

# NSF 24-580: NSF Small Business Innovation Research / Small Business Technology Transfer Phase II Programs

## Program Solicitation

### Document Information

#### Document History

- **Posted:** May 30, 2024
- **Replaces:** [NSF 23-516](#)

[View the program page](#)



#### National Science Foundation

Directorate for Technology, Innovation and Partnerships  
Translational Impacts

#### Full Proposal Deadline(s) (due by 5 p.m. submitting organization's local time):

September 18, 2024

November 06, 2024

March 05, 2025

July 02, 2025

November 05, 2025



### Table Of Contents

[Summary of Program Requirements](#)

[I. Introduction](#)

[II. Program Description](#)

[III. Award Information](#)

[IV. Eligibility Information](#)

[V. Proposal Preparation and Submission Instructions](#)

[A. Proposal Preparation Instructions](#)

[B. Budgetary Information](#)

C. Due Dates

D. [Research.gov/Grants.gov Requirements](#)

VI. NSF Proposal Processing and Review Procedures

A. Merit Review Principles and Criteria

B. Review and Selection Process

VII. Award Administration Information

A. Notification of the Award

B. Award Conditions

C. Reporting Requirements

VIII. Agency Contacts

IX. Other Information

## Important Information And Revision Notes

The NSF SBIR/STTR programs (also known as America's Seed Fund powered by NSF) provide non-dilutive funding for the **development of a broad range of technologies based on discoveries in science and engineering with the potential for societal and economic impacts.**

NSF proposals are **confidential** and will only be shared with a select number of reviewers and NSF staff (as appropriate). All reviewers have agreed to maintain the confidentiality of the proposal content. Proposals to NSF do not constitute a public disclosure. If selected for a Phase II award, the company will be prompted to write a publicly available abstract that summarizes the intellectual merit and broader impact of the project.

The NSF SBIR/STTR programs **do not support** clinical trials or proposals from companies whose commercialization pathway involves the production, distribution, or sale by the company of chemical components, natural or synthetic variations thereof, or other derivatives related to Schedule I controlled substances.

All proposals must be submitted through [Research.gov](#). NSF SBIR/STTR Phase II proposals will not be accepted in Grants.gov.

A small business concern may apply for a National Science Foundation (NSF) Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) Phase II award only if it has received an NSF SBIR/STTR Phase I award, and only for continued research towards the commercialization of the technology developed under the Phase I award. **Small businesses are eligible to submit a Phase II proposal between 6 and 24 months after the start date of their relevant NSF SBIR/STTR Phase I award.** STTR Phase I recipients may submit either STTR or SBIR Phase II proposals and SBIR Phase I recipients may submit either SBIR or STTR Phase II proposals. Reference the Phase I award notice for the exact start date of the award. Proposals submitted outside of their eligible timeframe will be Returned Without Review.

**SBIR and STTR proposals** are nearly identical but differ in the amount of work performed by the small business and a not-for-profit institution or a Federally funded research and development center (FFRDC) (as noted in the budget). For more details about the unique requirements of STTR awards, please refer to the Eligibility Information and Proposal Preparation and Submission Instructions sections of this solicitation.

NSF SBIR Phase II proposals submitted to this solicitation that meet all the requirements of an NSF STTR Phase II proposal may, at NSF's discretion, be **converted to NSF STTR Phase II for award**. Similarly, STTR Phase II proposals may be converted to SBIR Phase II awards at NSF's discretion.

America's Seed Fund powered by NSF is committed to assisting SBIR/STTR Phase II recipients to successfully commercialize their innovation research, grow their company and create jobs by attracting new investments and partnerships. To reinforce these commitments, the programs support **a broad number of supplements and other opportunities**. For more information, see: [Supplemental Funding Overview](#), and the linked Dear Colleagues Letters.

For the purpose of this solicitation, the following definitions apply:

- **Funding Agreement:** As used in this solicitation, the funding agreement is a Grant – a legal instrument of financial assistance between NSF and a recipient, consistent with [31 USC 6302-6305](#) and as noted in the NSF Proposal & Award Policies & Procedures Guide (PAPPG) Introduction, Section D ("Definitions & NSF-Recipient Relationships").
- **Small Business Concerns (SBCs):** SBCs are independently owned and operated businesses that are not dominant in the field of operation. For this solicitation, firms qualifying as a small business concern are eligible to participate in the SBIR/STTR programs (see Section IV. "Eligibility Information" of this solicitation for more details). Please note that the size limit of 500 employees includes affiliates. The firm must be in compliance with the [SBA SBIR/STTR Policy Directive](#) and the [Code of Federal Regulations](#).
- **SBIR/STTR Data:** As defined by the [SBA SBIR/STTR Policy Directive](#), SBIR/STTR Data is all Data developed or generated in the performance of an SBIR or STTR award, including Technical Data and Computer Software developed or generated in the performance of an SBIR or STTR award. The term does not include information incidental to contract or grant administration, such as financial, administrative, cost or pricing or management information.
- **SBIR/STTR Data Rights:** The Federal Government may, use, modify, reproduce, perform, display, release, or disclose SBIR/STTR Data that are Technical Data within the Government; however, the Government shall not use, release, or disclose the data for procurement, manufacturing, or commercial purposes; or release or disclose the SBIR/STTR Data outside the Government except as permitted by paragraph 10(B) of the [SBIR/STTR Policy Directive's](#) Data Rights Clause or by written permission of the recipient.
- **Research and Development (R&D):** broadly defined in [2 CFR § 200.8](#), but specified for the NSF SBIR/STTR programs as follows:
  - the application of creative, original, and potentially transformative concepts to systematically study, create, adapt, or manipulate the structure and behavior of the natural or man-made worlds;
  - the use of the scientific method to propose well-reasoned, well-organized activities based on sound theory, computation, measurement, observation, experiment, or modeling;
  - the demonstration of a well-qualified individual, team, or organization ready to deploy novel methods of creating, acquiring, processing, manipulating, storing, or disseminating data or metadata; and/or
  - the novel integration of new theories, analysis, data, or methods regarding cognition, heuristics, and related phenomena, which can be supported by scientific rationale.
- **Non-Dilutive Funding:** financing that does not involve equity, debt, or other elements of the business ownership structure.
- **Technical Risk:** Technical risk assumes that the possibility of technical failure exists for an envisioned product, service, or solution to be successfully developed. This risk is present even to those suitably skilled in the art of the component, subsystem, method, technique, tool, or algorithm in question. If the new product, service, or solution is successfully realized and brought to the market, it would be difficult for a well-qualified, competing firm to reverse-engineer or otherwise neutralize the competitive advantage generated by leveraging fundamental science or engineering research techniques.
- **Technological Innovation** indicates that the new product or service is differentiated from current products or services; that is, the new technology holds the potential to result in a product or service with a substantial and durable advantage over competing solutions on the market. It also generally provides a barrier to entry for competitors.

#### **Significant Revisions Made Since the Last Solicitation:**


**The proposal submission system, Research.gov, will stop accepting proposals at 5:00 pm “submitting organization’s local time.” If your submission is late, you will not be able to submit again until the next deadline. Proposers are strongly urged to submit well in advance of the deadline.**

The **total SBIR/STTR Phase II award amount has been increased from \$1,000,000 to \$1,250,000** (inclusive of direct and indirect costs, Technical and Business Assistance (TABA) funding, as well as the small business fee).

**Organizational Eligibility:** An organization whose Phase I award has been terminated by NSF is not permitted to submit a Phase II proposal predicated on the terminated award. Similarly, an organization whose Phase I award has been suspended by NSF pending a potential investigation may not submit a Phase II proposal while the suspension persists. If the suspension lasts longer than the normal 24-month window to submit the Phase II proposal, and the Phase I award is later reinstated, NSF will provide additional time to complete the Phase I project and submit the Phase II proposal.

An **IP (Intellectual Property) Rights Agreement** is required for STTR proposals and strongly recommended for SBIR proposals when there is a subaward to another institution. A fully signed Agreement is not required at the initial proposal submission but will be required before a recommendation for an award can be made.

In addition to the standard NSF Merit Review Criteria (Section VI.A.1-2), this solicitation provides additional clarification on how Intellectual Merit and Broader Impact might be applied to startups and small businesses (Section II). **An additional, solicitation-specific merit review criteria** focused on **Commercialization Potential** is also applied and has been clarified. The Commercialization Potential is to be discussed in terms of both (1) a required **Commercialization Plan** (which includes Market Opportunity, Company/Team, Product/Technology and Competition, and a Finance and Revenue Model), and (2) the **Phase I Technical Narrative** (which considers how the results obtained during Phase I support the proposed commercialization approach).

Four documents: **Biographical Sketch(es), Current and Pending (Other) Support forms, Collaborators and Other Affiliations (COA), and Synergistic Activities** must be submitted for the PI, Co-PI (if STTR), and each Senior/Key Personnel specified in the proposal. Biographical Sketches and Current and Pending Support forms must be prepared using [SciENcv: Science Experts Network Curriculum Vitae](#). Collaborators & Other Affiliations (COA) Information is prepared using the [instructions and spreadsheet template](#) .

**Synergistic Activities.** Each individual identified as a Senior/Key person must provide a document of up to one-page that includes a list of up to five distinct examples of synergistic activities that demonstrate the broader impact of the individual’s professional and scholarly activities that focus on the integration and transfer of knowledge as well as its creation.

In accordance with Section 10632 of the CHIPS and Science Act of 2022 (42 U.S.C. § 19232), **the Authorized Organizational Representative (AOR) must certify** that all individuals identified as Senior/Key Personnel have been made aware of and have complied with their responsibility under that section to certify that the individual is not a party to a Malign Foreign Talent Recruitment Program.

In accordance with Section 223(a)(1) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (42 U.S.C. § 6605(a)(1)), **each individual identified as Senior/Key Personnel is required to certify** in SciENcv that the information provided in the Biographical Sketch and Current and Pending (Other) Support documents are accurate, current, and complete. Senior/Key Personnel are required to update their Current and Pending (Other) Support disclosures prior to award, and at any subsequent time the agency determines appropriate during the term of the award. See additional information on NSF Disclosure Requirements in the PAPPG, Chapter II.B. Each Senior/Key Person must also certify prior to proposal submission that they are **not a party to a Malign Foreign Talent Recruitment Program** and annually thereafter for the duration of the award.

Three (3) **Letters of Support** from potential product/service users or customers are required; Up to five (5) Letters of Support may be submitted. **Letters of Commitment** that confirm the role of any subaward organization(s) in the project and explicitly state the subaward amount are also required.

Additional information on the **due diligence process**, used as part of the review and recommendation process, has been clarified in Section VI. The due diligence process may include requests for clarification of the company structure, key personnel, conflicts of interest, foreign influence, cybersecurity practices, or other issues as determined by NSF. Participation in the due diligence process is not a guarantee of an award.

**This solicitation contains many instructions that deviate from the standard NSF PAPPG proposal preparation instructions. In the event of a conflict between the instructions in this solicitation and the PAPPG, use this solicitation's instructions as a guide.**

Any proposal submitted in response to this solicitation should be submitted in accordance with the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) that is in effect for the relevant due date to which the proposal is being submitted. The NSF PAPPG is regularly revised and it is the responsibility of the proposer to ensure that the proposal meets the requirements specified in this solicitation and the applicable version of the PAPPG. Submitting a proposal prior to a specified deadline does not negate this requirement.

## Summary Of Program Requirements

### General Information

#### Program Title:

NSF Small Business Innovation Research / Small Business Technology Transfer Phase II Programs  
(SBIR/STTR Phase II)

#### Synopsis of Program:

The NSF SBIR/STTR programs support moving scientific excellence and technological innovation from the lab to the market. By funding startups and small businesses, NSF helps build a strong national economy and stimulates the creation of novel products, services, and solutions in private, public, or government sectors with potential for broad impact; strengthens the role of small business in meeting federal research and development needs; increases the commercial application of federally supported research results; and develops and expands the US workforce, especially by fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses.

