

National Aeronautics and Space Administration (NASA)

Small Business Innovation Research (SBIR) 2025 SBIR Ignite Solicitation

**Complete Proposal Package Due Date and Time:
July 22, 2025 by 5:00 p.m. ET**

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Executive Summary

The NASA Small Business Innovation Research (SBIR) program focuses on transforming scientific discovery into products and services through innovations that have potential for infusion into NASA programs and missions, potential for commercialization into commercial markets, and societal benefit. Unlike fundamental research, the NASA SBIR program supports small businesses in the creation of innovative, disruptive technologies and enables the application of research advancements from concept to market. Unlike most investors, the NASA SBIR program provides non-dilutive funding at the earliest stages of company and technology development.

The 2025 SBIR Ignite Solicitation is focused on technologies with a strong commercial pull. The subtopic areas of interest for this solicitation have been specifically selected for their commercial relevance. Offerors must demonstrate how their technology meets a need within the commercial market and provide a strong plan for commercialization of the technology to be competitive for award.

If you are familiar with the traditional NASA annual SBIR and STTR solicitations, you will notice significant differences in [section 3](#): Proposal Preparation Instructions and Requirements; [section 4](#): Method of Selection and Evaluation Criteria; [section 6](#): Submission of Proposals; and [section 8](#): Submission Forms. Be sure to read each of these sections carefully to ensure your proposal makes it through administrative screening to be considered.

For Phase I, the technical proposal has a new format detailed in [section 3.2](#). The technical proposal is now limited to 15 pages and no longer includes a slide deck.

Phase II proposals will be due 120 days from the start of the Phase I period of performance. Firms will be notified of the exact date when they receive their Phase I award. The goal is to reduce the time between the end of the Phase I and the beginning of the Phase II periods of performance.

The SBIR Ignite program aims to accelerate the advancement of technology to market. Firms are encouraged to propose the shortest Phase II period of performance that is required to reach their proposed milestones and not to default to the maximum 24-month period of performance. *Note: The Phase I period of performance is expected to be the standard 6 months.*

NASA requests Small Business Concerns (SBCs) to submit proposals for the SBIR Ignite solicitation during fiscal year (FY) 2025. This solicitation includes instructions for you to submit complete proposal packages as well as background information, eligibility and certification requirements, evaluation criteria, and contracting considerations. Details on the research subtopic areas appear in [section 9](#). Communication between NASA and firms is through email during the solicitation period. The SBIR Ignite proposal submission period begins Monday, June 2, 2025 and ends at 5 p.m. Eastern Time on Tuesday, July 22, 2025.

Notable changes in the 2025 SBIR Ignite solicitation:

- Technical proposal format and content (see [section 3.2](#))
- Technical evaluation criteria and scoring and weighting have changed (see [section 4](#) and [Appendix A](#))
- Submissions will occur in Valid Evaluation (see [section 6](#))
- If selected, Phase II effort will be included as an option in Phase I contract (see sections [4.2](#) and [6.2](#))

1. Program Description

1.1 Legislative Authority and Background

Congress created the Small Business Innovation Research (SBIR) program to support scientific excellence and technological innovation through the investment of federal research funds. The purpose of this investment is to build a strong national economy, strengthen the role of small business in meeting federal research and development needs, increase the commercial application of research results, and foster and encourage participation by socially and economically disadvantaged and women-owned small businesses.

The Small Business Administration (SBA) provides policy through the combined Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. The [SBIR and STTR Extension Act of 2022](#) amended the Small Business Act (*15 U.S.C. 638*) to extend the SBIR and STTR programs until September 30, 2025.

1.1.1 Due Diligence Program to Assess Security Risks

The SBIR and STTR Extension Act of 2022 requires NASA, in coordination with the SBA, to establish and implement a due diligence program to assess security risks presented by offerors seeking a federally funded award. As noted above, the NASA SBIR/STTR Programs follow the policies and practices of the [SBA SBIR/STTR Policy Directive](#). Revisions to the Policy Directive are in effect as of May 3, 2023, and can be viewed through the [Federal Register Notice](#). This revision is incorporated into this solicitation, including Appendix III, “Disclosures of Foreign Affiliations or Relationships to Foreign Countries” as reflected in the Disclosures of Foreign Affiliations or Relationships to Foreign Countries form (see section [2.3.1](#)).

In accordance with section 4 of the SBIR and STTR Extension Act of 2022, NASA will review all proposals submitted in response to this solicitation to assess security risks presented by offerors seeking an SBIR or STTR award. NASA will use information provided by the offeror in response to the Disclosures of Foreign Affiliations or Relationships to Foreign Countries form and the proposal to conduct a risk-based due diligence review on the cybersecurity practices, patent analysis, employee analysis, and foreign ownership of a small business concern, including the financial ties and obligations (which shall include surety, equity, and debt obligations) of the offeror and its employees to a foreign country, foreign person, or foreign entity.

1.2 Purpose and Priorities

This solicitation sets the requirements for you to submit a proposal to NASA for Small Business Innovation Research (SBIR) Program Ignite Phase I projects 2025. NASA will release its 2025 Phase I SBIR Ignite solicitation on Monday, June 2, 2025. You must submit completed proposal packages by Tuesday, July 22, 2025, 5:00 p.m. Eastern.

The Space Technology Mission Directorate (STMD) directs implementation of the NASA SBIR and STTR programs. The NASA SBIR/STTR Program Management Office (PMO), hosted at the NASA Ames Research Center, operates the programs together with NASA mission directorates and centers. The NASA Shared Services Center (NSSC) manages SBIR and STTR procurements.

Each year NASA mission directorates, programs, and projects identify the research problems and technology needs that the SBIR program will solicit. The range of problems and technologies is broad, and the list of research subtopics varies from year to year to maintain alignment with current interests.

1.3 Three-Phase Program

NASA SBIR projects advance through three phases and are described in detail on the NASA SBIR/STTR website: <https://sbir.nasa.gov/>.

Phase I

Phase I projects should demonstrate technical feasibility of the proposed innovation and the potential for use in a NASA program or mission and/or the commercial market. The NASA SBIR Program does not make awards solely directed toward system studies, market research, routine engineering, development of existing product(s), proven concepts, or modifications of existing products without substantive innovation.

Maximum value and period of performance (POP) for Phase I:

Phase I Contracts	SBIR
Maximum Contract Value	\$150,000
Period of Performance	6 months

Phase II

Phase II proposals continue the research and development started in Phase I to bring the innovation closer to use in a NASA program or mission and/or the commercial market. Phase II requires a more detailed proposal of the technical effort and commercialization strategy. Only Phase I awardees are eligible to submit a Phase II proposal within 120 days from the start of the Phase I period of performance. Firms will be notified of the exact date when they receive their Phase I award. The goal is to reduce the time between the end of the Phase I and the beginning of the Phase II periods of performance. Firms are encouraged to propose the shortest Phase II period of performance that is required to reach their proposed milestones and not to default to the maximum 24-month period of performance.

Phase II Option	SBIR
Maximum Option Value	\$850,000
Maximum Period of Performance	24 months

Post-Phase II Opportunities for Continued Technology Development

Phase I and II awards may not be sufficient in either dollars or time to prepare the project for government or commercial use. Therefore, NASA supports small businesses beyond Phase I and II awards with several Post Phase II initiatives. Please refer to the NASA SBIR/STTR website for eligibility, application deadlines, matching requirements and further information.

Phase III

Phase III is the commercialization of innovative technologies, products, and services resulting from either a Phase I or Phase II contract. This includes further development of technologies for transition into NASA programs, other Government agencies, or the private sector. Phase III contracts are funded from sources other

than the SBIR and STTR programs and may be awarded without further competition. SBIR awardees are eligible to receive sole-source Phase III contracts any time after award of their Phase I contracts. Please refer to <https://sbir.nasa.gov/content/post-phase-ii-initiatives#Phase-III> for Phase III information.

1.4 Availability of Funds

NASA does not commit to fund any proposal or to make a specific number of awards. NASA may elect to make several or no awards in any specific research subtopic. NASA will determine the number of awards based on the level of appropriated funding provided to the program in PY 2025.

NASA will not accept more than 1 proposal packages from any one offeror. NASA does not plan to award more than one (1) SBIR contracts to any offeror. See sections [3.1](#) and section [4](#).

1.5 Eligibility Requirements

1.5.1 Small Business Concern (SBC) Certification

You must submit a certification stating that the SBC meet the size, ownership, and other requirements of the SBIR program at the time of proposal package submission, award, and at any other time set forth in SBA's regulations at [13 CFR §§ 121.701-121.705](#).

1.5.2 SBC Size

You, combined with affiliates, must not have more than 500 employees.

1.5.3 SBIR Restrictions on Level of Small Business Participation

You must be the primary performer of the proposed research effort. To be awarded an SBIR Phase I contract, you must perform at least two-thirds or 67% of the effort, and subcontractors or consultants may perform up to one-third or 33% of the effort.

1.5.4 Place of Performance and American-made Products and Equipment

Congress intends that the Awardee of a Funding Agreement under the SBIR/STTR program should, when purchasing any equipment or a product with funds provided through the Funding Agreement, purchase only American-made equipment and products, to the extent possible, in keeping with the overall purposes of this program.

If a rare and unique circumstance exists (for example, if a supply, material, equipment, product, subcontractor/consultant, or project requirement is not available in the United States), NASA requires you to provide justification by completing the Foreign Vendor Form. This form must be submitted within the Proposal Budget Form, see section [3.2.3.5](#) NASA will consider a deviation request during contract negotiation and either approve or decline before award.

If a foreign vendor is proposed, the Phase I contract may be delayed or not awarded.

NASA will not approve purchases from or work with countries that appear on the Designated Country list. For reference, please see <https://www.nasa.gov/oii/export-control>.

1.5.5 Principal Investigator (PI) Employment Requirement

Requirements	SBIR
Primary Employment	Principal investigator must be primarily employed with the SBC
Employment Certification	For Phase I, the principal investigator must be primarily employed with the SBC at the time of award and during the conduct of the proposed project. Primary employment means that more than one-half of the PI employment time is spent in the employ of the SBC, based on a 40-hour workweek. NASA considers a 19.9-hour or more workweek elsewhere to conflict with this rule.
Co-PIs	Not allowed
Deviation Request	NASA will review any deviation requests during negotiation and either approve or decline before award.
Misrepresentation of Qualifications	If you misrepresent qualifications, NASA will decline the proposal package or terminate the contract.
Substitution of PIs	To substitute PIs, you must request approval from NASA after award

1.5.6 Novated/Successor in Interested/Revised Funding Agreements

An SBIR awardee may include, and SBIR work may be performed by, those identified via a “novated” or “successor in interest” or similarly revised funding agreement. In addition, an SBIR awardee may include those that have merely reorganized with the same key staff, regardless of whether they have been assigned a different tax identification number. In cases where there is a novation or similarly revised funding agreement, agencies may require the original awardee to relinquish its rights and interests in an SBIR project in favor of another applicant as a condition for that applicant's eligibility to participate in the programs for that project.

1.5.7 Joint Ventures or Limited Partnerships

Both joint ventures and limited partnerships are permitted, provided the entity created qualifies as an SBC defined in [1.5.1](#). Include in the proposal package a copy or summary of the joint venture or partnership agreement that includes, at a minimum, a statement of how the workload will be distributed, managed, and charged. See definitions for Joint Ventures along with examples at [13 CFR 121.103\(h\)](#).

1.5.8 Required Benchmark Transition Rate

More experienced firms (SBCs with 21 or more Phase I awards) must meet performance benchmark requirements to continue participating in SBIR and STTR programs. The purpose of these benchmarks is to ensure that Phase I offerors that have won multiple prior SBIR and STTR awards are progressing towards commercialization. SBA will notify companies failing the benchmarks as well as the relevant officials at participating agencies like NASA.

Please refer to <https://www.sbir.gov/performance-benchmarks> for more information.

1.6 NASA Technology Available (TAV) for SBIR Use

You may use technology developed by NASA, or Technology Available (TAV), on SBIR projects. NASA has over 1,400 patents available for licensing, including many patents related to sensors and materials, and over 1,000 available

software applications/tools in the Portfolio and Software Catalog via the NASA Technology Transfer Portal, <http://technology.nasa.gov>.

NASA provides these technologies "as is" and makes no representation or guarantee that additional effort will result in infusion or commercial viability. Whether or not an offeror proposes the use of a NASA patent or computer software within its proposed effort will not in any way be a factor in the selection for award.

1.6.1 Use of NASA Software

If you intend to use NASA software, a Software Usage Agreement (SUA), on a nonexclusive, royalty-free basis, is necessary, and the clause at 48 C.F.R. 1852.227-88, Government-Furnished Computer Software and Related Technical Data, will apply to the contract. Awardees will request the SUA from the appropriate NASA Center Software Release Authority (SRA) after contract award.

1.6.2 Use of NASA Patent

If you intend to use a NASA patent, you must apply for a nonexclusive, royalty-free evaluation license prior to submitting a proposal. After you have identified a patent to license in the NASA patent portfolio (<http://technology.nasa.gov>), click the link on the patent webpage ("Apply Now to License this Technology") to NASA's Automated Licensing System (ATLAS) to finalize your license with the appropriate field center technology transfer office. You must provide the completed evaluation license application with the proposal following the directions in section [3.3.3.8](#).

The evaluation license will automatically terminate at the end of the SBIR contract. License applications are treated in accordance with federal patent licensing regulations in 37 CFR Part 404. In addition to an evaluation license, if the proposed work includes the making, using, or selling of products or services incorporating a NASA patent, successful awardees will be given the opportunity to negotiate a nonexclusive commercialization license or, if available, an exclusive commercialization license to the NASA patent. Commercialization licenses are also provided in accordance with 37 CFR Part 404.

An SBIR awardee that has been granted a nonexclusive, royalty-free evaluation license to use a NASA patent under the SBIR award may, if available and on a noninterference basis, also have access to NASA personnel knowledgeable about the NASA patent. Licensing executives located at the appropriate NASA field center will be available to assist awardees requesting information about a patent that was identified in the SBIR contract and, if available and on a noninterference basis, provide access to the inventor or surrogate for the purpose of knowledge transfer.

Access to the inventor for the purpose of knowledge transfer will require the requestor to enter into a non-disclosure agreement (NDA) or other agreement, such as a Space Act Agreement. The awardee may be required to reimburse NASA for knowledge transfer activities. This is a time-consuming process and therefore, NASA does not recommend it for Phase I projects.

1.7 I-Corps™

NASA partners with the National Science Foundation (NSF) to give Phase I awardees the opportunity to participate in the NSF Innovation Corps (I-Corps™) program. I-Corps enables you to conduct customer discovery to learn your customers' needs, to obtain a better understanding of your company's value proposition, and to develop an outline of a business plan for moving forward. This training is designed to lower the market risk inherent in

bringing a product or innovation to market, thereby improving the chances for a viable business. For more information on the NASA I-Corps program, visit the NASA SBIR/STTR website.

If you are selected for Phase I contract negotiations, you will be provided the opportunity to opt into and participate in the NASA SBIR/STTR I-Corps program as indicated in section [4.1.9](#)

The amount of funding is up to \$18,000 to support participation in the shortened I-Corps version for SBIR awardees. I-Corps awards will be made separately with a modification with the Phase I contract.

1.8 Technical and Business Assistance (TABA)

Under the [Small Business Act](#), you may apply for Technical and Business Assistance (TABA) funding over and above the maximum contract value as part of your Phase I (up to \$6,500) or Phase II (up to \$50,000) proposal.

If your project is selected for award and the TABA funding is authorized by NASA, you must use the TABA to contract with one or more vendors to receive services to assist in:

- Making better technical decisions concerning your SBIR project
- Solving technical problems that arise during the conduct of your SBIR project
- Minimizing technical risks associated with your SBIR project
- Developing and commercializing new products and processes resulting from your SBIR project
- Business-related services aimed at improving commercialization success

TABA may include, for example:

- Access to a network of non-NASA scientists and engineers
- Assistance with product sales
- Intellectual property (IP) protections
- Market research
- Market validation
- Development of regulatory and manufacturing plans
- Access to technical and business literature available through online databases

For additional approved and restricted uses of TABA funding, see https://www.nasa.gov/sbir_sttr/taba/.

TABA vendors may include private commercialization assistance or business development service providers, public-private partnerships, other entrepreneurial support organizations (ESOs), and attorneys or other IP or licensing professionals. TABA funds may not be used to fund activities conducted internally by the small business awardee. For information and how to request TABA funds, please see sections [3.2.3.9](#), [4.3](#), and [5.3](#).

1.9 Small Business Administration (SBA) Applicant Resources

The SBA works with several local partners of various organizational types to train and support potential SBIR/STTR applicants around the country from proposal assistance to SAM registration, and commercialization support to industry connections. To find local assistance visit: <https://www.sbir.gov/local-assistance>.

To find out more information on the specific types of SBA federal resources available, visit: <https://www.sbir.gov/resources>.

1.10 NASA Mentor-Protégé Program (MPP)

The purpose of the NASA Mentor-Protégé Program (MPP) is to provide incentives to NASA contractors, performing under at least one active approved subcontracting plan negotiated with NASA, to assist protégés in enhancing their capabilities to satisfy NASA and other contract and subcontract requirements. The NASA MPP established under the authority of Title 42, United States Code (U.S.C.) 2473(c)(1) and managed by the Office of Small Business Programs (OSBP), includes an Award Fee Pilot Program. Under the Award Fee Pilot Program, a mentor is eligible to receive an award fee at the end of the agreement period based upon the mentor's performance of providing developmental assistance to an active SBIR/STTR Phase II contractor in a NASA Mentor-Protégé agreement (MPA). For more information on the Mentor-Protégé Program, please visit <https://www.nasa.gov/osbp/mentor-protége-program/>.

1.11 Fraud, Waste and Abuse and False Statements

Fraud is "any false representation about a material fact or any intentional deception designed to deprive the United States unlawfully of something of value or to secure from the United States a benefit, privilege, allowance, or consideration to which an individual or business is not entitled."

NASA reserves the right to decline any proposal packages that include plagiarism and false claims. Further, knowingly and willfully making any false, fictitious, or fraudulent statements or representations may be a felony under the Federal Criminal False Statement Act (18 U.S.C., section 1001), punishable by a fine and imprisonment of up to 5 years in prison. The Office of the Inspector General (OIG) has full access to all proposal packages submitted to NASA.

Pursuant to NASA policy, any company representative who observes crime, fraud, waste, abuse, or mismanagement or receives an allegation of crime, fraud, waste, abuse, or mismanagement from a federal employee, contractor, grantee, contractor, grantee employee, or any other source will report such observation or allegation to the OIG. NASA contractor employees and other individuals are also encouraged to report crime, fraud, waste, and mismanagement in NASA's programs to the OIG. The OIG offers several ways to report a complaint:

NASA OIG Hotline: 1-800-424-9183 (TDD: 1-800-535-8134)

NASA OIG Cyber Hotline: https://oigforms.nasa.gov/wp_cyberhotline.html

Or by mail:

NASA Office of Inspector General
P.O. Box 23089
L'Enfant Plaza Station
Washington, DC 20026

1.12 NASA Procurement Ombudsman Program

The NASA Procurement Ombudsman Program is available under this solicitation as a procedure for addressing concerns and disagreements concerning the terms of the solicitation, the processes used for evaluation of proposal packages, or any other aspect of the SBIR procurement. The clause at NASA Federal Acquisition Regulation (FAR) Supplement (NFS) 1852.215-84 ("Ombudsman") is incorporated into this solicitation.

The cognizant ombudsman is:

Marvin Horne, Procurement Ombudsman
Office of Procurement
NASA Headquarters
Washington, DC 20546-0001
Telephone: 202-358-4483
Email: nhq-dl-op-comp-advocate-vendor-engagement@mail.nasa.gov

In accordance with NFS 1852.215-84, the ombudsman does not participate in any way with the evaluation of proposal packages, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with the ombudsman, you must first address your concerns, issues, disagreements, and/or recommendations to the Contracting Officer for resolution. The process set forth in this solicitation provision (and described at NFS 1852.215-84) does not change your right to file a bid protest or the period in which to timely file a protest.

