USDA National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

# Notice of Funding Opportunity
# Small Business Innovation Research and Small Business Technology Transfer Programs Phase II

**MODIFICATIONS: 10/21/2026 – This NOFO has been modified from the original announcement. Edits are indicated using track changes and red font so the public/potential applicants can identify the changes within the solicitation.**

**In each table for each program code, the award duration should be 24 months, not 24-36 months.**

**Edits appear on pages: 1, 10-14, 55.**

| | |
|---|---|
| FUNDING YEAR: | Fiscal Year (FY) 2026 and FY 2027 |
| APPLICATION DEADLINE: | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| ANTICIPATED PROGRAM FUNDING: | FY 2026:<br>SBIR - $19,500,000<br>STTR - $5,250,000<br><br>FY 2027:<br>SBIR - $19,500,000 ~~for~~<br>STTR - $5,250,000 ~~for~~ |
| AVERAGE INDIVIDUAL AWARD RANGE: | $600,000 - $650,000 |
| FUNDING OPPORTUNITY NUMBER: | USDA-NIFA-SBIR-012221 |
| ASSISTANCE LISTING NUMBER: | 10.212 |

**ANNOUNCEMENT**
National Institute of Food and Agriculture
United States Department of Agriculture

**Assistance Listing Number (ALN)***:* The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs Phase II is listed in the Assistance Listings under number 10.212.

**Table 1:** Key Dates and Deadlines

| Task Description | Deadline |
|---|---|
| **Application:** | FY 2026: 5:00 P.M. Eastern Time, November 17, 2026<br>FY 2027: 5:00 P.M. Eastern Time, September 21, 2027 (tentative) |
| **Applicants Comments:** | Within six months from the issuance of this notice<br>(*NIFA may not consider comments received after the sixth month*) |

The United States Department of Agriculture (USDA), to the extent permitted by law, will no longer make grants or otherwise fund programs or activities that improperly discriminate on the basis of race or sex, including discrimination in the name of Diversity, Equity, and Inclusion policies. Instead, USDA will prioritize merit and efficiency. USDA recognizes programs and initiatives will have the greatest impact when these programs and initiatives put American farmers, ranchers, and foresters first by:

- solving the most pressing challenges they face;
- protecting America's food, fuel, and fiber supply to enhance national security;
- supporting production of healthy and safe food for consumers;
- expanding and developing domestic markets;
- training the next generation of agriculturalists; and
- fueling innovation to keep American farmers at the forefront of productivity.

The National Institute of Food and Agriculture (NIFA) is committed to advancing these principles and encourages applicants to actively engage farmers, ranchers, and foresters when applying for funding opportunities to ensure relevancy and adherence to them. NIFA also encourages agricultural leaders to engage in the peer review panel process to ensure American producers are better served through research, education, and extension activities.

Projects submitted under this Notice of Funding Opportunity (NOFO) should align with USDA Secretary's Memorandum 1078-020 Directive on Departmental Research and Development Priorities:

1. Increasing Profitability of Farmers and Ranchers
2. Expanding Markets and Creating New Uses of U.S. Agricultural Products
3. Protecting the Integrity of American Agriculture from Invasive Species
4. Promoting Soil Health to Regenerate Long-Term Productivity of Land
5. Improving Human Health through Precision Nutrition and Food Quality

**Stakeholder Input**. NIFA seeks comments on all NOFO so it can deliver programs efficiently, effectively, with integrity, and with a focus on customer service. NIFA considers comments to the extent possible when developing NOFOs and uses comments to help meet the requirements of Section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2)). Applicants may submit written comments to Policy@usda.gov. Please use the following subject line: Response to the SBIR/STTR Phase II NOFO.

## EXECUTIVE SUMMARY

This NOFO is being released prior to the passage of a full appropriations act for FY 2027. Enactment of a continuing resolution, appropriations act, or other authorizing legislation may affect the availability or level of funding for this program. The amount available for SBIR Phase II in FY 2026 is approximately $19,500,000. The anticipated amount available for SBIR Phase II in FY 2027 is approximately $19,500,000. The amount available for STTR Phase II in FY 2026 is approximately $5,250,000. The anticipated amount available for STTR Phase II in FY 2027 is approximately $5,250,000. USDA is not committed to fund any particular application or to make a specific number of awards.

NIFA requests applications for the Phase II SBIR/STTR programs from previous SBIR/STTR program Phase I recipients. This notice identifies the objectives for the SBIR and STTR Phase II program projects, deadlines, funding information, eligibility criteria for projects and applicants, and application forms and associated instructions.

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## PART I. FUNDING OPPORTUNITY DESCRIPTION

### A. Legislative Authority

The Small Business Innovation and Economic Security Act, Pub. L. 119–83, reauthorized and amends the SBIR program, the STTR program, and related pilot programs through FY 2031 (15 U.S.C. 638). Each Federal agency with an extramural budget for research or research and development (R/R&D) in excess of $100,000,000 and $1,000,000,000 must participate in the SBIR and STTR programs, respectively, and spend a minimum percentage of their extramural R/R&D budgets of not less than 3.2% and 0.45% of such budgets for awards to small business for R/R&D under the SBIR and STTR programs. The USDA SBIR and STTR programs are administered by NIFA on behalf of USDA. In accordance with 15 U.S.C. 638(vv), Federal agencies with SBIR/STTR programs must assess security risks posed by small business, including foreign financial ties and foreign affiliations of owners, key personnel, or other covered individuals. This requirement is detailed in Part II, E . This program is subject to federal regulations as outlined in the administrative provisions found in 7 CFR 3403—Small Business Innovation Research Grants Program.

### B. Purpose and Priorities

The USDA SBIR/STTR programs, Assistance Listing number 10.212, support scientific excellence and technological innovation through investment of Federal research funds to build a strong national economy by stimulating technological innovation in the private sector; strengthening the role of small business in meeting Federal research and development needs; and increasing the commercial application of Federally supported research results. Further, the objective of the STTR program is to stimulate formal cooperative partnerships of ideas and technologies between small businesses and partnering research institutions (e.g., Universities and Federal laboratories).

The USDA SBIR/STTR programs are carried out in three separate phases. **This solicitation is only for SBIR/STTR Phase II applications, and only prior Phase I grant recipients are eligible to apply.** The aim of SBIR/STTR Phase II is to continue the R/R&D developed under Phase I with a goal to bring the innovation to marketplace as the Phase II project completes. Phase II requires a more comprehensive application outlining the proposed effort in detail and the commercialization strategy for the effort. Phase II awards may not be sufficient in either dollars or time for the firm to complete the total R/R&D and the commercialization activities required to bring the project results to a marketplace. Therefore, completion of R/R&D under these circumstances may have to be carried into Phase III. Phase III refers to work that derives from, extends, or logically concludes effort(s) performed under prior SBIR/STTR funding but is funded by sources other than the SBIR/STTR programs. Phase III work is typically oriented towards completing the commercialization of SBIR/STTR research or technology.

For Phase II applications, a Small Business Concern (SBC) may not propose large-scale demonstration projects or classified research. Many of the research projects supported by the SBIR/STTR programs lead to the development of new products based upon the research results obtained during the project. However, projects that seek funding solely for product development where no research is involved (i.e., the funds are needed to permit the development of a product based on previously completed research) will not be accepted. Research may be carried out

through the construction and evaluation of a laboratory prototype, where necessary, however the prototype will have to comply with Federal Regulations (7 CFR 3403) for disposition at the end of the grant and cannot be used for Phase III activities. The prototype must only be used as a model to manufacture new versions of the innovation for sale to a commercial market.

Literature surveys must be completed prior to the Phase II application and cannot be proposed as part of the R&D effort. Phase II Applicants are encouraged to respond to a topic area listed (see Part I, C of this NOFO) that corresponds to the Phase I work that was previously funded.

The purpose of a research application is to provide a written statement that contains sufficient information to persuade members of the research community who review the application and then advise the USDA SBIR/STTR professional staff that the proposed research is a sound approach to an important scientific question and is worthy of support under the stated USDA NIFA evaluation criteria (See Part V, B).

Potential Commercial Outcome – In addition to supporting scientific R/R&D, another program goal is to provide incentives and opportunities for SBCs to convert USDA SBIR/STTR-sponsored research into technological innovations in the private sector.

Where Phase II applications are evaluated as having approximately equal technical merit, NIFA will consider optional letters of support or contingent commitment letters. In such instances, Phase II applicants with strong letters of support or contingent commitment letters for non-SBIR/STTR follow-on funding to pursue further development of the commercial potential during Phase III may receive special consideration as a point of merit in the review and evaluation process.

To receive the consideration described above, applicants must submit letters of support or contingent commitment letters between the SBC and the entity as part of their Phase II application. The terms cannot be contingent upon obtaining an issued patent because of the time this process requires. Greater value (in Phase II evaluation) will be given for an executed formal agreement with reasonable terms and funding equal to or in excess of the Federal investment requested in the Phase II application.

The follow-on commitment may be in the form of venture capital, a package including venture capital, contract R&D, a joint venture, an R/R&D limited partnership, or other agreement with a non-SBIR/STTR source of funding. No amortization, repayment, or repurchase of commitment funds may be included during the Phase II period of performance. USDA understands that any such commitment will likely be contingent upon the Phase II recipient attaining technical objectives that are mutually agreed upon between the SBC and the provider of the follow-on funding. These objectives should be closely related. They do not need to be identical to those delineated in the Phase II research application, but they must be able to be accomplished within the scope of the proposed SBIR/STTR-funded research. The technical objectives must be clearly defined, measurable, and specified in the commitment agreement at the threshold level that would justify such an investment. Any letters or other forms of tentative commitment for follow-on Phase III funding from sources other than Federal SBIR/STTR programs will be considered.

Technical and Business Assistance – SBIR/STTR Phase II recipients may receive up to $50,000 in additional funding for Technical and Business Assistance (TABA). TABA is aimed at improving the commercialization success of SBIR/STTR technologies. To access these funds for vendor services or staff training, applicants must identify and select their own TABA provider. Recipients may only be reimbursed for services that comply with these statutory requirements. Any unspent TABA funds may not be re-budgeted to other project costs and must be returned to USDA.

TABA may be used to:

- make better technical decisions on SBIR/STTR projects;
- solve technical problems that arise during SBIR/STTR projects;
- minimize technical risks associated with SBIR/STTR projects;
- develop and commercialize the product or process resulting from SBIR/STTR projects, including intellectual property protections; and/or
- screen for potential foreign involvement in technology development or commercialization activities.

TABA must NOT be used for:

- any indirect costs, profit, or fee calculations;
- general maintenance of, or investment in, the SBC
- audit, bookkeeping, payroll, or general accounting services; or
- contingency costs or costs associated with the R/R&D activities of the award

To receive this assistance for vendor services or staff training, grant recipients must identify their own TABA provider, and the associated costs must be included in the application as part of the TABA Plan.

Phase II recipients may request USDA funding to secure independent, external TABA services or hire, augment, or direct staff to conduct or participate in training activities are consistent with TABA purposes. Proposed TABA funds for commercialization efforts requiring certification or registration of an innovation may be included. If these efforts require a research or analytical effort that is outside the scope of the Phase II grant application, these costs may count towards the SBIR/STTR one-half cap for subcontracts. To use this option, the Phase II proposal must include a formal TABA Plan, as described in Part IV, B R&R Budget.

### C. Program Area Descriptions

USDA SBIR/STTR offers ten program areas that are intended to permit a broad spectrum of eligible and innovative science- and technology-based small businesses to compete for funding. NIFA is soliciting applications under the following program areas:

**Table 2**: Program Code and Program Code Names

| Program Code | Program Code Name |
|---|---|
| 8.1 | Forests and Related Resources |
| 8.2 | Plant Production and Protection-Biology |
| 8.3 | Animal Production and Protection |
| 8.4 | Management of Natural Resources |

| | |
|---|---|
| 8.5 | Food Science and Nutrition |
| 8.6 | Rural and Community Development |
| 8.7 | Aquaculture |
| 8.8 | Biofuels and Biobased Products |
| 8.12 | Small and Mid-size Farms |
| 8.13 | Plant Production and Protection-Engineering |

### 1. Forests and Related Resources – Topic 8.1

The Forests and Related Resources program area aims to address the health, heterogeneity, and productivity of the Nation's forests to meet the needs of present and future generations while creating rural economic opportunities through the development of technologies that develop approaches to increase productivity of forest lands, improve management and longevity, and develop value-added materials derived from forest resources.

**Table 3**: Forest and Related Resources Topic 8.1 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.1 |
| **Program Code Name:** | Forest and Related Resources |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 2 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 2. Plant Production and Protection-Biology – Topic 8.2

The objective of this program area is to develop novel ways of enhancing crop production and protection against abiotic and/or biotic stresses through the use of novel diagnostic technologies, plant improvement approaches, and tools or management practices that ensure healthy pollinators.

**Table 4**: Plant Production and Protection-Biology Topic 8.2 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.2 |
| **Program Code Name:** | Plant Production and Protection - Biology |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 2 SBIR; 1 STTR |

| | |
|---|---|
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 3. Animal Production and Protection – Topic 8.3

The Animal Production and Protection program area aims to develop innovative, marketable technologies that will provide significant benefit to the production and protection of agricultural animals.

**Table 5**: Animal Production and Protection Topic 8.3 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.3 |
| **Program Code Name:** | Animal Production and Protection |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 2 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 4. Management of Natural Resources – Topic 8.4

The Management of Natural Resources program area aims to develop innovative technologies that are developed with the purpose to manage, monitor, improve, and/or protect the quality and/or quantity of natural resources while sustaining optimal farm and forest productivity and profitability. New technologies and innovations that will help improve soil health, reduce soil erosion, improve water and air quality, improve nutrient management, and conserve and use water more effectively are encouraged.

**Table 6**: Management of Natural Resources Topic 8.4 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.4 |
| **Program Code Name:** | Management of Natural Resources |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 4 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 5. Food Science and Nutrition – Topic 8.5

The Food Science and Nutrition program area aims to fund projects that support research focusing on developing new and improved processes, technologies, or services that address emerging food safety, food processing, and nutrition issues.

**Table 7**: Food Science and Nutrition Topic 8.5 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.5 |
| **Program Code Name:** | Food Science and Nutrition |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 4 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 6. Rural and Community Development – Topic 8.6

The Rural and Community Development program area aims to fund the development of new technologies, or the utilization of existing technologies, that address important economic and social development issues or challenges in rural America. The applications need not be centered on agriculture but may be focused on any area that has the potential to provide significant benefit to rural Americans.