The NSF SBIR/STTR Phase II programs provide non-dilutive funding for the development of a broad range of technologies based on discoveries in science and engineering with potential for societal and economic impacts. Unlike fundamental or basic research activities that focus on scientific and engineering discovery itself, the NSF SBIR/STTR programs support the creation of opportunities to move use-inspired and translational discoveries out of the lab and into the market or other use at scale, through startups and small businesses. The NSF SBIR/STTR programs do not solicit specific technologies or procure goods and services. The funding provided is non-dilutive. Any invention conceived or reduced to practice with the assistance of SBIR/STTR funding is subject to the Bayh/Dole Act. For more information, refer to [Frequently Asked Questions \(FAQs\)](#), #75.

NSF encourages input and participation from the full spectrum of diverse talent that society has to offer which includes underrepresented and underserved communities.

NSF seeks unproven, leading-edge, technology innovations that demonstrate the following characteristics:

- The innovations are underpinned and enabled by a new scientific discovery or meaningful engineering innovation.
- The innovations still require intensive technical research and development to be fully embedded in a reliable product or service.
- The innovations have not yet been reduced to practice by anyone and it is not guaranteed, at present, that doing so is technically possible.

- The innovations provide a strong competitive advantage that are not easily replicable by competitors (even technically proficient ones).
- Once reduced to practice, the innovations are expected to result in a product or service that would either be disruptive to existing markets or create new markets/new market segments.

The NSF SBIR/STTR programs focus on stimulating technical innovation from diverse entrepreneurs and start-ups and small businesses by translating new scientific and engineering concepts into products and services that can be scaled and commercialized into sustainable businesses with significant societal benefits. The program provides non-dilutive funding for research and development (R&D) of use-inspired scientific and engineering activities for startups and small businesses. In Phase I, the emphasis is on de-risking those aspects preventing the innovation from reaching technical feasibility and driving the intended impact. **In Phase II, R&D continues, but the emphasis starts to shift away from research and to development challenges which, if solved, would result in new sustainable competitive advantages to allow the company to differentiate itself and drive new value propositions to the market and society.**

This NSF program is governed by [15 USC 638](#) and the National Science Foundation Act of 1950, as amended ([42 USC §1861, et seq.](#)).

### **Introduction to the Program**

The SBIR and STTR programs were established in 1982 as part of the Small Business Innovation Development Act. The NSF SBIR/STTR programs focus on stimulating technical innovation from diverse entrepreneurs and startups by translating new scientific and engineering discoveries emerging from the private sector, federal labs, and academia into products and services that can be scaled and commercialized into sustainable businesses with significant societal benefits.

The NSF SBIR/STTR programs are now part of the [Directorate for Technology, Innovation and Partnerships \(TIP\)](#), which was recently launched to accelerate innovation and enhance economic competitiveness by catalyzing partnerships and investments that strengthen the links between fundamental research and technology development, deployment, and use.

### **Cognizant Program Officer(s):**

*Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.*

- Contact Your Phase I Program Officer, telephone: (703) 292-8050, email: [sbir@nsf.gov](mailto:sbir@nsf.gov)

### **Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):**

- 47.041 --- Engineering
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences
- 47.070 --- Computer and Information Science and Engineering
- 47.074 --- Biological Sciences
- 47.075 --- Social Behavioral and Economic Sciences
- 47.076 --- STEM Education
- 47.079 --- Office of International Science and Engineering
- 47.083 --- Office of Integrative Activities (OIA)
- 47.084 --- NSF Technology, Innovation and Partnerships

## Award Information

**Anticipated Type of Award:** Fixed Amount Cooperative Agreement

**Estimated Number of Awards:** 90 to 100

- Approximately 85-90 awards for SBIR Phase II per year, pending the availability of funds.
- Approximately 8 awards for STTR Phase II per year, pending the availability of funds.

**Anticipated Funding Amount:** \$120,000,000

- Approximately \$110,000,000 for SBIR Phase II.
- Approximately \$10,000,000 for STTR Phase II.

Estimated program budget, number of awards, and average award size/duration are subject to the availability of funds.

## Eligibility Information

### Who May Submit Proposals:

Proposals may only be submitted by the following:

- **Proposers must submit their SBIR/STTR Phase II proposal within 6 to 24 months after the start date of their relevant NSF SBIR/STTR Phase I award.** Please reference your NSF SBIR/STTR Phase I award notice for award start date. Note that this submission window is NOT extended by no-cost extensions.
- Firms qualifying as a small business concern are eligible to participate in the NSF SBIR/STTR programs (see the [Guide to SBIR/STTR Program Eligibility](#) for more information). Please note that the size limit of 500 employees *includes affiliates*. The firm must be in compliance with the [SBIR/STTR Policy Directive](#) and the [Code of Federal Regulations](#). For STTR proposals, the proposing small business concern must also include a partner research institution in the project, see additional details below.

An organization whose Phase I award has been terminated by NSF will not be permitted to submit a Phase II proposal predicated on the terminated award. Similarly, an organization whose Phase I award has been suspended by NSF pending a potential investigation may not submit a Phase II proposal while the suspension persists. If the suspension lasts longer than the normal 24-month window to submit the Phase II proposal, and the Phase I award is later reinstated, NSF will provide additional time to complete the Phase I project and submit the Phase II proposal.

In compliance with the [CHIPS and Science Act of 2022](#), Section 10636 (Person or entity of concern prohibition; 42 U.S.C. 19235): No person published on the list under section 1237(b) of the [Strom Thurmond National Defense Authorization Act for Fiscal Year 1999](#) (Public Law 105-261; 50 U.S.C. 1701 note) or entity identified under section 1260h of the [William M. \(Mac\) Thornberry National Defense Authorization Act for Fiscal Year 2021](#) (10 U.S.C. 113 note; Public Law 116-283) may receive or participate in any grant, award, program, support, or other activity under the Directorate for Technology, Innovation, and Partnerships.

Individuals who are a current party to a Malign Foreign Talent Recruitment Program are not eligible to serve as a Senior/Key Person on an NSF proposal or on any NSF award made after May 20, 2024. See current PAPPG for additional information on required certifications associated with Malign Foreign Talent Organization. The Authorized Organizational Representative (AOR) must certify that all individuals identified as Senior/Key Personnel have been made aware of and have complied with their responsibility under that section to certify that the individual is not a party to a Malign Foreign Talent Recruitment Program.

The startup's or small business' Research and Development (R&D) must be performed within the United States. Startups and small businesses funded by NSF must be majority U.S.-owned companies.

NSF does not fund proposals from companies that are majority-owned by one or more venture capital operating companies (VCOs), hedge funds, or private equity firms. Proposals from joint ventures and partnerships are permitted, provided the proposing entity qualifies as a small business concern (see [Guide to SBIR/STTR Program Eligibility](#) for more information).

"Collaborative Proposal from Multiple Organizations" (a special proposal type in Research.gov) are not allowed.

Start-ups and small businesses that have a social mission in their charter are encouraged to apply.

Socially and economically disadvantaged small businesses and women-owned small businesses are also encouraged to apply.

### **Who May Serve as PI:**

The primary employment of the Principal Investigator (PI) must be with the small business concern at the time of award and for the duration of the award, unless a new PI is named. Primary employment is defined as at least 51 percent employed by the small business concern. NSF normally considers a full-time work week to be 40 hours and considers employment elsewhere of greater than 19.6 hours per week to be in conflict with this requirement. The PI must have a legal right to work for the proposing company in the United States, as evidenced by citizenship, permanent residency, or an appropriate visa. The PI does not need to be associated with an academic institution. **There are no PI degree requirements (i.e., the PI is not required to hold a Ph.D. or any other degree).** A PI must devote a minimum of one calendar month of effort per six months of performance to an NSF SBIR/STTR Phase II project.

### **Limit on Number of Proposals per Organization: 1**

1 Phase II submission per Phase I award

### **Limit on Number of Proposals per PI or co-PI: 1**

For NSF SBIR – 1 PI, co-PIs are not allowed.

For NSF STTR - 1 PI and 1 co-PI are required (the PI must be an employee of the proposing small business and the co-PI must be part of the STTR partner research institution). An individual may act as the co-PI on an unlimited number of NSF STTR proposals.

An individual may be listed as the PI for only one proposal submitted at a time to this NSF SBIR/STTR Phase II solicitation.

## **Proposal Preparation and Submission Instructions**

### **A. Proposal Preparation Instructions**

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:** This solicitation contains information that deviates from the standard *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) proposal preparation guidelines. Please see the full text of the solicitation for further information.

### **B. Budgetary Information**

- **Cost Sharing Requirements:**



Inclusion of voluntary committed cost sharing is prohibited.

- **Indirect Cost (F&A) Limitations:**

Not Applicable

- **Other Budgetary Limitations:**

Other budgetary limitations apply. Please see the full text of this solicitation for further information.

### **C. Due Dates**

- **Full Proposal Deadline(s)** (due by 5 p.m. submitting organization's local time):

September 18, 2024

November 06, 2024

March 05, 2025

July 02, 2025

November 05, 2025

### **Proposal Review Information Criteria**

#### **Merit Review Criteria:**

National Science Board approved criteria. Additional merit review criteria apply. Please see the full text of this solicitation for further information.

#### **Award Administration Information**

#### **Award Conditions:**

Additional award conditions apply. Please see the full text of this solicitation for further information.

#### **Reporting Requirements:**

Additional reporting requirements apply. Please see the full text of this solicitation for further information.

## **I. Introduction**

The NSF SBIR/STTR programs focus on transforming scientific discovery into commercial potential and/or societal benefit through the development of products or services.

The NSF SBIR/STTR programs are phased, competitive processes having an emphasis on de-risking the highest-risk science/engineering aspects through hypothesis-driven research. The scientific/engineering risks are decisive hurdles preventing the innovation from reaching technical feasibility and driving the intended impact. If solved, the outcomes would result in new and significant competitive advantages to allow the company to differentiate itself and drive new value propositions to the market and society.

The NSF SBIR/STTR programs fund research and development (R&D) and are designed to provide non-dilutive funding to support small business concerns with technologies at their earliest stages. NSF SBIR/STTR awards are not government contracts. The NSF does not use the SBIR/STTR programs to procure goods or services for the government. NSF is not a customer for, and does not test, verify, or otherwise use the technology developed under its SBIR/STTR awards. Any invention conceived or reduced to practice with the assistance of SBIR/STTR funding is subject to the Bayh-Dole Act. For more information, refer to [SBIR/STTR Frequently Asked Questions, #75](#).

The NSF SBIR/STTR programs do not have a specific topical focus. Generally, the topics included in the NSF SBIR/STTR solicitation are intended to be broad enough to permit small business concerns with science- and engineering-based innovations to compete for funding, transforming science and engineering discovery and innovation into both societal and economic impact. NSF encourages people from all backgrounds and geographic areas to apply for funding.

The NSF SBIR/STTR programs are highly competitive. While success rates vary year-to-year, only a fraction of proposals submitted are selected for an award. Thus, there are many qualified businesses applying to the program each year that do not receive funding.

## II. Program Description

Building upon the primary objectives of the NSF-funded Phase I effort to (i) determine whether the innovation has sufficient intellectual merit and broader impact / commercialization potential to proceed to a Phase II project and (ii) to assess commercial feasibility of the proposed innovation, the aim of the Phase II project is to continue the research and development (R&D) efforts initiated in Phase I and advance the technology and associated product or service aggressively toward commercial deployment.

While startups and small businesses face many types of challenges, the NSF SBIR/STTR funding is intended to specifically focus on challenges associated with technological innovation; that is, on the creation of new products, services, and other scalable solutions based on fundamental science or engineering.