1.13 Questions About This Solicitation and Means of Contacting NASA SBIR Program

To ensure fairness, NASA will not answer questions about the intent and/or content of research subtopics in this solicitation during the open solicitation period.

If you have questions requesting clarification of proposal package instructions and administrative matters, refer to the NASA SBIR/STTR website or contact the NASA SBIR/STTR Helpdesk. **The Help Desk will not guarantee a timely answer to questions received after July 21, 2025, at 5:00 p.m. ET.**

1. NASA SBIR/STTR Website: <http://sbir.nasa.gov>
2. Help Desk:
 - a. Email: agency-sbir@mail.nasa.gov
 - b. You must provide the name and telephone number of the person to contact, the organization name and address, and the specific questions or requests.

1.14 Definitions

NASA strongly encourages you to review the list of definitions available at https://www.nasa.gov/sbir_sttr/program-definitions/. These definitions include those from the combined SBIR/STTR Policy Directives as well as terms specific to NASA.

2. Certifications and Other Proposal Requirements

2.1 Small Business Administration (SBA) Company Registry

You must register with SBA's Company Registry and update your commercialization status. See <https://www.sbir.gov/>. You must provide your unique SBC Control ID (assigned by SBA upon completion of the Company Registry registration) and upload a PDF copy of the SBA Company Registry registration with the Firm Certification Form.

2.2 System for Award Management (SAM) Registration

SAM, maintained by the GSA's Federal Acquisition Service, is the primary repository for contractor information required to conduct business with NASA. To be registered in SAM, all mandatory information, including the Unique Entity Identifier (UEI) and a Commercial and Government Entity (CAGE) code, must be validated in SAM. You may obtain information on SAM registration and annual confirmation requirements at <https://www.sam.gov/SAM/pages/public/index.jsf> or by calling 866-606-8220.

Per FAR 4.1102(a) "Offerors and quoters are required to be registered in SAM at the time an offer or quotation is submitted in order to comply with the annual representations and certifications..." To be eligible for SBIR awards, you must have an active SAM registration under North American Industry Classification System (NAICS) code 541713 or 541715 as a small business at the time of proposal award. Note that your SAM registration must remain active through entire process from proposal submission to contract performance.

If you are not registered, apply for registration immediately upon receipt of this solicitation. Typically, SAM registration and updates to SAM registration take several weeks. In order to receive an SBIR/STTR award from NASA, purpose of registration must be listed as "All Awards" on your SAM Registration.

Note that your SAM registration Doing Business As (DBA) name will appear on all contract documents.

2.3 Certifications

You must complete the Firm and Proposal Certifications by answering "Yes" or "No" to certifications as applicable in the Valid Evaluation System (Valid Eval). Carefully read each of the certification statements. The Federal Government relies on the information to determine whether you are eligible for a SBIR program award. Valid Eval requires firm registration and login. To access Valid Eval, go to https://usg.valideval.com/teams/nasa_ignite_2025/signup. Additional guidance is available in the Valid Eval SBC Registration and Login Digital Guide: https://www.nasa.gov/sbir_sttr/firms_library/

NASA uses a similar certification to ensure continued compliance with specific program requirements at time of award and at the time of final payment. This certification is available after selection in the Proposal Submissions and Award Management System (ProSAMS) at <https://my.prosams.nasa.gov/>. The definitions for the terms used in this certification are set forth in the Small Business Act, SBA regulations (13 CFR Part 121), the SBIR/STTR Policy Directives, and any statutory and regulatory provisions referenced in those authorities.

For Phase I awards, in addition to invoice certifications and as a condition for payment, a life cycle certification must be completed in ProSAMS. The life cycle certification shall be completed along with the final invoice certification before uploading the final invoice in the Department of Treasury's Invoice Processing Platform (IPP).

If the Contracting Officer believes that you may not meet certain eligibility requirements for award, they may request you provide clarification or supporting documentation. If the Contracting Officer still believes you are not eligible, you must file a size protest with the SBA, who will determine eligibility.

For Phase II awards, two life cycle certifications shall be completed in ProSAMS. A life cycle certification shall be completed along with the second invoice certification as a condition of payment of the second invoice. Another life cycle certification shall be completed along with the final invoice certification as a condition of payment of the final invoice. The life cycle certifications are preset in the ProSAMS.

2.3.1 Disclosures of Foreign Affiliation or Relationships to Foreign Countries

You must complete the “Disclosures of Foreign Affiliations or Relationships to Foreign Countries” questions as part of your proposal submission. Even if you do not have any foreign relationships, you must complete these questions to represent that such relationships do not exist. If you do not answer these questions, NASA will decline your proposal during the administrative screening process, and it will not be evaluated. Foreign involvement or investment does not independently disqualify you but failing to disclose such affiliations or relationships may result in denial of an award.

The disclosures require the following information:

- the identity of all owners and covered individuals of the small business concern who are a party to any foreign talent recruitment program of any foreign country of concern, including the People’s Republic of China;
- the existence of any joint venture or subsidiary of the small business concern that is based in, funded by, or has a foreign affiliation with any foreign country of concern, including the People’s Republic of China;
- 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;
- whether the small business concern is wholly owned in the People’s Republic of China or another foreign country of concern;
- the percentage, if any, of venture capital 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, including the People’s Republic of China;
- any technology licensing or intellectual property sales to a foreign country of concern, including the People’s Republic of China, during the five-year period preceding submission of the proposal; and
- any foreign entity, offshore entity, or entity outside the United States related to the small business concern.

After reviewing the above listed disclosures, and if determined appropriate by NASA, the program may ask you to provide true copies of any 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 in effect during the five-year period before proposal submission.

During award, you must regularly report to NASA any changes to a required disclosure.

2.4 Federal Acquisition Regulation (FAR) and NASA Certifications and Clauses

SAM contains required certifications that you may access at <https://www.acquisition.gov/browsefar> as part of the required registration (see FAR 4.1102). You must complete these certifications to be eligible for award. You must provide representations and certifications electronically via the website and update the representations and certifications as necessary, and at least annually, to keep them current, accurate, and complete. NASA will not enter any contract if you do not comply with these requirements.

In addition, you will need to be aware of the clauses that will be included in the contract if selected for a contract. For a complete list of FAR and NASA clauses see [Appendix D](#).

2.5 Software Development Standards

If you are proposing projects involving the development of software, you may be required to comply with NASA Procedural Requirements (NPR) 7150.2D, NASA Software Engineering Requirements, available online at https://nodis3.gsfc.nasa.gov/npg_img/N_PR_7150_002D_/N_PR_7150_002D_Preface.pdf.

2.6 Human and/or Animal Subject

NASA requires a protocol approved by a NASA review board if proposed work includes human or animal subjects. **Due to the complexity of the approval process, NASA does not allow use of human and/or animal subjects for Phase I projects.** For additional information, contact the NASA SBIR/STTR Program Office at agency-sbir@mail.nasa.gov. Reference 14 CFR 1230 and 1232.

2.7 Flight Safety Standards

If you are proposing projects involving the delivery of a spacecraft, you must comply with NASA Procedural Requirements (NPR) 8079.1, NASA Spacecraft Conjunction Analysis and Collision Avoidance for Space Environment Protection, available online at <https://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=8079&s=1>

2.8 Homeland Security Presidential Directive 12 (HSPD-12)

If your project is selected for award and requires access to federally controlled facilities or access to a federal information system (as defined in FAR 2.101(b)(2)) for 6 consecutive months or more, you must apply for and receive appropriate Personal Identify Verification (PIV) credentials.

FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel, states in part that the contractor must ensure that individuals needing such access provide the personal background and biographical information requested by NASA. See <https://nvlpubs.nist.gov/nistpubs/FIPS/NIST.FIPS.201-3.pdf>.

3. Proposal Preparation Instructions and Requirements

3.1 Multiple Proposal Submissions

NASA will not accept more than one (1) proposal package from any one firm.

3.2 Requirements to Submit Complete Phase I and II Proposal Packages

3.2.1 General Requirements

Guidelines for preparing both Phase I and Phase II proposals are provided below, but you are only eligible to submit a Phase II proposal during your Phase I period of performance. To be eligible to receive a SBIR Ignite Phase I award, you must submit a SBIR Ignite complete Phase I proposal package. If you are selected for an SBIR Ignite Phase I contract, the Phase II effort will be included in the contract as an option that may be executed if you are selected for a Phase II award. Phase I awardees will be eligible to submit a Phase II proposal by the 120th day of their Phase I period of performance. The Phase II proposal will be added as an option to the existing Phase I effort. Evaluation criteria for both Phase I and Phase II proposals are available in [section 4](#).

NASA will be using Valid Eval for the submission of these proposal packages. This solicitation guides firms through the steps for submitting a complete proposal package. All submissions will be completed through the secure Valid Eval URL and most communication between NASA and the firm is through email. To access Valid Eval, go to https://usg.valideval.com/teams/nasa_ignite_2025/signup. Additional details are available in [section 6](#).

A complete proposal package must contain all required content as described in [section 3.2.3](#) below.

Be thoughtful in selecting a subtopic to ensure the proposal is responsive to the subtopic. NASA will not move a proposal between subtopics or programs.

3.2.2 Format Requirements

NASA administratively screens all elements of a completed proposal package and will reject any proposal that does not conform to the following formatting requirements:

Page Limitations and Margins

- Phase I proposals must not exceed 15 pages.
- Phase II proposals must not exceed 30 pages (if selected for Phase I)
- Pages must be standard 8.5- by 11-inch (21.6- by 27.9-cm) in size.
- Margins must be 1.0 inch (2.5 cm). You must ensure that the margins comply before uploading.

NASA will not accept technical proposal uploads with any page(s) over the required page limits. The additional forms required for proposal package submission do not count against the page limits.

Type Size

Use type size 10 point or larger for text or tables, except as legends on reduced drawings.

Header/Footer

You may include the SBC name, subtopic number, and project title in the header on each page of the proposal. Include the page number and proprietary legend (see [section 3.4](#)), if applicable, in the footer on each page of the proposal. You may use margins for header/footer information.

Classified Information

NASA will reject any proposal package that contains classified information.

Project Title

The proposal project title must be concise and descriptive of the proposed effort. Do not use the NASA research subtopic title, acronyms, or words like "development of" or "study of."

Templates

Templates for the technical proposal and other forms are available in the [Firms Library](#). Use of the templates is not required but is highly recommended to ensure compliance with formatting requirements.

3.2.3 Complete Proposal Package

To be considered complete, each proposal package submitted must contain the following items:

1. Proposal Information
2. Contacts
3. Proposal Certifications
4. Proposal Summary (must not contain proprietary data)
5. Budget (including letters of commitment for government resources and subcontractors/consultants, other direct costs, and the foreign vendor form, if applicable)
6. Technical Proposal
7. Pro Forma Financial Projections (**Phase II only**)
8. NASA Evaluation License Application (**only if TAV is being proposed**)
9. Technical and Business Assistance (TABAs) request in Budget Form (**optional**)
10. Letters indicating financial support/funding commitments
11. I-Corps Interest Form (**Phase I only**)
12. Firm-Level Information
 - a. Firm Information
 - b. Firm Certifications
 - c. Disclosures of Foreign Affiliations or Relationships to Foreign Countries
 - d. Audit Information
 - e. Prior Awards Addendum (for firms with more than 15 Phase II awards in the past 5 years)
 - f. Commercialization Metrics Report (CMR)

Note: The program will not consider additional items such as relevant technical papers, product samples, videotapes, slides, or other ancillary item during the review process.

3.2.3.1 Proposal Information

You must provide the selected subtopic for your proposal, the proposal title, and certify you have read and understand the requirements for proposal submission.

3.2.3.2 Proposal Contacts

You must provide complete information for each contact person and submit the form as required. *Contact Information is public information and may be disclosed.*

3.2.3.3 Proposal Certifications

You must provide complete information for each question in the form and certify its accuracy as required.

3.2.3.4 Proposal Summary

You must provide complete information for each section of the form as required. **The Proposal Summary, including the technical abstract, is public information and may be disclosed.**

3.2.3.5 Proposal Budget Form

PHASE I: You must complete the Ignite Budget Form (found in the [Firms Library](#)) following the instructions provided. NASA may decline your proposal if you do not use the Ignite Budget Form. See [5.5](#) Profit for Fee and [5.6](#) Cost Sharing. The total requested funding for the Phase I effort must not exceed \$150,000 or \$156,500 (if requesting \$6,500 for Technical and Business Assistance (TABA), see section [1.8](#) and [3.2.3.9](#) for more information on the TABA opportunity).

PHASE II: You must complete the Ignite Budget form found in the [Firms Library](#)) following the instructions provided. NASA may decline your proposal if you do not use the Ignite Budget Form. See [5.5](#) Profit for Fee and [5.6](#) Cost Sharing. The total requested funding for the Phase II effort must not exceed \$850,000 or \$900,000 (if requesting \$50,000 for Technical and Business Assistance (TABA), see section [1.8](#) and [3.2.3.9](#) for more information on the TABA opportunity).

All proposed cost shall be supported with documentation, such as a quote, previous purchase order, published price lists, etc. **NASA is not responsible for any monies you expend for proposal preparation and submission.**

In addition, you must submit the following information, as applicable:

- **Use of a Foreign Vendor.** If you are requesting to purchase products and equipment from a foreign vendor, you must complete the Foreign Vendor Form (see section [1.5.4](#) for more information).
- **Use of Government Resources.** If you plan to use government resources (such as, services, equipment, facilities, laboratories, etc.), as described in Part 7 of the technical proposal instructions, you must provide the following:
 1. Statement, signed by the appropriate Federal department or agency official, verifying that the resources are available during the proposed period of performance, authorizing their use, and if applicable, including the associated cost.
 2. Signed letter on company letterhead from the SBC's designated small business representative explaining why the SBIR research project requires the use of Government resources. Include data that verifies the absence of non-federal facilities or personnel capable of supporting the research effort, and, if applicable, the associated cost estimate.

Due to the complexity and length of time for the approval process, NASA strongly discourages you from requesting the use of government resources during the performance of a Phase I. Approval for the use of government resources for a Phase I technical proposal requires a strong justification at the time of submission and will require approval by the Contracting Officer during negotiations if selected for award.

- **Use of Subcontractors and Consultants.** You may establish business arrangements with other entities or individuals to perform some of the proposed research/research and development (R/R&D) effort, within the limits in section [1.5](#) and below. Subcontractors' and consultants' work must also be performed in the United States (see section [1.5.4](#) for more information).

If you propose using subcontractors or consultants, you must submit the following:

1. List of consultants by name with the number of hours and hourly costs identified for each consultant.
2. Subcontractor budget that aligns with your Proposal Budget form and includes direct labor, other direct costs, and profit, as well as indirect rate agreements.

3. A letter of commitment for each subcontractor and/or consultant, dated and signed by the appropriate person with contact information.
 - a. If a university is proposed as a subcontractor, the signed letter must be on the university letterhead from the Office of Sponsored Programs.
 - b. If an independent consultant is proposed, the signed letter must not be on university letterhead.

The proposed subcontracted business arrangements for **Phase I** contracts, including consultants, must not exceed 33 percent of the research and/or analytical work. To calculate this percentage, divide the total cost of the proposed subcontracting effort including applicable indirect rates such as overhead and G&A by the total price proposed less profit.

$$\text{Percentage of subcontracting effort} = (\text{Subcontractor cost} + \text{G\&A}) / (\text{Total price} - \text{Profit})$$

Example:	Total price including profit	\$150,000
	Profit	\$15,000
	Total price less profit	\$150,000 - \$15,000 = \$135,000
	Subcontractor cost	\$40,000
	G&A	7%
	G&A on subcontractor cost	\$40,000 x 7% = \$2,800
	Subcontractor cost plus G&A	\$40,000+ \$2,800 = \$42,800
	Percentage of subcontracting effort	\$42,800/\$135,000 = 31.7%

For an SBIR Phase I, this is acceptable because it is below the limitation of 33 percent.

In **Phase II**, the proposed subcontracted business arrangements, including consultants, **must not exceed 50 percent** of the research and/or analytical work [as determined by the total cost of the proposed subcontracting effort (to include the appropriate overhead (OH) and general and administrative expenses (G&A) in comparison to the total effort funded by the government (total contract price including cost sharing or less profit, if any)]. Occasionally, deviations from this SBIR requirement may occur, and must be approved in writing by the Contracting Officer after consultation with the NASA SBIR PMO.

Occasionally, deviations from this requirement may occur, and must be approved in writing by the Contracting Officer after consultation with the NASA SBIR PMO.

See Part 8 of the Technical Proposal for additional information on the use of subcontractors and consultants.

Travel in Phase I

Due to the intent and short period of performance of the Phase I contracts, along with a limited budget, NASA strongly discourages travel during the Phase I contract. If the purpose of the meeting cannot be accomplished via videoconference or teleconference, you must justify the trip in the proposal budget form. The Contracting Officer and Technical Monitor will review travel requests to determine if they are necessary to complete the proposed effort.

TABA

If you are requesting TABA, you must submit a quote that includes the requirements in section [3.2.3.9](#).

3.2.3.6 Technical Proposal

Phase I and II technical proposals must contain all 9 parts in order, number, and title as listed below. NASA will decline any proposal package that does not have all 9 parts and it will not be evaluated. If a part is not applicable to your proposed effort, you must include the part and mark it “Not applicable.” Do not include any budget data in the technical proposal.

Read the requirements for each part carefully as requirements differ for Phase I and II proposals given the expected advancement in the proposed technology and the refinement of the commercialization plan during any Phase I efforts.

The technical proposal shall provide all information described in the nine parts below. Evaluators will not seek additional information.

Table of Contents

The technical proposal may begin with a brief table of contents indicating the page numbers of each of the parts.

Part Title	Page #
Table of Contents	
Part 1: Identification and Significance of the Innovation	
Part 2: Technical Objectives	
Part 3: Work Plan	
Part 4: Related R/R&D	
Part 5: Key Personnel	
Part 6: Commercialization and Business Plan	
Part 7: Facilities and Equipment	
Part 8: Subcontractors/Consultants	
Part 9: Related, Essentially Equivalent, and Duplicate Proposals and Awards	

Part 1: Identification and Significance of the Innovation

Succinctly describe:

- The proposed innovation.
- The relevance and significance of the proposed innovation to an interest, need, or needs, within a subtopic described in [section 9](#).
- The proposed innovation relative to the current state of the art.

The content of this section should clearly explain the significance of your proposed technology in terms that are understandable by someone that is not a technical expert in your field.

Part 2: Technical Objectives

Phase I: State the specific objectives of the Phase I R/R&D effort as it relates to the problem statement(s) posed in the subtopic description and the types of innovations being requested. Indicate the proposed deliverables at the end of the Phase I effort and how these align with the proposed subtopic found in [section 9](#). Address any technical risks and associated mitigation plans.

Phase II: State the specific objectives of the Phase II R/R&D effort as it relates to the problem statement(s) posed in the subtopic description and the types of innovations being requested. Indicate the proposed deliverables at the end of the Phase II effort and how these align with the proposed subtopic found in [section 9](#). Address any technical risks and associated mitigation plans.

If you plan to use NASA TAV including Intellectual Property (IP), you must describe planned developments with the IP. Add the NASA Evaluation License Application as an attachment in the Proposal Certifications form (see [section 1.6](#)).

Part 3: Work Plan

Include a detailed plan to meet the technical objectives. The plan must include:

- Detailed task descriptions, that is, what will be done, where it will be done, and the methods you will use to do it
- Schedules
- Resource allocations
- Estimated task hours for each key personnel that match hours reported in the Proposal Budget Form
- Planned accomplishments (including project milestones)
- If the offeror is a joint venture or limited partnership, a statement of how the workload will be distributed, managed, and charged
- **Phase II:** The SBIR Ignite program aims to accelerate the advancement of technology to market. Because of this, the program encourages Phase II proposals with periods of performance less than the standard 24 months in a regular Phase II award.

Part 4: Related R/R&D

Describe significant existing R/R&D that is directly related to the technical proposal including any conducted by the PI or by the company. Describe how it relates to the proposed effort and any planned coordination with outside sources. You must demonstrate awareness of key recent R/R&D conducted by others in the specific subject area. Include any pertinent references or publications.