**Table 8**: Rural and Community Development Topic 8.6 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.6 |
| **Program Code Name:** | Rural and Community Development |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 2 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 7. Aquaculture – Topic 8.7

The Aquaculture program area aims to develop new technologies that will enhance the knowledge and technology base necessary for the expansion of the domestic aquaculture industry as a form of production agriculture.

**Table 9**: Aquaculture Topic 8.7 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.7 |
| **Program Code Name:** | Aquaculture |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 2 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 8. Biofuels and Biobased Products – Topic 8.8

The objective of this program area is to promote the use of biofuels and non-food biobased products by developing new or improved technologies that will lead to increased production of biofuels, industrial chemicals, and other value-added products from agricultural materials.

**Table 10**: Biofuels and Biobased Products Topic 8.8 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.8 |
| **Program Code Name:** | Biofuels and Biobased Products |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 4 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

### 9. Small and Mid-Size Farms – Topic 8.12

The Small and Mid-Size Farms program area aims to promote and improve the sustainability and profitability of small and mid-size farms and ranches (where annual sales of agricultural products are less than $350,000 for small farms and between $350,000 and $999,999 for mid-size farms – hereafter referred to as small farms).

**Table 11**: Small and Mid-Size Farms Topic 8.12 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.12 |
| **Program Code Name:** | Small and Mid-Size Farms |
| **ALN:** | 10.212 |

| | |
|---|---|
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 2 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

**10. Plant Production and Protection-Engineering – Topic 8.13**

The objective of this program area is to enhance crop production by creating and commercializing engineering technologies that enhance system efficiency and profitability and protect crops from pests and pathogens in economically and environmentally sound ways.

**Table 12**: Plant Production and Protection-Engineering Topic 8.13 Key Information

| Title | Description |
|---|---|
| **Program Code:** | 8.13 |
| **Program Code Name:** | Plant Production and Protection - Engineering |
| **ALN:** | 10.212 |
| **Project Type:** | Research Projects |
| **Grant Type:** | Standard Grants |
| **Application Deadline** | FY 2026: November 17, 2026<br>FY 2027: September 21, 2027 |
| **Grant Duration:** | 24~~–36~~ Months |
| **Anticipated # of Awards:** | 4 SBIR; 1 STTR |
| **Minimum Award Amount:** | $600,000 |
| **Maximum Award Amount:** | $650,000 (with Technical and Business Assistance) |

**11. Cross Cutting Topics**

USDA NIFA recognizes agricultural-related manufacturing technology and domestic energy resource development as two crosscutting topics with relevance to all program areas listed in this program solicitation. Applicants should address these topics, as appropriate, within their applications addressing one of the ten program areas above and not as standalone program areas.

a. **Agricultural-related Manufacturing Technology**. Technological innovation is critical to a strong manufacturing sector in the U.S. economy particularly agricultural-related manufacturing technology.
b. **Biofuels and Rural Energy**. Investing in R/R&D is necessary to unleash American energy through the production and use of domestic biofuels including the development of new energy feedstocks, improved conversion methods for producing biofuels, as well as hydrogen and other fuel gases derived from agricultural waste. These efforts can positively impact farmers, support rural economies, and expand infrastructure.

## PART II. AWARD INFORMATION

### A. Available Funding

This NOFO is being released prior to the passage of an appropriations act for FY 2027. Enactment of additional continuing resolutions, appropriations act, or other authorizing legislation may affect the availability or level of funding for these programs. The amount available for the Phase II SBIR Program is approximately $19,500,000 for FY 2026 and $19,500,000 for FY 2027. The anticipated amount available for the Phase II STTR Program is approximately $5,250,000 for FY 2026 and $5,250,000 for FY 2027. USDA is not committed to funding any particular application or making a specific number of awards.

The Automated Standard Application for Payments, operated by the Department of Treasury, Bureau of the Fiscal Service, is the designated payment system for awards resulting from this NOFO.

### B. Application Restrictions

NIFA will evaluate applications using the criteria described in Part V of this NOFO. Applications for FY 2026 and 2027 are limited to the following application types:

1. *New application*: This is a project application that has not been previously submitted to the USDA SBIR/STTR Phase II Programs. We will review all new applications competitively using the screening for administrative requirements, review panel evaluation of applications using evaluation criteria, and the selection process described in Part V- Application Review Requirements (see Appendix III for definition).
2. *Resubmitted application*: Resubmitted applications must include the response to the previous review panel summary and include the Phase I award number and declined Phase II proposal number in the response to reviewer comments and are subject to the same criteria and due dates herein. Resubmitted applicants must enter the NIFA-assigned proposal number of the previously submitted application in the *Federal Field (Field 4)* on the application form (see Appendix III for definition). This includes resubmissions for Phase I recipients who were not successful in their first attempt at a Phase II application. Resubmissions must be from a prior USDA SBIR/STTR Phase II solicitation and must be submitted to the same topic area. SBCs are limited to only one resubmission within five years following the initial submission, and applicants must include their NIFA-assigned proposal number of the previously submitted application in the *Federal Field (Field 4)* on the application form.

### C. Project and Grant Types

The following describes the types of *projects* or *grants* that are eligible for funding:

1. Project Types. Applicants must propose a Research project as described in Program Area Descriptions in Part I, C of this NOFO. Only Research projects described in Part I, C of this NOFO will be considered for review.
2. Grant Types. Applicants must select the Standard grant described in Program Area Descriptions in Part I, C of this NOFO. Only Standard grants described in Part I, C of this NOFO will be considered for review.

Phase II applications may not request more than $600,000 (not including TABA), with the maximum award available $650,000 (including TABA) for a period normally not to exceed 24

months. In special cases, NIFA can allow a period of performance up to 36 months, but applicants may not request more than $600,000 (not including TABA) or $650,000 (including TABA). The planned period of performance dates are listed below; however, these dates may change due to the enactment of continuing resolutions or an appropriations act.

- FY 2026: Phase II: 3/15/2027 through 3/14/2029
- FY 2027: Phase II: 3/15/2028 through 3/14/2030

**D. Ethical Conduct of Funded Projects**

In accordance with sections 2, 3, and 8 of 2 CFR Part 422, institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for the prevention and detection of research misconduct, and maintain and effectively communicate and train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Representative (AR) assures, through acceptance of the award, that the institution will comply with the above requirements. Award recipients must, upon request, make available to NIFA the policies, procedures, and documentation to support the conduct of the training. See Responsible and Ethical Conduct of Research for further information.

Please review the training for Fraud, Waste, and Abuse found at: https://www.sbir.gov/tutorials/fraud-waste-abuse. In the event a company or individual suspects any fraud, waste, and/or abuse, the company or individual can contact the USDA Office of Inspector General (OIG)'s hotline or at 800-424-9121 or at 800-424-9121.

**E. Due Diligence Program to Assess Security Risks**

In accordance with 15 U.S.C. 638(vv), USDA SBIR/STTR will not make awards to businesses with connections to certain foreign entities. To comply with this requirement, the program requires all SBIR/STTR Phase II applicants to complete additional certifications disclosing ties to foreign countries of concern at the time of application and as needed during the life of the grant award by completing the *Required Disclosures of Foreign Affiliations or Relationships to Foreign Countries* form described in Part IV, B. Updated disclosures must be provided within 30 days of any substantive changes to the project or key personnel. The disclosure of information related to foreign involvement or investment does not mean denial or disqualification of an applicant. Any questions regarding the Disclosure of Foreign Affiliations or Relationships to Foreign Countries Form should be emailed to sm.ddsbir@usda.gov.

These certifications include:

1. The identity of all owners and covered individuals of the small business concern (SBC) who are a party to any foreign talent recruitment program of any foreign country of concern;
2. The existence of any joint venture or subsidiary of the SBC that is based in, funded by, or has a foreign affiliation with any foreign country of concern;
3. Any current or pending contractual or financial obligation, or other agreement specific to a business arrangement or joint venture-like arrangement, with an enterprise owned by a foreign state or any foreign entity;
4. Whether the SBC is wholly owned in a foreign country of concern;
5. The percentage, if any, of venture capital (VC) or institutional investment by an entity

that has a general partner or individual holding a leadership role in such entity who has a foreign affiliation with any foreign country of concern;

6. Any technology licensing or intellectual property sales to a foreign country of concern, during the five-year period preceding submission of the proposal; and
7. Any foreign business entity, offshore entity, or entity outside the United States related to the SBC.

Additional guidance and program policy is provided by the Small Business Administration (SBA) through the SBIR/STTR Policy Directive.

## PART III. ELIGIBILITY INFORMATION

### A. Eligibility Requirements

Eligibility for the SBIR/STTR Phase II program is limited to only SBIR/STTR Phase I recipients. This includes recipients identified via a "novated" or "successor-in-interest" revised funding agreement. Failure to meet the eligibility criteria by the application deadline may result in exclusion from consideration or preclude NIFA from making an award. For those new to Federal financial assistance, NIFA's About Grants provides highly recommended information about grants and other resources to help understand the Federal awards process.

Each applicant must qualify as an SBC through registration with the SBA for R/R&D purposes at the time of selection (see Definitions in Appendix III of this NOFO).

SBIR/STTR program eligibility requirements are in place to ensure that the funds go only to small, independent U.S. businesses. The regulations include restrictions about (1) the type of firm, (2) its ownership structure, and (3) the firm's size in terms of the number of employees.

**Type of Firm**

The purpose of the requirement regarding the type of firm is to target the awards to firms with an economic interest in developing the idea or research into a commercial application.

1. An SBIR/STTR small business recipient must be a business concern – it must be organized as a for-profit concern and meet all of the other requirements for a "business concern" in 13 CFR 121.105. Non-profit entities are not eligible (except as the partnering research institution collaborator under the STTR Program).
2. If a recipient is a joint venture, limited partnership, or venture capital partner, each party to the joint venture must be a concern that satisfies all program eligibility requirements regarding type, size, ownership, and control.

**Ownership & Control**

The purpose of the ownership requirement is to limit the program to independent firms controlled by US citizens or permanent resident aliens as a way of maximizing the likelihood that the funding will stimulate innovative activity within the US economy.

A majority (more than 50%) of a firm's equity (e.g., stock) must be directly owned and controlled by one of the following:

1. One or more individuals who are citizens or permanent resident aliens of the United States,
2. Other for-profit SBC (each of which is directly owned and controlled by individuals who are citizens or permanent resident aliens of the United States).
    a. This includes single venture capital operating companies (VCOC), hedge funds, or private equity firms that are SBCs more than 50% directly owned and controlled by individuals who are U.S. citizens or permanent resident aliens of the United States.
    b. This also includes applicants more than 50% directly owned and controlled by Alaska Native Corporations, Native Hawaiian Organizations, or Indian tribes or by a wholly owned subsidiary of an Alaska Native Corporation, Native Hawaiian Organization, or Indian tribe.
3. A combination of (1) and (2) above.

4. For SBIR only, multiple venture capital operating companies (VCOCs), hedge funds, private equity firms, or any combination of these, so long as no one such firm owns or controls more than 50% of the equity. Note: This option is allowed only for SBIR awards from agencies that are using the authority provided in 15 U.S.C. § 638(dd)(1) (majority-VC-owned authority). USDA has not elected to make a portion of its SBIR awards to SBCs that are majority-owned by multiple VCOCs, hedge funds, or private equity firms under 15 U.S.C. § 638(dd)(1).
   Notes:
   a. If an Employee Stock Ownership Plan owns all or part of the SBC, each stock trustee and plan member is considered an owner. If a trust owns all or part of the SBC, each trustee and trust beneficiary is considered an owner.
   b. A potential recipient that is a subsidiary must show that the parent company or parent companies are also a small business entity. The parent company or parent companies must provide documentation supporting their small business status (the documentation must be included in the Research and Related (R&R) Other Project Information form under Other Attachments, as directed by Part IV of this NOFO). If the parent company or one of the parent companies is a nonprofit organization, then the subsidiary is not eligible to submit an SBIR/STTR application.

**Size**
The purpose of the size restriction (number of employees of the firm and its affiliates) is to limit program funding to SBCs that have a unique capacity for innovation and are more likely to be constrained by lack of access to such funding. An SBIR/STTR recipient, combined with its affiliates, must not have more than 500 employees.

For more information on SBIR/STTR eligibility, see the Guide to SBIR/STTR Program Eligibility.

**SBIR/STTR Program Eligibilities**
Applicants can choose from SBIR only, STTR only, or Both (SBIR/STTR in a single submission). The following SBIR and STTR program eligibility distinctions are summarized in Table 13.

To apply for *SBIR only*, the primary employment of the Project Director/Principal Investigator (PD/PI) must be with the SBC at the time of award and during the conduct of the proposed project. Eligible primary employment means that more than one-half of the PD's/PI's time is spent in the employment of the SBC during the award period of performance. Primary employment with the SBC precludes the applicant as a full-time employee with another organization or academic institution. While the PD/PI must work more than one-half of his/her time for the SBC during the entire grant period, there is no time requirement for the PD's/PI's work on the proposed research. Prior Federal Employees must provide documentation that post termination requirements from Federal Service have been completed at time of submission. For SBIR Phase II, as determined by budget expenditures, a *minimum of one-half* (50%) of the research or analytical work must be performed by the proposing SBC.

To apply for *STTR only*, the PD/PI for the proposed project (or, if multiple PD/PIs, at least one PD/PI) must be employed by and perform more than one half of the PD's/PI's time in the

employ of either the SBC or the partnering Research Institution. For projects with multiple PD/PIs, at least one PD/PI must meet the primary employment requirement. That PD/PI will serve as the contact PD/PI for the Project Team. For STTR Phase II, as determined by budget expenditures, a *minimum* of 30% of the research or analytical work must be performed by a single partnering research institution (e.g., University, Federal Laboratory, etc.), and the SBC must conduct a *minimum* of 40% of the proposed research or analytical work.

To apply to *Both (SBIR and STTR)*, the PD/PI must be employed more than one-half by the SBC. For Phase II, as determined by budget expenditures, a *minimum* of 30% of the research and analytical work must be conducted by a single partnering research institution (e.g., University, Federal Laboratory, etc.), and the SBC must conduct a *minimum* of 50% of the proposed research or analytical work.