In addition to the standard NSF Merit Review Criteria, the following provides additional clarification of how Intellectual Merit and Broader Impact might be applied to small business concerns (Section II).

The **Intellectual Merit** criterion encompasses the potential to advance knowledge and leverage fundamental science or engineering research techniques to overcome technical risk. This can be conveyed through the **Research and Development (R&D)** of the project.

NSF SBIR/STTR proposals are often evaluated via the concepts of Technical Risk and Technological Innovation. **Technical Risk** assumes that the possibility of technical failure exists for an envisioned product, service, or solution to be successfully developed. This risk is present even to those suitably skilled in the art of the component, subsystem, method, technique, tool, or algorithm in question. **Technological Innovation** indicates that the new product or service is differentiated from current products or services; that is, the new technology holds the potential to result in a product or service with a substantial and durable advantage over competing solutions on the market. It also generally provides a barrier to entry for competitors. This means that if the new product, service, or solution is successfully realized and brought to the market, it should be difficult for a well-qualified, competing firm to reverse-engineer or otherwise neutralize the competitive advantage generated by leveraging fundamental science or engineering research techniques.

The **Broader Impacts** criterion encompasses the potential for the company to drive a benefit to society in terms of addressing major societal challenges. Considering the products developed under this program will have a broad societal reach, will be widely distributed, and will therefore have impacts that are far reaching with people and communities. It is important to ensure adequate assessment of potential benefits and unintended consequences of the proposed technology.

The NSF SBIR/STTR programs support the vision of the NSF, which is a nation that leads the world in science and engineering research and innovation to the benefit of all, without barriers to participation. Proposers may also consider the Broader Impacts Review Criterion at [42 U.S.C. §1862p-14](#) as related to the potential for broadest societal impact.

**An additional, solicitation-specific merit review criteria** focused on **Commercialization Potential** is also required. The Commercialization Potential of the proposed product or service is the potential for the resulting technology to disrupt the targeted market segment by way of a strong and durable value proposition for the customers or users.

- The proposed product or service addresses an unmet, important, and scalable need for the target customer base.
- The proposed small business concern is structured and staffed to focus on aggressive commercialization of the product/service.

- The proposed small business concern can provide evidence of good product-market fit (as validated by direct and significant interaction with customers and related stakeholders).

The Commercialization Potential is to be discussed in terms of both (1) a required Commercialization Plan, and (2) the required Phase I Technical Narrative.

The **Commercialization Plan (which includes Market Opportunity, Company/Team, Product/Technology and Competition, and a Finance and Revenue Model, see Section V.)** should clearly describe how the company plans to generate revenue based on the product or service developed in Phase I and II. The Plan should represent a compelling vision that describes a business opportunity that could be addressed, in part, with continued NSF support via Phase II funding. The depth and quality of the analysis within the Commercialization Plan is a critical element of the NSF SBIR/STTR proposal review.

Reviewers will also examine the [Phase I Technical Narrative](#) (See Section V.) detailing the technical accomplishments of the NSF SBIR/STTR Phase I award and how these results support the underlying commercial opportunity.

More details and information regarding the NSF SBIR/STTR merit review criteria can be found in Section VI of this solicitation and the [NSF SBIR/STTR website](#).

### III. Award Information

NSF SBIR/STTR Phase II proposals may be submitted for funding up to \$1,250,000. This amount is inclusive of all direct and indirect costs as well as the small business fee and Technical and Business Assistance (TABAs) funding.

NSF SBIR/STTR Phase II projects typically run for 24 months, though deviations are possible depending on the circumstances of the proposer and the research project (potential proposers are encouraged to contact their cognizant NSF SBIR/STTR Phase I Program Officer to discuss).

### IV. Eligibility Information

#### Who May Submit Proposals:

Proposals may only be submitted by the following:

- **Proposers must submit their SBIR/STTR Phase II proposal within 6 to 24 months after the start date of their relevant NSF SBIR/STTR Phase I award.** Please reference your NSF SBIR/STTR Phase I award notice for award start date. Note that this submission window is NOT extended by no-cost extensions.
- Firms qualifying as a small business concern are eligible to participate in the NSF SBIR/STTR programs (see the [Guide to SBIR/STTR Program Eligibility](#) for more information). Please note that the size limit of 500 employees *includes affiliates*. The firm must be in compliance with the [SBIR/STTR Policy Directive](#) and the [Code of Federal Regulations](#). For STTR proposals, the proposing small business concern must also include a partner research institution in the project, see additional details below.

An organization whose Phase I award has been terminated by NSF will not be permitted to submit a Phase II proposal predicated on the terminated award. Similarly, an organization whose Phase I award has been suspended by NSF pending a potential investigation may not submit a Phase II proposal while the suspension persists. If the suspension lasts longer than the normal 24-month window to submit the Phase II proposal, and the Phase I award is later reinstated, NSF will provide additional time to complete the Phase I project and submit the Phase II proposal.

In compliance with the [CHIPS and Science Act of 2022](#), Section 10636 (Person or entity of concern prohibition; 42 U.S.C. 19235): No person published on the list under section 1237(b) of the [Strom Thurmond National Defense Authorization Act for Fiscal Year 1999](#) (Public Law 105-261; 50 U.S.C. 1701

note) or entity identified under section 1260h of the [William M. \(Mac\) Thornberry National Defense Authorization Act for Fiscal Year 2021 \(10 U.S.C. 113 note; Public Law 116-283\)](#) may receive or participate in any grant, award, program, support, or other activity under the Directorate for Technology, Innovation, and Partnerships.

Individuals who are a current party to a Malign Foreign Talent Recruitment Program are not eligible to serve as a Senior/Key Person on an NSF proposal or on any NSF award made after May 20, 2024. See current PAPPG for additional information on required certifications associated with Malign Foreign Talent Organization. The Authorized Organizational Representative (AOR) must certify that all individuals identified as Senior/Key Personnel have been made aware of and have complied with their responsibility under that section to certify that the individual is not a party to a Malign Foreign Talent Recruitment Program.

The startup's or small business' Research and Development (R&D) must be performed within the United States. Startups and small businesses funded by NSF must be majority U.S.-owned companies.

NSF does not fund proposals from companies that are majority-owned by one or more venture capital operating companies (VCOs), hedge funds, or private equity firms. Proposals from joint ventures and partnerships are permitted, provided the proposing entity qualifies as a small business concern (see [Guide to SBIR/STTR Program Eligibility](#) for more information).

"Collaborative Proposal from Multiple Organizations" (a special proposal type in Research.gov) are not allowed.

Start-ups and small businesses that have a social mission in their charter are encouraged to apply.

Socially and economically disadvantaged small businesses and women-owned small businesses are also encouraged to apply.

#### **Who May Serve as PI:**

The primary employment of the Principal Investigator (PI) must be with the small business concern at the time of award and for the duration of the award, unless a new PI is named. Primary employment is defined as at least 51 percent employed by the small business concern. NSF normally considers a full-time work week to be 40 hours and considers employment elsewhere of greater than 19.6 hours per week to be in conflict with this requirement. The PI must have a legal right to work for the proposing company in the United States, as evidenced by citizenship, permanent residency, or an appropriate visa. The PI does not need to be associated with an academic institution. **There are no PI degree requirements (i.e., the PI is not required to hold a Ph.D. or any other degree).** A PI must devote a minimum of one calendar month of effort per six months of performance to an NSF SBIR/STTR Phase II project.

#### **Limit on Number of Proposals per Organization: 1**

1 Phase II submission per Phase I award

#### **Limit on Number of Proposals per PI or co-PI: 1**

For NSF SBIR – 1 PI, co-PIs are not allowed.

For NSF STTR - 1 PI and 1 co-PI are required (the PI must be an employee of the proposing small business and the co-PI must be part of the STTR partner research institution). An individual may act as the co-PI on an unlimited number of NSF STTR proposals.

An individual may be listed as the PI for only one proposal submitted at a time to this NSF SBIR/STTR Phase II solicitation.

#### **Additional Eligibility Info:**

When submitting an SBIR/STTR Phase II proposal in Research.gov, you must enter your **SBIR/STTR Phase I Award Number on the Prepare New Full Proposal > 4. Proposal Details page**. The Phase I award number must be validated before you can continue with the proposal preparation instructions.

The **PI for the Phase II project** does not need to be the same person who served as PI for the Phase I project.

A company awarded an NSF STTR Phase I award may elect to submit a Phase II proposal to the NSF SBIR program and vice versa. See the relevant [Dear Colleague Letter](#) for details. Please also contact your cognizant NSF SBIR/STTR Phase I Program Officer for additional proposal submission instructions.

**Partnering.** Proposing firms are encouraged to collaborate with experienced researchers at available facilities such as colleges, universities, national laboratories, and from other research sites. Funding for such collaborations may include research subawards or consulting agreements. Although partnering is encouraged, proposals should NOT be marked as a "Collaborative Proposal from Multiple Organizations" during submission. The employment of faculty and students by the small business concern is allowed; however,

- **For an NSF SBIR Phase II proposal**, 50% of the total budget must be spent by the small business. Therefore, the total amount requested for the aggregated subawards and consultant funds cannot exceed 50% of the total project budget. For NSF SBIR proposals, subaward funds do not count as funds spent by the small business. The total amount requested for subawards (when added to consultant funds) cannot exceed 1/3 of the total project budget.
- **For an NSF STTR Phase II proposal**, the [SBIR/STTR Policy Directive](#) requires proposals to include an eligible research institution as a subawardee on the project budget. The institution is typically either a not-for-profit institution focused on scientific or educational goals (such as a college or university), or a Federally funded research and development center (FFRDC). A minimum of 40% of the research, as measured by the budget, must be performed by the small business. A minimum of 30% must be performed by a single partner research institution; The balance (remaining 30%) may be allocated to the small business, partner research institution, or to other subawards or consultants.

#### **Government-Wide Required Benchmarks (applies to previous SBIR/STTR recipients only):**

- **Phase I to Phase II Transition Rate Benchmark.** For Phase I proposers that have received more than 20 Phase I SBIR/STTR awards from any federal agency over the past five fiscal years, the minimum Phase I to Phase II Transition Rate over that period is 25%. Small businesses that fail to meet this transition requirement will be notified by the Small Business Administration and will not be eligible to submit a Phase I proposal for one (1) year.
- **Commercialization Benchmark.** The commercialization benchmark required by the SBIR/STTR Reauthorization Act of 2011 only applies to proposers that have received more than 15 Phase II Federal SBIR/STTR awards over the past 10 fiscal years, excluding the last two years. These companies must have achieved the minimum required commercialization activity to be eligible to submit a Phase I proposal, as determined by the information entered in the company registry, see [Guide for Completing Commercialization Report](#).

For more information, see [Performance Benchmark Requirements | SBIR.gov](#).

## **V. Proposal Preparation And Submission Instructions**

### **A. Proposal Preparation Instructions**

**Full Proposal Preparation Instructions:** Proposals submitted in response to this program solicitation should be prepared and submitted in Research.gov in accordance with the general guidelines contained in the *NSF Proposal and*

*Award Policies and Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg). Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov). The Prepare New Proposal setup will prompt you for the program solicitation number.

See PAPPG Chapter II.D.2 for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the PAPPG instructions.

**In the event of a conflict between the PAPPG and the solicitation instructions, the solicitation instructions supersede the PAPPG.**

**Phase II Proposal and Program Objectives.** An NSF SBIR/STTR Phase II proposal must describe the research effort needed to continue the research and development efforts initiated in the Phase I award.

**Project Activities Not Responsive to the Solicitation:**



- Evolutionary development or incremental modification of established products or proven concepts;
- Straightforward engineering or test and optimization efforts that are not hypothesis driven;
- Evaluation or testing of existing products;
- Basic scientific research or research not connected to any specific market opportunity or potential new product;
- Business development, market research, and sales and marketing;
- Clinical trials;
- Research or commercialization pathways involving chemical components, natural or synthetic variations thereof, or other derivatives related to Schedule I controlled substances; or
- Non-profit business concerns.