Part 5: Key Personnel/Team

Phase I and II: Identify all technical and business personnel involved in Phase I activities whose expertise and functions are essential to the success of the project and future commercialization efforts. Provide biographical information, including directly related education and experience. Where the resume/vitae are extensive, you may summarize the most relevant experience or publications. Use the application prompts related to “Team” in both the technical merit and commercial potential rubrics to ensure you have included all necessary information.

The PI is key to the success of the effort. The following applies:

- **Functions:** The PI plans and directs the project, leading it technically and making substantial personal contributions during its implementation. The PI also serves as the primary contact with NASA on the project and ensures that work proceeds according to contract agreements. Competent management of PI functions is essential to project success. You must describe the nature of the PI's activities and the amount of time that the PI will personally apply to the project. The amount of time the PI proposes to spend on the project must be acceptable to the Contracting Officer.
- **Qualifications:** You must clearly present the qualifications and capabilities of the proposed PI and the basis for PI selection. NASA has the sole right to accept or decline a PI based on factors

such as education, experience, demonstrated ability and competence, and any other evidence related to the specific assignment.

- **Eligibility:** You must establish and confirm the eligibility of the PI and indicate if existing projects and other proposals recently submitted or planned commit the time of the PI concurrently with this proposed project. NASA will decline your proposal if you try to circumvent the restriction on PIs working more than half time for an academic or a nonprofit organization by substituting an ineligible PI.

Phase II: If the Phase II key personnel are different than the key personnel under Phase I, please provide rationale for the change.

Part 6: Commercialization and Business Plan

Phase I: Description of your commercialization and business plan should address the following key elements. Use the application prompts from the Commercial Potential Rubric in [Appendix A](#) to develop the following sections. Any technical discussion in Part 6 should be understandable to someone without technical expertise in your specific technology.

- Introduction
- Product/Solution
- Non-NASA Market Knowledge
- Business Model
- SBIR Ignite seeks to fund firms that will be successful in obtaining external investment beyond government sources. To strengthen your proposal, you should provide evidence of follow-on funding commitments to strengthen your proposal. Examples include:
 1. A letter of commitment for follow-on funding and/or product sales.
 2. A letter of commitment for matching funding to be provided for a future Phase II-E application.
 3. A letter of capital commitment, signed by the proper authority (CEO, CFO, etc.), that indicates a commitment to provide funding and/or product sales, should the Phase II project be successful, and the market need still exists.
 4. Letter of intent to provide funding should the Phase II project be successful, and the market need still exists.
 5. A specific plan to secure Phase III funding.

Note: The proposal should only include a list of these letters/commitments. The actual letters should be combined in a single document that is uploaded separately in the appropriate upload link on the "Uploads" page in Valid Eval.

Phase II: Description of your commercialization and business plan should address the following key elements. Use the application prompts from the Commercial Potential Rubric in [Appendix A](#) to develop the following sections. Any technical discussion in Part 6 should be understandable to someone without technical expertise in your specific technology. This part should provide the following information to communicate and validate that the firm has the knowledge and ability to commercialize the innovation being proposed and to validate the company's future viability and financial viability.

- Introduction
- Commercial Potential
- Non-NASA Market Knowledge
- Industry Attractiveness

- Business Model
- SBIR Ignite seeks to fund firms that will be successful in obtaining external investment beyond government sources. To strengthen your proposal, you should provide evidence of follow-on funding commitments to strengthen your proposal. Examples include:
 1. A letter of commitment for follow-on funding and/or product sales.
 2. A letter of commitment for matching funding to be provided for a future Phase II-E application.
 3. A letter of capital commitment, signed by the proper authority (CEO, CFO, etc.), that indicates a commitment to provide funding and/or product sales, should the Phase II project be successful, and the market need still exists.
 4. A specific plan to secure Phase III funding.

Note: The proposal should only include a list of these letters/commitments. The actual letters should be combined in a single document that is uploaded separately in the appropriate upload link on the "Uploads" page in Valid Eval.

Part 7: Facilities and Equipment

Describe the types, location, and availability of equipment necessary to carry out the work proposed. You must justify any proposed equipment purchase. **When purchasing equipment or a product under the SBIR contract, you should purchase only American-made products or equipment.**

Phase I: Although use of government-furnished laboratory equipment, facilities, or services (collectively, "government resources") is strongly discouraged in Phase I proposals, describe in this part why the use of such government resources is necessary and not reasonably available from the private sector if government resources are required. See sections [3.2.3.7](#) and [5.14](#) for additional requirements when proposing use of such government resources. The narrative description of resources should support the proposed approach and documentation in the Proposal Budget form.

If you plan to use a federal laboratory/facility during a follow-on Phase II contract, please state this intent in your Phase I proposal.

Phase II: If you request to use Government-furnished laboratory equipment, facilities, or services (collectively, "Government resources"), describe in this part why the use of such Government resources is necessary and not reasonably available from the private sector. See sections [3.3.3.4](#) and [5.14](#) for additional requirements when proposing use of such Government resources. The narrative description of resources should support the proposed approach and documentation in the Budget form.

Part 8: Subcontractors/Consultants

Describe all subcontracting or other business arrangements, including who they are with and for what expertise, functions, services, and number of hours. You must ensure that all organizations and individuals are available for the time periods proposed. The narrative description of subcontractors and consultants in the technical proposal should support the proposed approach and documentation in the Proposal Budget form, section [3.2.3.4](#). If partnering is not required, please explain why.

Part 9: Related, Essentially Equivalent, and Duplicate Proposals and Awards

WARNING: It is illegal to enter into multiple funding agreements for essentially equivalent work. While you may submit similar or identical proposals to multiple solicitations, it is risky. You must notify the agencies in advance and resolve the matter prior to award.

If you choose to submit identical proposals or proposals containing a significant amount of essentially equivalent work under other federal program solicitations, you must include a statement in each proposal containing:

1. The name and address of the agencies to which proposals were submitted or from which awards were received.
2. Date of proposal submission or date of award.
3. Title, number, and date of solicitations under which proposals were submitted or awards received.
4. The specific applicable research subtopics for each proposal submitted or award received.
5. Titles of research projects.
6. Name and title of principal investigator or project manager for each proposal submitted or award received.

A summary of essentially equivalent work information, as well as related research and development on proposals and awards, is also required in Proposal Certifications in Valid Eval (if applicable).

3.2.3.7 Pro Forma Template (only Phase II)

Phase II: Complete the Pro Forma Template available on the “Instructions & Resources” page within Valid Eval or in the Firms Library: https://www.nasa.gov/sbir_sttr/firms_library/. Provide realistic financial projections based on your best estimates and market research. Avoid overly optimistic or inflated figures.

3.2.3.8 NASA Evaluation License Application, only if TAV is being proposed

If you applied for TAV by following the instructions found at <http://technology.nasa.gov>, upload the application with your proposal package.

3.2.3.9 Request for TABA Funds

You may request TABA funds (see section [1.8](#)) for **Phase I (up to \$6,500)** and **Phase II (up to \$50,000)** above the maximum contract value. If you request TABA funds, you must do so in the proposal package submission. You are not required to request TABA at Phase I or Phase II. Eligibility for requesting TABA funds at Phase II is not dependent on Phase I TABA participation. NASA cannot direct you to any specific TABA vendor or website. Therefore, you will choose your own TABA vendor(s).

TABA requests must be made within the “Details” section in Valid Eval and the Ignite Budget Form that is submitted in the “Uploads” sections in ValidEval. The Ignite Budget Form is available in the Firms Library: https://www.nasa.gov/sbir_sttr/firms_library/. You must also upload a quote that includes the following from each vendor on their letterhead as supporting documents:

1. Contact information of the vendor (name, address, phone number, email address, and website)
2. Itemized list of services and associated cost for each service the TABA vendor will provide
 - a. This includes the number of hours and hourly cost for each service, when appropriate
3. Description of the deliverable(s) the TABA vendor will provide for each service summarizing the outcome of the TABA services
4. Description of vendor(s) expertise and knowledge of providing the desired TABA services

You will choose your own TABA vendor. NASA cannot direct you to any specific TABA vendor or website.

All TABA vendors must be legal businesses in the United States. NASA will consider TABA requests that are missing any required TABA information as incomplete and may not review the TABA request or provide TABA approval under the award.

NASA encourages you to use Phase I TABA funds for:

1. Development of a Phase II TABA Needs Assessment – If you plan to request a TABA supplement at Phase II, you should secure a TABA vendor at Phase I to support the development of a Phase II TABA needs assessment. The goal of the TABA Needs Assessment is to determine and define the types of TABA services and costs you would need if the project was selected for a future Phase II award. Phase II TABA supplements may be up to \$50,000.
2. Development of a Phase II Commercialization and Business Plan – If you are planning to submit a future proposal for Phase II funding, you will be required to submit a commercialization and business plan that meets the requirements of that future Phase II solicitation. NASA encourages you to use a Phase I TABA supplement to secure a TABA vendor to help develop the commercialization and business plan. The goal of the commercialization and business plan is to allow NASA to evaluate your ability to commercialize the innovation and provide a level of confidence regarding your company’s future and financial viability.

The TABA supplement is in addition to the Phase I and Phase II contract award value, and is not subject to any profit or fee by the requesting offeror and cannot be used in the calculation of indirect cost rates or general and administrative expenses (G&A). The TABA cost(s) and service(s) to be provided by each vendor will be based on the original period of performance. NASA will not consider requests for TABA funding outside of your proposal package submission or contractual period of performance.

3.2.3.10 I-Corps Interest (Phase I only)

You will complete a short series of questions related to I-Corps interest as part of your proposal package submission. NASA uses this information to determine the level of interest from Phase I offerors to participate in the NASA I-Corps program. See section [1.7](#).

Based on the initial level of interest in the I-Corps program, NASA plans to open the opportunity to all Phase I awardees to ensure a successful cohort of teams participate in the program. Phase I awardees will receive information from the SBIR PMO during contract negotiations describing the process to provide a 5-page proposal to participate in the I-Corps program. NASA will provide directions for completing the proposal including due dates, training dates, and available funding by email. NASA reserves the right to limit the number of offerors to participate in the I-Corps program based on the assessment of the I-Corps proposals and funding availability.

3.2.3.11 Firm Level Information

You must provide all SBC level information electronically within Valid Eval. Any required uploads do not count towards page limits for your proposal. To access Valid Eval, go to https://usg.valideval.com/teams/nasa_ignite_2025/signup.

A. Firm Information

You must provide the SBC identifying information in order to submit a proposal to this solicitation.

B. Firm Certifications

You must complete the Firm Certifications section of by answering “Yes” or “No” as applicable.

If you answer “Yes” to being registered as “majority-owned by venture capital operating companies, including hedge funds or private equity firms,” you must provide an additional certification and answer additional questions related to your company in the “Details” section of Valid Eval.

C. Disclosures of Foreign Affiliations or Relationships to Foreign Countries

You are required to complete the Disclosures of Foreign Affiliations or Relationships to Foreign Countries information as required in Valid Eval. See section [2.3.1](#) for additional information on these disclosures. You must answer “Yes” or “No” as applicable and provide the requested information related to each “yes” response.

Please note that even if you do not have any foreign relationships, you must complete the “Disclosures of Foreign Affiliations or Relationships to Foreign Countries” questions to represent that such relationships do not exist. Failure to complete and include these questions will result in your application being declined during the administrative screening.

D. Audit Information

Although you are not required to have an approved accounting system, it is easier for NASA to determine that your rates are fair and reasonable if you have an approved accounting system. To assist NASA, you must complete the questions in the Audit Information form regarding your rates and upload the Federal agency audit report or related information that is available from the last audit. If you have never been audited by a federal agency, then answer “No” to the first question, and you do not need to complete the remainder of the questions. The Contracting Officer uses this Audit Information to assist with negotiations if the proposal package is selected for award. The Contracting Officer will advise you what is required to determine reasonable cost and/or rates in the event the Audit Information is not adequate.

E. Prior Awards Addendum (for firms with more than 15 Phase II awards in the past 5 years)

If you have received more than 15 Phase II awards in the prior 5 fiscal years, you must submit the name of the awarding agency, solicitation year, phase, date of award, funding agreement/contract number, and subtopic title for each Phase II via the Prior Awards Addendum Template. If you have received any SBIR or STTR Phase II awards, even if fewer than 15 in the last 5 years, NASA still recommends that you complete this form as the information will be useful to you when completing the Commercialization Metrics Report (CMR).

The template is available in the Firms Library: https://www.nasa.gov/sbir_sttr/firms_library/.

F. Commercialization Metrics Report (CMR)

NASA uses a commercialization report/data-gathering process to track the overall commercialization success of its SBIR and STTR programs. You must complete the Commercialization Metrics Report or update an existing report if applicable, via <https://www.sbir.gov> (the report is available in the “My Dashboard” section of your company’s [sbir.gov](https://www.sbir.gov) profile) as part of the proposal package submissions process. Companies with no SBIR/STTR awards or awards within the last 3 to 5 years will not be penalized under past performance for the lack of past SBIR/STTR commercialization.

If you have received any Phase III awards resulting from work on any NASA SBIR or STTR awards, provide the related Phase I or Phase II contract number, name of Phase III awarding agency, date of award, Funding Agreement number, amount, project title, and period of performance. The report will also ask you to provide financial, sales, and ownership information, as well as any commercialization success you have had because of SBIR or STTR awards. You must update this information annually during proposal package submission.

CMR input is kept confidential and will not be made public except in broad aggregate, with no company-specific attribution. Do not submit password protected documents.

3.3 Understanding the Patent Landscape

You should indicate in the proposal that a comprehensive patent review has been completed to ensure that there is no existing patent or perceived patent infringement based on the innovation proposed. The U.S. Patent and Trade Office (USPTO) has an online patent search tool that can found at <https://www.uspto.gov/patents-application-process/search-patents>.

3.4 Proprietary Information in the Proposal Submission

Limit proprietary information to only that information that is essential to your proposal.

Information contained in unsuccessful proposals remains your property. The Federal Government may, however, retain copies of all proposals. Public release of information in any proposal submitted will be subject to existing statutory and regulatory requirements. If proprietary information is provided in a proposal, which constitutes a trade secret, commercial or financial information, it will be treated in confidence, to the extent permitted by law, provided that the proposal is clearly marked as follows:

- (A) The following “italicized” legend must appear on the title page of the proposal:

This proposal contains information that shall not be disclosed outside the Federal Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than evaluation of this proposal, unless authorized by law. The Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract if award is made as a result of the submission of this proposal. The information subject to these restrictions is contained on all pages of the proposal except for pages [insert page numbers or other identification of pages that contain no restricted information]. (End of Legend); and

- (B) The following legend must appear on each page of the proposal that contains information you wish to protect:

Use or disclosure of information contained on this sheet is subject to the restriction on the title page of this proposal.

3.5 Release of Certain Proposal Information

In submitting a proposal, you agree to permit the government to disclose publicly the information contained in the Contact Information and Proposal Summary questions, which includes the Technical Abstract. Other proposal data is your property, and NASA will protect it from public disclosure to the extent permitted by law, including requests submitted under the Freedom of Information Act (FOIA).

4. Method of Selection and Evaluation Criteria

The NASA SBIR Program does not make awards solely directed toward system studies, market research, routine engineering, development of existing product(s), proven concepts, or modifications of existing products without substantive innovation.

4.1 Phase I Proposal Evaluation Process and Evaluation Criteria

NASA conducts a multi-stage review process of all proposal packages:

1. Administrative review for compliance with sections 3 and 6 of the solicitation
2. Initial screening for responsiveness to the subtopic
3. Commercial evaluation on a competitive basis (as an “other competitive procedure” in accordance with FAR 6.102(d)(2) and FAR 35.016), using the criteria and procedures set forth within this solicitation
4. Technical evaluation on a competitive basis (as an “other competitive procedure” in accordance with FAR 6.102(d)(2) and FAR 35.016), using the criteria and procedures set forth within this solicitation
5. Scoring and weighting to determine rating
6. Price evaluation
7. Panel Review
8. Selection
9. Determination of cost/price reasonableness and responsibility

Do not assume that evaluators are acquainted with your company, key individuals, or with any experiments or other information. NASA will judge each proposal on its own merit and will not conduct any tradeoff analyses between or among competed proposals.

4.1.1 Administrative Review

NASA will review all proposal packages received by the published deadline to determine if the proposal package meets the requirements found in sections [3](#) and [6](#). NASA may decline and not evaluate a proposal package that is not compliant with the requirements in sections [3](#) and [6](#). NASA will notify you of its decision to eliminate the proposal package from consideration and the reason(s) for the decision.

4.1.2 Proposal Responsiveness

NASA will screen proposal packages that pass the administrative review to determine technical responsiveness to the subtopic of the solicitation. Proposal packages that are not responsive to the subtopic will be declined and not evaluated. NASA will notify you of its decision to eliminate the proposal package from consideration and the reason(s) for the decision. Ensure your technical proposal is responsive to the subtopic. NASA will NOT evaluate a technical proposal under a subtopic other than the one you select. ***Failure to adequately communicate how the proposal relates to the technical need posed in the subtopic will result in the proposal being rejected and no further evaluations will occur.***

4.1.3 Commercial Potential Evaluation Criteria

NASA will evaluate proposal packages that comply with administrative requirements and are technically responsive to the subtopic of this solicitation. Subject matter experts will determine the most promising technologies from a commercial potential perspective based on the following criteria:

- Ability to explain your solution
- Product or solution including the validity of the technology and what differentiates it, your assessment of technical risks and your intellectual property

- Non-NASA market knowledge
- Business Model
- Team
- Quality of the presented material

For more details about these criteria, please refer to [Appendix A](#) where the evaluation criteria, weighting, and definitions are provided. Please review the rubric to ensure your submission addresses all areas being evaluated.

4.1.4 Technical Merit Evaluation Criteria

After the commercial potential evaluation, subject matter experts will determine the most promising technical and scientific approaches based on the following criteria:

- Benefits of your proposed technology
- How well it advances the state of the art
- Technical risks associated with the proposed activities
- Your teams ability to carry out the proposed effort
- Quality of the submission

For more details about these criteria, please refer to [Appendix A](#) where the evaluation criteria, weighting, and definitions are provided. Please review the rubric to ensure your submission addresses all areas being evaluated.

4.1.5 Scoring of Factors and Weighting to Determine the Most Highly Rated Proposals

Each criteria in the rubric will be given a score and weighted according to the rubric. Scores for Commercial Potential and Technical Merit will be combined to achieve a total score for a proposal. The most highly rated proposals will be presented to the panel ([4.1.7](#)) for additional review and consideration. Because SBIR Ignite is focused on commercialization, the commercial potential of the solution is given greater consideration than our a typical NASA SBIR proposal at 30% of the total score with technical merit comprising 70% of the score.

4.1.6 Price Evaluation

Utilizing the procedures set forth in FAR 15.404-1, NASA will evaluate the budget proposal form to determine whether the proposed pricing is fair and reasonable. NASA will only make an award when the price is fair and reasonable and approved by the NASA Contracting Officer.

If a proposal is selected for award, the Contracting Officer will review all the evaluations for the proposal and will address any pricing issues identified during negotiation of the final award.

4.1.7 Panel Review

A panel made up of NASA subject matter experts and/or 3rd party reviewers will review the most highly rated proposals. The panel will assign adjectival ratings and rank the proposals considering the results of [4.1.3](#) and [4.1.4](#) and programmatic investment considerations (e.g., first-time awardee, portfolio balance across technologies, other strategic considerations, etc.) and establish final rankings of the proposals in each subtopic area.

The possible adjectival ratings for the Panel Review are:

- Excellent: A thorough and compelling proposal of exceptional merit, with one or more significant strengths and no significant weaknesses, that fully responds to the objectives of the solicitation.

- Very Good: A competent proposal of high merit, with one or more significant strengths and where strengths outbalance any weaknesses that may exist, that fully responds to the objectives of the solicitation.
- Good: A proposal that represents a credible and reasonably sound response to the solicitation. Any weaknesses not offset by strengths do not significantly detract from the response.
- Fair: A proposal with weaknesses that are not offset by strengths.
- Poor: A proposal of low merit, with one or more major weaknesses that are expected to be difficult to correct or are not correctable, or that does not represent a credible response to the solicitation.

The panel's final rankings and rationale for the rankings will be presented to the Source Selection Official (SSO).