**Table 13:** Comparison of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs for Phase II

| Elements | SBIR | STTR | Both |
|---|---|---|---|
| Applicant | Small Business | Small Business | Small Business |
| Award Size, without TABA | $600,000 | $600,000 | $600,000 |
| Duration | 24 months | 24 months | 24 months |
| % of Agency's Extramural R&D Budget | 3.20% | 0.45% | N/A |
| Formal Cooperative Agreement Required Outlining Intellectual Property Rights | No | Yes | Yes |
| Partnering Research Institution or Federally Funded Research and Development Center Participation Required | No | Yes | Yes |
| % Participation of Partnering Research Institution or Federally Funded Research and Development Center | Less than 50% | 30 to 60% | 30 to 50% |
| PI/PD Employment | Small Business | Small Business or Research Institution | Small Business |

**Work in the United States**

For Phase II, the R/R&D work must be performed in the United States. On rare and unique circumstances (e.g., a supply, material, or project requirement may not be available in the United States) agencies may allow that particular portion of the work to be performed or obtained outside of the United States. Upon award, the Phase II recipient may request an exception as described in the SBIR/STTR Award Terms and Conditions.

**Benchmark**

The Phase I to Phase II Transition Rate Benchmark was published at 78 FR 30951 in May 2013, and the Commercialization Rate Benchmark was published at 78 FR 59410 in September 2013. The SBIR and STTR Extension Act of 2022 amended the application of these benchmarks for

more experienced firms. A summary of the benchmarks is located at https://www.sbir.gov/performance-benchmarks.

**Phase I to Phase II Transition Rate Benchmark**
Any SBC that has received more than 20 Phase I awards during the past five fiscal years, excluding the most recently completed fiscal year, must average one Phase II for every four Phase I awards received (25% conversion rate), regardless of the awarding agency, to be eligible to submit a Phase I application. If a company has not received an SBIR/STTR award or has received 20 or fewer SBIR/STTR awards, this benchmark requirement does not apply.

Any SBC that has received more than 50 Phase I awards during the past five fiscal years, excluding the most recently completed fiscal year, must average one Phase II for every two Phase I awards received (50% conversion rate). If a company has received 50 or fewer SBIR/STTR Phase I awards, this benchmark requirement does not apply.

**Commercialization Rate Benchmark**
Any SBC that has received more than 15 Phase II awards during the past 10 fiscal years, excluding the two most recently completed fiscal years, must average at least $100,000 of sales and/or investments per Phase II award received during the covered period; or have been issued a number of patents equal to or greater than 15% of the number of Phase II awards during the covered period. If a company has not received an SBIR/STTR award or has received 15 or fewer SBIR/STTR awards, this benchmark requirement does not apply.

Any SBC that has received more than 50 Phase II awards during the past 10 fiscal years, excluding the two most recently completed fiscal years, must have an average of $250,000 of aggregate sales and investments per Phase II award received during the covered period. Any SBC that has received more than 100 Phase II awards during the past 10 fiscal years, excluding the two most recent fiscal years, must have an average of $450,000 of aggregate sales and investments per Phase II award received during the covered period.

Each SBC that is subject to an increased performance standard for the Commercialization Rate Benchmark must submit to the SBA supporting documentation evidencing that all covered sales of the SBC were properly used to meet the increased minimum performance standard. Covered sales are defined at 15 U.S.C. § 638(qq)(3)(B)(iii)(II).

There are consequences of failure to meet the Phase I to Phase II Transition or the Commercialization Benchmarks, including ineligibility to submit a proposal for a Phase I for a period of one year beginning on June 1, and if the increased performance standards for more experienced firms are not met, then companies may not receive more than 20 total Phase I awards from each Federal agency during the 1-year period beginning on June 1.

**STTR Partnering Research Institution Eligibility Criteria**
Must be located in the United States and meet one of three definitions:

1. Nonprofit college or University;
2. Domestic nonprofit research organization; or
3. Federally funded R&D center

USDA will not accept competitive applications for grants and cooperative agreements submitted for dangerous gain-of-function research, as defined in Section 8 of E.O. 14292.

**Duplicate or Multiple Submissions** – Applicants are restricted to one Phase II submission per individual Phase I award. For SBC holding multiple Phase I awards, a maximum of two (2) distinctly different Phase II applications may be submitted per solicitation. Furthermore, USDA NIFA limits issuance to one (1) SBIR/STTR Phase II award per SBC. In instances where multiple applications from a single SBC are recommended for funding via peer review, USDA staff will require the applicant to provide a written determination specifying which single application shall proceed under this NOFO. Applications not selected for funding by the applicant may maintain eligibility for resubmission under future Phase II cycles, subject to then-current competitive peer review procedures and resubmission criteria.

### B. Cost Sharing or Matching

**No Match Required** - The SBIR/STTR programs have no matching requirement. NIFA will not factor matching resources into the review process as an evaluation criterion. While not required, cost share is encouraged.

## PART IV. APPLICATION AND SUBMISSION

### A. Method of Application

Applicants must apply to this NOFO electronically; no other method or response is accepted. The electronic application for this NOFO and additional resources are available on Grants.gov and Grants 101. **Table 14** provides instructions on how to obtain an electronic application. **Part III** of the NIFA Grants Application Guide contains detailed information regarding the Grants.gov registration process. The NIFA Grants Application Guide is contained in the specific funding opportunity package or a sample of the guide can be found here. When applying for a NIFA award, it is important to reference the version of the guide that is included in the specific funding opportunity application package.

**Table 14.** Steps to Obtain Application Materials

| Steps | Action |
|---|---|
| **Step One: Register** | *New Users* to Grants.gov must register early with Grants.gov prior to submitting an application. |
| **Step Two: Download Adobe** | Download and Install Adobe Reader (see Adobe Software Compatibility for basic system requirements). |
| **Step Three: Find Application** | Using this funding opportunity number **USDA-NIFA-SBIR-012221**, search for application here: Opportunity Package. |
| **Step Four: Assess Readiness** | Contact an AR prior to starting an application to assess the organization's readiness to submit an electronic application. |

**Table 15**: Help and Resources

| Grants.gov Support | NIFA Support |
|---|---|
| Grants.gov Online Support<br>Telephone support: 800-518-4726<br>Toll-Free or 606-545-5035<br><br>Email support: support@grants.gov<br>Self-service customer-based support: Grants.gov iPortal<br><br>Customer service business Hours 24/7, except Federal holidays. | Email:<br>grantapplicationquestions@usda.gov<br><br>Business hours: Monday thru Friday, 7a.m. – 5p.m. ET, except Federal holidays. |

### B. Content and Form of the Application

The NIFA Grants Application Guide is part of the corresponding application package for this NOFO. The NOFO overrides the NIFA Grants Application Guide if there is a discrepancy between the two documents. Applicants that do not meet the application requirements, to include partial applications, risk being excluded from NIFA's review. NIFA will assign a proposal number to all applications that meet the requirements of this NOFO. Applicants must refer to the proposal number when corresponding with NIFA. **Table 16** outlines other key instructions for applicants.

**Table 16**: Key Application Instructions

| Instruction | References **(All references are to the NIFA Grants Application Guide)** |
|---|---|
| Attachments must be in a portable document format (PDF) format. | Part IV |
| Check the manifest of submitted files to verify attachments are in the correct format. | Part IV |
| Conduct an administrative review of the application before submission. | Part IV |
| Follow the submission instructions. | Part IV |
| Provide an accurate email address, where designated, on the SF-424 R&R. | Part V |
| Contact the Grants.gov helpdesk for technical support and keep a record of the correspondence. | N/A |
| Contact NIFA if applicant does not receive correspondence from NIFA regarding an application within 90 days of the application deadline. | N/A |

***SF 424 R&R Cover Sheet***. See **Part V** of the NIFA Grants Application Guide for the required certifications and assurances.

***SF 424 R&R Project/Performance Site Location(s)***. See **Part V** of the NIFA Grants Application Guide.

***R&R Other Project Information Form***. See **Part V** of the NIFA Grants Application Guide.

**Field 7**. **Project Summary (PS)/Abstract.** The PS must show how the project goals align with the project goals of the SBIR/STTR Phase II Program. See **Part V** of the NIFA Grants Application Guide for instructions and suggested templates. The PS is strictly limited to 250 words with a font size no smaller than 12-point Times New Roman. Applicants are encouraged to use NIFA's Project Summary Application Template found on the NIFA Application Support Templates webpage. The PS must be attached as a PDF. The PS must include a description of the problem or opportunity, project objectives, and a description of the effort. The PS must also discuss the anticipated results and potential commercial applications of the proposed research. NIFA may publish the PS of successful applications; therefore, the PS must not contain proprietary information.

2. **Field 8**. **Project Narrative (PN).** The PN must not exceed *20 pages* of written text, including all figures and tables with line spacing set at 1.5 and at least 1-inch margins with font size no smaller than 12-point Times New Roman (the font size for tables and figures must be no smaller than 11-point Times New Roman). The only exception to the page limit requirement will be found in the directions as noted below under (a) Response to Previous Review. The page limits outlined here ensure fair competition. Appendices to

the PN are allowed if they are directly germane to the proposed project. Do not add appendices to circumvent the page limit. Applicants **must not** include additional information such as cover sheets, table of contents, reference listings, budgets, and appendices unless the applicant intends for NIFA to consider them in the page limit. The PN must include all the following:

a. **Response to Previous Review:** The response to previous review is limited to Resubmitted Applications must not exceed 1 page with line spacing set at 1.5 and at least 1-inch margins with font size no smaller than 12-point Times New Roman. This does not count towards the page limit for the PN. Applicants must include their Phase I award number and declined Phase II Grants.gov number or proposal number in the response to reviewer comments. Resubmissions must be from a prior USDA SBIR/STTR Phase II solicitation and must be submitted to the same topic area. SBCs are limited to only one resubmission within five years following the initial submission.
b. **Responsiveness to USDA NIFA SBIR/STTR Program Priorities**: Indicate if the application has a connection to agricultural–related manufacturing technology and domestic energy resource development. Provide a brief explanation of how the application is related to the area indicated.
c. **Prior USDA Support**: USDA NIFA is interested in documenting examples of SBIR/STTR projects that are developing new technologies based on earlier USDA-supported R/R&D projects awarded to the proposing small business, University, or government scientist collaborators by other USDA R/R&D programs, such as the Agricultural Food and Research Initiative (AFRI). If any such support exists, applicants are encouraged to document it in this section by listing the PD, application title, organization that received the award, and the USDA program that awarded the project.
d. **Identification and Significance of the Problem or Opportunity**: Clearly state the specific technical problem or opportunity addressed and its importance.
e. **Background and Rationale**: Indicate the overall background and technical approach to the problem or opportunity as identified in the Phase I project. Describe the part that the proposed Phase II research plays in providing needed results to scale up the R/R&D and commercialization. As a part of this section, it is critical that applications adequately cite relevant scientific literature to demonstrate support for your proposed research. Moreover, all citations provided must be properly referenced in the Bibliography & References Cited as a separate attachment (see Field 9, below). USDA NIFA has the right to decline any application where there is evidence of plagiarism**.**
e. **Relationship with Research or Research and Development**: Discuss the results of the Phase I project. Provide the extent to which the Phase I technical objectives were met including a discussion of the overall background of the Phase I project, a list of the Phase I technical objectives, a detailed description and interpretation of the Phase I results, and the project feasibility. This section is where the Phase II applicant establishes technical feasibility by presenting results from Phase I. Therefore, applicants are encouraged to provide an adequate discussion of Phase I results and state the anticipated results of the proposed approach if the project is successful.
f. **Technical Objectives**: State the specific objectives of the R/R&D effort. Include the

technical questions needed to establish the feasibility of the proposed approach.

g. **Work Plan**: The work plan must provide an explicit, detailed description of the R/R&D approach. Applicants are encouraged to list the tasks to be performed, provide details of the methodology that would be used to research each task, including statistical analysis, if applicable, and indicate how and where the work will be carried out. The effort should attempt to determine the technical feasibility of the proposed concept. The work plan is linked with the technical objectives of the research and the questions the effort is designed to answer. This section will constitute a substantial portion of the project narrative and can include graphics, tables, charts, etc.

h. **Related Research or Research and Development**: Describe significant R/R&D activities that are directly related to the proposed effort, including any conducted by the PD/PI or by the proposing SBC, how the proposed effort expands on the related work, and any planned coordination with outside sources. Describe any commercial products, services, or innovations that are already in the market, and if the project relates back to that R/R&D. Discussion of existing innovations in the application should convince reviewers that the applicant is aware of related research and commercial innovations in the selected subject. It is critical that the applicant make a convincing case that the proposed research builds upon previous research and, if successful, will lead to the development of new innovations or to substantial improvement of an existing product, process, service, or technology.

i. **Potential Post Application**: For this section, briefly describe the market potential for the innovation. In Phase II, demonstration of commercialization potential requires a more extensive commercialization plan that must be presented as directed later in this NOFO (see the SBIR/STTR Information Form, Question 8.)

3. **Field 9**. **Bibliography & Cited References.** Provide a complete list of all references cited in the application. For each reference, provide the names of all authors, the year of the publication, full title of the article, name of the journal or book published, volume, and the page numbers, as described in the NIFA Grants Application Guide. Please list the references in alphabetical order using the last name of the first author.

4. **Field 10**. **Facilities & Other Resources.** Describe the types, location, and availability of instrumentation and physical facilities necessary to carry out the work proposed. If the work will be conducted at a facility not owned and operated by the applicant, see Field 12 for additional information.

5. **Field 11**. **Equipment Documentation.** Describe the types, location, and availability of equipment necessary to carry out the work proposed. Items of equipment to be purchased must be fully justified under this section. When purchasing equipment or a product under the SBIR/STTR funding agreement, the SBC must purchase only American-made items whenever possible.