Projects that are not responsive to the solicitation may be returned without review.

An NSF SBIR/STTR Phase II proposal that is **Returned Without Review** as being not responsive to the solicitation may be significantly revised and submitted for the next deadline if the proposal is still within the timeframe for eligible submission.

**A. Registrations**

**Small businesses applying for NSF SBIR/STTR Phase II funding must maintain current registrations:**

- [System for Award Management \(SAM\) Registration](#)  and its associated SAM.gov Unique Entity Identifier (UEI)
- [Small Business Administration \(SBA\) Company Registration](#) 
- [Research.gov](#) (NSF's online grant management system)

**Note:** The company name, physical address, and all other identifying information *identically in* each of these systems.

Each of these registrations is free through the federal government. Beware of scammers charging fees for SAM and/or SBA registrations.

**B. Tips on the NSF SBIR/STTR Phase II Proposal Submission Process**

Failure to comply with the below guidelines means that a proposal may be Returned Without Review.

**INCLUDE ALL REQUIRED ELEMENTS.** Submit a proposal that is complete. Proposals must have each of the items listed below:

- [Cover Sheet](#)
- [SBIR \(or STTR\) Phase II Questionnaire](#)

- [SBIR \(or STTR\) Phase II Certification Questions](#)
- [Project Summary](#)
- Table of Contents (automatically generated)
- [Project Description](#) (no less than 10 pages and no more than 15 pages)
- [References Cited](#)
- [Budget\(s\)](#)
- [Budget Justification\(s\)](#)
- [Facilities, Equipment and Other Resources](#)
- [Senior/Key Personnel Documents](#)
  - [Biographical Sketch](#)
  - [Current and Pending \(Other\) Support](#)
  - [Collaborators and Other Affiliations \(COA\)](#) (Single Copy Document)
  - [Synergistic Activities](#)
- [Data Management and Sharing Plan](#)
- [Mentoring Plan](#) (Conditionally Required)
- [Project Schedule](#)
- [Commercialization Plan](#)
- [Phase I Technical Narrative](#)
- [Letter\(s\) of Support](#) (**Required**)
- [IP \(Intellectual Property\) Rights Agreement](#) (Required for STTR proposals and Strongly Recommended for SBIR when there is a subaward to another institution)
- [Other Personnel Biographical Information](#) (Strongly Recommended)
- [Other Supplementary Documents](#) (Conditionally Required)
  - [Company Commercialization History](#)
  - [Letters of Commitment from Subawardees and Consultants](#)
- [List of Suggested Reviewers](#) (Single Copy Document)
- [List of Reviewers Not to Include](#) (Single Copy Document)
- [Deviation Authorization](#)
- [Additional Single Copy Documents](#)
- **DO NOT** upload information beyond what is specifically required and permitted into the proposal (e.g., do not include marketing materials, research results, academic papers, patent applications, etc.).
- **DO NOT** include samples, videotapes, slides, appendices, or other ancillary items within a proposal submission. Websites containing demonstrations and Uniform Resource Locators (URLs) (if applicable) must be cited in the References Cited section. **Note: reviewers are not required to access any information outside the proposal document.** Please refer to the NSF PAPPG (Chapter II.C) for more details on accepted proposal fonts and format.

### C. Detailed Instructions on Proposal Preparation:

**Full Proposal Set-up:** In [Research.gov](#), complete the following steps.

- Select "Prepare & Submit Proposals," then "Letters of Intent and Proposals"
- Select "Prepare New" and from the pull down "Full Proposal."
  1. Funding Opportunity. Either filter by "SBIR" or "STTR" and select radio button for Phase II solicitation.

2. Where to Apply. Select program: SBIR Phase II or STTR Phase II. select the appropriate SBIR or STTR program (Phase I or Phase II).
3. Proposal Type: SBIR or STTR.
4. Proposal Details: Answer questions:
  - Is your organization a sole proprietorship?
  - Enter your SBIR/STTR Phase I Award Number. Validate
  - Enter Proposal Title, then click on Prepare Proposal
  - You will now be on a new proposal page – **Select Due Date**

**Cover Sheet.** Proposers must enter the **SBIR/STTR Phase I Award Number on the Prepare New Full Proposal > 4. Proposal Details page.** The Phase I award number must be validated before you can continue with the preparation of the Cover Sheet.

**Other Federal Agencies (if applicable).** If this proposal is being submitted to another Federal Agency, state or local governments, or non-governmental entities, enter a reasonable abbreviation, up to 10 characters, for each agency or entity. Only the first 5 agencies you enter will appear on the PDF version of the proposal, but all should be entered below. IT IS ILLEGAL TO ACCEPT DUPLICATE FUNDING FOR THE SAME WORK. IF A PROPOSER FAILS TO DISCLOSE EQUIVALENT OR OVERLAPPING PROPOSALS, THE PROPOSER COULD BE LIABLE FOR ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL SANCTIONS.

**Human Subjects (if applicable).** According to [45 CFR 46](#), a human subject is "a living individual about whom an investigator (whether professional or student) conducting research:

- Obtains information or biospecimens through intervention or interaction with the individual, and uses, studies, or analyzes the information or biospecimens; or
- Obtains, uses, studies, analyzes, or generates identifiable private information or identifiable biospecimens."

NIH provides a [Decision Tool](#) to assist investigators in determining whether their project involves non-exempt human subjects research, meeting the criteria for exempt human subjects research, or does not involve human subjects research.

Projects involving research with human subjects must ensure that subjects are protected from research risks in conformance with the relevant Federal policy known as the [Common Rule \(Federal Policy for the Protection of Human Subjects, 45 CFR 690\)](#). All projects involving human subjects must either (1) have approval from an Institutional Review Board (IRB) before issuance of an NSF award; or (2) must obtain a statement from the IRB indicating research exemption from IRB review or 3) must obtain a just in time IRB designation and documentation. This documentation needs to be completed during due diligence discussions, in accordance with the applicable subsection, as established in section 101(b) of the Common Rule. If certification of exemption is provided after submission of the proposal and before the award is issued, the exemption number corresponding to one or more of the exemption categories also must be included in the documentation provided to NSF. The small business has three basic options with regard to human subjects review:

- Establish your own IRB (see Office for Human Research Protections (OHRP) at the Department of Health and Human Services (HHS): <https://www.hhs.gov/ohrp/irbs-and-assurances.html#registernew>.)
- Use the review board of a (usually local) university or research institution, either via consultants to the project, a project subaward, or directly through its own contacts;
- Use a commercial provider.

For projects lacking definite plans for the use of human subjects, their data, or their specimens, pursuant to [45 CFR § 690.118](#), NSF can accept a determination notice that establishes a limited time period under which the PI may



conduct preliminary or conceptual work that does not involve human subjects. See more information and instructions regarding this documentation in the PAPPG.

**Live Vertebrate Animals (if applicable).** Any project proposing use of vertebrate animals for research or education shall comply with the Animal Welfare Act (7 USC 2131, et seq.) and the regulations promulgated there under by the Secretary of Agriculture (9 CFR 1.1 -4.11) pertaining to the humane care, handling, and treatment of vertebrate animals held or used for research, teaching or other activities supported by Federal awards.

In accordance with these requirements, proposed projects involving use of any vertebrate animal for research or education must be approved by the submitting organization's Institutional Animal Care and Use Committee (IACUC) before an award can be made. For this approval to be accepted by NSF, the organization must have a current Public Health Service (PHS) Approved Assurance. See PAPPG for additional information on the administration of awards that utilize vertebrate animals. This documentation must be completed before issuance of an NSF award.

**SBIR (or STTR) Phase II Questionnaire.** The Phase II Questionnaire must be filled in completely including Phase II Information (SBIR/STTR Phase II Topic), Authorized Company Officer Information, Proposing Small Business Information, SBIR/STTR Award History, Affiliated Companies, and Other Information.

**Proprietary Information.** To the extent permitted by law, the Government will not release properly identified and marked technical and commercially sensitive data.

If the proposal does **not** contain proprietary information, uncheck the box in the Phase II Questionnaire.

If the proposal **does** contain proprietary information, identify the proprietary technical data by clearly marking the information and also providing a legend. NSF SBIR/STTR data, including proposals, are protected from disclosure by the participating agencies for not less than 20 years from the delivery of the last report or proposal associated with the given project. Typically, proprietary information is identified in the text either with an asterisk at the beginning and end of the proprietary paragraph, underlining the proprietary sections, or choosing a different font type. An entire proposal should not be marked proprietary.

**SBIR (or STTR) Phase II Certification Questions.** The Phase II Certification Questions must be filled in completely.

**Project Summary** [One (1) page MAXIMUM]. The Project Summary should be written in the third person, informative to other persons working in the same or related fields, and, insofar as possible, understandable to a broad audience within the scientific domain. It should not be an abstract of the proposal. Do not include proprietary information. Upload as a 1-page (single file) PDF.

The Project Summary is to be completed with headers on three separate lines for Overview, Intellectual Merit, and Broader Impacts. Each heading must be on its own line with no other text on that line. The document must be converted to pdf format to be uploaded into Research.gov.

- **Overview:** Describe the objectives and methods to be employed. Provide a list of key words or phrases that identify the areas of technical expertise in science, engineering, or education to be invoked in reviewing the proposal and the areas of application that are the initial target of the technology.
- **Intellectual Merit:** A summary paragraph addressing the intellectual merits of the proposed activity. This section **MUST** begin with "This Small Business Innovation Research (or Small Business Technology Transfer) Phase II project...". Include a brief identification of the problem or opportunity, the research objectives, a description of the research, and the anticipated results.
- **Broader Impacts:** Discuss the expected outcomes in terms of how the proposed project will bring the innovation closer to commercialization under a sustainable business model. Also describe the potential commercial and market impacts that such a commercialization effort would have, if successful. Also discuss potential broader societal impacts of the innovation (e.g., educational, environmental, scientific, societal, or other impacts on the nation and the world).

**Project Description [Ten (10) pages MINIMUM; fifteen (15) pages MAXIMUM].** The project description is the core of the proposal document. Ensure that the following headers below are used: Results of the Phase I Project, Technical Objectives, Approach and Work Plan and Broader Impacts. Upload as a single file PDF.

**Results of the Phase I Project. [One (1) page MINIMUM; four (4) pages MAXIMUM].** Briefly describe how your Phase I effort has established the feasibility of the innovation, provided justification for NSF support and intended commercial applications, and demonstrated the ability of the proposer to conduct R/R&D.

**Technical Objectives, Approach and Work Plan. [Seven (7) pages MINIMUM; ten (10) pages MAXIMUM].** Define the specific technical objectives of the Phase II research and technical approach to meet these objectives, a work plan defining specific tasks, performance schedules, milestones, and deliverables. STTR proposals need to specifically address the amount and type of work to be performed both by the small business concern and by the research institution and describe the necessary cooperation, coordination, and complementarity.

**Broader Impacts.** The NSF SBIR/STTR programs fund the development of new, high-risk technology innovations intended to generate positive societal outcomes. Considering the products developed under this program will have a broad societal reach, will be widely distributed, and will have impacts that are far reaching with people and communities, it is important to ensure adequate assessment of potential benefits and unintended consequences of the proposed technology.

Describe how the proposed product or service offers the potential for broader societal impacts as well as economic benefit (through commercialization under a sustainable business model). Examples of such outcomes may include (but are not limited to) those found in the American Innovation and Competitiveness Act ([P.L. 114-329, Section 102](#)) Broader Impacts Review Criterion. Recommended length for this section is 1-4 pages.

The NSF SBIR/STTR programs seek plans to generate societal benefits. Discuss the envisioned broader impacts and the specific implementation plan, including: the relevant metrics and measurement plan; potential partners to enhance the likelihood of success (including an assessment of the value proposition to the partner, their reasons for engaging in this project, and a summary of the engagement to date); potential risks and associated mitigation strategies; and additional anticipated needs for resources and the plan to secure them.