4.1.8 Selection

The SSO has the final authority for choosing the specific proposals for contract negotiation. In making such a determination, the SSO, in their discretion, may consider additional programmatic balance factors such as portfolio balance across NASA programs, centers and mission directorates, available funding, first-time awardees/participants, and geographic distribution. Under this solicitation, NASA will not accept more than one proposal package from any one firm to ensure the broadest participation of the small business community. The list of proposals selected for negotiation will be posted on the NASA SBIR/STTR website (<https://sbir.nasa.gov/>). All selected firms will receive a formal notification letter.

4.1.9 Determination of cost/price reasonableness and responsibility

Each proposal package selected for negotiation by the SSO will be evaluated by the Contracting Officer to determine eligibility for an award. The terms and conditions of the contract will be negotiated based on the SBIR Small Business Act (15 U.S.C. 638), FAR and NASA FAR requirements, and a responsibility determination will be made. The Contracting Officer will advise the SSO on matters pertaining to price analysis and responsibility determinations. A Contracting Officer will negotiate an appropriate contract to be signed by both parties before work begins.

4.1.10 I-Corps Evaluation Process

For awardees that submit an I-Corps proposal pursuant to [sections 1.7](#) and [3.2.3.10](#), NASA will provide a programmatic assessment based on the following criteria: NASA will provide a programmatic assessment based on the following criteria:

- Proposed team members demonstrate a commitment to the requirements of the I-Corps program.
- The proposed team includes the proper composition and roles as described in the I-Corps proposal requirements.
- The I-Corps proposal demonstrates that there is potential for commercialization in both NASA and commercial markets.

Based on the assessment of the above criteria the NASA SBIR/STTR PMO will provide a recommendation to the SSO of I-Corps proposals to receive funding. The SSO will make the final selections.

4.2 Phase II Proposal Evaluation Process and Evaluation Criteria

Only Offerors selected for Phase I awards will be eligible to submit Phase II proposals. Although the Phase II effort is included as an option in the Phase I contract, a Phase II proposal is required and will be evaluated. After evaluation, a determination will be made as to whether to execute the Phase II option. Phase II proposals will be evaluated and selected in accordance with the evaluation and selection criteria identified in section [4.2](#).

NASA conducts a multi-stage review process of all proposal packages:

1. Administrative review for compliance with sections [3](#) and [6](#) of the solicitation
2. Initial screening for responsiveness to the subtopic
3. Commercial evaluation on a competitive basis (as an “other competitive procedure” in accordance with FAR 6.102(d)(2) and FAR 35.016), using the criteria and procedures set forth within this solicitation
4. Technical evaluation on a competitive basis (as an “other competitive procedure” in accordance with FAR 6.102(d)(2) and FAR 35.016), using the criteria and procedures set forth within this solicitation
5. Scoring and weighting to determine rating
6. Price evaluation
7. Selection
8. Determination of cost/price reasonableness and responsibility

Do not assume that evaluators are acquainted with your company, key individuals, or with any experiments or other information. NASA will judge each proposal on its own merit and will not conduct any tradeoff analyses between or among competed proposals.

4.2.1 Administrative Review

All proposal packages received by the published deadline will undergo an administrative review to determine if the proposal package meets the requirements found in [section 3](#) and [section 6](#). ***A proposal package that is found to be noncompliant with any requirements in sections 3 and 6 may be rejected and no further evaluations will occur.*** The offeror will be notified of NASA’s decision to eliminate the proposal package from consideration and the reason(s) for the decision. ***Incomplete proposal packages will be automatically rejected, and no further evaluations will occur.***

4.2.2 Commercial Potential Evaluation Criteria

NASA will evaluate proposal packages that comply with administrative requirements and are technically responsive to the subtopic of this solicitation. Subject matter experts will perform a rigorous evaluation of the commercial potential of the proposed solutions using the following criteria:

- Your ability to explain your solution
- Likelihood that your solution will be successful in the commercial market
- Non-NASA market knowledge
- Industry attractiveness
- Business model
- Financial projections
- Team
- Presentation quality

For more details about these criteria, please refer to [Appendix A](#) where the evaluation criteria, weighting, and definitions are provided. Please review the rubric to ensure your submission addresses all areas being evaluated.

4.2.3 Technical Merit Evaluation Criteria

NASA will give primary consideration to the scientific and technical merit and feasibility of the proposal. Subject matter experts will determine the most promising technical and scientific approaches based on the following criteria:

- Benefits of your proposed technology
- How well it advances the state of the art
- Technical risks associated with the proposed activities
- Your teams ability to carry out the proposed effort
- Quality of the submission

For more details about these criteria, please refer to [Appendix A](#) where the evaluation criteria, weighting, and definitions are provided. Please review the rubric to ensure your submission addresses all areas being evaluated.

4.2.5 Price Evaluation

Utilizing the procedures set forth in [FAR 15.404-1](#), NASA will evaluate the budget proposal form to determine whether the proposed pricing is fair and reasonable. NASA will only make an award when the price is fair and reasonable and approved by the NASA Contracting Officer.

If a proposal is selected for award, the Contracting Officer will review all the evaluations for the proposal and will address any pricing issues identified during negotiation of the final award

4.2.6 Prioritization

The scores from the commercial potential and technical merit evaluations will be used to determine if the Phase II option should be executed. All Phase I awardees will be considered for Phase II options. However, the decision to exercise the option is at NASA's sole discretion.

4.2.7 Selection

The SSO makes the final decisions to determine the proposals that will enter contract negotiations. The SSO may consider the additional programmatic balance factors identified in section [4.2.6](#) along with the technical merit and commercial potential.

After the SSO selection has been finalized, NASA will post the list of proposals selected for negotiation on the NASA SBIR/STTR website. All SBCs selected by the SSO will receive a formal notification letter. NASA will evaluate each proposal selected for negotiation for cost/price reasonableness. After completion of evaluation for cost/price reasonableness and a determination of responsibility, the Contracting Officer will negotiate and award an appropriate contract to be signed by both parties before work begins.

4.2.8 Determination of cost/price reasonableness and responsibility

Each proposal package selected for negotiation by the SSO will be evaluated by the Contracting Officer to determine eligibility for an award. The terms and conditions of the contract will be negotiated based on the SBIR Small Business Act (15 U.S.C. 638), FAR and NASA FAR requirements, and a responsibility determination will be made. The Contracting Officer will advise the SSO on matters pertaining to price analysis and responsibility determinations. A Contracting Officer will negotiate an appropriate contract to be signed by both parties before work begins.

Note: Sections [4.3](#), [4.4](#) and [4.5](#) below apply to both the Phase I and Phase II evaluation process.

4.3 TABA Evaluation

NASA conducts a separate review of all Phase I and II requests for TABA after the SSO makes the final selection of proposals to enter negotiation for a Phase I and Phase II contract. The SBIR/STTR PMO conducts the evaluation of the TABA request during contract negotiations to determine if the request meets the requirements found in sections [1.8](#) Technical and Business Assistance (TABA) and [3.2.3.9](#) Request for TABA Funds at Phase I and Phase II. The SBIR/STTR PMO then informs the Contracting Officer of the final determination to allow TABA funding under your contract. NASA will notify you of the approval or denial of your TABA supplement prior to award.

Requests for TABA funding are not reviewed during the evaluation of the proposal, and the request for TABA funds will not be part of the decision to make an award. All TABA requests will be reviewed after a proposal is selected for award and during the contract negotiation process.

4.4 I-Corps Evaluation Process

For awardees that submit an I-Corps proposal pursuant to sections [1.7](#) and [3.1.3.9](#), NASA will provide a programmatic assessment based on the following criteria:

- Proposed team members demonstrate a commitment to the requirements of the I-Corps program.
- The proposed team includes the proper composition and roles as described in the I-Corps proposal requirements.
- The I-Corps proposal demonstrates that there is potential for commercialization in both NASA and commercial markets.

Based on the assessment of the above criteria the NASA SBIR/STTR PMO will provide a recommendation to the SSO of I-Corps proposals to receive funding. The SSO will make the final selections.

4.5. Access to Proprietary Data by Non-NASA Personnel

4.5.1 Non-NASA Reviewers

In addition to utilizing government personnel in the review process, NASA, at its discretion and in accordance with 1815.207-71 of the NASA FAR Supplement, may utilize individuals from outside the government with highly specialized expertise not found in the government. Qualified experts outside of NASA (including industry, academia, and other government agencies) may assist in performing evaluations as required to determine or verify the merit of a proposal package. In deciding to obtain an outside evaluation, NASA will take into consideration requirements for the avoidance of organizational or personal conflicts of interest and any competitive relationship between the prospective contractor or subcontractor(s) and the prospective outside evaluator. Outside evaluators will certify that the information (data) contained in the proposal package is for evaluation purposes and will not be further disclosed.

4.5.2 Non-NASA Access to Confidential Business Information

In the conduct of proposal package processing and potential contract administration, NASA may need to provide access to the proposal package to other NASA contractor and subcontractor personnel. NASA will provide access to such data only under contracts that contain an appropriate NFS 1852.237-72 Access to Sensitive Information clause that requires the contractors to fully protect the information from unauthorized use or disclosure.

4.6 Notification and Feedback to Offerors

After selections for negotiation have been made, NASA will send a notification to the designated small business representative identified in the proposal package according to the processes described below.

Due to the competitive nature of the program and limited funding, recommendations to fund or not fund a proposal package are final. NASA will not reconsider selection decisions or provide additional information regarding the final decision. Offerors are encouraged to use the written feedback to understand the outcome and review of their proposal package and to develop plans to strengthen future proposals.

4.6.1 Providing Feedback

NASA uses a two-stage process to notify you of the outcome of your proposal package.

1. At the time of the public selection announcement, NASA will send an email to the designated small business representative indicating the outcome of the proposal package.
2. Within 60 days of the announcement of selection, NASA will notify the designated small business representative via email when proposal feedback is available. If you have not received your feedback within 60 days after the announcement, contact the NASA SBIR/STTR Program Help Desk at agency-sbir@mail.nasa.gov. **Due to the sensitivity of this feedback, NASA will only provide feedback to the designated small business representative and not to any other parties.**

5. Considerations

5.1 Requirements for Negotiations

To simplify making contract awards and to reduce processing time, all contractors selected for Phase I and Phase II contracts will ensure that:

1. All information in your proposal package is current (e.g., your address has not changed, the proposed PI is the same, etc.). If changes have occurred since submittal of your proposal package, notify the Contracting Officer immediately.
2. Your SBC is registered with System for Award Management (SAM) (section [2.2](#)).
3. Your SBC complies with the FAR 52.222-37 Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (VETS-4212) requirement (See Appendix C). Confirmation that a VETS-4212 report has been submitted to the Department of Labor, and is current, shall be provided to the Contracting Officer within 10 business days of the notification of selection for negotiation.
4. Your SBC HAS NOT proposed a co-principal investigator.
5. Your SBC will provide timely responses to all communications from the NSSC Contracting Officer. Failure to respond in a timely manner to the NSSC Contracting Officer may result in the award being cancelled.
6. All proposed cost is supported with documentation, such as a quote, previous purchase order, published price lists, etc.

Costs incurred prior to and in anticipation of award of a contract are entirely the risk of the contractor. A notification of selection for negotiation is not to be misconstrued as an award notification to commence work.

5.1.1 Requirements for Contracting

Awardees are required to make certain legal commitments through acceptance of numerous clauses in their Phase I contracts. This list is not a complete list of clauses to be included in Phase I contracts and is not the specific wording of such clauses. Copies of complete terms and conditions are available by following the links in [Appendix D](#).

1. Standards of Work. Work performed under the contract must conform to high professional standards.
2. Inspection. Work performed under the contract is subject to government inspection and evaluation at all times.
3. Examination of Records. The Comptroller General (or a duly authorized representative) must have the right to examine any pertinent records of the Awardee involving transactions related to this contract.
4. Default. The Federal Government may terminate the contract if the contractor fails to perform the work contracted.
5. Termination for Convenience. The contract may be terminated at any time by the Federal Government if it deems termination to be in its best interest, in which case the Awardee will be compensated for work performed and for reasonable termination costs.
6. Disputes. Any dispute concerning the contract that cannot be resolved by agreement must be decided by the Contracting Officer with right of appeal.
7. Contract Work Hours. The Awardee may not require an employee to work more than 8 hours a day or 40 hours a week unless the employee is compensated accordingly (for example, overtime pay).
8. Equal Opportunity. The Awardee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

9. Equal Opportunity for Veterans. The Awardee will not discriminate against any employee or application for employment because he or she is a disabled veteran or veteran of the Vietnam era.
10. Equal Opportunity for People with Disabilities. The Awardee will not discriminate against any employee or applicant for employment because he or she is physically or intellectually disabled.
11. Officials Not to Benefit. No Federal Government official may benefit personally from the SBIR/STTR contract.
12. Covenant Against Contingent Fees. No person or agency has been employed to solicit or secure the contract upon an understanding for compensation except bona fide employees or commercial agencies maintained by the Awardee for the purpose of securing business.
13. Gratuities. The contract may be terminated by the Federal Government if any gratuities have been offered to any representative of the government to secure the award.
14. Patent Infringement. The Awardee must report each notice or claim of patent infringement based on the performance of the contract.
15. American Made Equipment and Products. When purchasing equipment or a product under the SBIR/STTR contract, purchase only American-made items whenever possible.

5.2 Awards

5.2.1 Anticipated number of Awards

The program is anticipating selecting 15 Phase I proposals for contract negotiation with successful Phase I awards being selected for Phase II contract negotiation.

5.2.2 Award Conditions

NASA awards are electronically signed by a NASA Contracting Officer and transmitted electronically to the organization via email. NSSC will distribute the NASA SBIR award with the following items.

- SF26—Contract Cover Sheet
- Contract Terms and Conditions—to include reference to the complete proposal package
- Attachment 1: Contract Distribution List
- Attachment 2: Template of the Final Summary Chart
- Attachment 3: IT Security Management Plan Template
- Attachment 4: Applicable Documents List
- Negotiation Confirmation
- Frequently Asked Questions (FAQs)

5.2.3 Type of Contract

NASA SBIR Ignite Phase I award is a firm fixed price contract with a potential Phase II option.

5.2.4 Model Contracts

Examples of the NASA SBIR contracts can be found in the NASA SBIR/STTR Firms Library website:

https://www.nasa.gov/sbir_sttr/firms_library/. Model contracts are subject to change.

5.3 Reporting and Required Deliverables

An IT Security Management Plan is required at the beginning of the contract. Contractors interested in doing business with NASA and/or providing IT services or solutions to NASA should use the list found at the website of the Office of the Chief Information Officer (OCIO) as a reference for information security requirements:

<https://www.nasa.gov/content/security-requirements-policies>. An example of an IT Security Management Plan can

be found in the NASA SBIR/STTR Resources website: https://www.nasa.gov/sbir_sttr/firms_library/. For more information, see NASA FAR Supplement clause 1852.204-76.

All contracts require the delivery of technical reports that present (1) the work and results accomplished; (2) the scientific, technical, and commercial merit and feasibility of the proposed innovation and project results; (3) the proposed innovation's relevance and significance to one or more NASA interests (section 9); and (4) the strategy for development and transition of the proposed innovation and project results into products and services for NASA mission programs and other potential customers. Deliverables may also include the demonstration of the proposed innovation and/or the delivery of a prototype or test unit, product, or service for NASA testing and utilization if requested under Phase I.

You must provide to NASA all technical reports and other deliverables required by the contract. These reports must document progress made on the project and activities required for completion. Periodic certification for payment is required as stated in the contract. You must submit a final report and final summary chart to NASA upon completion of the Phase I or II R/R&D effort in accordance with applicable contract provisions.

A final New Technology Summary Report (NTSR) is due at the end of the contract, and New Technology Report(s) (NTR) are required if the technology(ies) is/are developed under the award prior to submission of the final invoice. For additional information on NTSR and NTR requirements and definitions, see section [5.9](#).

If you are approved to receive TABA, your contract will require TABA deliverable(s) that summarize the outcome of the TABA services, description of the itemized technical and/or business services received, and the actual cost for each service. TABA deliverable reports can be developed by the TABA vendor(s) with your input. For Phase I, it is standard for a TABA report to be required 30 days prior to the end of the period of performance. For Phase II, it is standard for a TABA report to be required at the end of the first year of performance and 30 days prior to the end of the period of performance.

5.4 Payment Schedule

The exact payment terms are included in the contract. Invoices are submitted electronically through the Department of Treasury's Invoice Processing Platform (IPP).

If you are approved to receive the TABA supplement, the standard as to when you will submit an invoice(s) for TABA reimbursement for services rendered are at:

Phase I – 30 days prior to the end of the contract period of performance (up to \$6,500)

Phase II - The end of the first year (up to \$25,000) and 30 days prior to the end of the contract period of performance (up to \$25,000). Total Phase II TABA reimbursement is up to \$50,000.

You must submit TABA reimbursement per the payment and deliverable report schedule in your contract. NASA will not reimburse any amounts incurred over the TABA funding amount in your contract. Reimbursement must only be for actual services the TABA vendor(s) provided to the SBC during the period of performance of the contract. NASA will not reimburse any amounts of services that were not received by the SBC during the contract period of performance.

5.5 Profit or Fee

Contracts may include a reasonable profit. The reasonableness of proposed profit is determined by the Contracting Officer during contract negotiations. Reference [FAR 15.404-4](#).

5.6 Cost Sharing

Cost sharing is permitted for proposal packages under this program solicitation; however, cost sharing is not required. Cost sharing will not be an evaluation factor in consideration of your proposal package nor will it be used in the determination of the percentage of Phase I work to be performed on the contract.

5.7 Rights in Data Developed Under SBIR Funding Agreements

The SBIR program provides specific rights for data developed under SBIR awards. Please review the full text at the following [FAR 52.227-20 Rights in Data-SBIR Program](#) and [PCD 21-02 FEDERAL ACQUISITION REGULATION \(FAR\) CLASS DEVIATION – PROTECTION OF DATA UNDER THE SMALL BUSINESS INNOVATIVE RESEARCH/SMALL TECHNOLOGY TRANSFER RESEARCH \(SBIR/STTR\) PROGRAM.](#)

5.8 Copyrights

The contractor may copyright and publish (consistent with appropriate national security considerations, if any) material developed with NASA support. NASA receives a royalty-free license for the Federal Government and requires that each publication contain an appropriate acknowledgment and disclaimer statement.

5.9 Invention Reporting, Election of Title, Patent Application Filing, and Patents

Awardees must provide New Technology Reports (NTR) for any new subject inventions, and the New Technology Summary Reports (NTSR) for the interim and final contract periods. Please review SBA SBIR/STTR Policy Directive provided in section [1.1.1](#) to understand these requirements.

5.10 Export Control

The contractor shall comply with all U.S. export control laws including Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR). Offerors are responsible for ensuring that all employees who will work on this contract⁸⁸⁸ are eligible under export control laws, EAR, and ITAR. Any employee who is not a U.S. citizen or a permanent resident may be restricted from working on this contract if the technology is restricted under export control laws, ITAR, or EAR unless the prior approval of the Department of State or the Department of Commerce is obtained via a technical assistance agreement or an export license. Violations of these regulations can result in criminal or civil penalties. For additional information on ITAR, please visit the Code of Federal Regulations at <https://www.ecfr.gov/current/title-22/chapter-I/subchapter-M>. For additional information on EAR, please visit the Code of Federal Regulations at <https://www.ecfr.gov/current/title-15/subtitle-B/chapter-VII/subchapter-C>.

5.11 Government-Furnished and Contractor-Acquired Property

In accordance with the SBIR/STTR Policy Directive, the Federal Government may transfer title to property provided by the SBIR Participating Agency to the awardee or acquired by the awardee for the purpose of fulfilling the contract, where such transfer would be more cost effective than recovery of the property.

5.12 Essentially Equivalent Awards and Prior Work

Awardees must certify with every invoice that they have not previously been paid nor are currently being paid for essentially equivalent work by any agency of the Federal Government. **Failure to report essentially equivalent or duplicate efforts can lead to the termination of contracts and/or civil or criminal penalties.**

5.13 Additional Information

5.13.1 Precedence of Contract Over this Solicitation

This program solicitation reflects current planning. If there is any inconsistency between the information contained herein and the terms of any resulting SBIR contract, the terms of the contract take precedence over the solicitation.