6. **Field 12**. **Add Other Attachments.** See **Part V Field 12** of the NIFA Grants Application Guide. The following are additional instructions for documentation that may be required for your application.

   a. **Company Commercialization Report** must be downloaded from sbir.gov and included in a company's application as a portable document format (PDF). All companies are required to update their commercialization status through the SBIR/STTR Company Dashboard once logged into sbir.gov.

b. **Use of Facilities or Equipment**. If University facilities, private facilities, or government laboratories are being used, there must be a letter in the application from the authorized organizational representative of the University, private facility, or government laboratory describing the arrangement and testifying that the facilities will be subject to the exclusive use and control of the applicant.

c. **Outside Services**. Involvement of the University, government, or other outside personnel in the planning and research stages of the project as consultants or through subcontracting arrangements is permitted and may be particularly helpful to small businesses that have not previously received Federal research awards.

   i. For STTR, involvement with a partnering research institution (e.g., Universities, Federal Laboratories) *is required*. A single partnering research institution must perform a *minimum* of 30% of the work, and the SBC must conduct a *minimum* of 40% of the research or analytical work, as determined by budget expenditures. For STTR, the SBC and the partnering research institution are *required* to include a formal cooperative agreement detailing the allocation of intellectual property rights and rights to carry out follow-on research, development, or commercialization activities.

   ii. Establishment of a Cooperative Research and Development Agreement (CRADA) with a USDA or other Federal laboratory may also be beneficial to proposing firms. If the application involves outside consultants, subcontracts, or involvement with a CRADA partner, these arrangements must be described in detail. Applications must include letters from proposed consultants, subcontractors, or CRADA cooperators indicating their willingness to serve in order for such participation to be considered during the application review and evaluation process.

d. **Letters of Support**. Applicants are encouraged to include letters of support. Letters of support act as an indication of market validation and technical support for the proposed innovation and add significant credibility to the proposed effort. Letters of support demonstrate that the company has initiated dialogue with relevant stakeholders (potential customers or end users, strategic partners, or investors) for the proposed innovation and that a legitimate business opportunity may exist if the technology proves feasible. The letter(s) must contain affiliation and contact information for the signatory stakeholder. Letters of support from consultants or subcontractors may be included if they are providing a critical role in the project, such as access to facilities, equipment, or expertise. The recommended page limit for each individual letter is two pages. Letters and supporting documents from State, Local, and Congressional representatives are NOT considered letters of support and must not be submitted as part of the application. Applicants must include letters in a PDF format and upload them to Field 12 of the R&R Other Project Information form (Add Other Attachments).

   If letters of support are not appropriate for this stage of an innovation due to business considerations, then the applicant must clearly justify why letters of support are not being included. The justification must be in a PDF format and uploaded to Field 12 of the R&R Other Project Information form (Add Other Attachments). The justification may relate to the technical and commercial considerations of the innovation proposed in the application.

e. **Duration Exceeds Normal Project Period**. The proposed duration of Phase II projects will not normally exceed twenty-four (24) months, except in special, justified circumstances. Where a proposed research project requires more than twenty-four months to complete Phase II, a longer project period, not to exceed thirty-six (36) months, may be requested. An applicant of a Phase II project with an anticipated duration beyond twenty-four months is encouraged to specify and justify the length of duration in the application at the time of its submission to USDA NIFA.

f. **Applicant is a Subsidiary**. A potential recipient that is a subsidiary must show that the parent company or companies are also a small business entity, and the parent company or companies must provide documentation supporting their small business status. The parent company or companies must reside in the U.S. and cannot be a nonprofit. The subsidiary must provide documentation to support its independent viable financial status.

g. **Statement of Delinquency on Federal Debts by Applicants for Federal Assistance**. An applicant that is delinquent on Federal debts must attach, in PDF format, explanatory information detailing all relevant particulars concerning the Federal debt.

h. **Non-Domestic Performance Explanation**. In the budget justification, provide the purpose, destination, method of travel, number of people traveling, number of days, and estimated cost for each trip. If details of each trip are not known at the time of application submission, provide the basis for determining the amount requested. All Applicants **MUST** note that per the NIFA SBIR/STTR Terms and Conditions Prior Approval Requirements Reference Matrix of the award, "All foreign travel (i.e., any travel outside of North America and/or U.S. Territories) performed under this project must be approved in writing by USDA NIFA prior to departure. If foreign travel is authorized under this project, the approved budget will identify funds for this purpose. Where foreign travel is contemplated subsequent to the effective date of the project, a written request must be submitted to the USDA NIFA outlining the purpose of the proposed trip, the inclusive dates of travel, the destination, and estimated costs involved."

***R&R Senior/Key Person Profile (Expanded)***. See **Part V** of the NIFA Grants Application Guide for profile requirements, details about the biographical sketch, and suggested support templates.

***R&R Personal Data***. This information is voluntary and is not a precondition of award (see Part V of the NIFA Grants Application Guide).

***R&R Budget***. See Part **V** of the NIFA Grants Application Guide. An R&R Budget form must be completed for each year (or partial year) for which work is proposed under this program solicitation. Applicants must ensure that the budget provided in the R&R Budget form matches the requested budget amount found in Field 15(a) on the SF–424 form and that this number does not exceed the budget ceiling of $600,000 (not including optional TABA) with the maximum award available $650,000 (including TABA) for a period of 24 months. Budget requests that exceed the ceiling will be excluded from review.

1. **Request for use of Technical and Business Assistance (TABA) –**
   Under the John S. McCain National Defense Authorization Act for Fiscal Year 2019, as

amended by the Small Business Innovation and Economic Security Act, USDA SBIR/STTR Phase II recipients may contract with an external vendor(s) or use TABA funds to hire, augment, or direct staff to conduct or participate in training activities consistent with TABA purposes. USDA SBIR/STTR does NOT have a designated Phase II TABA Vendor; therefore, applicants who wish to use TABA, must identify and secure their own TABA vendor(s) and **costs must be included in the application**.

An applicant may choose to request up to $50,000 for TABA (see Part I, E of this NOFO) by submitting a TABA plan as a PDF file and attaching the plan to Field 12, Other Attachments of the R&R Other Project Information Form (see Part IV, B of this NOFO). The TABA plan must not exceed three (3) pages from the applicant that describes the following:

a. Name and contact information for vendor(s) that will provide the services;
b. Description of vendor(s) expertise and knowledge of providing technical and business assistance services;
c. Itemized list of services to be provided;
d. Expected metric and outcome for each service to be provided;
e. Plans to report back to USDA as a deliverable on the outcomes and success of the TABA services and what information will be provided to validate the results; and
f. Ensure the costs are reflected in the budget forms.
g. If you wish to utilize a technical assistance vendor/provider, you are required to include this as a consultant in your budget and to provide a detailed budget justification indicating the costs per service.

The TABA Plan must also include a maximum three (3) page qualification statement from each selected vendor(s) that describes the following:

a. Statement must be provided on the selected vendor(s) letterhead and signed by an authorizing entity within the vendor's organization that can attest to the services being provided.
b. Include a capabilities statement that provides the following:
    i. Indicates the qualifications, expertise, and knowledge to provide the TABA services requested by the applicant.
    ii. Indicate the level of expertise and knowledge of the Federal SBIR/STTR programs, and specifically any prior support provided to Phase II recipients.
c. Describe the overall metrics of success for the services requested by the applicant.
d. Describe the plans to report back to USDA as a deliverable on the outcomes and success of the TABA services, and what information will be provided to validate the results.

USDA NIFA may withhold TABA funds until the TABA plan is formally reviewed and approved by NIFA. If the project is selected for an award and the applicant adequately meets this requirement, the recipient will be permitted directly to acquire such TABA services up to $50,000 for the Phase II project. The amount will be in addition to the award of $600,000 and is not subject to any profit or fee by the requesting firm and cannot be used in the calculation of indirect cost rates. Requests for TABA funding outside of the Phase II application submission will not be considered.

2. **Indirect Costs (IDC)** – See Part IV, C of this NOFO for funding restrictions regarding IDC, and **Part V** of the NIFA Grants Application Guide for additional information.
3. **Fee** - A reasonable fee, not to exceed seven percent of total Federal funds awarded of Field I (Total Direct and Indirect Costs) is permitted under this program solicitation, but applicants are encouraged to minimize fee requests due to the small amount of funds available. All fees are subject to negotiation with USDA NIFA. If a fee is requested, the amount must be indicated in Field J "Fee" on the R&R Budget form. If an applicant requests a fee, the combined total of "Section I - Total Direct and Indirect Costs" and "Section J – Fee" on the R&R Budget form must not exceed the ceiling of this solicitation. Proposals with budgets exceeding $600,000 (without TABA) or $650,000 (with TABA) will be returned without review. The fee may not be used in the calculation of indirect costs.
4. **Budget Justification** – See **Part V Section L** of the NIFA Grants Application Guide. Applicants must provide a detailed budget justification in Section L of the R&R Budget form. All items included in the R&R Budget Form must be addressed in the budget justification.

***R&R Sub-award Budget Attachment***. See **Part V** NIFA Grants Application Guide. By statute, the USDA SBIR Phase II program can only allow a *maximum* of one-half (50%) of the grant funds, as determined by budget expenditures, to be used for outside services. The USDA STTR Phase II program requires a *minimum* of 30% and a *maximum* of 60%, as determined by budget expenditures, to be used for outside services. Additionally, for STTR, a *minimum* of 30% of the budget expenditures must be to a single partnering research entity. To apply for both SBIR and STTR, a *minimum* of 30% and a *maximum* of 50%, as determined by budget expenditures, can be used for outside services. Additionally, to apply for both SBIR and STTR, a *minimum* of 30% of the budget expenditures must be to a single partnering research entity.

**Supplemental Information Form**. See **Part V** of the NIFA Grants Application Guide.

1. **Field 2. Program to which the applicant is applying.** This refers to the SBIR/STTR topic area you are submitting your USDA SBIR/STTR application to. Enter the program name, for example, "Animal Production and Protection," and the corresponding program code, "8.3". It is extremely important that the Program Code Name and Program Code are spelled correctly and exactly match one of the topic areas indicated in Part I, C of this NOFO. Failure to complete these fields correctly could significantly delay the acceptance of your application into the program, and the application may not be reviewed. Accurate entry is critical.
2. **Field 8. Conflict of Interest List.** See **Part V** of the NIFA Grants Application Guide.

***SBIR/STTR Information*.** See **Part V** of the NIFA Grants Application Guide, unless noted below.

**Agency to which you are applying**: Select USDA

**SBC Control ID** – Companies that submit an application to any SBIR/STTR solicitation are required to register with the SBIR/STTR company registry and obtain a Small Business

Concern (SBC) Control Number. Please enter your SBC number that you received upon registering at https://app.www.sbir.gov/company-registration/overview.

**Program Type-Select SBIR, STTR, or Both.** Applications may be submitted to both (SBIR and STTR) within the same topic area if the proposed project aligns with the regulations for both programs, as indicated below:

**SBIR:** The PD/PI must be employed more than one-half (51%) of the time with the SBC, and the SBC must perform a *minimum* of one-half (50%) of the proposed research or analytical work, as determined by budget expenditures.

**STTR:** At least one of the PD/PI or Co-PD/PIs must be employed more than one-half (51%) of the time with either the SBC or the partnering research institution. The SBC must have a single partnering research institution conduct a *minimum* of 30% of the research or analytical work, as determined by budget expenditures. The SBC must perform a *minimum* of 40% of the proposed research or analytical work.

**Both** (SBIR and STTR): The PD/PI must be employed more than one-half (51%) of the time with the SBC, and a *minimum* of 30% of the research and analytical work as determined by budget expenditures must be conducted by a single partnering research institution. The SBC must perform a *minimum* of one-half (50%) of the proposed research or analytical work.

**Application Type –** Select Phase II.

**Letter of Intent Number** - This solicitation does not require a letter of intent. Enter "NA."

**Questions 1-7** must be completed by all SBIR and STTR applicants.

**Question 8**. Commercialization Plan. (PDF format only) – All proposed Phase II projects must have a commercial outcome; therefore, the application requires an extensive commercialization plan.

The Commercialization Plan must only include information pertaining to the items listed below and must not exceed 10 pages of written text including all figures and tables with line spacing set at 1.5 and at least 1-inch margins with the font size no smaller than 12-point Times New Roman (the font size for figures and tables must be no smaller than 11 points, Times New Roman).

Include the following sections and information in the commercialization plan:

1. **Introduction of the SBIR/STTR Project and Expected Outcomes:** Describe, in layperson's terms, the proposed project and its key technology objectives. Clarify the need addressed, specifying weaknesses in the current approaches, to meet this need. In addition, describe the commercial applications of the research and the innovation inherent in the application.
2. **Company Information:** Give a brief description of your company, including corporate objectives, core competencies, size (annual sales level), number and types of employees for the last 5 years (if the company has existed for more than 5 years), and any current products/services that have significant sales. Those applicants existing for less than five years must provide this information for the years they have been operational. Indicate

your vision for the future and how you will grow/maintain a sustainable business entity. Include a short description of the origins of the company.

3. **The Market, Customer, and Competition:** Describe the national and/or global market and/or market segments (for the product, technology, or service) you are targeting. Provide information on the size of the market(s) and a brief profile of the potential customer(s). State what significant advantages your innovation will bring to the market(s) (e.g., better performance, lower cost, faster, more efficient or effective, new capability, etc.). Explain the hurdles you will need to overcome in order to gain market/customer acceptance of your innovation. Briefly explain the plans you have for approaching your potential customers (i.e., your marketing and sales strategy). Describe the current competition and any potential competitors over the next several years. Include a schedule showing the projected needs (e.g., amount of additional investment, timeframe) from the end of Phase II until commercialization. Indicate any other potential commercial factors that are not described above.
4. **Intellectual Property:** Describe how you will protect the intellectual property that results from your innovation. Note any actions you may consider to attain at least a temporary competitive advantage. What is the company's prior record in this area? Comment on the company's strategy to build a sustainable business through the protection of intellectual property.
5. **Revenue Stream:** Describe the plans for generating a revenue stream and include the assumptions that form the basis for revenue projections. Address how the revenue stream will be profitable to the company or at least sustain the product through its life cycle.
6. **Financing:** How will the necessary financing be obtained for Phase III commercialization? Provide evidence of the plan for this funding in one or more of the following ways:
   a. A letter of commitment* for follow-on funding;
   b. A letter of intent* or evidence of negotiations to provide funding, if the Phase II project is successful, and the market need still exists;
   c. A letter of support* for the project and/or some in-kind commitment; and/or
   d. A specific plan to secure Phase III funding.

   *Any formal letters of commitment, intent, or support are not to be included here but instead in Field 12, Other Attachments of the Other Project Information Form (see section C.6.c of this Part).

**Questions 9-10** Please respond if applying for SBIR Only or Both (SBIR and STTR). If you are submitting only an STTR application, then leave these questions blank.