**Note:** The incorporation of URLs or websites within the Project Description is not acceptable and the proposal may be Returned without Review.

**References Cited.** Provide a comprehensive listing of relevant references, including websites or relevant URLs, patent numbers, and other relevant intellectual property citations. If proposers wish, they may also include citations for other sections of the proposal (such as the Commercialization Plan). A list of References Cited must be uploaded into the system as a single PDF file. If there are no references, include a statement to that effect.

**Budget(s) and Budget Justification(s).** Proposers are required to submit budgets with their proposals, including specific dollar amounts by budget category. The proposed budget should reflect the needs of the proposed R&D project. Enter budget figures for each project year into Research.gov. The system will automatically generate a cumulative budget for the entire project.

You can add Subaward Organization(s) to your proposal (required for STTR submissions and allowed for SBIR submissions), and make changes to personnel information by navigating to the Budget "Manage Personnel and Subaward Organizations" tab.

NSF SBIR/STTR Phase II awards are funded up to \$1,250,000 for up to 24 months.

The Budget Justification(s) is uploaded in Research.gov as a single PDF file. Provide details for each non-zero line item of the budget, including a description and cost estimates. Identify each line item by its letter (e.g., G. Senior/Key Personnel). There is a five-page limit for each Budget Justification. Each Subaward Budget Justification, where required, also has a five-page limit. Additional information to help prepare your proposal budget is available [here](#).

**Budgets for small businesses will be reviewed against the cost principles of FAR Part 31, as amended by the budget preparation instructions outlined below.**

- NSF Phase II SBIR proposals require that at least 50% of the budget be allocated to the small business.
- NSF Phase II STTR proposals require that at least 40% of the budget be allocated to the small business.

Funds committed to subawards and consultants are not considered funds allocated to the proposing small business.

**All activities on an NSF SBIR/STTR project, including services that are provided by consultants, must be carried out in the United States** ("United States" means the 50 states, the territories and possessions of the U.S. Federal Government, the Commonwealth of Puerto Rico, the District of Columbia, the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau). Based on a rare and unique circumstance, agencies may approve a particular portion of the R/R&D work to be performed or obtained in a country outside of the United States, for example, if a supply or material or other item or project requirement is not available in the United States. The Funding Agreement officer must approve each such specific condition in writing.

**Line A. Senior/Key Personnel.** List the PI, co-PI (if STTR), and Senior/Key Personnel by name, their time commitments (in calendar months), and the dollar amount requested. Only salaries and wages for employees of the proposing organization should be included on Line A. Research effort is to be estimated in "Months" (1 Month = 173 hours). Months do not include paid time off and represents actual effort that will be dedicated to the project. ***The commitment of the Principal Investigator must be at least 2 months per year.***

In the Budget Justification provide the name; title; a brief description of responsibilities for the PI, co-PI (if STTR), and each of the Senior/Key Personnel as well as the annual, monthly, or hourly salary rate; time commitment; and a calculation of the total requested salary.

You can add additional senior/key personnel to your proposal (e.g., for STTR submissions), and make changes to personnel information by navigating to the Budget "Manage Personnel and Subaward Organizations" tab.

**Line B. Other Personnel.** List the number of people, months, and funding for additional personnel: Other Professionals (Technicians, Programmers, etc.), Administrative/ Clerical, and/or Other. These personnel must be employed at the proposing company. The budget justification should state individual employee names and titles (to the extent known), expected role in the project, effort in months and annual salary for each person.

Postdoctoral scholars and students (undergraduate and graduate) are generally listed on a subaward budget to a research institution. If they are employees of the company, they may be listed in Line A. Senior/Key Personnel (Line A), or Line B. Other Professionals or Other, as appropriate.

Secretarial/clerical effort is generally included as part of indirect costs. Salaries for secretarial/clerical should be budgeted as a direct cost only if this type of cost is consistently treated as a direct cost in like circumstances for all other project and cost objectives.

**Line C. Fringe Benefits.** It is recommended that proposers allot funds for fringe benefits here ONLY if the proposer's usual (established) accounting practices provide that fringe benefits be treated as direct costs. If Fringe Benefits are included on Line C, describe what is included in fringe benefits and the calculations that were used to arrive at the amount requested.

Otherwise, fringe benefits should be included in Line I. Indirect Costs.

**Line D. Equipment.** Equipment is defined as non-expendable, tangible personal property, having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. However, organizations may elect to establish their capitalization threshold as less than \$5,000. Equipment should be budgeted consistently with the proposing organization's capitalization policy. Requests should not be made for general purpose or routine equipment that a business conducting research in the field should be expected to have available. The budget justification must explain the need for any equipment and include the item identification/description, vendor identification, quantity, price, and

extended amount. The budget justification should also include, as a separate document if needed, pricing documentation (e.g., quotes, invoices, links to online price lists, past purchase orders, etc.) for each budgeted piece of equipment.

**Line E: Travel.** NSF requires that the PI budget travel (for the first year of the project only) to attend the NSF SBIR/STTR Phase II Awardee Workshop. A good estimate for the Awardee Workshop is \$2,000 per person and is limited to \$4,000 per year. Other than the Awardee Workshop and funds for Technical And Business Assistance (TABAs, see below), all budgeted travel must be directly related to the execution of the research effort. Only domestic travel will be considered.

The Budget Justification must include the purpose for domestic travel and, for each budgeted trip: the destination, purpose of travel, number of days, and the estimated costs for airfare, cab fare, car rental, per diem rates, hotel, and other incidentals. No supporting detail is required for attendance at the Awardee Workshop at \$2,000 (or less) per person. If the workshop is organized as virtual only, proposers can (if awarded) reallocate these funds towards other project activities, pending the approval of the cognizant SBIR/STTR Program Officer.

**Line F. Participant Support Costs.** Participant Support Costs are not permitted.

#### **Line G. Other Direct Costs**

**Materials and Supplies.** The budget justification must include an itemized listing of materials and supplies to include the item/description, vendor, unit cost, quantity, price, and extended amount. Any single materials or supplies item with a total cost of \$5,000 must be further itemized into smaller cost items, or supported by pricing documentation (e.g., quote, link to online pricing list, and past purchase order) in the Budget Justification.

**Publication Costs/Documentation/Distrib.** Publication, documentation, and dissemination costs are not allowed.

**Consultant Services.** Consultant services include specialized work that will be performed by professionals that are not employees of the proposing small business. All consultant activities must be carried out in the United States (see above).

No person who is an equity holder, employee, or officer of the proposing small business may be paid as a consultant unless an exception is recommended by the cognizant SBIR/STTR Program Officer and approved by the Division Director of Translational Impacts (TI).

The proposal must include a signed agreement (**Letter of Commitment**) from each consultant confirming the services to be provided (role in the project), primary organizational affiliation, number of days committed to the research effort, availability to provide services, and consulting daily rate. The agreement must clearly state the number of days on the project, the consulting daily rate (8 hours/day) and the total dollar amount of the consulting agreement. Include a copy of the signed Letter of Commitment in the "Other Supplementary Documents" section. Multiple letters should be combined as a single PDF before uploading.

The **consulting daily rate** represents the total labor compensation for an 8-hour period and may not exceed \$1,000 per day. Any miscellaneous costs, such as supplies, that are not included as part of the daily rate must be identified and justified. Consultant travel should be shown under the domestic travel category, Line E, but counts as an outsourcing expense for the purpose of determining whether the small business concern meets the minimum level of effort for an NSF SBIR/STTR proposal. *Any information above and beyond the above will be considered not responsive and may be removed from your proposal.*

**A Biographical Sketch for each Consultant** may be requested by the cognizant SBIR/STTR Program Officer after the proposal is reviewed, as part of their due diligence efforts. Please see Section VI for details.

**Computer Services.** This line can include funds for fee-for-service computing activities or resources (such as supercomputer time, cloud services, etc.). Any extended line item should be accompanied by pricing documentation (e.g., quote, link to online price list, prior purchase order, or invoice) in the budget justification.

**Subaward(s).** Subawards may be utilized when a significant portion of the work will be performed by another organization and when the work to be done is not widely commercially available. Work performed by a university or

research laboratory is one example of a common subaward.

Subawards require a separate subaward budget and subaward budget justification, in the same format as the main budget. To enter a subaward budget in Research.gov, go to the Budget module tab and add Subaward Organization(s) by opening the "Manage Personnel and Subaward Organizations" tab. Each subawardee will have its own budget pages for each year of the project.

The proposing organization's budget justification must discuss the tasks to be performed and how these are related to the overall project. Also discuss any organizational relationships (e.g., common ownership or related parties) between the proposing organization and the subawardee, and the type of subaward contemplated (e.g., fixed price or cost reimbursement).

A subawardee research institution (RI) partner is mandatory for STTR proposals. Explicitly list who the research partner will be and provide a brief description of the work they will perform. A minimum of 40% of the research, as measured by the budget, must be performed by the small business concern and a minimum of 30% of the research, as measured by the budget, must be performed by a single subawardee research institution. Subawardees are also not permitted to request profit (Line K) as part of their budgets.


No significant part of the research or substantive effort under an NSF award may be contracted or otherwise transferred to another organization without prior NSF authorization. The intent to enter into such arrangements should be disclosed in the proposal.

No person who is an equity holder, employee, or officer of the proposing small business may be paid under a subaward unless an exception is recommended by the NSF SBIR/STTR Program Director and approved by the TI Division Director.

It is the responsibility of the proposing organization to confirm that submitted subaward budgets have been approved by an Authorized Organizational Representative at the subawardee organization. Subaward funds do not count as funds spent by the small business and therefore must be allocated subject to the requirement that:

- **For NSF SBIR Phase II Projects:** 50% of the total budget must be spent by the small business. Therefore, the total amount requested for the aggregated subawards and consultant funds cannot exceed 50% of the total project budget. For NSF SBIR proposals, subaward funds do not count as funds spent by the small business. The total amount requested for subawards (when added to consultant funds) cannot exceed 1/3 of the total project budget.
- **For NSF STTR Phase II Projects:** A minimum of 40% of the total budget must be spent by the small business. Therefore, the total amount requested for the aggregated subawards and consultant funds cannot exceed 60% of the total project budget.

Subawardees (the institution, not the individual PI or researcher) should also provide a **Letter of Commitment** that confirms the role of each subaward organization in the project and explicitly states the subaward amount(s). Provide this letter(s) as part of the Other Supplementary Documents.

Any subrecipients named in the proposal are also required to **obtain a SAM UEI  and register in Research.gov**. Subrecipients named in the proposal, however, do not need to be registered in SAM. Entities can obtain a SAM UEI without full SAM registration. If you have a subrecipient that is not fully registered in SAM, but has been assigned a UEI number, please call the IT Help desk for further assistance.

**An Intellectual Property (IP) Rights Agreement is required for STTR proposals and strongly recommended for SBIR proposals when there is a subaward to another institution.** A fully signed agreement is not required for STTR proposals at the initial proposal submission but will be required before a recommendation for an award can be made. Provide this Agreement, as a PDF, as part of the Optional Documents.

**Other.** This budget line includes purchases from commercial sources for routine analytical or other services. The budget justification must explain the need for the services, provide a description of the services, and give a detailed

cost itemization. Any single "other" item with a total cost of \$5,000 must be further itemized into smaller costs or supported by pricing documentation (e.g., quote, link to online pricing list, past purchase order) in the budget justification.