5.13.2 Evidence of Contractor Responsibility

The Government may request the offeror to submit certain organizational, management, personnel, and financial information to establish responsibility of the offeror. Contractor responsibility includes all resources required for contractor performance (e.g., financial capability, workforce, and facilities).

5.14 Use of Government Resources

Federal Departments and Agencies

Use of SBIR funding for unique Federal/non-NASA resources from a Federal department or agency that does not meet the definition of a Federal laboratory as defined by U.S. law and in the SBA Policy Directive on the SBIR program requires a waiver from the SBA. Proposal packages requiring waivers must include an explanation of why the waiver is appropriate. NASA will provide your request, along with an explanation to SBA, during the negotiation process. NASA cannot guarantee that a waiver can be obtained from SBA. Specific instructions to request use of Government Resources are in sections [3.2](#) or [3.3](#) of the solicitation. *Note: NASA facilities qualify as Federal laboratories.*

Support Agreements for Use of Government Resources

All offerors selected for award who require and receive approval from the SBIR Program Executive for the use of any federal facility must, within 20 business days of notification of selection for negotiations, provide to the NSSC Contracting Officer an agreement by and between the contractor and the appropriate federal facility/laboratory, executed by the government official authorized to approve such use. The agreement must delineate the terms of use, associated costs, and facility responsibilities and liabilities. Having a signed agreement for use of government resources is a requirement for award.

For proposed use of NASA resources, a NASA SBIR/STTR Support Agreement template is available in the Firms Library (https://www.nasa.gov/sbir_sttr/firms_library/) and must be executed before a contractor can use NASA resources. Offerors shall only include a signed letter of commitment from an authorized NASA point of contact in the complete proposal packages. NASA expects selected offerors to finalize and execute their NASA SBIR Support Agreement during the negotiation period with the NSSC.

Contractor Responsibilities for Costs

In accordance with FAR Part 45, it is NASA's policy not to provide services, equipment, or facilities (resources) (capital equipment, tooling, test, and computer facilities, etc.) for the performance of work under SBIR contracts. Generally, any contractor will furnish its own resources to perform the proposed work on the contract.

In all cases, the contractor shall be responsible for any costs associated with services, equipment, or facilities provided by NASA or another Federal department or agency, and such costs shall result in no increase in the price of this contract.

5.15 Agency Recovery Authority and Ongoing Reporting

In accordance with section 5 of the SBIR and STTR Extension Act of 2022, the NASA will –

- 1) require a small business concern receiving an award under its SBIR program to repay all amounts received from the Federal agency under the award if—
 - (A) the small business concern makes a material misstatement that the Federal agency determines poses a risk to national security; or
 - (B) there is a change in ownership, change to entity structure, or other substantial change in circumstances of the small business concern that the Federal agency determines poses a risk to national security; and

- 2) require a small business concern receiving an award under its SBIR program to regularly report to the Federal agency and the SBA throughout the duration of the award on—
 - (A) any change to a disclosure required under subparagraphs (A) through (G) of section [2.3.1](#) above.
 - (B) any material misstatement made under section [5.15](#) paragraph (A) above; and
 - (C) any change described in section [5.15](#) paragraph (B) above.

6. Submission of Proposals

6.1 How to Submit Your Proposal Package

NASA uses electronically supported business processes for the SBIR program. You must have internet access and an email address. NASA will not accept paper submissions.

To apply for a NASA SBIR Ignite contract, you must follow the steps found below.

6.1.1 Electronic Submission Requirements via Valid Eval

NASA uses Valid Eval for the submission and evaluation of proposal packages. To access the Valid Eval registration page go to https://usg.valideval.com/teams/nasa_ignite_2025/signup. Instructions and resources will be found on this page. Additional team members can be added to collaborate on the proposal package. Upon completing all required details and uploads the "Submit Application" button will become available. An email confirmation will be sent to all proposal team members upon a successful submission.

Start the submission process early to allow sufficient time to complete the proposals. Draft proposals are not visible to the program team and will not be evaluated. For successful submission of a complete proposal package, you must complete all required and applicable forms, and upload the required documents per the submission requirements indicated in this solicitation.

If you are awarded a Phase I contract, you will use the same Valid Eval link to access the Phase II proposal submission site.

6.1.2 Deadlines for Submitting a Complete Proposal Package

6.1.2.1 Phase I

NASA must receive your proposal package for Phase I no later than 5:00 p.m. ET on Tuesday, July 22, 2025, via Valid Eval.

You are responsible for ensuring that all files constituting the proposal package are uploaded and endorsed prior to the deadline. **If a proposal package is not received by the 5:00 p.m. ET deadline, NASA will determine the proposal package to be incomplete and will not evaluate it.** Start the submission process early to allow sufficient time to upload the complete proposal package. If you wait to submit a proposal package near the deadline, you are at risk of not completing the required uploads and endorsements by the required deadline and NASA may decline the proposal package.

6.1.2.2 Phase II

NASA must receive your proposal package for Phase II no later than 5:00 p.m. ET on the 120th day after the start of the Phase I period of performance. See [section 3](#). Proposal Preparation Instructions and Requirements for additional details on proposal package requirements.

You are responsible for ensuring that all files constituting the proposal package are uploaded and endorsed prior to the deadline. **If a proposal package is not received by the 5:00 p.m. ET deadline, NASA will determine the proposal package to be incomplete and will not evaluate it.** Start the submission process early to allow sufficient time to upload the complete proposal package. If you wait to submit a proposal package near the deadline, you are at risk of not completing the required uploads and endorsements by the required deadline and NASA may decline the proposal package.

6.1.3 Proposal Package Submission

Upload all components of a proposal package in Valid Eval. The designated business representative and principal investigator must endorse the proposal package. All transactions via Valid Eval are encrypted for security purposes.

If your proposal contains ITAR/EAR information, the technical proposal document must be submitted via BOX. Additional instructions for how to submit an ITAR/EAR containing proposal is provided in the “Uploads” section of Valid Eval. Follow the file naming convention carefully to ensure your proposal is received.

Do not submit security/password-protected PDF files, as reviewers may not be able to open and read these files. NASA will decline proposal packages containing security/password-protected PDF files and they will not be evaluated.

You are responsible for virus checking all files prior to submission. NASA may decline any proposal package that contains a file with a detected virus.

You may upload a proposal package multiple times, with each new upload replacing the previous version, but only the final uploaded and electronically endorsed version will be considered for review. Embedded animation or video, as well as reference technical papers for “further reading,” will not be considered for evaluation. **NASA may decline a proposal package that is missing the final endorsements.**

Note: Embedded animation or video, as well as reference technical papers for “further reading,” will not be considered for evaluation.

6.1.4 Acknowledgment of Receipt of a Complete Proposal Package

NASA will acknowledge receipt of an electronically submitted proposal package at the time of submission via Valid Eval. **If you do not receive a proposal package acknowledgment after submission, immediately contact the NASA SBIR/STTR Program Help Desk at agency-sbir@mail.nasa.gov.**

6.1.5 Withdrawal of Complete Proposal Packages

Prior to the close of submissions, you may withdraw proposal packages. To withdraw a proposal package after the deadline, the designated small business representative must send written notification via email to agency-sbir@mail.nasa.gov.

6.1.6 Service of Protests

Protests, as defined in section [FAR 33.101](#) of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), must be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Kenneth Albright
NASA Shared Services Center
Building 1111, Jerry Hlass Road
Stennis Space Center, MS 39529
Agency-SBIR-STTRsolicitation@mail.nasa.gov

The copy of any protest must be received in the office designated above within one day of filing a protest with the GAO.

6.2 SBIR Ignite Phase II Information

If you are selected for a SBIR Ignite Phase I contract, you will be eligible to submit a proposal to execute a SBIR Phase II follow-on option contained within your Phase I contract. You must follow the Phase II proposal preparation instructions contained in this solicitation. The Phase II proposal submission will open approximately 60 days prior to the 120th day of your Phase I contract original period of performance.

7. Scientific and Technical Information Sources

7.1 NASA Organizational and Programmatic Information

General sources relating to organizational and programmatic information at NASA is available via the following websites:

NASA Budget Documents, Strategic Plans, and Performance Reports:

<http://www.nasa.gov/about/budget/index.html>

NASA Organizational Structure: <https://www.nasa.gov/organization/>

NASA SBIR/STTR Programs: <http://sbir.nasa.gov>

Information regarding NASA’s technology needs can be obtained at the following websites:

NASA Technology Taxonomy	
2024	https://www.nasa.gov/otps/2024-nasa-technology-taxonomy/

NASA Mission Directorates	
Aeronautics Research Mission Directorate (ARMD)	http://www.aeronautics.nasa.gov/
Exploration Systems Development Mission Directorate (ESDMD)	https://www.nasa.gov/directorates/exploration-systems-development
Space Operations Mission Directorate (SOMD)	https://www.nasa.gov/directorates/space-operations-mission-directorate
Science Mission Directorate (SMD)	http://nasascience.nasa.gov
Space Technology Mission Directorate (STMD)	http://www.nasa.gov/directorates/spacetech/home/index.html

NASA Centers	
Ames Research Center (ARC)	http://www.nasa.gov/centers/ames/home/index.html
Armstrong Flight Research Center (AFRC)	http://www.nasa.gov/centers/armstrong/home/index.html
Glenn Research Center (GRC)	http://www.nasa.gov/centers/glenn/home/index.html
Goddard Space Flight Center (GSFC)	http://www.nasa.gov/centers/goddard/home/index.html
Jet Propulsion Laboratory (JPL)	https://www.nasa.gov/jpl/
Johnson Space Center (JSC)	http://www.nasa.gov/centers/johnson/home/index.html
Kennedy Space Center (KSC)	http://www.nasa.gov/centers/kennedy/home/index.html
Langley Research Center (LaRC)	http://www.nasa.gov/centers/langley/home/index.html
Marshall Space Flight Center (MSFC)	http://www.nasa.gov/centers/marshall/home/index.html
Stennis Space Center (SSC)	http://www.nasa.gov/centers/stennis/home/index.html
NASA Shared Services Center (NSSC)	https://www.nssc.nasa.gov/

STMD Civil Space Shortfalls	
Background and Ranking	https://www.nasa.gov/spacetechpriorities/

7.2 United States Small Business Administration (SBA)

The SBA oversees the Federal SBIR and STTR programs. The SBA has resources that small businesses can use to learn about the program and to get help for developing a proposal package to a Federal SBIR/STTR program.

Offerors are encouraged to review the information that is provided at the following links: www.sbir.gov, <https://www.sba.gov/local-assistance>, and at <https://www.sbir.gov/resources>.

The SBA issues a SBIR/STTR Policy Directive which provides guidance to all Federal Agencies that have a SBIR/STTR program. The Policy Directives for the SBIR/STTR programs may be obtained from the SBA at <https://www.sbir.gov/about> or at the following address:

U.S. Small Business Administration
Office of Technology – Mail Code 6470
409 Third Street, S.W.
Washington, DC 20416
Phone: 202-205-6450

7.3 National Technical Information Service

The National Technical Information Service (NTIS) is an agency of the Department of Commerce and is the Federal Government's largest central resource for government-funded scientific, technical, engineering, and business-related information. For information regarding various NTIS services and fees, email or write:

National Technical Information Service
5301 Shawnee Road
Alexandria, VA 22312
URL: <http://www.ntis.gov>
E-mail: NTRLHelpDesk@ntis.gov

8. Submission Forms

8.1 SBIR Ignite Proposal Checklist

For assistance in completing your proposal package, use the following checklist to ensure your submission is complete. The required or optional items are listed in the “Item” column, any additional information is listed in the “Notes” columns, and the location of the item in Valid Eval is listed in the “VE TAB” column.

CHECK	ITEM	NOTES	VE TAB
	The proposal for any innovation is submitted for one subtopic only		
	The complete proposal package is submitted consistently with the requirements	section 3	
	Firm-Level Information		
	Firm Information		Details
	Contacts		Details
	Firm Certifications		Details
	If the firm is an eligible joint venture or a limited partnership, a copy or comprehensive summary of the joint venture agreement or partnership agreement is included		Uploads
	SBA Company Registry Registration Confirmation		Uploads
	Disclosures of Foreign Affiliations or Relationships to Foreign Countries		Details
	Audit Information		Details
	Federal Agency Audit Report, if applicable		Uploads
	Prior Awards Addendum, if applicable (for firms with more than 15 Phase II awards in the past 5 years)	Form available on Firms Library	Details and Uploads
	Commercialization Metrics Report, if applicable	(CMR) from sbir.gov	Uploads
	TABA Request		Details
	I-CORPS Interest	(Phase I Only)	Details
	Proposal Certifications		
	Proposal Certifications		Details
	Deviation Agreement PI/PM more than half of 40 hour workweek, if applicable		Uploads
	Essentially Equivalent Work, if applicable	Form available on Firms Library	Uploads
	Deviation Agreement Awardee will perform at least 66%, if applicable		Uploads
	Deviation Agreement R&D in US, if applicable		Uploads
	Deviation Agreement R&D at awardee’s facilities by awardee’s employees, if applicable		Uploads
	NASA Evaluation License Application, if applicable (only if TAV is being proposed)		Uploads
	Letters of commitment from subcontractors/consultants, if applicable		Uploads

	A letter of commitment from the appropriate Government official if the research or R&D effort requires use of Government resources, if applicable		Uploads
	Related R&D Proposals and Awards, if applicable		Uploads
	Proposal Information		Details
	Proposal Summary		Details
	Ignite Budget Form	Form Available on Firms Library	Uploads
	Materials and Supplies Supporting Documents, if applicable	All M&S supporting documents should be uploaded in a single file	Uploads
	Equipment Supporting Documents, if applicable	All Equipment supporting documents should be uploaded in a single file	Uploads
	Other Direct Costs Supporting Documents, if applicable	All ODC supporting documents should be uploaded in a single file	Uploads
	Travel Supporting Documents, if applicable	All Travel supporting documents should be uploaded in a single file	Uploads
	Subcontractors/Consultants Supporting Documents, if applicable	All Subcontractor supporting documents should be uploaded in a single file	Uploads
	Technical and Business Assistance (TABAs) Supporting Documents, if applicable	All TABA supporting documents should be uploaded in a single file	Uploads
	Foreign Vendor Form, if applicable	Form Available on Firms Library	Uploads
	Pro Forma Financial Projections	(Phase II only) Template Available on Firms Library	Uploads
	Phase I Technical Proposal 15 page maximum for Phase I 30 page maximum for Phase II	Template Available on Firms Library	Uploads
	The proposal must not exceed a total of 15 (Phase I) or 30 (Phase II) standard 8.5-by 11-inch pages with one-inch margins and must follow the format requirements	section 3.2.2	
	The proposal contains all required parts in order	section 3.2.3	
	Evidence of Follow-On Funding Commitment, if applicable		Uploads
	Box Submission Confirmation, if applicable (Only if Technical Proposal contains ITAR)	This will be uploaded in VE in place of the technical proposal for ITAR/EAR containing proposals Form Available on Firms Library	Uploads
	Proposal Endorsement	Form Available on Firms Library	Uploads
	Proposed funding does not exceed \$150,000, and if requesting TABA, the cost for TABA does not exceed \$6,500. Total budget for proposed effort and TABA must not exceed \$156,500	section 1.3 sections 1.8 and 3.2.3.8	
	Proposed project duration does not exceed six (6) months for Phase I or 24 months for Phase II	section 1.3	

	Complete Phase I proposal packages must be <u>received</u> no later than 5:00 p.m. ET on Tuesday, July 22, 2025	section 6.1.2	
	Complete Phase II proposal packages must be <u>received</u> no later than 5:00 p.m. ET on the 120th day after the start of the Phase I period of performance	section 6.1.2	

9. Research Subtopics for the SBIR Ignite Solicitation

Introduction

You should be thoughtful in selecting a subtopic to ensure the proposal is responsive to the NASA need as defined by the subtopic. The NASA SBIR program will NOT move a completed proposal package between SBIR Ignite subtopics.

As stated in section [3.1](#), NASA will not accept more than one (1) proposal package from any one firm. It is your responsibility to select which subtopic to propose to.

Topic I01: Advanced Manufacturing

Subtopic I01.01: Advanced real-time monitoring and control technologies for additive manufacturing

Additive Manufacturing (AM) offers unprecedented design freedom and the ability to create complex geometries. However, achieving consistent part quality and minimizing defects remains a significant challenge. Variations in process parameters (temperature, laser power, material feed rate, etc.) and material properties can lead to defects like porosity, cracking, warping, and incomplete fusion. Current quality control is often performed post-build, which is time-consuming and costly. In-situ monitoring and control offers a solution by:

- **Detecting Defects in Real-time:** Identifying anomalies as they occur during the build.
- **Enabling Corrective Actions:** Adjusting process parameters on-the-fly to mitigate defects.
- **Increasing Automation:** Enabling closed loop control to increase efficiency and yield and decreasing the need for manual check-ins during build.
- **Reducing Post-Processing:** Minimizing the need for extensive inspection and rework.
- **Improving Process Understanding:** Generating valuable data for process optimization and model development.
- **Enhancing Material Qualification:** Providing a pathway to certifying new AM materials more rapidly.

This topic solicits the technologies needed to enable advanced in-situ monitoring and control for additive manufacturing to include a complete system or the development of a novel component that supports current or future systems such as improved sensor technologies, software solutions that integrate sensor input, or algorithms that support feedback control. A proposed system would leverage multiple sensing technologies, advanced data analytics, and real-time feedback control algorithms to detect and correct defects during the AM build process. The intention of the development is improved part quality, reduced scrap, increased throughput, and ultimately, wider adoption of AM for high-value applications.

Civil Space Shortfalls addressed:

702: Nuclear Thermal Propulsion for Human Exploration

703: Rotating Detonation Rocket Engine (RDRE)

1221: Mars Ascent Vehicle Propulsion

1430: Small Spacecraft Propulsion

1490 Additive Manufacturing for New and High-Performance Materials

1488 Additive Manufacturing for Propulsion

1491 Additive Manufacturing of Large-Scale Components

1492 Materials and Process Modeling for In-Space and On-Surface Manufacturing

1493 Computational Materials-Informed Qualification and Certification for In-Space and On-Surface Manufacturing

1494 Digital Transformation Technologies for Terrestrial, In-Space, On-Surface Manufacturing, and Operations

Subtopic I01.02: Computational design of new materials, processes, and products leveraging the microgravity environment of space

This topic seeks technologies that use integrated computational materials engineering (ICME) to develop next-generation materials, manufacturing methods, and new products that benefit from a microgravity environment.

ICME is a transformational capability. Understanding the physics-based phenomena and relationships of materials, processing, structure, and properties in the microgravity space environment for in-space manufacturing is crucial and will accelerate many future materials and manufacturing efforts. By integrating models across different scales (from the atomic level to the component level), ICME can predict the final microstructure and properties of space-manufactured products which enables terrestrial material exploration here on Earth and reduces the time and cost of material design and process development.

Proposals should focus on using ICME to develop next-generation materials and processing methods, improve understanding of mechanisms involved in material transformations, advance fundamental materials discovery, and test processes or manufacturing methods of novel design and synthesis techniques to rapidly help scale and transition these efforts to industrial partners.

Of particular interest are:

- Enabling commercially viable and sustainable business opportunities from advancement in materials and manufacturing in low-Earth orbit (LEO)
- Development and optimization of materials and structures for improved mechanical properties
- Design of materials and processing schedules that are compatible with or benefit from manufacturing in microgravity environments
- Providing better understanding of materials, structure, and properties evolution during LEO manufacturing towards efficient and robust qualification and certification of materials, processes and components made in reduced gravity environments
- Technologies that extrapolate and interpolate existing data to create robust data sets such as artificial intelligence/machine learning, digital twins, and internet of things (IoT) devices to bridge between high-fidelity (and computationally expensive) physics-based models and lower-fidelity (and easy to field in a production environment) data-driven models.