**Question 9.** Documentation of Prior SBIR/STTR Phase II Awards – There are two documents that Phase II applicants must provide. Combine both documents into a single PDF. There are consequences of failure to meet the Phase I to Phase II Transition or the Commercialization Benchmarks, including ineligibility to submit a proposal for a Phase I for a period of one year beginning on June 1, and if the increased performance standards for more experienced firms are not met, then companies may not receive more than 20 total Phase I awards from each agency during the 1-year period beginning in June.

1. **Attachment 1**: Phase I to Phase II Transition Rate Benchmark
   Any SBC that has received more than 20 Phase I awards, regardless of the awarding agency, during the past five fiscal years, excluding the most recently completed fiscal year, must average one Phase II for every four Phase I award received (25% conversion rate), regardless of the awarding agency to be eligible to submit a Phase I application. If a company has not received an SBIR/STTR award or has received 20 or fewer SBIR/STTR awards, this benchmark requirement does not apply.

   Any SBC that has received more than 50 Phase I awards during the past five fiscal years, excluding the most recently completed fiscal year, must average one Phase II for every two Phase I awards received (50% conversion rate). If a company has not received an SBIR/STTR award or has received 50 or fewer SBIR/STTR awards, this benchmark requirement does not apply.

   If the applicant falls under the thresholds indicated above, the applicant must provide an attachment stating: "Fewer than 20 Phase I awards have been granted to [Insert Company Name] during the preceding five fiscal years."

2. **Attachment 2**: Commercialization Rate Benchmark
   Any SBC that has received more than 15 Phase II awards during the past 10 fiscal years, excluding the two most recently completed fiscal years, must average at least $100,000 of sales and/or investments per Phase II award received during the covered period; or have received a number of patents equal to or greater than 15% of the number of Phase II awards during the period. If a company has not received an SBIR/STTR award or has 15 or fewer SBIR/STTR awards, this benchmark requirement does not apply.
   Any SBC that has received more than 50 Phase II awards during the past 10 fiscal years, excluding the two most recently completed fiscal years, must have an average of $250,000 of aggregate sales and investments per Phase II award received during the covered period. Any SBC that has received more than 100 Phase II awards during the past 10 fiscal years, excluding the two most recently completed fiscal years, must have an average of $450,000 of aggregate sales and investments per Phase II award received during the covered period.

   Each SBC that is subject to an increased performance standard for the Commercialization Rate Benchmark must submit to the SBA supporting documentation that all covered sales of the SBC were properly used to meet the increased minimum performance standard. Covered sales are defined at 15 U.S.C. § 638(qq)(3)(B)(iii)(II).

   **The documentation must include**:
   1. Business name
   2. Year company was founded
   3. Identify any name changes your business has gone through within the past five years.
   4. List the parent company if you were a subsidiary or a spin-off.
   5. Percentage of company revenues for the 10 fiscal years preceding the most recent two fiscal years from Federal SBIR/STTR Phase II funding.
   6. Phase II Grant Information

7. Partnership-Related Activities
8. Funding: Describe any funding and third-party investments
9. Revenue & Sales that were directly attributed to the prior Phase II SBIR/STTR awards.
10. Intellectual Property Assets
11. Other Success Indicators (Employees, Acquisitions, Return on Investment (ROI), etc.)
12. Company Achievements
    If the applicant has not received Phase II funding, the applicant must provide an attachment stating: "No prior Phase II awards have been issued to [Insert Company Name]."

USDA NIFA SBIR/STTR must collect and retain the information for its internal use. Any data provided under this section of the application may lead to USDA NIFA contacting the applicant to coordinate the development of additional information that can serve to inform the public and the Federal Government on the benefits of the USDA NIFA SBIR/STTR programs to Small Businesses.

**Questions 11-13** Please respond if applying for STTR Only or to Both (SBIR and STTR). If you are submitting only an SBIR application, then leave these questions blank.

***Disclosure Of Foreign Relationships*** **(REQUIRED)**
All SBIR and STTR applicants must disclose their foreign relationships by completing the "**Required Disclosures of Foreign Affiliations or Relationships to Foreign Countries**" form must be used to disclose these relationships and is required for all applications. Instructions are included on the form. The disclosure of information related to foreign involvement or investment does not mean denial or disqualification of an applicant. Updated disclosures must be provided within 30 days of any substantive changes to the project or key personnel. Please note that even if you do not have any foreign relationships, you must complete this form to certify that such relationships do not exist. Failure to include this form may result in the declination of your application without review at USDA NIFA's discretion. Any questions regarding the Disclosure of Foreign Affiliations or Relationships to Foreign Countries Form should be emailed to sm.ddsbir@usda.gov.

## C. Funding Restrictions

1. **Fully negotiated rate**. Applicants must use the current negotiated Indirect Cost (IDC) rate established by its cognizant Federal agency (the agency that provides the most funds). If awarded, the applicant will be required to produce a negotiated IDC rate agreement from the cognizant agency to recover IDC.

   If the applicant does not have a negotiated rate and NIFA is the cognizant agency, the applicant may request an IDC rate. Applicants are not required to complete the IDC package during the application process and need only to calculate a rate to serve as a basis for requesting IDC. If awarded, the applicant will be required to submit a complete IDC proposal package to obtain a negotiated rate.

Organizations that do not have a current negotiated (including provisional) rate, may elect the de minimis rate (2 CFR 200.414(f)). The Uniform Guidance offers the option of electing to charge a de minimis rate of 15 percent of modified total indirect costs (MTDC), which may be used indefinitely. As described above and in 2 CFR 200.403, costs must be charged consistently as either indirect or direct costs but may not be double charged or inconsistently charged as both. If elected, this methodology must be used consistently for all Federal awards until such time as a non-Federal entity chooses to negotiate for a rate, which it may do at any time.

See NIFA Indirect Costs for information including additional resources and NIFA Indirect Cost Guidance Chart.

2. NIFA awards may not be used to support the procurement of unmanned aircraft systems to process, store, or transmit Federal information (as defined in OMB Circular A-130) unless the grant is specifically available for procurement of such equipment and grantees describe in their application how they will comply with the information security requirements outlined in Appendix B of M-26-02 Ensuring Government Use of Secure Unmanned Aircraft Systems and Supporting United States Producers and develop a risk-based approach to applying those requirements to procurement solicitations to potential vendors under the resulting Federal award. This information, if provided, will be evaluated by NIFA as part of its evaluation process. If such procurement is approved, specific information security requirements may be included in the terms and conditions of the grant to ensure that the grantees will incorporate those requirements in procurement solicitations of unmanned aircraft systems under the Federal award. Additionally, projects must ensure that they are in adherence to Secretary's Memorandum (SM) 1078-014 and are not using unallowable 3-D printers which can be found at National Security and Unallowable Costs.

## PART V. APPLICATION REVIEW REQUIREMENT

### A. NIFA's Evaluation Process

NIFA evaluates each application in a two-part process. First, we screen each application to ensure that it meets the administrative requirements set forth in this NOFO. All administrative requirements must be met in order for the application to proceed to the next level of review. Second, a scientific peer-review process will be used to technically evaluate applications that have met the administrative requirements using a review panel (see NIFA Peer Review Process).

**Administrative Requirements**

Applications that do not satisfy all of the criteria below will be returned without review.

1. The applicant must qualify as an SBC and have received an SBC Control Number. USDA NIFA uses the Small Business Administration (SBA) SBIR/STTR company registry certification that the applicant is to provide with the application to confirm the applicant is a SBC;
2. The application must meet the Application Content and Format requirements as described in this NOFO. This includes page length requirements, all required forms, and all files in PDF;
3. The proposed budget must be within the dollar ceiling identified in this NOFO;
4. The proposed Phase II research must fall within one of the ten topic areas (see Part 1, C of this NOFO);
5. An application must contain adequate scientific/technical and market opportunity information that clearly states the project plan and objectives. USDA NIFA reserves the right not to submit for review any application that it finds to have insufficient information; and
6. For SBIR, the PD/PI will work a minimum of 51 percent of his/her time for the SBC during the period of the grant and that the SBC will conduct a minimum of one-half of the research effort. For STTR, the PD/PI will work a minimum of 51 percent of his/her time for *either* the SBC or the partnering research institution and the partnering research institution will conduct a *minimum* of 30% of the proposed research effort, and the SBC will conduct a *minimum* of 40% of the proposed research effort. However, the PD/PI may spend less than 50 percent of his/her time on the Phase II project.

**Scientific Peer Review Process**

NIFA selects reviewers for the review process based upon their training and experience in relevant scientific, extension, or education fields, taking into account the following factors:

1. The level of relevant formal scientific, technical education, or extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education, or extension activities.
2. The need to include experts from various areas of specialization within relevant scientific, education, or extension fields.
3. The need to include other experts (e.g., agricultural producers, range or forest managers/operators, researchers, educators, evaluators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs.

4. The need to include experts from a variety of organizational types (e.g., colleges, universities, industry, state and Federal agencies, and private profit and non-profit organizations) and geographic locations.
5. The need to maintain a balanced composition with regard to the reviewer's area of expertise, geographic area, and entity type, as appropriate.
6. The need to include reviewers who can judge the effective usefulness of each application to producers and the general public.

After each peer review panel has completed its deliberation, the responsible program staff of NIFA will recommend that your project is either approved for support from currently available funds or declined due to insufficient funds or unfavorable review.

NIFA reserves the right to negotiate with the PD/PI and/or the submitting organization or institution regarding project revisions (e.g., reductions in the scope of work, funding level, period, or method of support) prior to recommending any project for funding.

After the review process has been completed, NIFA sends copies of reviews, *not* including the identity of reviewers, and a summary (if applicable) of the review panel comments to the PD.

NIFA anticipates that the evaluation of SBIR/STTR Phase II applications will require approximately six months from submission deadline. No information on application status will be available until NIFA makes the final award selections. NIFA will notify both successful and unsuccessful applicants of final award decisions via email. For information about the status of a submitted application, see **Part VI** of the NIFA Grants Application Guide.

***Conflicts of interest.*** NIFA takes extreme care to prevent any actual or perceived conflicts of interest that may influence review or evaluation (see NIFA Peer Review Process for Competitive Grant Applications).

**B. Evaluation Criteria**

NIFA will use the following criteria to evaluate applications to this program.

1. **Degree to Which Phase I Objectives were Met and Technical Feasibility Established (20%):** The extent to which:
   a. Phase I project demonstrated novelty, innovation, uniqueness, and original content;
   b. Conceptual adequacy of the research and suitability of the hypothesis, as applicable;
   c. Clarity and delineation of Phase I objectives;
   d. Demonstration of feasibility through preliminary data; and
   e. Probability of success of the project to move into Phase II is appropriate given the level of scientific originality, and risk-reward balance.
2. **Phase II Scientific and Technical Feasibility (20%):**
   a. Project objectives and outcomes are clearly described, adequate, and appropriate. All project components (i.e., research and commercialization) are reflected in one or more project objectives;
   b. Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
   c. Expected results or outcomes are clearly stated, measurable, and achievable within

the allotted timeframe;
   d. Proposed research fills knowledge gaps that are critical to the development of new innovations to address the stated problem of issue; and
   e. Proposed research is up to date on the current state of the art (i.e., literature reviews have been completed).
3. **Commercial Potential (20%):** The commercial potential will be assessed based on how well the following criteria are presented:
   a. Demonstration of the company's ability to commercialize the innovation;
   b. Relevant and current market information for the innovation (stakeholder needs for the innovation, size of the market, potential customers, competition, etc.);
   c. Strategy for commercializing the innovation, including follow-on commitments from private sector or non-SBIR/STTR funding sources;
   d. Plans for protection of intellectual property;
   e. Projected revenue stream and assumptions; and
   f. Record of commercializing new products and/or services during the last 5 years, especially from prior SBIR and STTR projects.

   A Commercialization Plan showing that the proposing firm has no prior Phase II awards will not affect the evaluation of an application; the application will be evaluated for commercial potential based on its commercialization strategy.
4. **Importance of the Problem (10%):** How well the application justifies the importance of the problem. The degree to which the project satisfies a public interest.
5. **Investigator and Resource Qualifications (10%):**
   a. Roles of key personnel are clearly defined;
   b. Key personnel have sufficient scientific and business expertise to complete the proposed project and, where appropriate, partnerships with other disciplines and institutions are established;
   c. PD and Co-PD biographic information/resumes provide relevant employment history;
   d. Support personnel, facilities, and instrumentation are sufficient;
   e. A clear plan is articulated for project management, including time allocated for attainment of objectives and delivery of products, maintenance of partnerships and collaborations, and a strategy to enhance communication, data sharing, and reporting among members of the project team;
   f. Consultants, subcontractors, or CRADA cooperators that are involved in the project have provided letters verifying their willingness to participate in the project; and
   g. Personnel on subcontract(s) and consulting agreement(s) have defined roles and responsibilities.
6. **Budget (10%):** The budget is appropriate for the proposed research plan, and the application provides sufficient budget detail to indicate clearly how the funds in each budget category would be utilized.
7. **Duplication (10%):**
   a. There is no duplication of any ongoing or previous research by the SBC or by other researchers; and
   b. Application clearly indicates how the proposed technology would differ significantly from existing innovations.

Additional factors that will be considered in the review process are whether an SBIR/STTR application involves a CRADA with a USDA or other Federal laboratory or contains a follow-on funding commitment for Phase III. In the event that two or more applications are of approximately equal merit, the existence of a CRADA with a USDA or other Federal laboratory or a follow-on funding commitment for Phase III will be an important consideration to break the tie. The value of any commitment will depend upon the degree of financial commitment made by non-Federal investors, with the greater value resulting from a signed agreement with reasonable terms for an amount at least equal to the funding requested from USDA in Phase II.

### C. Proprietary Information

Information contained in unsuccessful applications will remain the sole property of the applicant. USDA NIFA will retain copies of all applications for three years. Public release of information in any application submitted will be subject to existing statutory and regulatory requirements. If proprietary information is provided in an application, which constitutes a trade secret, proprietary commercial or financial information, confidential personal information, or data affecting national security, it will be treated in confidence, to the extent permitted by law. This information must be clearly marked by the applicant with the term "confidential proprietary information," and the following legend must appear on each PDF attachment submitted as a part of the application:

> "These data must not be disclosed outside the Government and must not be duplicated, used, or disclosed in whole or in part for any purpose other than evaluation of this application. If a funding agreement is awarded to this applicant as a result of or in connection with the submission of these data, the Government must have the right to duplicate, use, or disclose the data to the extent provided in the funding agreement and pursuant to applicable law. This restriction does not limit the Government's right to use information contained in the data if it is obtained from another source without restriction. The data subject to this restriction are contained on pages (insert pages) of this application."