**SBIR/STTR Technical and Business Assistance (TABAs):** Proposers may include up to \$50,000 to assist in technology commercialization efforts (as outlined in the current [SBIR/STTR Policy Directive](#) and the [John S. McCain National Defense Authorization Act for Fiscal Year 2019](#)). Specifically, this funding is for securing the services of one or more third-party service providers that will assist with one or more of the following commercialization activities:

- Making better technical decisions on SBIR/STTR projects;
- Solving technical problems that arise during SBIR/STTR projects;
- Minimizing technical risks associated with SBIR/STTR projects; and
- Commercializing the SBIR/STTR product or process, including securing intellectual property protections.

If a proposer is not able to identify what commercial assistance may be required at the time of submission, the proposing small business may block up to \$50,000 for TABA activities on Line G.6 ("Other") with the understanding that prior to expending funds for these purposes, the recipient will be required to obtain approval from their cognizant NSF SBIR/STTR Program Officer.

**I. Indirect Costs.** Indirect costs are defined as costs that are necessary and appropriate for the operation of the business, but which are not specifically allocated to the NSF SBIR project. Common indirect cost expenses include legal and accounting expenses, employee health insurance, fringe benefits, rent, and utilities. If the proposing small business has a Federally negotiated rate, please specify the base and rate, and include a copy of the rate agreement. If the proposing business has a history of at least two years of stable operation that reflect the costs expected to occur during the execution of the SBIR/STTR award, please base the indirect rate estimate on this historical data (and provide an explanation if the rate is expected to deviate significantly from the rate used in recent years). Instructions for Indirect Cost Rate (IDC) Proposal Submission Procedures can be found [here](#).

Recipients without experience and knowledge of Federal indirect cost rate negotiation and [Federal Acquisition Regulation \(FAR\) Part 31 Cost Principles](#) may want to consider engaging professional services in preparing an IDC proposal.

If the proposing small business has no suitable history of financial data from which to extrapolate, it may claim (without requiring a justification) a total amount of indirect costs (inclusive of fringe benefits) either up to 50% of total budgeted salary and wages on the project or equal to 10% de minimis on MODIFIED total direct costs on the project. *Modified Total Direct Cost (MTDC): MTDC means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward (regardless of the period of performance of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of \$25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs.*

**Note:** NSF does not fund Independent Research and Development (IR&D) as part of an indirect cost rate under its awards. See the FAR 31.205-18(a) for more information.

**Line K. Fee.** The small business fee is intended to be consistent with normal profit margins provided to profit-making firms for R&D work. The fee, if requested, is limited to 10% of the total amount on line J (Total Amount Requested = Total Direct Costs + Indirect Costs). The fee is not a direct or indirect "cost" item and may be used by the small business concern for additional effort under the NSF SBIR/STTR award and for items that would otherwise be prohibited as direct or indirect costs.

**Prohibited Expenditures** including, but not limited to, Equipment, Foreign Travel, Participant Support Costs, and Publication Costs are not allowable expenditures as either direct or indirect costs. However, these expenses may be purchased from the small business fee funds (Line K).

The total amount of the budget (including the small business fee and Technical and Business Assistance (TABAs) funding) cannot exceed \$1,250,000.

**Budget Revisions.** Budget revisions may be requested by the cognizant SBIR/STTR Program Officer. Revised budgets must contain a revised and complete Budget Justification as described above. Revised budgets with budget impact statements that only address revisions are not acceptable for Phase II budget processing, see [Budget Revision Instructions](#).

**Note:** Should the proposal be considered for funding, the NSF SBIR/STTR Program Officer will refer the proposer to the Cost Analysis and Pre-Award Review (CAP) Division's [SBIR/STTR Phase II Administrative/Financial Reviews website](#). Proposing small businesses in this category will be given 10 calendar days to provide CAP the underlying supporting documentation for their budget. The organization should review and understand the CAP documentation requirements as it prepares its budget. **Once NSF requests the underlying supporting documentation for the CAP review, proposers will not be given an opportunity to re-budget unsupported costs.** Funding will be provided for only the dollar amount that is reasonable and adequately supported. The awarded Phase II budget will reflect the supported dollar amount for the proposed effort. **Organizations that accept awards at less than the proposed dollar amount may not reduce the effort to be provided; however, organizations may choose to decline award offers.**

**Facilities, Equipment and Other Resources.** Discuss the availability and location of equipment, instrumentation, computers, and physical facilities required for the Phase II project. This equipment can be located at the proposing small business or at a partner organization (which should provide a letter in the Budget Justification indicating that the small business has access to said equipment).

Many research projects require access to computational, data, analysis, and/or visualization resources to complete the work proposed. For projects that require such resources at scales beyond what may be available locally, researchers in all disciplines can apply for allocations for computer or data resources from over two dozen high-performance computational systems via the Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support (ACCESS) program. See cognizant Program Officer or PAPPG for additional details. If a proposer wants to arrange the use of unique or one-of-a-kind Government facilities, a waiver must be obtained from the Small Business Administration to approve such use.

If no equipment, facilities, or other resources are required for this project, a statement to that effect should be uploaded here.

**Senior/Key Personnel Documents.** For the PI, Co-PI, and for each person listed in the "Senior/Key Personnel" section, the four required documents are listed below.

**Biographical Sketch.** All proposals are required to include Biographical Sketches for each PI, co-PI (if STTR), and Senior/Key Personnel (individuals with critical expertise who will be working on the project and are employed at the proposing company or at a subaward organization). Proposers must prepare biographical sketch files using [SciENCv \(Science Experts Network Curriculum Vitae\)](#), which will produce a compliant PDF. Senior/Key Personnel must prepare, save, certify, and submit these documents as part of their proposal via Research.gov.

Full requirements for these documents can be found in the current NSF Proposal and Award Policies and Procedures Guide. Frequently Asked Questions on using SciENCv can be found [here](#).

**Current and Pending (Other) Support.** This information will provide reviewers with visibility into the potential availability of company personnel during the period of performance if awarded. All PIs, Co-PIs (if STTR), and Senior/Key Personnel must prepare Current and Pending (Other) Support files using [SciENCv](#). Detailed information about the required content is available in the current PAPPG.


For the PI, co-PI (if STTR), and each of the Senior/Key Personnel listed on Line A or B of the budget, please provide the following information, regardless of whether the person will receive salary from the activity:

- Name of sponsoring organization.

- Total award amount (if already awarded) or expected award amount (if pending) for the entire award period covered (including indirect costs).
- Title and performance period of the proposal or award.
- Annual person-months (calendar months) devoted to the project by the PI or Senior/Key Personnel.

Please report:

- All current and pending support for ongoing projects and proposals (from any source, including in kind support or equity investment), including continuing grant and contract funding.
- All current and pending support for ongoing projects and proposals (from any source, including in kind support or equity investment), including continuing grant and contract funding.
- Proposals submitted to other agencies. Concurrent submission of a proposal to other organizations will not influence the review of the proposal submitted to NSF.
- Upcoming submissions.
- **The current Phase I proposal is considered "pending" and therefore MUST appear in the Current and Pending Support form for each PI and Senior/Key Personnel.**

**Collaborators and Other Affiliations (COA) (Single Copy Document):** This document must be provided for the PI, Co-PI (if STTR) and each Senior/Key Person. This document will not be viewable by reviewers but will be used by NSF to manage the selection of reviewers. Download the required [Collaborators and Other Affiliations template](#)  and follow the instructions. Detailed information about the required content is available in the current PAPPG. Frequently Asked Questions on COA can be found [here](#).

**Synergistic Activities.** Each individual identified as a senior/key person must provide a PDF document of up to one-page that includes a list of up to five distinct examples that demonstrates the broader impact of the individual's professional and scholarly activities that focus on the integration and transfer of knowledge as well as its creation. Examples of synergistic activities may include but are not limited to the training of junior scientists and engineers in innovation and entrepreneurship; the development of new and novel products, tools, and/or services based on deep technologies; broadening participation of groups underrepresented in STEM; service to the scientific and engineering communities outside the individual's company; and/or participation in the national and/or international commercial market.

**Data Management and Sharing Plan.** Proposals MUST contain a supplementary PDF labeled "Data Management and Sharing Plan," which should include the statement, "All data generated in this NSF SBIR/STTR Phase I project is considered proprietary." This single sentence is sufficient to fulfill the Data Management and Sharing Plan requirement, but proposers may add more detail about how the resulting data will be managed, if they desire. The PDF cannot exceed 2 pages.

**Mentoring Plan (Conditionally Required).** If a proposal requests funding to support postdoctoral scholars or graduate students at a research institution (through a subaward), a Mentoring Plan MUST be uploaded to the system. The mentoring plan must describe the mentoring that will be provided to all postdoctoral scholars or graduate students supported by the project, regardless of whether they reside at the submitting organization or at any subrecipient organization. Describe only the mentoring activities that will be provided to all postdoctoral scholars or graduate students supported by the project. The PDF cannot exceed 1 page.

**Individual Development Plans (IDP) for Postdoctoral Scholars and Graduate Students.** For each NSF award that provides substantial support to postdoctoral scholars and graduate students, each individual must have an Individual Development Plan, which is updated annually. The IDP maps the educational goals, career exploration, and professional development of the individual. NSF defines "substantial support" as an individual that has received one person month or more during the annual reporting period under the NSF award. Certification that a postdoctoral scholar(s) and/or graduate student(s) has and IDP must be included in the annual and final reports.



**Project Schedule.** The required Project Schedule must show the estimated duration and timing of major project tasks that are required to implement the research plan. This document should clearly estimate the initiation and completion of tasks in relation to other tasks within the 24-month timeline of the award.

NSF recommends downloading the [Project Schedule template](#) and uploading a completed version of this form into Research.gov. This schedule should also provide projected levels of effort for each key person during each reporting period of the project. Key personnel to be listed generally include any senior/key personnel listed on line A of the main project budget, any persons listed on line A of any subaward budgets, or any budgeted consultants. The schedule should also include estimates of total level of effort (for all project personnel) and total expenditures for each six-month project period.

Payment Schedule: NSF generally makes the Phase II SBIR/STTR award funds available for draw-down in tranches, with the first tranche upon award and subsequent tranches at six-month intervals thereafter. The standard schedule is as follows:

- an initial payment of 25% of the total budget with award
- a 2<sup>nd</sup> payment of 25% of the total at the six-month mark and based on approval of the first interim report
- a 3<sup>rd</sup> payment of 25% of the total at the twelve-month mark and based on approval of the second interim report
- a 4<sup>th</sup> payment of 25% of the total (less \$25,000) at the eighteen-month mark and based on approval of the third interim report
- a final payment of \$25,000 based on approval of the final annual report and submission of the Project Outcomes Report

A deviation from the standard payment schedule can be requested if the standard schedule poses significant difficulties for the recipient or would negatively affect the execution of the project. If the standard payment schedule as described above is not appropriate, please request alternative amounts for each payment, and provide a brief justification for the departure from the standard schedule.

**Commercialization Plan.** The Commercialization Plan cannot exceed 15 pages, EXCLUDING letters of support (up to 5 letters may be included). The Commercialization Plan is a critical section of the proposal. It is the primary opportunity to describe the strategy that the small business will employ to generate revenue from the proposed innovation research. The Commercialization Plan is the company's roadmap and should convey how the company will generate profits from its innovation. It should represent a compelling vision of a unique business opportunity that could be addressed with continued support from SBIR/STTR Phase II funding. *The depth and quality of the analysis within the Commercialization Plan is a critical element of the NSF SBIR/STTR proposal review.* Assumptions within the plan should be clearly stated, and evidence of validation should be provided.

The plan must concisely convey:

- The business opportunity enabled by the innovation,
- The compelling value proposition(s) for the intended customer(s),
- The key points of a plan appropriate for the company's stage of development,
- The status of the effort to date and map out a strategy for the enterprise moving forward,
- The current as well as the anticipated commercial landscape and the resources required to address the opportunity enabled by the innovation, and
- The company's vision for the enterprise and how the proposed innovation fits into the future market.

