

**DEPARTMENT OF THE ARMY**  
**DoD 24.4 Small Business Innovation Research (SBIR)**  
**Annual Broad Agency Announcement (BAA)**  
**Component-Specific Proposal Instructions**  
**Release 16**

**May 14, 2024:** Topics issued for pre-release

**May 29, 2024:** Army begins accepting proposals via DSIP

**June 18, 2024:** DSIP Topic Q&A closes to new questions at 12:00 p.m. ET

**July 2, 2024:** Deadline for receipt of proposals no later than 12:00 p.m. ET

## **INTRODUCTION**

The future Army must be capable of conducting Multi-Domain Operations (MDO) as part of an integrated Joint Force across an array of situations in multiple theaters by 2035. The MDO concept describes how the Army will support the Joint Force in the rapid and continuous integration of all domains of warfare – land, sea, air, and cyberspace – to deter and prevail as we compete short of conflict, and fight and win if deterrence fails. The Army must provide game-changing capabilities to our Soldiers. To capitalize on small business innovation and reduce the time from solicitation to award, the Army has implemented an approach to advertise SBIR funding opportunities through the Department of Defense (DoD) Annual BAA process, outside of the three pre-determined BAA cycles.

**Each Small Business Concern (SBC) (also referred to herein as “proposer”, “offeror”, and/or “firm”) is encouraged to thoroughly review the DoD SBIR Program BAA, to include any amendments/revisions, and the Army component-specific proposal instructions herein.**

The following resources are provided to assist SBCs with SBIR Program Opportunities:

- The DoD SBIR Program BAA is located at: <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/>.
- To remain apprised of important programmatic and solicitation changes, SBCs should register for the Defense SBIR / Small Business Technology Transfer (STTR) Innovation Portal (DSIP) Listserv at: <https://www.dodsbirsttr.mil/submissions/login>.
- How to Submit a Compliant and Responsive Proposal Webinar: [https://youtu.be/YyXMWUYo\\_zo](https://youtu.be/YyXMWUYo_zo)

## **CONTACT INFORMATION**

SBC’s may direct questions to the following Points of Contact, as described below:

DSIP Support: Email DSIP Support at [DoDSBIRSupport@reisystems.com](mailto:DoDSBIRSupport@reisystems.com) only for assistance with using the DSIP application. Questions regarding DSIP can be emailed to DSIP Support and will be addressed in the order received, during normal operating hours (Monday through Friday, 9:00 a.m. to 5:00 p.m. ET). Please include information on your small business concern, a proposal number (if applicable), and screenshots of any pertinent errors or issues encountered.

Army Component Specific Proposal Instructions: General questions regarding the administration of the Army SBIR Program, and the Army Component-Specific Proposal Instructions can be directed to the following:

Email: [usarmy.SBIRSTTR@army.mil](mailto:usarmy.SBIRSTTR@army.mil)

Website: <https://www.armysbir.army.mil/>

Mailing Address:  
Army SBIR Office  
2530 Crystal Drive, Suite 11192  
Arlington, Virginia 22202

Direct Contact with Army SBIR Topic Authors: During the pre-release period, proposing SBCs have an opportunity to contact topic authors by telephone or e-mail to ask technical questions about specific topics posted under this BAA. Questions should be limited to specific information related to improving the understanding of a particular topic's requirements. Proposing SBCs may not ask for advice or guidance on solution approach and may not submit additional material to the topic author. If information provided during an exchange with the topic author is deemed necessary for proposal preparation, that information will be made available to all parties through Topic Q&A. After the pre-release period, questions must be asked through the Topic Q&A.

Topic Q&A: Once a topic enters the open period and DoD begins accepting proposals, no further direct contact between proposing small business concerns and topic authors is allowed unless the Topic Author is responding to a question submitted during the pre-release period. However, proposing small business concerns may submit written questions through Topic Q&A at <https://www.dodsbirsttr.mil/submissions/login>. In Topic Q&A, all questions and answers are posted electronically for general viewing. Identifying information for the questioner and respondent is not posted.

Questions submitted through the Topic Q&A are limited to technical information related to improving the understanding of a topic's requirements. Any other questions, such as those asking for advice or guidance on solution approach, or administrative questions, such as SBIR or STTR program eligibility, technical proposal/cost proposal structure and page count, budget and duration limitations, or proposal due date WILL NOT receive a response. Answers are generally posted within seven (7) business days of question submission (answers will also be e-mailed directly to the inquirer). Proposing SBCs are advised to monitor Topic Q&A during the topic pre-release and open period for questions and answers.