Civil Space Shortfalls addressed:

1485: In-Space and On-Surface Manufacturing of Parts/Products from Surface and Terrestrial Feedstocks 1492: Materials and Process Modeling for In-Space and On Surface

1493: Computational Materials Informed Qualification and Certification for In-Space Manufacturing

Topic I02: Artificial Intelligence

Subtopic I02.01: Multidisciplinary Space Hardware design automation leveraging AI techniques

NASA's [Text-to-Spaceship Vision](#) has shown that AI-powered design workflows can cut hardware iteration cycles from weeks to hours and unlock novel high-performance designs that enable new science missions. NASA now seeks innovative solutions that extend this AI-powered design automation paradigm to every discipline needed for mission design: thermal, power, mechanisms, avionics, propulsion, attitude control, cryogenic systems, and more. Proposed efforts should deliver design automation tools or frameworks that accelerate hardware design, analysis, and verification while keeping human engineers in the loop for expert design validation.

Proposers should create an AI -based design automation tool that **ingests** requirements (natural language, MBSE artifacts, or standard digital files such as STEP), **creates** a design, runs embedded analyses, and returns a verification report, all via open, documented APIs for compatibility with the broader *Text-to-Spaceship* workflow. Solutions must focus on hardware design acceleration and, in Phase I, demonstrate the capability on at least one subsystem or component.

Preference will be given to proposals that:

- **Demonstrate** an end-to-end automated design loop completed at least 5× faster than current practice for the chosen subsystem.
- **Provide** embedded physics-based or surrogate analyses with pass/fail metrics traceable to input requirements.
- **Deliver** real-time manufacturability feedback (CNC, additive manufacturing, PCB, composites, etc.) via open standards such as STEP/STEP-NC, IPC-2581, FMI, or REST/JSON.
- **Offer** an agentic or plug-in architecture that can add skills for additional subsystems in Phase II.

Successful concepts will accelerate NASA flight-hardware development, reduce cost and risk, and **spawn commercial tools that accelerate any physical product design** such as Text-to-House, Text-to-Vehicle, and beyond.

Civil Space Shortfalls addressed:

1494: Digital Transformation Technologies for Terrestrial, In-Space, On-Surface Manufacturing, and Operations

1492: Materials and Process Modeling for In-space Manufacturing

1493: Materials-Informed Qualification & Certification for In-Space and On-Surface Manufacturing

1544: Resilient Agency: Adaptable Intelligence & Robust Online Learning for Long-Duration & Dynamic Missions

1542: Metrics & Processes for Establishing Trust and Certifying the Trustworthiness of Autonomous Systems

Topic I03: Radar

Subtopic I03.01: Low-cost mm-wave and cm-wave radar for planetary exploration vehicles

Low-cost mm-wave and cm-wave radar systems have the potential to support ultra-precise positioning and navigation for planetary exploration vehicles. A radar sensor can overcome limitations of optical sensors (e.g., cameras with/without artificial lighting) and lidar (point or scanned), particularly in terms of performance across a broad range of lighting conditions including day, night, low angle, etc. A radar sensor may also be robust to environmental obscuring agents such as blown or levitated dust. Sensor systems based on mm-wave radar combined with radar interferometry can be used to perform multiple navigation related functions on human vehicles, planetary rovers, or flying systems including 3D terrain mapping, hazard detection (obstacles, structures, terrain), position estimation, and local navigation.

Moreover, there is significant opportunity to adapt and retarget existing automotive radar System-on-Chip (SoC) components for space applications, with the associated benefits of low-cost and low-Size, Weight, and Power (SWaP). Such components may also be suitable for rapid qualification and integration into flight systems with minimal (or no) modification depending on launch, transit, landing, and surface conditions (shock/vibe, thermal, radiation, dust, etc). This is particularly the case if the components are designed for use in harsh terrestrial environments or applications (e.g., military ground vehicles).

This topic seeks low-cost mm-wave and cm-wave radar systems with a preference given to proposals that offer at least two the following capabilities:

- Radar system to perform precision Positioning, Navigation, and Timing (PNT), particularly as a way to augment or replace a Global Navigation Satellite System (e.g., GPS)
- Radar system to perform hazard detection, including identification of dynamic and static obstacles and geometric terrain features
- Radar system to perform object tracking (other vehicles, astronauts, etc.)
- Radar system to perform 3D terrain mapping at mm to cm scale

Proposals should describe how the proposed radar system could be applied to enable Earth-based autonomy applications for cars, unmanned vehicles, unmanned aircraft vehicles, etc. as well as NASA-focused uses such as crew transport (e.g., the Lunar Terrain Vehicle), planetary rovers (particularly Perseverance or VIPER class) and/or flying systems (Ingenuity or Dragonfly class) that operate on the Moon or Mars.

Civil Space Shortfalls addressed:

1304: Robust, High-Progress-Rate, and Long-Distance Autonomous Surface Mobility

1336: Robotic Mobility for Robust, Repeatable Access to and through Extreme Terrain and Surface Topography

1530: Aerial Robotic Mobility and Onboard Intelligence for Expanded Capabilities on Mars, Venus, and Titan

1548: Sensing for Autonomous Robotic Operations in Challenging Environmental Conditions

1545: Robotic Actuation, Subsystem Components, and System Architectures for Long-Duration and Extreme Environment Operation

Topic I04: Robotics

Subtopic I04.01: Modular, scalable robotic subcomponents to unlock scalable robotic manufacturing & assembly in remote, challenging environments

One of the key challenges in robotics today is the lack of standard, modular subcomponents that enable robotics to scale (actuators, motors, tools, end-effectors, beams/tubes for arms, wheels, etc). To reduce the cost of robotics for manufacturing and assembly, NASA needs basic robotic components with standardized mechanical and/or electrical interfaces that are qualified for use on orbit as well as lunar and planetary environments.. The components should have the following characteristics:

- Reconfigurable with non-proprietary, standardized interfaces
- Allows the use of custom components designed by the end user
- Designed for use in remote or challenging environments
- Optimized for cost-effective mass production
- Ability to be quickly scaled

NASA is especially interested in solutions that balance readiness for eventual space deployment with near-term manufacturability and commercial viability. While full qualification is not required at this stage, a plan for space environment compatibility and scalability will strengthen the proposal (such as exposure to dust, vacuum (lubricants especially), radiation, UV, thermal, gravity, atomic oxygen, etc). Additionally, component approaches that demonstrate a clear path towards a complete robotic system-level solution are preferred.

Considerations:

- Solutions designed to be robotically assembled are encouraged.
- Solutions at a scale appropriate for small-sat or orbital/surface asset aggregation applications are of particular interest.
- Robot architecture is non-specific (inchworm/climbing robots, rover-based systems, free-fliers or other)
- Adapting and qualifying existing robotic elements and systems for NASA applications is encouraged. Existing hardware could be upgraded to take the key elements of the design and add the components to survive challenging environments.
- Examples of desired improvements in capabilities:
 - protection from dust and/or resilience to dust getting into moving components including dust repellent technologies and coatings
 - solutions capable of a range of torques
 - optimized lubricants for wide temperature ranges and minimal mass loss and outgassing in vacuum
 - solutions that use lower cost metals in order to reduce overall cost
 - tough, conductive thermal coatings and treatments that can resist erosion or surface damage

Civil Space Shortfalls addressed:

376: Modular design for in-space installation

498: Broad and dependable supply chain for space-qualified robotic hardware, electronics, and associated software

512: Cooperative interfaces, aids, and standards

513: Robotic Assembly and Construction of Modular Systems for Sustained In-Space Infrastructure

617: On-surface robotic assembly of vertical structures

1400: On-surface robotic assembly of horizontal structures 1485: In-Space and On-Surface Manufacturing of Parts/Products from Surface and Terrestrial Feedstocks

1534: Autonomous Robotics for Sustained In-Space Manufacturing Operations

1538: General-Purpose Robotic Manipulation to Perform Human-Scale Logistics, Maintenance, Outfitting, and Utilization

1540: Intelligent Robots for the Servicing, Assembly, and Outfitting of In-Space Assets and Industrial-Scale Surface Infrastructure

1545: Robotic Actuation, Subsystem Components, and System Architectures for Long-Duration and Extreme Environment Operation

1546: Robotic Mobile Manipulation for Autonomous Large-Scale Logistics, Payload Handling, and Surface Transport

1552: Extreme Environment Avionics

1618: Survive and operate through the lunar night

Appendices

Appendix A: Evaluation Rubrics

The commercial potential and technical merit evaluation rubrics for Phase I and II, including criteria that will be used to evaluate proposals, are provided so that you may prepare the highest quality proposals. Please review the definitions, weighting, and review criteria to understand how the subject matter experts will evaluate your proposal. Use the definitions and application prompts to inform the content of each part of your proposal.



		DEFINITION
INTRODUCTION	<i>weight 5%</i>	Write a clear, concise description of what your business does, your technology solution and advantage, where you are in your business evolution, and how SBIR Ignite fits into your firm's future. Readers should understand the purpose and value of the proposed technology.
	PRODUCT / SOLUTION	
	TECHNOLOGY VALIDATION	Describe the evidence you have that validates your solution(s) work from a technical point of view. The "gold standard" here is commercial product sales with happy customers.
	COMPETITION, SUBSTITUTES & DIFFERENTIATION	Compared with existing and emerging solutions, describe your value differentiation. Why do you believe customers will choose your solution? The best competitive analyses thoroughly account for substitute technologies – which might solve the same problem in a very different way – as well as direct competition.
	TECHNICAL RISKS AND MITIGATION PLANS	<p>A key historical difference between success and failure in NASA's SBIR program is offerors' understanding of the unknowns and challenges they are likely to face in maturing their technologies. Prove to the reader that your team is sophisticated and clear-eyed in analyzing the remaining risks your technology faces. Demonstrate that you have plans to mitigate those risks.</p> <p>In this section, your risk narrative (to include mitigation plans) should be focused on technical matters. Please point out which risk mitigation plans would take place during a Phase I effort, during a Phase II effort and which would be post-Phase II.</p>
	<i>weight 15%</i>	
NON-NASA MARKET KNOWLEDGE	INTELLECTUAL PROPERTY	Describe the critical intellectual property (IP) in your solution (patents, trade secrets, copyrights.) How do you (or will you) protect this IP? Why will this IP be a durable advantage in light of other means of solving the same problem?
	CUSTOMER ENGAGEMENT	Describe your relationships with non-NASA early-adopters who either (1) are doing business with you, or (2) will be doing business with you soon. Demonstrate you are building valuable customer relationships.
	MARKET SEGMENTATION	Use an identified pain point to segment your market; these potential customers all have the same financially relevant problem. Succinctly describe the market segment you are targeting outside of NASA. What sets this segment apart from others?
	MARKET SIZING ANALYSIS	Describe how large your market is. How credible is your knowledge? This is designed to assess the quality of your analysis, not the relative size of the market.
	<i>weight 25%</i>	
	MARKET TIMING	Why is now the time to scale a company in your non-NASA market segment? Support your assertions by describing how current and emerging trends are converging to create your opportunity. How well do you understand those trends?
BUSINESS MODEL	PRICING	Describe your pricing model. What will you charge? To what evidence can you point that customers will find your pricing attractive? What are your resulting gross margin(s), and how will those margins eventually support organic growth for your firm (i.e. growth without external investments or grants.)
	SCALABILITY	Argue your business gets more attractive as it grows. What's required to reach economies of scale (and, if appropriate, economies of scope)?
	FUNDING STRATEGY	NASA Ignite aims to be the last SBIR funding for the firms it funds. Share your plans for funding to scale beyond SBIR funding. To the extent that raising risk capital (VC, angel, venture debt) is part of your plan, point to your best evidence that you'll successfully raise these funds. How would Ignite funding change your firm's capitalization trajectory?
	<i>weight 25%</i>	
TEAM	BUSINESS QUALIFICATIONS & EXPERIENCE	Briefly list and describe your business team. Please describe their qualifications and experience as it relates to successfully running commercial businesses. (Note: this is intentionally distinct from the "Technical Qualifications & Experience" metric below.)
	TECHNICAL QUALIFICATIONS & EXPERIENCE	Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences. Why are these the right technologists for this particular NASA subtopic?
	GAPS IN TEAM	Do you have the key people you need to get to through an eventual Phase II NASA effort? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	<i>weight 25%</i>	
PRESENTATION QUALITY	QUALITY OF PROSE	Provide a clear, well written, and convincing proposal. Avoid jargon and define technical terms.
	<i>weight 5%</i>	
	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.

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		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
INTRODUCTION	<i>weight 5%</i>	Ineffective introduction. Failed to provide concise business proposition.	Adequate introduction. Gradually conveyed company's purpose and value. Should be more crisp.	Effective introduction. Systematically conveys company's purpose and value.	Exceptional introduction. Immediately conveys company's purpose and value.
	PRODUCT / SOLUTION				
	TECHNOLOGY VALIDATION	No evidence of technical validation, even for product plans / designs.	Evidence of initial validation. Designs and / or models vetted by external experts, but have not fielded products.	Evidence of stage-appropriate validation. Demonstrates clear plan to complete remaining validation.	Impeccable validation. Undeniable evidence technology is commercially viable.
	COMPETITION, SUBSTITUTES & DIFFERENTIATION	No evidence of competitive analysis. Undifferentiated product.	Incomplete or too narrow competitive analysis. Somewhat differentiated product.	Thorough competitive analysis. Differentiated product.	Persuasive competitive analysis. Highly differentiated product.
	TECHNICAL RISKS AND MITIGATION PLANS	Failed to present any technical risks.	Inadequate risk analysis or mitigation plans.	Sufficient risk analysis and mitigation plans.	Convincing risk analysis and mitigation plans.
	<i>weight 15%</i>				
	INTELLECTUAL PROPERTY	No evidence of defensible IP.	Unclear or flawed IP protection and/or ownership.	Evidence of exclusive licensee or owner of meaningful IP.	Firm controls IP that constitutes a durable strategic advantage.
NON-NASA MARKET KNOWLEDGE	CUSTOMER ENGAGEMENT	No evidence of customer engagement.	Some evidence of customer engagement. Meeting with key early-adopters and longer-term customers.	Evidence of customer engagement and deepening relationships.	Significant evidence of customer engagement. In revenue, growing sales pipeline.
	MARKET SEGMENTATION	No evidence of market segmentation.	Coarse targeting. Likely over-reporting addressable market segment(s).	Concise market segmentation. Appropriately focused on the right customers.	Precision customer targeting of market. Ignores non-optimal customers.
	MARKET SIZING ANALYSIS	No evidence of market sizing analysis.	Incomplete market sizing. Supported by inadequate or questionable data.	Sufficient market sizing. Supported by comprehensive data analysis.	Convincing market sizing. Supported by top-down and bottom-up data analysis.
	<i>weight 25%</i>	MARKET TIMING	No "why now?" case presented. No evidence of trend analysis.	Qualitative-only trend analysis. Developing "why now?" case.	Sufficient "why now?" case. Some quantitative trend analysis data.
BUSINESS MODEL	PRICING	No evidence of pricing analysis.	Reasonable customer value-proposition. Gross margin seem low.	Compelling customer value-proposition. Gross margins could sustain operations.	Validated selling price(s). Gross margins could fund organic growth.
	SCALABILITY	Very difficult, perhaps impossible, to scale business as presented.	Incomplete scaling plan. Some areas lack credibility.	Feasible scaling plan. Unproven.	Validated scaling strategy. Successful analogs exist.
	<i>weight 25%</i>	FUNDING STRATEGY	Fails to present funding plan. Or, plan includes post-Ignite SBIR funding.	Questionable funding plan to reach profitable growth without post-Ignite SBIR(s).	Feasible funding plan to reach profitable growth without post-Ignite SBIR(s).
TEAM	BUSINESS QUALIFICATIONS & EXPERIENCE	Business people lack qualifications OR have no experience.	Business people are somewhat qualified and have some experience.	Business people are highly qualified OR have significant experience.	Business people are highly qualified AND have significant experience.
	TECHNICAL QUALIFICATIONS & EXPERIENCE	Technical people lack qualifications OR have no experience.	Technical people are somewhat qualified and have some experience.	Technical people are highly qualified OR have significant experience.	Technical people are highly qualified AND have significant experience.
	<i>weight 25%</i>	GAPS IN TEAM	Team requires new talent.	Team recognizes gaps in personnel, but presents no plan to address needs.	Team presents specific plan to address personnel needs.
PRESENTATION QUALITY	QUALITY OF PROSE	Poorly written. Very difficult to follow argument. Several spelling or grammar errors.	Moderately written. Sometimes difficult to follow argument. A few spelling / grammar errors.	Effectively written. Convincing, easy to follow argument. No spelling or grammar errors.	Clearly and persuasively written. Compelling arguments. No spelling or grammar errors.
	<i>weight 5%</i>	DATA QUALITY & ATTRIBUTION	Poorly supported by data. Little to no attribution of sources.	Partially supported by data. Some attribution of sources.	Credibly supported by data. Data sources are properly attributed.



		DEFINITION
BENEFITS <i>weight 30%</i>	TECHNOLOGY DESCRIPTION	Describe your technology and how it addresses this NASA subtopic's need. What is it? What are its benefits? What makes it unique?
	ALIGNMENT	Argue your technology innovation is aligned with this NASA SBIR subtopic's priorities as defined in the solicitation.
	IMPACT	If successful, describe your technology's expected impact on the described subtopic need.
ADVANCING THE STATE OF THE ART <i>weight 10%</i>		Describe how your technology would improve the state of the art – as described in the subtopic solicitation.
TECHNICAL RISK <i>weight 20%</i>	TECHNICAL FEASIBILITY	Convince readers that your technology is built atop sound scientific and/or engineering principles.
	TECHNICAL RISKS AND MITIGATION PLANS	<p>A key historical difference between success and failure in NASA's SBIR program is offerors' understanding of the unknowns and challenges they are likely to face in maturing their technologies. Prove to the reader that your team is sophisticated and clear-eyed in analyzing the remaining risks your technology faces. Demonstrate that you have plans to mitigate those risks.</p> <p>In this section, your risk narrative (to include mitigation plans) should be focused on technical matters. Please point out which risk mitigation plans would take place during a Phase I effort, during a Phase II effort and which would be post-Phase II.</p>
	DATA QUALITY	Do your best to prove your technical claims with quality data attributed to credible sources (including relevant academic research.) These data should logically support your technical feasibility arguments and risk narrative.
SBIR PROJECT PLAN <i>weight 15%</i>	TIMELINES, MILESTONES, DELIVERABLES	Please share your execution plan with timeline, milestones and proposed deliverables.
	BUDGET	Provide a detailed breakdown of the base period of performance and the planned project costs to be incurred during the next period of performance.
	TECHNICAL FACILITIES & RESOURCES	Briefly list and describe your technical facilities and resources. Do you have the resources and technical facilities you need to successfully complete your proposed project through a Phase II and beyond? If not, convince the reader you have a credible plan to attain the necessary facilities or resources to accomplish the proposed solution.
TEAM ABILITY <i>weight 20%</i>	TECHNICAL QUALIFICATIONS & EXPERIENCE	Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences. Why are these the right technologists for this particular NASA subtopic?
	GAPS IN TECHNICAL TEAM	Do you have the key technical people you need to get to through an eventual Phase II NASA award? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	PARTNERSHIPS / SUBCONTRACTS	<p>Describe any organizations with which you plan to partner as you mature the proposed technology. Emphasize any partnerships relevant through a Phase II award – this is our main focus. Later partnerships (and plans) should be mentioned. Summarize the nature and timing of these partnerships.</p> <p>If partnering is not required to successfully mature your technology, please explain why.</p>
SUBMISSION QUALITY <i>weight 5%</i>		Prove to the evaluators that you are capable of delivering a professional, polished and thoughtful proposal. (Please note: The Submission Quality Dimension is holistically evaluated across the materials you submit.)