The outline below describes the points that should be covered in a well-developed Commercialization Plan. There are four sections required for an NSF Commercialization Plan: Market Opportunity; Company/Team; Product/Technology and Competition; and Finance and Revenue Model. Each section should be developed with careful analysis of the company's position within the industry and the market opportunity that is enabled by the proposed innovation. The key points required for each section are also shown below.

This outline represents a standard NSF Commercialization Plan. The company's particular strategy may include additional components that are not represented below; please include other elements as appropriate.

NSF recognizes that each innovation requires a specific strategy to generate strong outcomes and that no two businesses are exactly alike. Therefore, NSF supports a broad array of commercialization strategies. Each strategy requires a different emphasis on the plan's elements, depending on the specifics of the innovation and the market landscape. For instance, the strategy and mechanisms for leveraging and protecting intellectual property (IP) vary according to industry and innovation.

### **Market Opportunity**

- Describe the target customer, with generally known examples if possible.
- Describe which customer needs will be addressed with the product or service.
- How does the target customer currently meet the need; or does a significant unaddressed problem exist?
- Describe succinctly the product or service to be delivered based on the innovation.
- What is the business model the company envisions to generate revenue from the innovation?
- Is the target market domestic, international or both?
- Describe the communications and distribution channels the company will employ to reach the targeted customer.
- What is the current size of the broad market the company plans to enter and the "niche" market opportunity it is addressing in the short term?
- What are the growth trends for both the market and the industry that the company is targeting?
- What are the barriers to enter this market?
- Describe the technology/development objectives and critical milestones that must be met to address the market opportunity.

### **Company/Team**

- Provide a short description of the origins of the company.
- What type of corporate structure is in place?
- What is the current capitalization?
- What is the current employee count?
- What is the company's financing and revenue history for the past three years?
- What are the sources of operating capital or revenue: product sales, consulting/services, license revenues, R&D grants/contracts, and others?
- Give a brief description of the experience and credentials of the personnel responsible for taking the innovation to market.
- What specific experience does the team lack and how will this be addressed during the Phase II effort and beyond?
- How does the background and experience of the team enhance the credibility of the Commercialization Plan; have they previously taken similar products/services to market?
- From which additional resources will the company draw support or guidance (e.g., Board of Directors, Board of Advisors, technical advisors, legal counsel)? Provide details on the names, affiliations, and expertise of these resources.

### **Product/Technology and Competition**

- Which features of the technology enable a compelling value proposition?
- How has the company validated the significance of these features?

- What is the customer willing to pay for the product or service?
- How has the company validated this assumption?
- What are the costs to produce the product or service?
- What are the assumptions that underlie the cost model(s)? How does the technology/innovation allow the team to compete and win in the marketplace? How does the product or service compare to that of the competition?
- Describe the anticipated competitive landscape when the company reaches product launch.
- Describe the intellectual property landscape.
- Do you have “freedom to operate”?
- How does the company plan to protect the intellectual property associated with the technology and/or company?
- Which other sources of intellectual property does the company need to address the market opportunity?

### **Finance and Revenue Model**

- Describe an appropriate staged finance plan given the market opportunity; enumerate the level of funding required for each stage along the path to commercialization.
- How will the company access the appropriate funds? Provide specific contacts, leads, previous relationships and agreements already in place.
- Which commitments does the company have for follow-on funding?
- Describe the projected revenue streams (licensing, product sales or other) associated with the company's commercialization plan. What is the expected timeline for first revenues and revenue ramp?
- When does the company anticipate initial revenues from each projected stream?
- When does the company expect to reach break-even operations? Provide annual pro formas for the next five years (2 years of the Phase II effort + 3 years post Phase II). Income Statements are required. Cash Flow and Balance Sheets may be included if they are considered critical for your strategy. If not included, Cash Flow and Balance Sheets should be available upon request from NSF.
- What are the assumptions in the company's models? How has it validated these assumptions?

**Phase I Technical Narrative.** This narrative details the technical accomplishments of the NSF SBIR/STTR Phase I award. Reviewers will consider how these results support the underlying commercial opportunity.

Upload a complete copy of the most recent SBIR/STTR Phase I technical narrative. This is either the Final Annual Report submitted to NSF via Research.gov at the conclusion of the Phase I effort OR a technical narrative that covers all Phase I results and progress to date, specifically:

- A summary description of the research carried out, the results thus far and the activities to be carried out for the remainder of the Phase I project (if applicable).
- Problems encountered and methods of resolution used.
- Problems remaining or unfilled research objectives.
- Conclusion of the Phase I findings and how these conclusions support a Phase II proposal.

This report should not exceed 15 pages. It must be self-contained (i.e., do not refer to other documents submitted to NSF in the original SBIR/STTR Phase I proposal nor to reports) because the Phase II reviewers do not have access to any documents submitted via Research.gov as part of the Phase I effort.

**Letter(s) of Support (Required).** Three (3) Letters of Support from potential product/service users or customers are REQUIRED; Up to five (5) Letters of Support may be included. All Letters of Support should be uploaded in Research.gov in one PDF.

Letters of Support should address market validation for the proposed innovation, market opportunity, or small business/team, and add significant credibility to the proposed effort. These Letters should ideally demonstrate that the company has developed partnerships and/or a meaningful dialog with relevant stakeholders (e.g., potential customers, strategic partners, or investors) for the proposed innovation and that a real business opportunity may exist. The Letters of Support must contain affiliation and contact information for the signatory stakeholder.

**Optional. NOTE: Various subsections are REQUIRED depending on the type of proposal (SBIR or STTR), whether the company has a commercialization history, whether this proposal is a resubmission, etc. Please read section requirements carefully.**

**IP (Intellectual Property) Rights Agreement (Required for STTR proposals and strongly recommended for SBIR proposals where there is a subaward to another institution).** A fully signed Allocation of Intellectual Property Rights Agreement is not required for STTR proposals at the initial proposal submission but will be required before a recommendation for an award can be made. For proposal submission, place a draft of the Allocation of Intellectual Property Rights Agreement or a letter that includes the name of the partner research institution stating that an agreement will be provided upon Program Officer notification of a potential award recommendation.

The [SBIR/STTR Policy Directive](#) indicates: *"The model (IP) agreement will direct the parties to, at a minimum:*

*(i) State specifically the degree of responsibility, and ownership of any product, process, or other invention or Innovation resulting from the cooperative research. The degree of responsibility shall include responsibility for expenses and liability, and the degree of ownership shall also include the specific rights to revenues and profits.*

*(ii) State which party may obtain United States or foreign patents or otherwise protect any inventions resulting from the cooperative research.*

*(iii) State which party has the right to any continuation of research, including non-STTR follow-on awards.*

**Other Personnel Biographical Information (Strongly Recommended).** This section can be used to provide additional biographical information about project participants who are not listed as Senior/Key Personnel for the small business or for a subawardee as well as for writers of Letters of Support. Biographical sketches should be prepared using [SciENCv](#) and uploaded as a single PDF.

**Other Supplementary Documents (Conditionally Required).** The required Other Supplementary Documents of an NSF SBIR/STTR Phase II proposal are limited to the following (if applicable).

- **Company Commercialization History (required if the proposer has received any prior SBIR or STTR Phase II awards).** This section is required for any proposer who has ever received a Phase II SBIR or STTR award (from any Federal agency), as specified on the Cover Sheet. All items MUST be addressed in the format given in the [NSF Commercialization History Template](#). Changes to the NSF template, additional narratives and/or commercialization history documents from other agencies are not permitted.
- **Letters of Commitment from Subawardees and Consultants (Required, but may be provided in post-award diligence).** Please refer to "Budget and Budget Justification" for details.

**List of Suggested Reviewers** (Single Copy Document). This section can be used to suggest the names of reviewers who might be appropriate to assess the technical and commercial merits of the proposal. Reviewers who have significant personal or professional relationships with the proposing small business or its personnel should generally not be included.

**List of Reviewers Not to Include** (Single Copy Document). This section can be used by the proposer to suggest names (or even specific affiliations) of reviewers/panelists not to be involved in the review of their proposal.

**Deviation Authorization** (Single Copy Document). This section should generally not be used unless NSF staff have specifically instructed the proposer to do so.

**Additional Single Copy Documents.** This section should be blank.

## B. Budgetary Information

### Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

### Other Budgetary Limitations:

- **Indirect Cost (F&A) Limitations:**

Not Applicable

- **Other Budgetary Limitations:**

Other budgetary limitations apply. Please see the full text of this solicitation for further information.

### Budget Preparation Instructions:

SBIR/STTR Phase II proposals may be submitted for funding up to \$1,250,000.

SBIR/STTR Phase II projects typically run for 24 months, though deviations are possible depending on the circumstances of the proposer and the research project (potential proposers are encouraged to contact their cognizant SBIR/STTR Program Officer to discuss).

## C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitting organization's local time):

September 18, 2024

November 06, 2024

March 05, 2025

July 02, 2025

November 05, 2025

## D. Research.gov Requirements

Proposers are required to prepare and submit all proposals for this program solicitation via Research.gov. Detailed instructions regarding the technical aspects or proposal preparation and submission via Research.gov are available at: [https://www.research.gov/research-portal/appmanager/base/desktop?\\_nfpb=true&\\_pageLabel=research\\_node\\_display&\\_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubm](https://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_pageLabel=research_node_display&_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubm) For Research.gov user support, call the Research.gov Help Desk at 1-800-673-6188 or e-mail [rgov@nsf.gov](mailto:rgov@nsf.gov). The Research.gov Help Desk answers general technical questions related to the use of the Research.gov system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

## VI. NSF Proposal Processing And Review Procedures

Proposals received by NSF are assigned to the appropriate NSF program for acknowledgement and, if they meet NSF requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of

such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included in PAPPG Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: [https://www.nsf.gov/bfa/dias/policy/merit\\_review/](https://www.nsf.gov/bfa/dias/policy/merit_review/).

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Leading the World in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research - NSF Strategic Plan for Fiscal Years (FY) 2022 - 2026*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the strategic objectives in support of NSF's mission is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions must recruit, train, and prepare a diverse STEM workforce to advance the frontiers of science and participate in the U.S. technology-based economy. NSF's contribution to the national innovation ecosystem is to provide cutting-edge research under the guidance of the Nation's most creative scientists and engineers. NSF also supports development of a strong science, technology, engineering, and mathematics (STEM) workforce by investing in building the knowledge that informs improvements in STEM teaching and learning.

NSF's mission calls for the broadening of opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

## **A. Merit Review Principles and Criteria**

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed project and its potential to contribute more broadly to advancing NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

### **1. Merit Review Principles**

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful.

Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

## 2. Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. **Both** criteria are to be given **full consideration** during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (PAPPG Chapter II.D.2.d(i). contains additional information for use by proposers in development of the Project Description section of the proposal). Reviewers are strongly encouraged to review the criteria, including PAPPG Chapter II.D.2.d(i), prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
  - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and other underrepresented groups in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce;

increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Proposers are reminded that reviewers will also be asked to review the Data Management and Sharing Plan and the Mentoring Plan, as appropriate.

### **Additional Solicitation Specific Review Criteria**

For all NSF SBIR/STTR Phase II proposals, the review process shall consider an additional review criterion:

**Commercialization Potential**, which focuses on the potential of the activity to lead to significant outcomes in the commercial market. The Commercialization Potential is discussed by proposers in terms of both (1) the required **Commercialization Plan (which includes Market Opportunity, Company/Team, Product/Technology and Competition, and a Finance and Revenue Model, see Section V.)**, and (2) the **Phase I Technical Narrative (which considers the previous efforts of the proposers, see Section V)**.

The following elements should be applied in the review of the **Commercialization Potential**:

- Is there a significant market opportunity that could be addressed by the proposed product, process, or service?
- Does the company possess a significant and durable competitive advantage, based on scientific or technical innovation, that would be difficult for competitors to neutralize or replicate?
- Is there a compelling potential business model?
- Does the proposing company/team have the essential elements, including expertise, structure, and experience, that would suggest the potential for strong commercial outcomes?
- Will NSF support serve as a catalyst to improve substantially the technical and commercial impact of the underlying commercial endeavor?
- As a result of Phase I effort, did the firm succeed in providing a solid foundation for the proposed Phase II activity?