Any other legend may be unacceptable to the Government and may constitute grounds for removing the application from further consideration without assuming any liability for inadvertent disclosure. The Government will limit the dissemination of such information to within official channels.

USDA NIFA, by law, is required to make the final decision as to whether the information is required to be kept in confidence. The SBIR/STTR Policy Directive § 8(b)(4) protects recipient firms relative to maintaining confidentiality of proprietary information for a period of twenty years after the end of the grant. However, any application that is funded will be considered an integral part of the award and will be made available to the public upon request through the Freedom of Information Act, except for designated proprietary information.

The inclusion of business confidential or other proprietary information is discouraged unless it is necessary for the proper evaluation of the application. If proprietary information is to be included, it is encouraged to be limited, set apart from other text on a separate page, and keyed to the text by numbers. It is encouraged to be confined to a few critical technical items that, if disclosed, could jeopardize obtaining of foreign or domestic patents. Trade secrets, salaries, or other information that could jeopardize commercial competitiveness are encouraged to be

similarly keyed and presented on a separate page. Applications or reports that attempt to restrict the dissemination of large amounts of information may be found unacceptable by USDA NIFA.

## D. Rights in Technical Data

Rights in technical data, including software developed under the terms of any funding agreement resulting from an application submitted in response to this solicitation, must remain with the recipient. However, the Government must have the limited right to use such data for Governmental purposes and must not release such data outside the Government without permission of the recipient for a period of twenty years from completion of the project under which the data were generated. Effective at the conclusion of the twenty-year period, the Government must retain a royalty-free license for Governmental use of any technical data delivered under the agreement, whether patented or not.

**Rights in Data Developed Under SBIR/STTR Funding Agreement.**

The SBIR and STTR Policy Directive provides for "retention by an SBC of the rights to data generated by the SBC in the performance of an SBIR/STTR award."

1. Each agency must refrain from disclosing SBIR/STTR technical data to outside the Government (except reviewers) and especially to competitors of the SBC, or from using the information to produce future technical procurement specifications that could harm the SBC that discovered and developed the innovation.
2. SBIR/STTR agencies must protect from disclosure and non-governmental use all SBIR/STTR technical data developed from work performed under an SBIR/STTR funding agreement for a period of not less than twenty years from delivery of the last deliverable under that agreement (either Phase I, Phase II, or Federally funded SBIR/STTR Phase III) unless the agency obtains permission to disclose such SBIR/STTR technical data from the recipient or SBIR/STTR applicant. Agencies are released from the obligation to protect SBIR/STTR data upon expiration of the protection period, except that any such data that is also protected and referenced under a subsequent SBIR/STTR award must remain protected through the protection period of that subsequent SBIR/STTR award. For example, if a Phase III award is issued within or after the Phase II data rights protection period and the Phase III award refers to and protects data developed and protected under the Phase II award, then that data must continue to be protected through the Phase III protection period. Agencies have discretion to adopt a protection period longer than twenty years. The Government retains a royalty-free license for Government use of any technical data delivered under an SBIR/STTR award, whether patented or not. This section does not apply to program evaluation.
3. SBIR/STTR technical data rights apply to all SBIR/STTR awards, including subcontracts to such awards, that fall within the statutory definition of Phase I, II, or III of the SBIR/STTR Programs, as described in the SBIR/STTR Policy Directive. The scope and extent of the SBIR/STTR technical data rights applicable to Federally funded Phase III awards are identical to the SBIR/STTR data rights applicable to Phases I and II SBIR/STTR awards. The data rights protection period lapses only:
   a. Upon expiration of the protection period applicable to the SBIR/STTR award; or
   b. By agreement between the recipient and the agency.

## E. Copyrights

Recipients also must assert copyright in scientific and technical articles based on data produced under the grant where necessary to effect journal publication or inclusion in proceedings associated with professional activities. Journal or other copyright practices are acceptable unless the copyright policy prevents the recipient from making copies for its own use.

Proper acknowledgement of public funding in published scientific articles, manuscripts, presentations, and press releases is critical for the success of the agency's programs. Please use the following language to acknowledge NIFA support in such publications and associated presentations, as appropriate:

> "This research was supported [in part] by the intramural research program of the U.S. Department of Agriculture, National Institute of Food and Agriculture, [insert program type Small Business Innovative Research, Small Business Technology Transfer, etc., and accession number, if applicable]."

The recipient must also include a disclaimer in all publications and presentations stating the following:

> "The Findings and Conclusions in This Preliminary [Publication/Presentation/Blog] Have Not Been Formally Disseminated by the U. S. Department of Agriculture and Must Not Be Construed to Represent Any Agency Determination or Policy."

Presentations must include this disclaimer on the title slide in similar font and size to the name and title of the presenter.

If the recipient plans to issue a press release concerning the outcome of NIFA grant-supported research, they must notify NIFA in advance to allow for coordination. Publications resulting from work performed under a NIFA grant-supported project must be included as part of the annual or final progress report submitted to NIFA. When publications are available electronically, electronic access information must be provided.

## F. Patents and Inventions

Allocation of rights to inventions must be in accordance with 35 U.S.C. 202-206 and the Department of Commerce implementing regulations entitled "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms under Government Grants, Contracts and Cooperative Agreements" at 37 CFR Part 401. These regulations provide that small businesses normally may retain the principal worldwide patent rights to any invention developed with USDA NIFA support. USDA NIFA receives a royalty-free license for Federal Government use, reserves the right to require the patentee to license others in certain circumstances, and requires that anyone exclusively licensed to sell the invention in the United States must normally manufacture it domestically. To the extent authorized by 35 U.S.C. 205, USDA NIFA will not make public any information disclosing a USDA-supported invention for a twenty-year period to allow the recipient a reasonable time to file an initial patent application. Additional information may be obtained by contacting:
Alexis Taylor, Director of Planning, Accountability, and Reporting
Email: AlexisM.Taylor@usda.gov

SBIR/STTR recipients must report inventions to the awarding agency within two months of the inventor's report to the recipient. The reporting of inventions must be made through submission to Interagency Edison (www.iedison.gov). Specific instructions for invention reporting are contained in the agency's Terms and Conditions, a copy of which can be provided upon request.

### G. Research Involving Special Considerations

A number of situations frequently encountered in the conduct of scientific research require the submission of special information for a particular project. Since some types of research targeted for SBIR/STTR support have a high probability of involving human subjects at risk or vertebrate animals, special instructions follow:

If the proposed research will involve human subjects at risk or vertebrate animals, the application must so indicate by checking "Yes" on the R&R Other Project Information form found in Part IV, B of this NOFO. Further, in the event that the project is funded, the applicant may be required to have the research plan reviewed and approved by the appropriate review board or committee. It is suggested that applicants contact local universities, colleges, or nonprofit research organizations that have established such reviewing mechanisms to have this service performed.

Guidelines to be applied and observed when conducting such research are outlined below:

1. Human Subjects at Risk - Regulations issued by the Department of Agriculture to be used in safeguarding the rights and welfare of human subjects used in research supported with USDA grant funds are contained in 45 CFR Part 46 and USDA regulations set forth in 7 CFR Part 1c. All nonexempt research projects involving human subjects must be approved by an Institutional Review Board prior to commencing actual substantive work.
2. Animal Care - The performing organization must comply with the Animal Welfare Act (7 U.S.C., 2131-2156); Public Law 89-544, 1996 and the regulations issued by the Department of Agriculture in 9 CFR parts 1, 2, 3, and 4. In the case of domesticated farm animals housed under farm conditions, the recipient must adhere to the principles stated in the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, Federation of Animal Sciences Societies, 2020. In the event a project involving the use of living vertebrate animals results in a grant award, funds will be released only after a qualified Institutional Animal Care and Use Committee has approved the project.

### H. Recipient Commitments

Upon issuance of a research grant by USDA NIFA, the recipient will be required to make certain legal commitments through acceptance of the award document and the terms and conditions attached thereto, as well as any project-specific terms or conditions outlined.

### I. Additional Information

1. This NOFO is intended for informational purposes and reflects current planning. If there is any inconsistency between the information contained herein and the terms of any resulting SBIR/STTR funding agreement, the terms and conditions of the funding agreement are controlling.
2. If an applicant or a recipient is contemplating any type of transaction involving the

entity (i.e., merger, spin-off or sale), it is advised that the applicant or the recipient contact the USDA SBIR/STTR Office at sbir@usda.gov for knowledge of how the transaction may affect a potential grant or the grant, as applicable.

3. USDA NIFA is not responsible for any monies expended by the applicant prior to the award of any funding agreement.
4. This NOFO is not an offer by USDA NIFA and does not obligate USDA NIFA to make any specific number of awards. In addition, awards under these programs are contingent upon the availability of funds.
5. Unsolicited applications will not be accepted under the SBIR/STTR programs.
6. The applicant must provide the total number of employees for the organization and its subsidiaries and/or parent company, if applicable.
7. Under Federal law, it is USDA NIFA's responsibility to ensure Federal funds are disbursed in accordance with Federal regulations. USDA NIFA reserves the right to enact additional oversight controls on recipients deemed high risk based on organizational management, personnel, and financial information provided.
8. Per 2 CFR 200.206(b), NIFA is required to conduct a risk assessment of recipients prior to making an award; history of performance is one criterion of that assessment, and per 2 CFR 200.206(c) NIFA can adjust requirements based on the inherent risk of certain awards. There is discussion in previous sections of this NOFO about how the results of a Phase I project directly impact the viability of Phase II. While a Phase II proposal may be selected for an award based upon the anticipated success of the Phase I, there is considerable risk involved in funding the Phase II before Phase I is complete. Therefore, NIFA withholds all Phase II funds on awards for which a preceding Phase I has yet to be completed.

## J. Organizational Management Information

Applicants must submit specific management information prior to an award and update the information as needed. Applicants may only need to provide an update if there was a change in previously provided information under this or another NIFA program. NIFA provides the requisite forms during the pre-award process. Although an applicant may be eligible for award under this program, there are factors that may exclude an applicant from receiving Federal financial and nonfinancial assistance and benefits under this program (e.g., debarment or suspension of an individual, or a determination that an applicant is not responsible).

USDA NIFA will not issue an award until all requested organizational and financial management information has been received. It is highly recommended that all requested documents be submitted within 10 days of the request for information. Delaying or failing to submit this information could result in the funding for the proposal being rescinded. The required information includes the following:

1. Organization Affiliations
2. Financial Information
    a. Policies and procedures of your organization's internal controls for administration and financial management.
    b. A description of the timekeeping system that tracks personnel expenses and time distribution.
    c. Up-to-date financial information (e.g., certified audit reports, balance sheets, or income statements for the previous two years)

3. Articles of Incorporation or By-Laws
4. A list of current and recent Federal awards, including grants, contracts, and cooperative agreements. Please include the agency's name, award number, the title of the project, and start and end date(s)

## K. Application Disposition

Applicants may withdraw at any time before NIFA makes a final funding decision. NIFA will retain all applications, including withdrawn applications and unfunded applications.

## PART VI. AWARD ADMINISTRATION

### A. General

Within the limit of funds authorized, the NIFA awarding official will make grants to responsible and eligible applicants whose applications are judged most meritorious under the procedures set forth in this NOFO. The date specified by the NIFA awarding official as the effective date of the grant must be no later than September 30 of the Federal fiscal year in which the project is approved for support and funds are appropriated for such purpose, unless otherwise permitted by law. The project need not be initiated on the grant effective date, but as soon thereafter as practical so that project goals may be attained within the funded project period.

All funds granted by NIFA under this NOFO may be used only for the purpose for which they are granted in accordance with the program-specific laws and regulations, NIFA General Awards Administrative Provisions (7 CFR part 3430, subparts A through E), USDA Regulations for Grants and Agreements (2 CFR Chapter IV), Office of Management and Budget Uniform Guidance (2 CFR part 200), NIFA-specific terms and conditions, USDA General Terms and Conditions for Federal Awards, and approved budget and project plans.

The Notice of Award document will provide pertinent instructions and information as described in 2 CFR 200.211 (see NIFA's SBIR/STTR Terms and Conditions).

### B. Administrative and National Policy Requirements

Several Federal statutes and regulations apply to grant applications and the projects outlined in this NOFO (some are listed here: Federal Regulations). Unless specifically noted by statue or award-specific requirements, NIFA Federal Assistance Policy Guide applies to all NIFA awards.

### C. Expected Program Outputs and Reporting Requirements

Output and reporting requirements are included in the award terms and conditions. If there are any program or award-specific award terms, they will be identified in the Award Notice.

**SBIR/STTR Phase II Technical Reports**

For all Phase II awards, an interim technical progress report must be submitted at approximately the mid-point in the project, which, upon acceptance and approval, will release the final 50% increment of funding on the project (in most cases 50% of funding is released in the first half of project period). In addition, a comprehensive final technical report will be required within 120 days following the expiration of the Phase II grant. These reports will be submitted electronically per the award Terms and Conditions (reference the most recent version) to sbir@usda.gov. Each Phase II project will schedule an out briefing with SBIR/STTR staff to discuss the results and impact of the grant. Additional information on the deliverables and schedules can be found in the Terms and Conditions provided with the award.

Note: These technical reports, discussed above, will be held confidential for a period covering twenty years after the termination of the project. As such, proprietary information may be included in the interim and comprehensive final reports when necessary to provide the USDA SBIR/STTR staff with adequate information to evaluate the progress and outcome of the project. For the out briefing, USDA SBIR/STTR staff may request permission from the recipient to use

some of the information to communicate the success of the grant and the USDA SBIR/STTR program.

**REEport**
Recipients must submit initial project information and annual and summary reports to NIFA's electronic, Web-based inventory system, REEport, that facilitates both recipient submissions of project outcomes and public access to information on Federally funded projects. The details of these reporting requirements are included in the award Terms and Conditions (see REEport Guide for Project Directors). Reports submitted via REEport will be placed in the NIFA Reporting Portal (NRP) database. NRP is an online *public* database meant to provide information to the general public on all awards made by NIFA. As such, proprietary information *must not* be included in these reports. Additionally, a REEport submission does not meet the requirements for the interim technical and comprehensive final reports, as these are additional reports required under the Terms and Conditions for the SBIR/STTR grant.