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		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
BENEFITS	TECHNOLOGY DESCRIPTION	Fails to describe technology solution and beneficial features.	Partly describes technology solution and beneficial features.	Adequately describes technology solution and beneficial features.	Clearly and concisely describes technology solution and beneficial features.
	ALIGNMENT	Not aligned with this subtopic's priorities.	Somewhat aligned with this subtopic's priorities.	Aligned with this subtopic's priorities.	Highly aligned with this subtopic's priorities.
	IMPACT	If successful, no improvement vs. existing technological approaches.	If successful, slight improvement vs. existing technological approaches.	If successful, significant improvement vs. existing technological approaches.	If successful, radical improvement vs. existing technological approaches.
ADVANCING THE STATE OF THE ART <i>weight 10%</i>		No improvement of the state of the art.	Slightly improves the state of the art.	Improves the state of the art.	Significantly improves the state of the art.
TECHNICAL RISK	TECHNICAL FEASIBILITY	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Convincing scientific basis for presented approach.
	TECHNICAL RISKS AND MITIGATION PLANS	Failed to present any technical risks.	Inadequate risk analysis or mitigation plans.	Credible risk analysis and mitigation plans.	Convincing risk analysis and mitigation plans.
	DATA QUALITY	Poorly supported by data. Little to no data attribution.	Partially supported by data. Some data attribution.	Credibly supported by data. Adequate data attribution.	Persuasively supported by meaningful data. Comprehensive data attribution.
SBIR PROJECT PLAN					
<i>weight 15%</i>	TIMELINES, MILESTONES, DELIVERABLES	Poor plan. Missing or badly flawed timelines, milestones, and deliverables.	Marginal plan. Insufficient support from timelines, milestones, and deliverables.	Satisfactory plan. Well supported with timelines, milestones, and deliverables.	Highly credible plan. Convincingly supported with timelines, milestones, and deliverables.
	BUDGET	Incomplete table of costs. Non-credible basis of estimate data.	Complete table of costs. Somewhat credible basis of estimate data.	Complete table of costs. Credible basis of estimate data.	Complete table of costs. Highly credible basis of estimate data.
	TECHNICAL FACILITIES & RESOURCES	Existing facilities and resources insufficient. Gaps are high risk.	Existing facilities and resources partially sufficient. Evolving plan for gaps.	Existing facilities and resources mostly sufficient. Credible plan for gaps.	Existing facilities and resources certainly sufficient. No unresolved gaps.
TEAM ABILITY	TECHNICAL QUALIFICATIONS & EXPERIENCE	Technical people lack qualifications OR have no experience.	Technical people are somewhat qualified and have some experience.	Technical people are highly qualified OR have significant experience.	Technical people are highly qualified AND have significant experience.
	GAPS IN TECHNICAL TEAM	Team requires new talent.	Team recognizes gaps in personnel, but presents no plan to address needs.	Team presents specific plan to address personnel needs.	Team with excellent composition. No near-term personnel gaps.
	PARTNERSHIPS / SUBCONTRACTS	Partnership development not addressed.	Identified potential partners. No evidence of relationship building.	Identified required partners. Evidence of progressing relationships.	Partnerships formally in place. Or, the offeror's team is well positioned without partnering.
SUBMISSION QUALITY <i>weight 5%</i>		Poorly written. Very difficult to impossible to follow. Several quality errors.	Moderately written. Sometimes difficult to follow. Some quality errors.	Effectively written. Convincing, easy to follow. No quality errors.	Clearly and persuasively written. Compelling arguments. No quality errors.



		DEFINITION
INTRODUCTION	<i>weight 5%</i>	Write a clear, concise description of what your business does, your technology solution and advantage, where you are in your business evolution, and how SBIR Ignite fits into your firm's future. Readers should understand the purpose and value of the proposed technology.
COMMERCIAL POTENTIAL	COMMERCIAL PRODUCT VIABILITY	Describe the potential for your product / solution to create sustained profitability in the commercial sector. Make your best case that your product is or will be commercially profitable. If you have more than one product, please focus your argument on the product / solution presented for NASA SBIR Ignite.
	COMPETITION, SUBSTITUTES & DIFFERENTIATION	Compared with existing and emerging solutions, describe your value differentiation. Why do you believe customers will choose your solution? The best competitive analyses thoroughly account for substitute technologies – which might solve the same problem in a very different way – as well as direct competition.
	INTELLECTUAL PROPERTY	Describe the critical intellectual property (IP) in your solution (patents, trade secrets, copyrights.) How do you (or will you) protect this IP? Why will this IP be a durable advantage in light of other means of solving the same problem?
	NON-IP BARRIERS TO ENTRY	Argue you will overcome the non-IP barriers to you in your market, and that you will build barriers against others who will seek to imitate your successes.
	<i>weight 20%</i>	COMMERCIAL RISKS
NON-NASA MARKET KNOWLEDGE	CUSTOMER ENGAGEMENT	Describe your relationships with non-NASA early-adopters who either (1) are doing business with you, or (2) will be doing business with you soon. Demonstrate you are building valuable customer relationships.
	PARTNERSHIPS / SUBCONTRACTS	Describe any organizations with which you plan to partner as you mature the proposed technology. Emphasize any partnerships relevant through a Phase II award – this is our main focus. Later partnerships (and plans) should be mentioned. Summarize the nature and timing of these partnerships. If partnering is not required to successfully mature your technology, please explain why.
	MARKET SEGMENTATION	Use an identified pain point to segment your market; these potential customers all have the same financially relevant problem. Succinctly describe the market segment you are targeting outside of NASA. What sets this segment apart from others?
	MARKET SIZING ANALYSIS	Describe how large your market is. How credible is your knowledge? This is designed to assess the quality of your analysis, not the relative size of the market.
	<i>weight 20%</i>	MARKET TIMING
INDUSTRY ATTRACTIVENESS	MARKET SIZE	For investors, how attractive is this market's size? (Not an analysis task; but facts from the company help. This dimension captures the reality of the market conditions the company is facing.)
	MARKET GROWTH	How attractive is this market to investors in terms of market growth / its potential for growth?
	<i>weight 15%</i>	INCUMBENTS' POWER



DEFINITION

BUSINESS MODEL	PRICING	Describe your pricing model. What will you charge? To what evidence can you point that customers will find your pricing attractive? What are your resulting gross margin(s), and how will those margins eventually support organic growth for your firm (i.e. growth without external investments or grants.)
	DOWNSTREAM VALUE	Analyze end-users' ROI in terms of time, cost and/or quality. Provide evidence that downstream partners make attractive margins.
	SCALABILITY	Argue your business gets more attractive as it grows. What's required to reach economies of scale (and, if appropriate, economies of scope)?
	FUNDING STRATEGY	NASA Ignite aims to be the last _non-matched_ SBIR funding for the firms it funds. Share your plans for funding to scale beyond SBIR funding. To the extent that raising risk capital (VC, angel, venture debt) is part of your plan, point to your best evidence that you'll successfully raise these funds. How would Ignite funding change your firm's capitalization trajectory?
<i>weight 20%</i>		
FINANCIAL PROJECTIONS	GROWTH	Your five-year projections should tell an exciting story of product revenue growth that can support a venture return.
	EXPENSES	Please balance your story of growth with credible expense projections that are internally consistent with the rest of your proposal.
	OTHER SOURCES OF CASH	Where else will cash come from your business? Try to tell a balanced story about other sources of cash, including non-dilutive government sources, equity investments, and cash from any debt you plan to raise.
<i>weight 10%</i>		
TEAM	BUSINESS QUALIFICATIONS & EXPERIENCE	Briefly list and describe your business team. Please describe their qualifications and experience as it relates to successfully running commercial businesses. (Note: this is intentionally distinct from the "Technical Qualifications & Experience" metric below.)
	TECHNICAL QUALIFICATIONS & EXPERIENCE	Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences. Why are these the right technologists for this particular NASA subtopic?
	GAPS IN TEAM	Do you have the key people you need to get to through an eventual Phase II NASA award? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	ADVISORS	Argue you have advisors and/or board directors who provide wisdom and advice. Present evidence they are both stage-appropriate and sincerely engaged.
<i>weight 5%</i>		
PRESENTATION QUALITY	QUALITY OF PROSE	Provide a clear, well written, and convincing proposal. Avoid jargon and define technical terms.
	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.
<i>weight 5%</i>		

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		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
INTRODUCTION	<i>weight 5%</i>	Ineffective introduction. Failed to provide concise business proposition.	Adequate introduction. Gradually conveyed company's purpose and value. Should be more crisp.	Effective introduction. Systematically conveys company's purpose and value.	Exceptional introduction. Immediately conveys company's purpose and value.
COMMERCIAL POTENTIAL	COMMERCIAL PRODUCT VIABILITY	Product does not have a path to commercial profitability.	Demonstrates product has a path to commercial profitability.	Demonstrates product progressing toward commercial profitability.	Demonstrates product has achieved commercial profitability.
	COMPETITION, SUBSTITUTES & DIFFERENTIATION	No evidence of competitive analysis. Undifferentiated product.	Incomplete or too narrow competitive analysis. Somewhat differentiated product.	Thorough competitive analysis. Differentiated product.	Persuasive competitive analysis. Highly differentiated product.
	INTELLECTUAL PROPERTY	No evidence of defensible IP.	Unclear or flawed IP protection and/or ownership.	Evidence of exclusive licensee or owner of meaningful IP.	Firm controls IP that constitutes a durable strategic advantage.
	NON-IP BARRIERS TO ENTRY	No evidence non-IP barriers addressed. No plans to overcome or erect market barriers.	Acknowledges some non-IP barriers. Plan remains incomplete.	Effectively addresses non-IP barriers to entry. Presents comprehensive plan.	Persuasively attacks non-IP barriers to entry. Evidence of building their own barriers to entry.
	<i>weight 20%</i>	COMMERCIAL RISKS	Failed to present any commercial risks.	Inadequate risk analysis or mitigation plans.	Credible risk analysis and mitigation plans.
NON-NASA MARKET KNOWLEDGE	CUSTOMER ENGAGEMENT	No evidence of customer engagement.	Evidence of customer meetings.	Evidence of customer commitments.	Evidence of customer revenue.
	PARTNERSHIPS / SUBCONTRACTS	Partnership development not addressed.	Identified potential partners. No evidence of relationship building.	Identified required partners. Evidence of progressing relationships.	Partnerships formally in place. Or, the offeror's team is well positioned without partnering.
	MARKET SEGMENTATION	No evidence of market segmentation.	Too coarsely segmented. Likely over-reporting addressable market segment(s).	Concise defined market segmentation. Appropriately focused on the right customers.	Precision customer targeting of market. Ignores non-optimal customers.
	MARKET SIZING ANALYSIS	No evidence of market sizing analysis.	Incomplete market sizing. Supported by inadequate or questionable data.	Credible market sizing. Supported by comprehensive data analysis.	Superior market sizing. Supported by top-down and bottom-up data analysis.
	<i>weight 20%</i>	MARKET TIMING	No "why now?" case presented. No evidence of trend analysis.	Developing "why now?" case. Qualitative-only trend analysis.	Credible "why now?" case. Some quantitative trend analysis data.
INDUSTRY ATTRACTIVENESS	MARKET SIZE	Market is too small to support a VC or angel return, even at 100% dilution.	Medium-sized market. Must dominate market to realize a venture return.	Large market. Investor returns supported if significant market share is won.	Multi-billion dollar market. VC returns realized in the past. Significant opportunity for innovators.
	MARKET GROWTH	Zero or negative market growth.	Market growing in step with economy.	Market growing significantly faster than the economy.	Explosive market growth. Increasing number of opportunities for innovators.
	<i>weight 15%</i>	INCUMBENTS' POWER	Incumbents often stifle startups in this industry. Incumbents sometimes "buy" business, actively "crush" new entrants.	Powerful incumbents sometimes stifle innovation. Value chain slow to accept newcomers.	Opportunity for startups to innovate in this industry. Value chain and end-users open to newcomers.

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		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
BUSINESS MODEL <i>weight 20%</i>	PRICING	No evidence of pricing analysis.	Reasonable customer value-proposition. Gross margin seem low.	Compelling customer value-proposition. Gross margins could sustain operations.	Validated selling price(s). Gross margins could fund organic growth.
	DOWNSTREAM VALUE	No evidence of downstream value analysis. Cannot say how partners and end-users will profit.	Addresses some downstream value issues. Adequate description of downstream margins and end-user ROI.	Effectively addresses downstream value issues. Some evidence of downstream partners profit or end-user ROI.	Proven downstream value. Strong evidence of downstream gross margins and excellent end-user ROI.
	SCALABILITY	Very difficult, perhaps impossible, to scale business as presented.	Incomplete scaling plan. Some areas lack credibility.	Feasible scaling plan. Unproven.	Validated scaling strategy. Successful analogs exist.
	FUNDING STRATEGY	Fails to present funding plan. Or, plan includes post-Ignite non-matched SBIR(s).	Questionable funding plan to reach profitable growth without post-Ignite non-matched SBIR(s).	Feasible funding plan to reach profitable growth without post-Ignite non-matched SBIR(s).	Committed funding + Ignite award likely sufficient to reach profitable growth without post-Ignite non-matched SBIR(s).
FINANCIAL PROJECTIONS <i>weight 10%</i>	GROWTH	Growth projections will not support a venture return.	If achieved, growth projections below VC expectations.	If achieved, growth projections likely consistent with VC expectations.	If achieved, growth projections certainly consistent with VC expectations.
	EXPENSES	Projections are not credible.	Many areas of concern / internal inconsistencies in projections.	A few areas of concern / internal inconsistencies in projections.	Entirely credible and internally consistent projections.
	OTHER SOURCES OF CASH	Projections are not credible.	Many areas of concern / internal inconsistencies in projections.	A few areas of concern / internal inconsistencies in projections.	Entirely credible and internally consistent projections.
TEAM <i>weight 5%</i>	BUSINESS QUALIFICATIONS & EXPERIENCE	Business people lack qualifications OR have no experience.	Business people are somewhat qualified and have some experience.	Business people are highly qualified OR have significant experience.	Business people are highly qualified AND have significant experience.
	TECHNICAL QUALIFICATIONS & EXPERIENCE	Technical people lack qualifications OR have no experience.	Technical people are somewhat qualified and have some experience.	Technical people are highly qualified OR have significant experience.	Technical people are highly qualified AND have significant experience.
	GAPS IN TEAM	Team requires new talent.	Team recognizes gaps in personnel, but presents no plan to address needs.	Team presents specific plan to address personnel needs.	Team with excellent composition. No near-term personnel gaps.
	ADVISORS	No evidence of engaged advisors.	Advisors engaged. Missing key areas of advising expertise.	Advisors actively engaged. Comprised of appropriate technology and business experts.	Advisors productively engaged. Evidence they supported previous milestone(s).
PRESENTATION QUALITY <i>weight 5%</i>	QUALITY OF PROSE	Poorly written. Very difficult to impossible to follow argument. Several spelling or grammar errors.	Moderately written. Sometimes difficult to follow argument. A few spelling / grammar errors.	Effectively written. Convincing, easy to follow argument. No spelling or grammar errors.	Clearly and persuasively written. Compelling arguments. No spelling or grammar errors.
	DATA QUALITY & ATTRIBUTION	Poorly supported by data. Little to no attribution of sources.	Partially supported by data. Some attribution of sources.	Credibly supported by data. Data sources are properly attributed.	Persuasively supported by meaningful data. Fully attributed data greatly enhances investment thesis.



		DEFINITION
BENEFITS <i>weight 25%</i>	TECHNOLOGY DESCRIPTION	Describe your technology and how it addresses this NASA subtopic's need. What is it? What are its benefits? What makes it unique?
	ALIGNMENT	Argue your technology innovation is aligned with this NASA SBIR subtopic's priorities as defined in the solicitation.
	IMPACT	If successful, describe your technology's expected impact on the described subtopic need.
ADVANCING THE STATE OF THE ART <i>weight 10%</i>		Describe how your technology would improve the state of the art – as described in the subtopic solicitation.
TECHNICAL RISK <i>weight 20%</i>	TECHNICAL FEASIBILITY	Convince readers that your technology is built atop sound scientific and/or engineering principles.
	TECHNICAL RISKS AND MITIGATION PLANS	<p>A key historical difference between success and failure in NASA's SBIR program is offerors' understanding of the unknowns and challenges they are likely to face in maturing their technologies. Prove to the reader that your team is sophisticated and clear-eyed in analyzing the remaining risks your technology faces. Demonstrate that you have plans to mitigate those risks.</p> <p>In this section, your risk narrative (to include mitigation plans) should be focused on technical matters. Please point out which risk mitigation plans would take place during a Phase I effort, during a Phase II effort and which would be post-Phase II.</p>
	DATA QUALITY	Do your best to prove your technical claims with quality data attributed to credible sources (including relevant academic research.) These data should logically support your technical feasibility arguments and risk narrative.
PHASE I INTERIM PERFORMANCE <i>weight 10%</i>		Discuss your technical progress towards demonstrating Feasibility at the end of your Phase I SBIR effort, including any technical setbacks you've encountered.
SBIR PROJECT PLAN <i>weight 15%</i>	TIMELINES, MILESTONES, DELIVERABLES	Please share your execution plan with timeline, milestones and proposed deliverables.
	BUDGET	Provide a detailed breakdown of the base period of performance and the planned project costs to be incurred during the next period of performance.
	TECHNICAL FACILITIES & RESOURCES	Briefly list and describe your technical facilities and resources. Do you have the resources and technical facilities you need to successfully complete your proposed project through a Phase II and beyond? If not, convince the reader you have a credible plan to attain the necessary facilities or resources to accomplish the proposed solution.
TEAM ABILITY <i>weight 15%</i>	TECHNICAL QUALIFICATIONS & EXPERIENCE	Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences. Why are these the right technologists for this particular NASA subtopic?
	GAPS IN TECHNICAL TEAM	Do you have the key technical people you need to get to through an eventual Phase II NASA award? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	PARTNERSHIPS / SUBCONTRACTS	<p>Describe any organizations with which you plan to partner as you mature the proposed technology. Emphasize any partnerships relevant through a Phase II award – this is our main focus. Later partnerships (and plans) should be mentioned. Summarize the nature and timing of these partnerships.</p> <p>If partnering is not required to successfully mature your technology, please explain why.</p>
SUBMISSION QUALITY <i>weight 5%</i>		Prove to the evaluators that you are capable of delivering a professional, polished and thoughtful proposal. (Please note: The Submission Quality Dimension is holistically evaluated across the materials you submit.)

NASA Ignite - Phase II - Technical Evaluation Criteria v1-0-1



		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
BENEFITS	TECHNOLOGY DESCRIPTION	Fails to describe technology solution and beneficial features.	Partly describes technology solution and beneficial features.	Adequately describes technology solution and beneficial features.	Clearly and concisely describes technology solution and beneficial features.
	ALIGNMENT	Not aligned with this subtopic's priorities.	Somewhat aligned with this subtopic's priorities.	Aligned with this subtopic's priorities.	Highly aligned with this subtopic's priorities.
	IMPACT	If successful, no improvement vs. existing technological approaches.	If successful, slight improvement vs. existing technological approaches.	If successful, significant improvement vs. existing technological approaches.	If successful, radical improvement vs. existing technological approaches.
ADVANCING THE STATE OF THE ART	<i>weight 10%</i>	No improvement of the state of the art.	Slightly improves the state of the art.	Improves the state of the art.	Significantly improves the state of the art.
TECHNICAL RISK	TECHNICAL FEASIBILITY	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Convincing scientific basis for presented approach.
	TECHNICAL RISKS AND MITIGATION PLANS	Failed to present any technical risks.	Inadequate risk analysis or mitigation plans.	Credible risk analysis and mitigation plans.	Convincing risk analysis and mitigation plans.
	DATA QUALITY	Poorly supported by data. Little to no data attribution.	Partially supported by data. Some data attribution.	Credibly supported by data. Adequate data attribution.	Persuasively supported by meaningful data. Comprehensive data attribution.
PHASE I INTERIM PERFORMANCE	<i>weight 10%</i>	Unlikely to demonstrate Feasibility by end of Phase I effort.	Could demonstrate Feasibility by end of Phase I effort.	Likely to demonstrate Feasibility by end of Phase I effort.	Nearly certain to demonstrate Feasibility by end of Phase I effort.
SBIR PROJECT PLAN	TIMELINES, MILESTONES, DELIVERABLES	Poor plan. Missing or badly flawed timelines, milestones, and deliverables.	Marginal plan. Insufficient support from timelines, milestones, and deliverables.	Satisfactory plan. Well supported with timelines, milestones, and deliverables.	Highly credible plan. Convincingly supported with timelines, milestones, and deliverables.
	BUDGET	Incomplete table of costs. Non-credible basis of estimate data.	Complete table of costs. Somewhat credible basis of estimate data.	Complete table of costs. Credible basis of estimate data.	Complete table of costs. Highly credible basis of estimate data.
	TECHNICAL FACILITIES & RESOURCES	Existing facilities and resources insufficient. Gaps are high risk.	Existing facilities and resources partially sufficient. Evolving plan for gaps.	Existing facilities and resources mostly sufficient. Credible plan for gaps.	Existing facilities and resources certainly sufficient. No unresolved gaps.
TEAM ABILITY	TECHNICAL QUALIFICATIONS & EXPERIENCE	Technical people lack qualifications OR have no experience.	Technical people are somewhat qualified and have some experience.	Technical people are highly qualified OR have significant experience.	Technical people are highly qualified AND have significant experience.
	GAPS IN TECHNICAL TEAM	Team requires new talent.	Team recognizes gaps in personnel, but presents no plan to address needs.	Team presents specific plan to address personnel needs.	Team with excellent composition. No near-term personnel gaps.
	PARTNERSHIPS / SUBCONTRACTS	Partnership development not addressed.	Identified potential partners. No evidence of relationship building.	Identified required partners. Evidence of progressing relationships.	Partnerships formally in place. Or, the offeror's team is well positioned without partnering.
SUBMISSION QUALITY	<i>weight 5%</i>	Poorly written. Very difficult to impossible to follow. Several quality errors.	Moderately written. Sometimes difficult to follow. Some quality errors.	Effectively written. Convincing, easy to follow. No quality errors.	Clearly and persuasively written. Compelling arguments. No quality errors.

