here.](#) If successful, your company will be invited to submit a full proposal for Phase I funding and assigned a Program Manager.

Annually the NSF SBIR/STTR programs award over \$200M in funding to roughly 400 startups, most of which have fewer than five employees.

FULL PROPOSAL

Upon invitation you may submit a full proposal for Phase I funding during quarterly submission windows and within one year of receiving the invitation.

STEP 1

Read the solicitations

Solicitations (or calls for proposals) are policy documents that outline the official requirements for a full proposal. Each year the NSF releases Phase I solicitation for SBIR and STTR (these are identical, except STTR proposals require the small business to partner with an eligible research institution).

STEP 2

Register your company

Complete these required, free registrations (before you enter your proposal in FastLane):

- [Dun and Bradstreet \(DUNS number\)](#)
- [System for Award Management \(SAM\)](#)
- [Research.gov \(required to login to FastLane\)](#)
- [SBIR Company Registry](#)

STEP 3

Submit in FastLane

Full proposals are submitted on [FastLane](#), which allows companies to create a proposal section by section. The NSF offers this [guide to submitting a Phase I proposal in FastLane](#).

PROPOSAL REVIEW AND DECISION

Full proposals will be reviewed by three external experts in technology and commercialization on a merit basis to determine:

- (1) intellectual/technical merit
- (2) broader impact of innovation
- (3) commercial potential

[Detailed merit review guidelines can be found here.](#) The NSF Program Director may conduct due diligence and request additional information from the Principal Investigator.

Within five to seven months of submission, the NSF will notify applicants if the proposal is accepted or declined. Unsuccessful applicants may hold a debrief call with the relevant NSF Program Director after reading the proposal's reviews and panel summary.

Successful applicants can expect to receive Phase I funding for a period of six months to one year and should visit the [Phase I awardee section](#) on NSF's website for detailed next steps. Awardees are required to participate in a Phase I SBIR/STTR Workshop and a Beat-the-Odds Boot Camp. Awardees may take part in the Commercialization Assistance Program, designed to help small businesses develop a commercialization plan.

[NSF reporting requirements](#) instruct Phase I awardees to provide formal reports on two separate occasions: (1) at the end of the Phase I award period and (2) when submitting a proposal for Phase II.



PHASE II FUNDING

Recent NSF SBIR/STTR Phase I awardees may apply for Phase II funding, which is designed to continue to the R&D started in Phase I. At the start of a Phase I award, it is recommended to review [important information on Phase II SBIR/STTR administrative and financial capabilities](#). Proposals may be submitted via FastLane six months to two years following the start date of Phase I funding.

Prior to submitting a Phase II proposal, applicants should read the [SBIR Phase II and STTR Phase II solicitations](#). If the Phase II proposal is submitted before the Phase I project ends, the interim report should be included. Alternatively, the final report for Phase I projects will fulfill the requirement of a technical narrative for a Phase II proposal.

Phase II Supplements are additions to Phase II awards formally requested through FastLane:

Phase IIB Match Funding

NSF will match up to \$500,000 per award (requires third-party investment commitment of at least \$100,000).

Technology Enhancement for Commercial Partnerships (TECP)

additional funding (up to 20% of Phase II award) for R&D beyond Phase II objectives to enhance strategic partnerships and investment.

Technical and Business Assistance (TABA)

up to \$50,000 in funding per Phase II award for third party service providers in regulatory/reimbursement strategy, protection of intellectual property, fundraising advice, and commercialization strategy.



Additional Resources

- [Resources for Applicants](#)
- [FAQs: SBIR/STTR Phase I](#)
- [Project Pitch Guide](#)
- [FastLane Guide](#)
- [Review Process](#)
- [Merit Review Guidelines](#)
- [COVID-19 Proposal Instructions](#)