**Due Diligence.** Once the panel and/or ad hoc review of an individual NSF SBIR or STTR Phase II proposal has concluded and the proposal is considered potentially meritorious, a follow-on due diligence process may be conducted in which the Principal Investigator will be asked to provide additional information and/or to answer questions specific to their proposal in order to inform the final decision. This due diligence process will address weaknesses and questions raised during the external merit review as well as by the Program Officer. The due diligence process may include requests for clarification of the company structure, key personnel, conflicts of interest, foreign influence, cybersecurity practices, or other issues as determined by NSF. **Participation in the due diligence process is not a guarantee of an award.**

### **Requirements Relating to Unique Entity Identifier (UEI) and Registration in the System for Award Management (SAM)**

Organizations are responsible for utilizing SAM to submit government-wide representations and certifications. Prior to proposal submission, all proposing organizations are required to have reviewed and certified compliance with the government-wide financial assistance representations and certifications maintained in SAM. Failure to comply with SAM certification and registration requirements will impact the submission and processing of the proposal. If a registration is not active, an organization will not be able to submit a proposal, nor will NSF be able to take approval actions on any submitted proposals or recommended awards. Additionally, payments will not be able to be processed and approved. An expired registration will impact an organization's ability to submit proposals and/or receive award payments. Note that if an organization's registration lapses, it will take longer to reactivate the registration than if the registration is still active when doing the revalidation and recertification.

SAM is the NSF system of record for organizational information, including financial and address information. The Legal Business Name and Physical Address information are automatically pulled from SAM and used by NSF to validate organizational information. All name and address changes must be handled via SAM. NSF has no control over SAM and cannot override SAM data or status.



**Financial Viability.** If the small business' proposal is to be further considered for funding after it is competitively reviewed, the cognizant NSF SBIR/STTR Program Officer will refer the proposer to the [Cost Analysis and Pre-Award Review \(CAP\) SBIR/STTR Phase II Administrative/Financial Reviews website](#). These reviews are conducted to evaluate a prospective recipient's ability to manage a Federal award responsibly, effectively, and efficiently.

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements or the Division of Acquisition and Cooperative Support for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations, or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. **A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.**

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, and the panel summary (if a panel summary was prepared) will be available to the proposer via [research.gov](http://research.gov).

NSF SBIR Phase II proposals submitted to this solicitation which are considered meritorious, and which meet all the requirements of the NSF STTR Phase II program may, based on budgetary considerations and at NSF's discretion, be converted for award as an NSF STTR Phase II project. NSF may also, at its discretion, convert NSF STTR Phase II proposals to NSF SBIR Phase II proposals.

America's Seed Fund powered by NSF is committed to assisting SBIR/STTR Phase II recipients to successfully commercialize their innovation research, grow their company and create jobs by attracting new investments and partnerships. To reinforce these commitments, the programs support a broad number of supplements and other opportunities. For more information, see: [Supplemental Funding Overview](#), and the linked Dear Colleagues Letters.

**Debriefing on Unsuccessful Proposals.** As outlined in the PAPPG, a PI may request additional information from the cognizant SBIR/STTR Program Officer or Division Director. Proposers may first contact the cognizant SBIR/STTR Program Officer to set up a date/time for a debrief call.

**Resubmission.** Declined NSF SBIR/STTR Phase II proposals are also NOT eligible for resubmission. A proposer of a previously declined proposal must submit a new [Project Pitch](#) and, if invited, submit a new Phase I proposal after substantial revision, addressing the reviewers', panel's (if appropriate), and Program Officer's concerns.

**Proposals Returned Without Review.** A non-compliant proposal may be revised to correct for solicitation compliance issues and resubmitted if the proposing business is within 6 to 24 months after the start date of their relevant NSF SBIR/STTR Phase I award. Note that this submission window is NOT extended by no-cost extensions.

## **B. Review and Selection Process**

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

Reviewers will be asked to evaluate proposals using two National Science Board approved merit review criteria and, if applicable, additional program specific criteria. A summary rating and accompanying narrative will generally be completed and submitted by each reviewer and/or panel. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF strives to be able to tell proposers whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new recipients may require additional review and

processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements or the Division of Acquisition and Cooperative Support for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

## **VII. Award Administration Information**

### **A. Notification of the Award**

Notification of the award is made to *the submitting organization* by an NSF Grants and Agreements Officer. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

### **B. Award Conditions**

An NSF award consists of: (1) the award notice, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award notice; (4) the applicable award conditions, such as Grant General Conditions (GC-1)\*; or Research Terms and Conditions\* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award notice. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

\*These documents may be accessed electronically on NSF's Website at [https://www.nsf.gov/awards/managing/award\\_conditions.jsp?org=NSF](https://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov).

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg).

### **Administrative and National Policy Requirements**

#### **Build America, Buy America**

As expressed in Executive Order 14005, [Ensuring the Future is Made in All of America by All of America's Workers](#) (86 FR 7475), it is the policy of the executive branch to use terms and conditions of Federal financial assistance awards to maximize, consistent with law, the use of goods, products, and materials produced in, and services offered in, the United States.

Consistent with the requirements of the Build America, Buy America Act (Pub. L. 117-58, Division G, Title IX, Subtitle A, November 15, 2021), no funding made available through this funding opportunity may be obligated for infrastructure projects under an award unless all iron, steel, manufactured products, and construction materials used in the project are produced in the United States. For additional information, visit NSF's [Build America, Buy America](#) webpage.

**Special Award Conditions:**

NSF SBIR/STTR Phase II awards are subject to availability of funds. NSF has no obligation to make any specific number of Phase II awards based on a solicitation and may elect to make several or no awards under any specific technical topic or subtopic.

The NSF SBIR/STTR Phase II fixed amount cooperative agreements will not exceed \$1,250,000 per award and normally will be made for a 24-month period of performance.

NSF *requires* each NSF SBIR/STTR Phase II recipient company to attend and participate in the NSF SBIR/STTR Phase II Awardees' Workshop.

Terms and Conditions for awards made under this SBIR/STTR Phase II solicitation were posted in May 2024 and are available on the Award Conditions page, under [SBIR/STTR Terms and Conditions](#). The linked page includes "SBIR/STTR Phase II Cooperative Agreement Financial & Administrative Terms and Conditions (SBIR/STTR-II-CA-FATC)" AND "SBIR/STTR Phase II General Terms & Conditions."

The award notice specifies a pre-determined, fixed amount of NSF support for the project described in the referenced proposal. This amount is based upon the budget approved by NSF for the referenced proposal, as amended.

Payment of the award amount is subject to compliance with the award terms and conditions and NSF's acceptance of the reports submitted by the recipient. On the basis of its review of these reports and/or other pertinent information, NSF reserves the right to modify the payment schedule or suspend or terminate the award, if NSF determines that such actions are appropriate. If estimated total expenditures are significantly less than the award amount, the recipient shall contact NSF to renegotiate the scope of this award. Similarly, if the recipient expects that the full scope of work will be completed at a total cost significantly lower than the award amount, it is the obligation of the recipient to promptly notify NSF.

**SBIR/STTR Funding Agreement Certification:**

SBIR/STTR prospective recipients will be notified by NSF to provide a signed SBIR/STTR Funding Agreement Certification. The federal government relies on the information provided by recipients to determine whether the business is eligible for a Small Technology Transfer (STTR) Program award. This certification will be used to ensure continued compliance during the life of the funding agreement: [https://seedfund.nsf.gov/assets/files/awardees/SBIR\\_STTR\\_Funding\\_Agreement.pdf](https://seedfund.nsf.gov/assets/files/awardees/SBIR_STTR_Funding_Agreement.pdf)

**NSF SBIR/STTR Statement on Harassment:**

The PI and any co-PI(s) identified on an NSF award are in a position of trust. These individuals must comport themselves in a responsible and accountable manner during the award period of performance, including but not limited to the following environments: the lab, online, or at locales such as field sites, facilities, customer discovery sites, or conferences/workshops. All personnel supported by an NSF award must remain in full compliance with grantee policies and/or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault.

**Fraud, Waste, and Abuse (FWA) Notification:**

The Office of Inspector General (OIG) maintains a Hotline to receive this information, which can be reached at <https://oig.nsf.gov/contact/hotline>. Disclosures can also be made via an anonymous phone line at (800) 428-2189. Upon request, OIG will take appropriate measures to protect the identity of any individual who reports misconduct, as authorized by the Inspector General Act of 1978, as amended. Reports to OIG may be made anonymously.

The mailing address of OIG is 2415 Eisenhower Ave, Alexandria, VA 22314 ATTN: OIG HOTLINE.

## C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following expiration of a grant, the PI also is required to submit a final annual project report, and a project outcomes report for the general public.

Failure to provide the required annual or final annual project reports, or the project outcomes report, will delay NSF review and processing of any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through Research.gov, for preparation and submission of annual and final annual project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg).

NSF SBIR/STTR Phase II recipients are required to complete annual and final annual reports and outcomes report, found [here](#).

A table entitled, [NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending \(Other\) Support](#) has been created to provide helpful reference information regarding pre-award and post-award disclosures. The table includes the types of activities to be reported, where such activities must be reported in the proposal, as well as when updates are required in the proposal and award lifecycle. A final column identifies activities that are not required to be reported.

## VIII. Agency Contacts

*Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.*

General inquiries regarding this program should be made to:

- Contact Your Phase I Program Officer, telephone: (703) 292-8050, email: [sbir@nsf.gov](mailto:sbir@nsf.gov)

For questions related to the use of NSF systems contact:

- NSF Help Desk: 1-800-381-1532
- Research.gov Help Desk e-mail: [rgov@nsf.gov](mailto:rgov@nsf.gov)

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: [support@grants.gov](mailto:support@grants.gov).

**Since all NSF Phase II SBIR/STTR proposers are already associated with an NSF SBIR/STTR Phase I award, Phase II proposers are strongly encouraged to use their cognizant NSF SBIR/STTR Phase I Program Officer as the primary**

**point of contact for any questions.** The contact above can be used for other inquiries, or when proposers are not sure who to contact. Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact

## **IX. Other Information**

The NSF website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this website by potential proposers is strongly encouraged. In addition, "NSF Update" is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF [Grants Conferences](#). Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" also is available on [NSF's website](#).

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this mechanism. Further information on Grants.gov may be obtained at <https://www.grants.gov>.

## **About The National Science Foundation**

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 55,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Arctic and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

*Facilitation Awards for Scientists and Engineers with Disabilities (FASED)* provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See the *NSF Proposal & Award Policies & Procedures Guide* Chapter II.F.7 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at <https://www.nsf.gov>

- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **For General Information** (NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**
  - Send an e-mail to: [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov)
  - or telephone: (703) 292-8134
- **To Locate NSF Employees:** (703) 292-5111

## Privacy Act And Public Burden Statements

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by proposers will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding proposers or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See [System of Record Notices, NSF-50](#), "Principal Investigator/Proposal File and Associated Records," and [NSF-51](#), "Reviewer/Proposal File and Associated Records." Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton  
 Reports Clearance Officer  
 Policy Office, Division of Institution and Award Support  
 Office of Budget, Finance, and Award Management  
 National Science Foundation  
 Alexandria, VA 22314

[Vulnerability disclosure](#) | [Inspector General](#) | [Privacy](#) | [FOIA](#) | [No FEAR Act](#) | [USA.gov](#) | [Accessibility](#) | [Plain language](#) |



National Science Foundation, 2415 Eisenhower Ave Alexandria, VA 22314  
 Tel: (703) 292-5111,