Appendix B: Technology Readiness Level (TRL) Descriptions

The Technology Readiness Level (TRL) describes the stage of maturity in the development process from observation of basic principles through final product operation. The exit criteria for each level document that principles, concepts, applications, or performance have been satisfactorily demonstrated in the appropriate environment required for that level. A relevant environment is a subset of the operational environment that is expected to have a dominant impact on operational performance. Thus, reduced gravity may be only one of the operational environments in which the technology must be demonstrated or validated to advance to the next TRL.

TRL	Definition	Hardware Description	Software Description	Exit Criteria
1	Basic principles observed and reported.	Scientific knowledge generated underpinning hardware technology concepts/applications.	Scientific knowledge generated underpinning basic properties of software architecture and mathematical formulation.	Peer reviewed publication of research underlying the proposed concept/application.
2	Technology concept and/or application formulated.	Invention begins, practical application is identified but is speculative, no experimental proof or detailed analysis is available to support the conjecture.	Practical application is identified but is speculative, no experimental proof or detailed analysis is available to support the conjecture. Basic properties of algorithms, representations and concepts defined. Basic principles coded. Experiments performed with synthetic data.	Documented description of the application/concept that addresses feasibility and benefit.
3	Analytical and experimental critical function and/or characteristic proof of concept.	Analytical studies place the technology in an appropriate context and laboratory demonstrations, modeling and simulation validate analytical prediction.	Development of limited functionality to validate critical properties and predictions using non-integrated software components.	Documented analytical/experimental results validating predictions of key parameters.
4	Component and/or breadboard validation in laboratory environment.	A low fidelity system/component breadboard is built and operated to demonstrate basic functionality and critical test environments, and associated performance predictions are defined relative to the final operating environment.	Key, functionally critical, software components are integrated, and functionally validated, to establish interoperability and begin architecture development. Relevant Environments defined and performance in this environment predicted.	Documented test performance demonstrating agreement with analytical predictions. Documented definition of relevant environment.
5	Component and/or breadboard validation in relevant environment.	A medium fidelity system/component brassboard is built and operated to demonstrate overall performance in a simulated operational environment with realistic support elements that	End-to-end software elements implemented and interfaced with existing systems/simulations conforming to target environment. End-to-end software system, tested in relevant environment, meeting predicted performance.	Documented test performance demonstrating agreement with analytical predictions. Documented definition of scaling requirements.

		demonstrates overall performance in critical areas. Performance predictions are made for subsequent development phases.	Operational environment performance predicted. Prototype implementations developed.	
6	System/sub-system model or prototype demonstration in a relevant environment.	A high-fidelity system/component prototype that adequately addresses all critical scaling issues is built and operated in a relevant environment to demonstrate operations under critical environmental conditions.	Prototype implementations of the software demonstrated on full-scale realistic problems. Partially integrate with existing hardware/software systems. Limited documentation available. Engineering feasibility fully demonstrated.	Documented test performance demonstrating agreement with analytical predictions.
7	System prototype demonstration in an operational environment.	A high-fidelity engineering unit that adequately addresses all critical scaling issues is built and operated in a relevant environment to demonstrate performance in the actual operational environment and platform (ground, airborne, or space).	Prototype software exists having all key functionality available for demonstration and test. Well integrated with operational hardware/software systems demonstrating operational feasibility. Most software bugs removed. Limited documentation available.	Documented test performance demonstrating agreement with analytical predictions.
8	Actual system completed and "flight qualified" through test and demonstration.	The final product in its final configuration is successfully demonstrated through test and analysis for its intended operational environment and platform (ground, airborne, or space).	All software has been thoroughly debugged and fully integrated with all operational hardware and software systems. All user documentation, training documentation, and maintenance documentation completed. All functionality successfully demonstrated in simulated operational scenarios. Verification and Validation (V&V) completed.	Documented test performance verifying analytical predictions.
9	Actual system flight proven through successful mission operations.	The final product is successfully operated in an actual mission.	All software has been thoroughly debugged and fully integrated with all operational hardware/software systems. All documentation has been completed. Sustaining software engineering support is in place. System has been successfully operated in the operational environment.	Documented mission operational results.

Definitions

Brassboard: A medium-fidelity functional unit that typically tries to make use of as much operational hardware/software as possible and begins to address scaling issues associated with the operational system. It

does not have the engineering pedigree in all aspects but is structured to be able to operate in simulated operational environments in order to assess performance of critical functions.

Breadboard: A low-fidelity unit that demonstrates function only, without respect to form or fit in the case of hardware, or platform in the case of software. It often uses commercial and/or ad hoc components and is not intended to provide definitive information regarding operational performance.

Engineering Unit: A high-fidelity unit that demonstrates critical aspects of the engineering processes involved in the development of the operational unit. Engineering test units are intended to closely resemble the final product (hardware/software) to the maximum extent possible and are built and tested so as to establish confidence that the design will function in the expected environments. In some cases, the engineering unit will become the final product, assuming proper traceability has been exercised over the components and hardware handling.

Laboratory Environment: An environment that does not address in any manner the environment to be encountered by the system, subsystem, or component (hardware or software) during its intended operation. Tests in a laboratory environment are solely for the purpose of demonstrating the underlying principles of technical performance (functions), without respect to the impact of environment.

Mission Configuration: The final architecture/system design of the product that will be used in the operational environment. If the product is a subsystem/component, then it is embedded in the actual system in the actual configuration used in operation.

Operational Environment: The environment in which the final product will be operated. In the case of spaceflight hardware/software, it is space. In the case of ground-based or airborne systems that are not directed toward spaceflight, it will be the environments defined by the scope of operations. For software, the environment will be defined by the operational platform.

Proof of Concept: Analytical and experimental demonstration of hardware/software concepts that may or may not be incorporated into subsequent development and/or operational units.

Prototype Unit: The prototype unit demonstrates form, fit, and function at a scale deemed to be representative of the final product operating in its operational environment. A subscale test article provides fidelity sufficient to permit validation of analytical models capable of predicting the behavior of full-scale systems in an operational environment

Relevant Environment: Not all systems, subsystems, and/or components need to be operated in the operational environment in order to satisfactorily address performance margin requirements. Consequently, the relevant environment is the specific subset of the operational environment that is required to demonstrate critical "at risk" aspects of the final product performance in an operational environment. It is an environment that focuses specifically on "stressing" the technology advance in question.

Appendix C: SBIR and the Technology Taxonomy

NASA's technology development activities expand the frontiers of knowledge and capabilities in aeronautics, science, and space, creating opportunities, markets, and products for U.S. industry and academia. Technologies that support NASA's missions may also support science and exploration missions conducted by the commercial space industry and other Government agencies. In addition, NASA technology development results in applications for the general population, including devices that improve health, medicine, transportation, public safety, and consumer goods.

The 2024 NASA Technology Taxonomy is an evolution of the technology roadmaps developed in 2015. The 2024 NASA Technology Taxonomy provides a structure for articulating the technology development disciplines needed to enable future space missions and support commercial air travel. The 2024 revision is composed of 17 distinct technical-discipline-based taxonomies (TX) that provide a breakdown structure for each technology area. The taxonomy uses a three-level hierarchy for grouping and organizing technology types. Level 1 represents the technology area that is the title of that area. Level 2 is a list of the subareas the taxonomy is a foundational element of NASA's technology management process. NASA's mission directorates reference the taxonomy to solicit proposals and to inform decisions on NASA's technology policy, prioritization, and strategic investments.

Details on the 2015 NASA Technology Roadmaps remain accessible here: <https://www.nasa.gov/image-article/2015-nasa-technology-roadmap-poster/>, and information on the new 2024 NASA Technology Taxonomy can be found at: (<https://www.nasa.gov/otps/2024-nasa-technology-taxonomy/>).

The research and technology subtopics for the SBIR program are identified annually by mission directorates and center programs. The directorates identify high-priority research and technology needs for respective programs and projects.

Appendix D: List of NASA SBIR Phase I Clauses, Regulations and Certifications

The location of the item in Valid Eval is in parentheses after the item. Offerors who plan to submit a completed proposal package to this solicitation will be required to meet specific rules and regulations as part of the submission and if awarded a contract. Offerors should ensure that they understand these rules and requirements before submitting a completed proposal package to NASA.

Below are the all the clauses, regulations and certifications that apply to Phase I submissions and contracts. Each clause, regulation and certification contain a hyperlink to the webpages from the NASA FAR Supplement, SBIR/STTR Policy Directive, and www.acquisition.gov where you can read about the requirements.

Federal Acquisition Regulations (FAR) Provisions and Clauses

FAC 2023-04; FAR Case 2023-010 Prohibition on a Byte Dance Covered Application (including TikTok) (Interim Rule)

52.202-1 DEFINITIONS. (Jun 2020)

52.203-3 GRATUITIES. (Apr 1984)

52.203-5 COVENANT AGAINST CONTINGENT FEES. (May 2014)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT. (Jun 2020)

52.203-7 ANTI-KICKBACK PROCEDURES. (Jun 2020)

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (May 2014)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (May 2014)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS. (Sep 2024)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS. (Jun 2020)

52.203-18 PROHIBITION ON CONTRACTING WITH ENTITIES THAT REQUIRE CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS OR STATEMENTS-REPRESENTATION (Jun 2020)

52.203-19 PROHIBITION ON REQUIRING CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS OR STATEMENTS. (Jan 2017)

52.204-7 SYSTEM FOR AWARD MANAGEMENT. (Nov 2024)

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (Jan 2025) (Deviation Feb 2025)

52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS. (Jun 2020)

52.204-13 SYSTEM FOR AWARD MANAGEMENT MAINTENANCE. (Oct 2018)

52.204-16 COMMERCIAL AND GOVERNMENT ENTITY CODE REPORTING. (Aug 2020)

52.204-18 COMMERCIAL AND GOVERNMENT ENTITY CODE MAINTENANCE. (Aug 2020)

52.204-19 INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS. (Dec 2014)

52.204-21 BASIC SAFEGUARDING OF COVERED CONTRACTOR INFORMATION SYSTEMS (Nov 2021)

52.204-22 ALTERNATIVE LINE ITEM PROPOSAL. (Jan 2017)

52.204-23 PROHIBITION ON CONTRACTING FOR HARDWARE, SOFTWARE, AND SERVICES DEVELOPED OR PROVIDED BY KASPERSKY LAB AND OTHER COVERED ENTITIES. (Dec 2023)

52.204-24 REPRESENTATION REGARDING CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (Nov 2021)

52.204-25 PROHIBITION ON CONTRACTING FOR CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT. (Nov 2021)

52.204-26 COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES - REPRESENTATION. (Oct 2020)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT. (Nov 2021)

52.213-4, TERMS AND CONDITIONS-SIMPLIFIED ACQUISITIONS (OTHER THAN COMMERCIAL PRODUCTS AND COMMERCIAL SERVICES) (Jan 2025) (Deviation Feb 2025)

52.215-1 INSTRUCTIONS TO OFFERORS—COMPETITIVE ACQUISITION. (Nov 2021)

- 52.215-8 ORDER OF PRECEDENCE—UNIFORM CONTRACT FORMAT. (Oct 1997)
- 52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (Nov 2020)
- 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION. (Feb 2024)
- 52.222-3 CONVICT LABOR. (Jun 2003)
- 52.222-36 EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES. (Jun 2020)
- 52.222-37 EMPLOYMENT REPORTS ON VETERANS. (Jun 2020)
- 52.222-50 COMBATING TRAFFICKING IN PERSONS. (Nov 2021)
- 52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION. (May 2022)
- 52.225-1 BUY AMERICAN-SUPPLIES (Nov 2021)
- 52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES. (Feb 2021)
- 52.225-25 PROHIBITION ON CONTRACTING WITH ENTITIES ENGAGING IN CERTAIN ACTIVITIES OR TRANSACTIONS RELATING TO IRAN—REPRESENTATION AND CERTIFICATIONS. (Jun 2020)
- 52.226-8 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING. (MAY 2024)
- 52.227-1 AUTHORIZATION AND CONSENT. (Jun 2020)
- 52.227 -2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (Jun 2020)
- 52.227-11 PATENT RIGHTS—OWNERSHIP BY THE CONTRACTOR. (May 2014) as Modified by NFS 1852.227-11
- 52.227-20 RIGHTS IN DATA—SBIR PROGRAM. (May 2014)
- 52.229-3 FEDERAL, STATE, AND LOCAL TAXES. (Feb 2013)
- 52.232-2 PAYMENTS UNDER FIXED-PRICE RESEARCH AND DEVELOPMENT CONTRACTS. (Apr 1984)
- 52.232-9 LIMITATION ON WITHHOLDING OF PAYMENTS. (Apr 1984)
- 52.232-12 ADVANCE PAYMENTS. (MAY 2001) AS MODIFIED BY NFS 1852.232-70 ALTERNATE IV (APR 1984)
ALTERNATE V (MAY 2001)
- 52.232-23 ASSIGNMENT OF CLAIMS. (May 2014)
- 52.232-25 PROMPT PAYMENT. (Jan 2017)
- 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—SYSTEM FOR AWARD MANAGEMENT. (Oct 2018)
- 52.232-39 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS. (Jun 2013)
- 52.232-40 PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS. (DEVIATION 20-03A)
(Mar 2023)
- 52.233-1 DISPUTES. (May 2014)
- 52.233-3 PROTEST AFTER AWARD. (Aug 1996)
- 52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM. (Oct 2004)
- 52.242-13 BANKRUPTCY (July 1995)
- 52.242-15 STOP-WORK ORDER. (Aug 1989)
- 52.243-1 CHANGES—FIXED PRICE. (Aug 1987)
- 52.244-6, SUBCONTRACTS FOR COMMERCIAL PRODUCTS AND COMMERCIAL SERVICES (Jan 2025) (DEVIATION
Feb 2025)
- 52.246-7 INSPECTION OF RESEARCH AND DEVELOPMENT—FIXED PRICE. (Aug 1996)
- 52.246-16 RESPONSIBILITY FOR SUPPLIES. (Apr 1984)
- 52.247-34 F.O.B. DESTINATION (Jan 1991)
- 52.249-1 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SHORT FORM). (Apr 1984)
- 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE. (Feb 1998)
- 52.252-2 CLAUSES INCORPORATED BY REFERENCE. (Feb 1998)
- 52.253-1 COMPUTER GENERATED FORMS.

NASA Provisions and Clauses

- 1852.203-71 REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS (Jul 2023)
- 1852.204-76 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES.
(DEVIATION 21-01)

1852.211-70 PACKAGING, HANDLING, AND TRANSPORTATION CERTIFICATIONS—OTHER THAN COMMERCIAL ITEMS (Sep 2005)
1852.215-81 PROPOSAL PAGE LIMITATIONS.
1852.216-78 FIRM FIXED PRICE. (Dec 1988)
1852.219-80 LIMITATION ON SUBCONTRACTING – SBIR PHASE I PROGRAM. (OCT 2006)
1852.219-83 LIMITATION OF THE PRINCIPAL INVESTIGATOR – SBIR PROGRAM. (OCT 2006)
1852.219-85 CONDITIONS FOR FINAL PAYMENT – SBIR AND STTR CONTRACTS (Oct 2006)
1852.223-75 MAJOR BREACH OF SAFETY OR SECURITY. (Feb 2002)
1852.225-70 EXPORT LICENSES (Feb 2000)
1852.225-71 RESTRICTION ON FUNDING ACTIVITY WITH CHINA (Feb 2012)
1852.225-72 RESTRICTION ON FUNDING ACTIVITY WITH CHINA – REPRESENTATION. (DEVIATION 12-01A) (Feb 2012)
1852.227-11 PATENT RIGHTS – OWNERSHIP BY THE CONTRACTOR. (Apr 2015)
1852.227-72 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE. (Apr 2015)
1852.232-80 SUBMISSION OF VOUCHERS FOR PAYMENT. (Apr 2018)
1852.233-70 PROTESTS TO NASA. (Apr 2015)
1852.235-70 CENTER FOR AEROSPACE INFORMATION. (Dec 2006)
1852.235-71 KEY PERSONNEL AND FACILITIES (Mar 1989)
1852.235-73 FINAL SCIENTIFIC AND TECHNICAL REPORTS. (Dec 2006)
1852.235-74 ADDITIONAL REPORTS OF WORK - RESEARCH AND DEVELOPMENT. (Feb 2003)
1852.237-72 ACCESS TO SENSITIVE INFORMATION. (Jun 2005)
1852.237-73 RELEASE OF SENSITIVE INFORMATION. (Jun 2005)
1852.239-73 REVIEW OF THE OFFEROR'S INFORMATION TECHNOLOGY SYSTEMS SUPPLY CHAIN (DEVIATION 15-03D) (Jan 2020)
1852.239-74 INFORMATION TECHNOLOGY SYSTEM SUPPLY CHAIN RISK ASSESSMENT. (DEVIATION 15-03D) (Jan 2020)
1852.244-70 GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM (Apr 1985)
1852.246-72 MATERIAL INSPECTION AND RECEIVING REPORT (Apr 1985)
PCD 21-02 FEDERAL ACQUISITION REGULATION (FAR) CLASS DEVIATION – PROTECTION OF DATA UNDER THE SMALL BUSINESS INNOVATIVE RESEARCH/SMALL TECHNOLOGY TRANSFER RESEARCH (SBIR/STTR) PROGRAM
PCD 21-04A CLASS DEVIATION FROM THE FEDERAL ACQUISITION REGULATION (FAR) AND NASA FAR SUPPLEMENT (NFS) REGARDING REQUIREMENTS FOR NONAVAILABILITY DETERMINATIONS UNDER THE BUY AMERICAN STATUTE

Additional Regulations

SOFTWARE DEVELOPMENT STANDARDS
HUMAN AND/OR ANIMAL SUBJECT
HOMELAND SECURITY PRESIDENTIAL DIRECTIVE 12 (HSPD-12)
RIGHTS IN DATA DEVELOPED UNDER SBIR FUNDING AGREEMENT
INVENTION REPORTING, ELECTION OF TITLE, PATENT APPLICATION FILING, AND PATENTS

SBA Certifications required for Phase I

- (1) CERTIFICATIONS.
- (2) PERFORMANCE OF WORK REQUIREMENTS.
- (3) EMPLOYMENT OF THE PRINCIPAL INVESTIGATOR/PROJECT MANAGER.
- (4) LOCATION OF THE WORK.
- (5) NOVATED/SUCCESSOR IN INTERESTED/REVISED FUNDING AGREEMENTS.
- (6) MAJORITY-OWNED BY MULTIPLE VCOCS, HEDGE FUNDS OR PRIVATE EQUITY FIRMS [SBIR ONLY].

(7) AGENCY BENCHMARKS FOR PROGRESS TOWARDS COMMERCIALIZATION.

(8) LIFE CYCLE CERTIFICATIONS