## **RESPONSIVENESS AND TIMELINESS**

Proposals will only be evaluated in response to an active, corresponding Army topic. Proposals will be initially screened to determine responsiveness and timeliness. Proposals passing this initial screening will be technically evaluated by engineers or scientists, through a peer or scientific review process, to determine the most promising technical and scientific approaches. Assessment of responsiveness may continue during technical evaluation and after selection. If at any point the proposal is deemed untimely, unresponsive, or noncompliant, OR the SBC is deemed ineligible or non-responsible, the proposal will be disqualified/rejected and a contract will not be awarded.

Interested firms shall follow the DoD SBIR Program BAA instructions as well as the Army's component-specific proposal instructions herein when preparing and submitting proposals. The DoD SBIR Program BAA, to include any amendments/revisions, can be found here: <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/>.

The Government reserves the right to disqualify/reject proposals for failing to meet any of the requirements of the SBA SBIR/STTR Policy Directive, the DoD SBIR Program BAA instructions, the Army's component-

specific proposal instructions herein, and/or in the topic itself. The following include, but are not limited to, the common reasons for which proposals are disqualified/rejected:

- Failure to possess an active and accurate registration through the System for Award Management (SAM);
- The proposal is missing required number of signatures and/or content;
- Minimum Performance Percentage of Work is not allocated properly;
- Work as proposed does not meet the definition of Research and Development required for funding;
- Proposal submitted beyond deadline;
- Commercialization Plan is submitted in a format other than the prescribed template at Appendix D – Commercialization Plan Template, enclosed herein;
- Cost/Price exceeds the stated award guideline limitation identified within the corresponding SBIR opportunity;
- The proposal exceeds the stated page count(s) or formatting requirements;
- Firm is NOT an eligible SBC;
- Firm does NOT meet the ownership and control requirements;
- Firm is 50% or more owned or managed by a corporate entity that is not a SBC;
- Firm will NOT perform the prescribed percentage of the research and/or analytical work;
- Primary employment of the Principal Investigator for this project is NOT with the firm;
- Firm has been convicted of a fraud-related crime;
- Principal Investigator or Corporate Official has been convicted of a fraud-related crime;
- Firm and affiliates have employed, on average over the last 24 months, more than 500 employees;
- Firm has been awarded a contract from the US Government for essentially equivalent work;
- Claiming data rights assertions in Volume 1 without including an assertion of use, release, or disclosure restriction in accordance with Defense Federal Acquisition Regulation Supplement (DFARS) 252.227- 7017) in Volume 5 – Supporting Documents;
- Lack of proper documentation for research utilizing human/animal subjects or recombinant DNA;
- Lack of information or negative information concerning use of foreign nationals;
- Offeror requests to award to a different firm/entity after proposal submission;
- Failure or refusal to submit certified or other than certified cost data in accordance with DFARS Clause 252.215-7010, Requirements for Certified Cost or Pricing Data and Data Other Than Certified Cost or Pricing Data;
- Proposal is for a topic other than that which is identified;
- Failure to submit a complete and fully certified DD Form 2345, Military Critical Technical Data Agreement, or evidence of application submission when the Topic is subject to International Traffic in Arms or Export Administration Regulations (ITAR/EAR); and/or
- Proposals that do not include the fully completed and signed Disclosures of Foreign Affiliations or Relationships to Foreign Countries in Volume 5 – Supporting Documents of the proposal submission.

#### **REPRESENTATIONS THROUGH THE SYSTEM FOR AWARD MANAGEMENT (SAM)**

The purpose of electronic Representations and Certifications (Reps/Certs) is to provide all Offerors with a portal in which to submit Reps/Certs in a publicly accessible format, nullifying the requirement to submit identical information in response to each and every Federal contract solicitation.