**Federal Financial Management Requirements**
Recipients must comply with applicable Federal financial management requirements included in the award's Terms and Conditions, 7 CFR part 3403, 48 CFR part 31 and 2 CFR part 200. Below is a list of major requirements. Failure to comply could trigger significant audit liability and require global reconstruction of the recipient's accounting system.

**Separation of Funds**
To avoid commingling of funds, recipients must establish a unique account(s) in their accounting system to capture and accumulate funding and related costs of the grant, apart from other Federal and non-Federal grants, projects, and cost centers.

**Timekeeping**
To support direct and indirect labor charges, recipients must maintain hourly timesheets that encompass all hours worked and not worked on a daily basis. The timesheet must identify the: (a) grant, project, or cost center being worked on; (b) number of hours worked on each; (c) description of work performed; and (d) Paid Time Off (PTO) hours. The total hours recorded each day must coincide with an individual's employment status in accordance with established policy (i.e., full-time employees work 8 hours each day, etc.).

**Paid Time Off (PTO)**
Recipients may not directly charge a grant for time not spent working on the grant. Therefore, PTO (i.e., vacation, holiday, sick, and other paid leave) is not recoverable directly from grants, but rather must be allocated to all grants, projects, and cost centers over an entire cost accounting period.

**Full-Time University and other Organization Appointments**
For SBIR, the effort and compensation of individuals budgeted to work on grants, but who also hold full-time appointments at a University or another organization, may not exceed 100 percent. If applicable, it is necessary to:

1. obtain a letter releasing the individual from their full-time appointment. The release must be reflected in the organization's official payroll distribution system;

2. limit effort on the grant to time periods not covered by the full-time appointment; or
3. remove and replace with alternative research personnel. In addition, for SBIR, the primary employment of the Project Director/Principal Investigator (PD/PI) must be with the SBC at the time of award and during the conduct of the proposed research. For SBIR, eligible primary employment means that more than one-half (51%) of the PD's/PI's time is spent in the employment of the SBC during the award period of performance. For SBIR, primary employment with the SBC precludes the applicant from being a full-time employee with another organization or academic institution. For SBIR, while the PD/PI must work more than one-half (51%) of his/her time for the small business during the entire grant period, there is no time requirement for the PD's/PI's work on the proposed research.

   For STTR, the PD/PI for the proposed project (or, if multiple PD/PIs, at least one PD/PI) must be employed by and perform more than one-half (51%) of the PD/PDs time in the employ of either the SBC or the partnering Research Institution. For projects with multiple PD/PIs, at least one PD/PI must meet the primary employment requirement. That PD/PI will serve as the contact PD/PI for the Project Team. For STTR, while the PD/PI must work more than one-half (51%) of his/her time for the SBC or the partnering Research Institution during the entire grant period, there is no time requirement for the PD's/PI's work on the proposed research.

   To apply to both the SBIR and STTR programs, the PD/PI primary employment must follow the SBIR requirements by being employed more than one-half (51%) by the SBC.

**Owners of Closely Held Corporations (Limited Liability Companies, Partnerships, S-Corporations, etc.)**
Owners of closely held corporations whose compensation is charged directly or indirectly to Federal awards must take their compensations in the form of W-2 supported salaries, or guaranteed payments in order to: (a) trigger expense recognition in the accounting system; (b) ensure all compensation is reflected in grant-specific ledgers; and (c) to create a clear audit trail.

## D. SBIR/STTR Data Rights Clause

1. Definitions
   a. Computer Software. Computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae, and related material that would enable the software to be reproduced, recreated, or recompiled. Computer Software does not include Computer Databases or Computer Software Documentation.
   b. Data. All recorded information, regardless of the form or method of recording or the media on which it may be recorded. The term does not include information incidental to contract or grant administration, such as financial, administrative, cost or pricing or management information.
   c. Form, Fit, and Function Data. Data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, and data identifying source, size, configuration, mating and attachment characteristics,

functional characteristics, and performance requirements. For Computer Software it means data identifying source, functional characteristics, and performance requirements, but specifically excludes the source code, algorithms, processes, formulas, and flow charts of the software.

d. Government Purpose. Any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations or sales or transfers by the United States Government to foreign governments or international organizations. Government Purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose Technical Data or Computer Software for commercial purposes or authorize others to do so.

e. Operations, Maintenance, Installation, or Training Purposes (OMIT) Data. Data that is necessary for operation, maintenance, installation, or training purposes (but not including detailed manufacturing or process data).

f. SBIR/STTR Computer Software Rights. The Federal Government's rights during the SBIR/STTR Protection Period in specific types of SBIR/STTR Data that are Computer Software.

    i. The Federal Government may use, modify, reproduce, release, perform, display, or disclose SBIR/STTR Data that are Computer Software within the Government. The Federal Government may exercise SBIR/STTR Computer Software Rights within the Government for:
        1) Use in Federal Government computers;
        2) Modification, adaptation, or combination with other Computer Software, provided that the Data incorporated into any derivative software are subject to the rights in § 3(ee) of the SBIR/STTR Policy Directive and that the derivative software is marked as containing SBIR/STTR Data;
        3) Archive or backup; or
        4) Distribution of a computer program to another Federal agency, without further permission of the Awardee, if the Awardee is notified of the distribution and the identity of the recipient prior to the distribution, and a copy of the SBIR/STTR Computer Software Rights included in the Funding Agreement is provided to the recipient.

    ii. The Federal Government shall not release, disclose, or permit access to SBIR/STTR Data that is Computer Software for commercial, manufacturing, or procurement purposes without the written permission of the Awardee. The Federal Government shall not release, disclose, or permit access to SBIR/STTR Data outside the Government without the written permission of the Awardee unless:
        1) The non-Governmental entity has entered into a non-disclosure agreement with the Government that complies with the terms for such agreements outlined in § 8 of the SBIR/STTR Policy Directive; and
        2) The release or disclosure is—
            a) To a Federal Government support service contractor or their subcontractor for purposes of supporting Government internal

use or activities, including evaluation, diagnosis and correction of deficiencies, and adaptation, combination, or integration with other Computer Software provided that SBIR/STTR Data incorporated into any derivative software are subject to the rights in § 3(ee) of the SBIR/STTR Policy Directive; or

b) Necessary to support certain narrowly-tailored essential Government activities for which law or regulation permits access of a non-Government entity to a contractors' data developed exclusively at private expense, non-SBIR/STTR Data, such as for emergency repair and overhaul.

g. SBIR/STTR Data. 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.

h. SBIR/STTR Data Rights. The Federal Government's license rights in properly marked SBIR/STTR Data during the SBIR/STTR Protection Period are as follows: SBIR/STTR Technical Data Rights in SBIR/STTR Data that are Technical Data or any other type of Data other than Computer Software; and SBIR/STTR Computer Software Rights in SBIR/STTR Data that is Computer Software. Upon expiration of the protection period for SBIR/STTR Data, the Federal Government has a royalty free license to use, and to authorize others to use on its behalf, these data for Government Purposes, and is relieved of all disclosure prohibitions and assumes no liability for unauthorized use of these data by third parties. The Federal Government receives Unlimited Rights in Form Fit, and Function Data, OMIT Data, and all unmarked SBIR/STTR Data.

i. SBIR/STTR Protection Period. The period of time during which the Federal Government is obligated to protect SBIR/STTR Data against unauthorized use and disclosure in accordance with SBIR/STTR Data Rights. The SBIR/STTR Protection Period begins at award of an SBIR/STTR Funding Agreement and ends not less than twenty years from that date (See § 8(b)(4) of the SBIR/STTR Policy Directive).

j. SBIR/STTR Technical Data Rights. The Federal Government's rights during the SBIR/STTR Protection Period in SBIR/STTR Data that are Technical Data or any other type of Data other than Computer Software.

i. 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 (B) below or by written permission of the Awardee.

ii. SBIR/STTR Data that are Technical Data may be released outside the Federal Government without any additional written permission of the Awardee only if the non-Governmental entity or foreign government has entered into a non-disclosure agreement with the Federal Government that complies with the terms for such agreements outlined in § 8 of the SBIR/STTR Policy Directive and the release is:

1) Necessary to support certain narrowly-tailored essential Government activities for which law or regulation permits access of a non-Government entity to a contractors' data developed exclusively at private expense, non SBIR/STTR Data, such as for emergency repair and overhaul;
2) To a Government support services contractor in the performance of a Government support services contract for internal Government use or activities, including evaluation, diagnosis or modification, provided that SBIR/STTR Technical Data incorporated into any derivative Data are subject to the rights in § 3(ii) of the SBIR/STTR Policy Directive, and the release is not for commercial purposes or manufacture;
3) To a foreign government for purposes of information and evaluation if required to serve the interests of the U.S. Government; or
4) To non-Government entities or individuals for purposes of evaluation.

k. Technical Data. Recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including Computer Software Documentation and Computer Databases). The term does not include Computer Software or financial, administrative, cost or pricing, or management information, or other data incidental to contract or grant administration. The term includes recorded Data of a scientific or technical nature that is included in Computer Databases.

l. Unlimited Rights. The Government's rights to access, use, modify, prepare derivative works, reproduce, release, perform, display, disclose, or distribute Data in whole or in part, in any manner and for any purpose whatsoever, and to have or authorize others to do so.

2. Allocation of SBIR/STTR Data Rights.

a. An SBC retains ownership of all SBIR/STTR Data it develops or generates in the performance of an SBIR/STTR award. The SBC retains all rights in SBIR/STTR Data that are not granted to the Federal Government in accordance with the SBIR/STTR Policy Directive. These rights of the SBC do not expire.

b. During the SBIR/STTR Protection Period, the Federal Government receives SBIR/STTR Technical Data Rights in appropriately marked SBIR/STTR Data that is Technical Data or any other type of Data other than Computer Software; and SBIR/STTR Computer Software Rights in appropriately marked SBIR/STTR

Data that is Computer Software.

c. After the protection period, the Federal Government may use, and authorize others to use on its behalf, for Government Purposes, SBIR/STTR Data that was protected during the SBIR/STTR Protection Period. Awards issued by the U.S. Department of Energy are subject to Unlimited Rights after the expiration of the SBIR/STTR Protection Period.

d. The Federal Government receives Unlimited Rights in Form Fit, and Function Data, OMIT Data, and all unmarked SBIR/STTR Data

3. Identification and Delivery of SBIR/STTR Data. Any SBIR/STTR Data delivered by the Awardee, and in which the Awardee intends to limit the Federal Government's rights to SBIR/STTR Data Rights, must be delivered with restrictive markings. The Federal Government assumes no liability for the access, use, modification, reproduction, release, performance, display, disclosure, or distribution of SBIR/STTR Data without markings. The Awardee or its subcontractors or suppliers shall conspicuously and legibly mark all such SBIR/STTR Data with the appropriate legend.

e. The authorized legend shall be placed on each page of the SBIR/STTR Data. If only portions of a page are subject to the asserted restrictions, the SBIR/STTR Awardee shall identify the restricted portions (e.g., by circling or underscoring with a note or other appropriate identifier). With respect to SBIR/STTR Data embodied in Computer Software, the legend shall be placed on: (1) the printed material or media containing the Computer Software; or (2) the transmittal document or storage container. The legend shall read as follows:

"SBIR/STTR DATA RIGHTS

| | |
|---|---|
| Funding Agreement No. | |
| Award Date | |
| SBIR/STTR Protection Period | |
| SBIR/STTR Awardee | |
| SBIR/STTR Awardee Address | |

This is SBIR/STTR Data (or is Computer Software or a Prototype that embodies or includes SBIR/STTR Data) to which the SBIR/STTR Awardee has SBIR/STTR Data Rights and to which the Federal Government has received SBIR/STTR Technical Data Rights (or SBIR/STTR Computer Software Rights) during the SBIR/STTR Protection Period and rights of use for Government Purposes after the SBIR/STTR Protection Period, as those terms are defined in the SBIR/STTR Funding Agreement. Awards issued by the U.S. Department of Energy are subject to Unlimited Rights after the SBIR/STTR Protection Period, as that term is defined in the SBIR/STTR Funding Agreement. Any reproduction of

SBIR/STTR Data or portions of such data marked with this legend must also reproduce the markings."

(End of Legend)

f. Data submitted without correct or appropriate markings may be corrected within 6 months from the date the data is delivered.

4. Relation to patents. Nothing regarding SBIR/STTR Data Rights in this clause shall imply a license to or imply a requirement to license to the Federal Government any patent to a Subject Invention (as defined under the Bayh-Dole Act implemented at 37 CFR 401) made under an SBIR/STTR award.

## PART VII. OTHER INFORMATION

### A. Use of Funds and Changes in Budget

***Delegation of fiscal responsibility.*** Unless the terms and conditions of the award state otherwise, recipients may not in whole or in part delegate or transfer to another person, institution, or organization the responsibility for use or expenditure of award funds.

***Changes in Budget or Project Plans.*** In accordance with 2 CFR 200.308, recipients must request prior approval from NIFA for the following program or budget-related reasons (the recipient is subject to the terms and conditions identified in the award):

1. Change in the scope or the objective of the project or program without prior written approval (even if there is no associated budget revision required).
2. Change in a key person specified in the application or the Federal award.
3. Disengagement from the project for more than three months, or a 25 percent reduction in time devoted to the project.
4. Inclusion of costs that require prior approval in accordance with 2 CFR 200 Subpart E (Cost Principles), or 2 CFR Part 300 Appendix IX, (Principles for Determining Costs Applicable to Research and Development under Awards and Contracts with Hospitals), or 48 CFR, unless waived by the Federal awarding agency,48 CFR Part 31, Contract Cost Principles and Procedures;
5. Transfer of funds budgeted for participant support costs to other categories of expense (2 CFR 200.456 Participant support costs);
6. Sub-awarding, transferring, or contracting out of any work under a Federal award, including fixed amount sub-awards (see 2 CFR 200.333, Fixed Amount Sub-awards), unless described in the application and funded in the approved Federal awards. This provision does not apply to the acquisition of supplies, material, equipment, or general support services.
7. Changes in the approved cost-sharing or matching provided by the non-Federal entity;
8. The need for additional Federal funds to complete the project.
9. Salary rates of pay exceeding an Executive Level IV salary range (see "Rates of Pay for the Executive Schedule" under the "Executive & Senior Level Employee Pay Tables" header at https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/) require prior NIFA approval. This rate does not include any fringe benefits, general and administrative (G&A), overhead, or other expenses. Requests for approval must include the salary rate of pay and a justification for the rate and be sent to the Authorized Departmental Officer (ADO) at awards@usda.gov.
10. No more than 50 percent of the total dollars of an SBIR award may be subcontracted to another party(ies).
11. No more than 60 percent of the total dollars of an STTR award may be subcontracted to another party(ies).
12. Transferring funds between the construction and non-construction work under a Federal award; and
13. A no-cost extension (meaning, an extension of time that does not require the obligation of additional Federal funds) of the period of performance, other than any one-time extension authorized by the Federal agency in accordance with paragraph 2 CFR 200.308(g)(2). All requests for no-cost extensions should be submitted at least 10 calendar days before the

conclusion of the period of performance. The Federal agency may approve multiple no-cost extensions under a Federal award if not prohibited by Federal statute or regulation.

**B. Confidential Aspects of Applications and Awards**

When an application results in an award, it becomes a part of NIFA transaction records, which are available to the public. Information that the Secretary of Agriculture determines to be confidential, privileged, or proprietary in nature will be held in confidence to the extent permitted by law. Therefore, applicants should clearly mark any information within the application they wish to have considered as confidential, privileged, or proprietary. NIFA will retain a copy of an application that does not result in an award for three years. Such an application will be released only with the consent of the applicant or to the extent required by law. An applicant may withdraw at any time prior to the final action thereon.

**C. Regulatory Information**

These programs are not subject to the provisions of Executive Order 12372, which requires intergovernmental consultation with state and local officials. Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35), the collection of information requirements contained in this notice have been approved under OMB Document No. 0524-0039.

**D. Language Access Services**

NIFA offers language access services, such as interpretation and translation of vital information, free of charge. If you need interpretation or translation services, please visit NIFA Language Access Services.

## APPENDIX I: AGENCY CONTACTS

### Program Contacts

~~For science-related questions, please contact the topic area NPL listed in Part I, C of this NOFO.~~

For program content-related questions or if you are unable to reach the topic area NPL, please contact the SBIR/STTR General Mailbox: sbir@usda.gov.

For Due Diligence questions, please contact the SBIR/STTR Due Diligence Mailbox: sm.ddsbir@usda.gov.

For administrative questions related to:

1. Grants.gov, see Part IV of this NOFO
2. Other NOFO or application questions, please email grantapplicationquestions@usda.gov
3. Awards under this NOFO, please email awards@usda.gov

**U.S. Postal Mailing Address:**
National Institute of Food and Agriculture
U.S. Department of Agriculture
P.O. Box 419205, MS 10000
Kansas City, MO 64141-6205

**Courier/Package Delivery Address:**
National Institute of Food and Agriculture
United States Department of Agriculture
2312 East Bannister Road, MS 10000
Kansas City, MO 64141-3061

## APPENDIX II: GLOSSARY OF TERMS

**Glossary of Terms**

Agricultural Food and Research Initiative – AFRI
Assistance Listing Number – ALN
Authorized Departmental Officer – ADO
Authorized Organizational Representative – AR/AOR
Cooperative Research and Development Agreement – CRADA
General & Administrative – G&A
Indirect Costs – IDC
Limited Liability Company – LLC
National Institute of Food and Agriculture – NIFA
National Program Leader – NPL
NIFA Reporting Portal – NRP
Notice of Funding Opportunity – NOFO
Office of Inspector General – OIG
Paid Time Off – PTO
Project Director/Principal Investigator – PD/PI
Project Narrative – PN
Project Summary – PS
Research or Research and Development – R/R&D
Research, Education, Economics - REE
Small Business Administration – SBA
Small Business Concern – SBC
Small Business Innovation Research Program – SBIR
Small Business Technology Transfer Program – STTR
Technical and Business Assistance – TABA
United States Department of Agriculture – USDA
Venture Capital – VC
Venture Capital Operating Companies – VCOC

## APPENDIX III: DEFINITIONS

Refer to 7 CFR 3430 Competitive and Noncompetitive Non-formula Federal Assistance Programs – General Award Administrative Provisions for additional definitions.

**Definitions**

Affiliate:

As set forth in 13 CFR Part 121—Small Business Size Regulations, §121.103. Further information about SBA's affiliation rules and guides on Affiliation and Size Standards are available at SBIR STTR.

Applicant:

The organizational entity that, at the time of award, will qualify as a small business concern and that submits a grant application for a funding agreement under the SBIR/STTR programs.

Authorized Departmental Officer:

The Secretary or any employee of the Department with delegated authority to issue or modify award instruments on behalf of the Secretary.

Authorized Organizational Representative:

The president, chief executive officer or other designated official of the applicant organization who has the authority to commit the resources of the organization to the project, also referred to as the AR or AOR.

Budget Period:

Interval of time into which the project period is divided for budgetary and reporting purposes.

Commercialization:

The process of developing marketable products, processes, technologies, or services and the production and delivery (whether by the originating party or others) of the products, processes, technologies, or services for sale to or use by the Federal government or commercial markets.

Covered Individual:

Senior/key person or any other individual employed by the recipient to work on the research arrangement including an individual who (a) contributes in a substantive, meaningful way to the scientific development or execution of a research project proposed to be carried out as part of a research arrangement with USDA; and (b) is designated as a covered individual by USDA. Consistent with National Security Presidential Memorandum 33 (NSPM-33), this means principal investigators (PIs) and other senior or key personnel seeking or receiving USDA research and development funding (i.e., extramural funding) and researchers at USDA laboratories and facilities (i.e., intramural researchers, whether or not federally employed), including Government-owned, contractor-operated laboratories and facilities.

Covered Small Business Concern:

(SBIR only) A small business that (1) was not majority-owned by multiple venture capital operating companies, (VCOCs), hedge funds, or private equity firms on the date on which it submits an application in response to a solicitation under the SBIR programs and (2) is majority-owned by multiple venture capital operating companies , hedge funds, or private equity firm on the date of the SBIR award.

Cooperative Research and Development Agreement:

A legal agreement between a Federal agency and one or more non- Federal parties. Purpose is to foster Federal/private collaborations to bring new technology to the marketplace. Used Federal government wide. Allows non-Federal party the right to negotiate an exclusive license to CRADA inventions.

Direct Costs:

Costs that occur in direct support of a single project or that can be clearly identified, segregated, and billed directly to the project via the companies' accounting system.

Fee:

The amount of profit a company will receive from the grant.

Foreign Affiliation:

A funded or unfunded academic, professional, or institutional appointment or position with a foreign government or government-owned entity, whether full-time, part-time, or voluntary (including adjunct, visiting, or honorary), with research institutions located in a foreign country of concern.

Foreign Country of Concern:

The People's Republic of China, the Democratic People's Republic of Korea, the Russian Federation, the Islamic Republic of Iran, or any other country determined to be a country of concern by the Secretary of State (42 U.S.C. 19237).

Foreign Entity:

Foreign government, foreign non-government entity (e.g., foreign corporation, business association, partnership, trust, society), foreign government instrumentality, or multilateral organization whose members are primarily foreign governments or non-government entities (e.g., Group of Twenty (G20)).

Foreign Talent Recruitment Program:

Any program, position, or activity that includes compensation in the form of cash, in-kind compensation, including research funding, promised future compensation, complimentary foreign travel, things of non de minimis value, honorific titles, career advancement opportunities, or other types of remuneration or consideration directly provided by a foreign country at any level (national, provincial, or local) or their designee, or an entity based in, funded by, or affiliated with a foreign country, whether or not directly sponsored by the foreign country, to an individual, whether directly or indirectly stated in the arrangement, contract, or other documentation at issue

Funding Agreement:

Any contract, grant, or cooperative agreement entered into between any Federal agency and any small business concern for the performance of experimental, developmental, or research work, including products or services funded in whole or in part by the Federal Government.

Grant:

The award by the Authorized Departmental Officer of funds to an eligible grantee to assist in meeting the costs of conducting for the benefit of the public, an identified project which is intended and designed to accomplish the purpose of the program as identified in the program solicitation or NOFO.

Indirect Costs:

Costs which occur in support of more than one objective and therefore cannot be identified readily and specifically with a particular project, often called overhead, F&A, or G&A.

Innovation:

A new or improved item having marketable potential including (1) development of new technologies; (2) refinement of existing technologies; or (3) development of new applications for existing technologies.

Intellectual Property:

The separate and distinct types of intangible property that are referred to collectively as "intellectual property," including but not limited to: patents, trademarks, copyrights, trade secrets, SBIR/STTR technical data (as defined in this section), ideas, designs, know-how, business, technical and research methods, other types of intangible business assets, and all types of intangible assets either proposed or generated by a small business concern as a result of its participation in the SBIR/STTR program.

Joint Venture:

An association of concerns with interests in any degree or proportion by way of contract expresses or implied, consorting to engage in and carry out a single specific business venture for joint profit, for which purpose they combine their efforts, property, money, skill, or knowledge, but not on a continuing or permanent basis for conducting business generally. A joint venture is viewed as a business entity in determining power to control its management.

Manufacturing Related:

Encompasses improvements in existing methods or processes as well as wholly new processes, machines, or systems. The four main areas include:

1. Unit process level technologies that create or improve manufacturing processes, including:
   a) Fundamental improvements in existing manufacturing processes that deliver substantial productivity, quality, or environmental benefits; or
   b) Development of new manufacturing processes, including new materials, coatings, methods, and associated practices.
2. Machine-level technologies that create or improve manufacturing equipment, including:
   a) Improvements in capital equipment that create increased capability, such as accuracy or repeatability, increased capacity through productivity improvements, cost reduction, or increased environmental efficiency, such as safety, energy efficiency and, environmental impact; or
   b) New apparatus and equipment for manufacturing, including additive and subtractive manufacturing, deformation and molding, assembly and test, semiconductor fabrication, and nanotechnology.
3. Systems level technologies for innovation in the manufacturing enterprise, including:
   a) Advances in controls, sensors, networks, and other information technologies that improve the quality and productivity of manufacturing cells, lines, systems, and facilities;
   b) Innovation in extended enterprise functions critical to manufacturing, such as quality systems, resource management, supply chain integration and distribution, scheduling, and tracking; or
   c) Technologies that enable integrated and collaborative product and process development, including computer-aided and expert systems for design, tolerance development, process and materials selection, life cycle cost estimation, rapid prototyping, and tooling.

4. Environment or societal level technologies that improve workforce abilities, productivity, and manufacturing competitiveness, including:
    a) Technologies for improved workforce health and safety, such as human factors and ergonomics; or
    b) Technologies that aid and improve workforce manufacturing skills and technical excellence, such as educational systems incorporating improved manufacturing knowledge and instructional methods.

Matching:

The portion of allowable project or program costs not borne by the Federal Government, including in-kind contributions on a dollar-for-dollar basis. The matching funds must derive from non-Federal sources.

New Application:

An application not previously submitted to a program.

Outcome:

The measure of long-term, eventual, program impact

Output:

The measures of near-term program impact.

Peer Reviews:

Experts or consultants qualified by training and experience in particular scientific or technical fields to give expert advice on the scientific and technical merit of applications or the relevance of those applications to one or more of the application evaluation criteria. Peer reviewers may be ad hoc or convened as a panel.

Project Director / Principal Investigator:

The single individual designated by the recipient in the application and approved by the ADO who is responsible for the direction and management of the project, also known as a Principal Investigator (PI) for research activities (7 CFR 3430.2)

Prototype:

A model of something to be further developed, which includes designs, protocols, questionnaires, software, and devices.

Project Period:

The proposed duration of Phase II projects will not normally exceed twenty-four (24) months, except in special, justified circumstances. Where a proposed research project requires more than twenty-four months to complete Phase II, a longer project period, not to exceed thirty-six (36) months, may be requested. An applicant of a Phase II project with an anticipated duration beyond twenty-four months must specify and justify the length of duration in the application at the time of its submission to USDA/NIFA.

Recipient:

The small business concern designated in the grant award document as the responsible legal entity to whom the grant is awarded.

Research or Research and Development:

R/R&D activity is:

1. A systematic, intensive study directed toward greater knowledge or understanding of the subject studied;
2. A systematic study directed at applying new knowledge to meet a recognized need; or
3. A systematic application of knowledge toward the production of useful materials, devices, and systems, or methods, including design, development, and improvement of

prototypes, and new processes to meet specific requirements.

Research Project Grant:

The award of funds by the Department to a recipient to assist in meeting the costs of conducting for the benefit of the public an identified project, which is intended and designed to establish, discover, elucidate, or confirm information or the underlying mechanisms relating to a research topic area identified in the annual solicitation of applications.

Resubmitted Application:

A project application that was previously submitted to a program, but the application was not funded. This includes resubmissions for Phase I recipients who were not successful in their first attempt at a Phase II application. Resubmissions must be from a prior USDA SBIR/STTR Phase II solicitation and must be submitted to the same topic area. SBCs are limited to only one resubmission within five years following the initial submission, and applicants must include their Phase I award number and declined Phase II proposal number in the response to reviewer comments.

SBIR/STTR Participants:

Business concerns that have received SBIR/STTR awards or that have submitted SBIR/STTR applications.

SBIR/STTR Technical Data:

All data generated during the performance of an SBIR/STTR award.

SBIR/STTR Technical Data Rights:

The rights a small business concern obtains in data generated during the performance of any SBIR/STTR award that a recipient delivers to the Government during or upon completion of a Federally funded project, and to which the government receives a license.

Small Business Concern:

A concern that meets the requirements set forth in 13 CFR 121.702.

Small Business Entity:

A small business entity is typically defined as a sole proprietorship, partnership, corporation, or S corporation. An LLC is a business structure allowed by state statute.

Small Farms or Mid-sized Farms:

Small farms are defined as farms or ranches with less than $350,000 in annual agricultural sales. Mid-sized farms are farms or ranches with less than $999,999 in annual agricultural sales.

Subcontract:

Any agreement, other than one involving an employer-employee relationship, entered into by a recipient of a funding agreement calling for supplies or services for the performance of the original funding agreement.