Interested firms are required to be registered and active in SAM ([www.sam.gov](http://www.sam.gov)) before submitting a proposal and shall continue to be registered until time of award, during performance, and through final payment of any contract. Firms are reminded to update SAM data as necessary, ensuring their Reps/Certs reflect the proper North American Industry Classification System (NAICS) code and Product and Service Code (PSC) supporting

this effort:

NAICS: 541715, Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

PSC: AC11, National Defense R&D Services; Department of Defense - Military; Basic Research; AND AC12, National Defense R&D Services; Department of Defense - Military; Applied Research

A firm may NOT submit an offer on behalf of another entity. The proposed firm's Entity Information shall match the Entity Information (Commercial and Government Entity (CAGE) Code / DoD Activity Address Code (DoDAAC) / Unique Entity Identifier (UEI)) contained in the proposal to be eligible for award. A firm submitting an offer using a "Doing Business As" (DBA) name must have the DBA registered and linked to their SAM registration. An offer submitted using a DBA that is different from the firm's legal, registered name, and not identified in SAM shall be disqualified/rejected from consideration.

Proposing firms with no SAM registration, inactive SAM registration(s), or SAM registration(s) with improper representations and certifications will be disqualified and shall not be considered for award.

#### **ELIGIBILITY**

The Army's SBIR Program is subject to small business size, affiliation rules, and ownership or investment disclosure and registration requirements referenced in 13 C.F.R. §§ 121.701-705, Size and Eligibility Requirements for the SBIR and STTR Programs, and the Small Business Administration's SBIR/STTR Program Policy Directive (MAY 2023). These eligibility requirements are unique and do not correspond to those of other small business programs.

Proposing SBCs may refer to Section 4.2, Proposing Small Business Concern Eligibility and Performance Requirements, of DoD SBIR 24.4 Program BAA, to include any amendments/revisions, for full eligibility requirements.

#### **Ownership in Part by Multiple Venture Capital, Hedge Fund, and Private Equity Firms**

Proposing SBCs that are owned in majority part by multiple venture capital operating companies (VCOCs), hedge funds, or private equity funds are eligible to submit applications or receive awards for this topic.

- The proposing SBC shall identify each foreign national, foreign entity, or foreign government holding or controlling greater than a 5% equity stake in the proposing SBC, whether such equity stake is directly or indirectly held.
- The proposing SBC shall also identify any and all of its ultimate parent owner(s) and any other entities and/or individuals owning more than a 5% equity stake in its chain of ownership.

VCOCs, hedge funds and private equity firms are allowed to hold minority shares of SBIR/STTR awardee so long as they do not have control of the awardee company and so long as their affiliation with the awardee, if any, does not put the awardee firm over the size limit.

If the VCOC is itself more than 50% directly owned and controlled by one or more individuals who are citizens or permanent resident aliens of the United States, the VCOC is allowed to have majority ownership and control of the awardee. In that case, the VCOC and the awardee, and all other affiliates, shall have a total of 500 employees or less.

## **INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR)**

Statement of Work tasks shall neither require the use of export-controlled information/property nor result in the development of export-controlled data/hardware unless expressly stated in the topic (e.g. “The technology within this topic is restricted under the ITAR, 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the EAR, 15 CFR Parts 730-774”).

If a proposal is submitted under a topic that requires the use of export-controlled information/property or the development of export-controlled data/hardware, either ITAR/EAR, a complete and fully certified DD Form 2345, Military Critical Technical Data Agreement, or evidence of application submission, must be included with timely proposal submission. Failure to provide such documentation will be grounds for disqualification and rejection of the proposal. Additionally, the proposing SBC shall mark an affirmative response to the following Volume I Proposal Cover Sheet prompt: “There will be ITAR/EAR data in this work and/or deliverables”.

The DD Form 2345, Military Critical Technical Data Agreement, instructions, and Frequently Asked Questions (FAQs) may be found at the United States/Canada Joint Certification Program (JCP) website, [JCP Portal](#).

A contract award will not be made without a complete and fully certified DD Form 2345. Additionally, and pursuant to DFARS Procedures Guidance and Information (PGI) 225.7901-2, Contractors shall direct their attention to the clause at DFARS 252.225-7048, Export-Controlled Items for questions concerning compliance with ITAR/EAR.

## **CONTROLLED UNCLASSIFIED INFORMATION (CUI)**

Successful firms will be required to comply with CUI DoDI 5200.48. Firms must monitor CUI for aggregation and compilation based on the potential to generate classified information pursuant to security classification guidance addressing the accumulation of unclassified data or information. Firms shall report the potential of classification of aggregated or compiled CUI to ASA(ALT) Security Manager. Firms, pursuant to mandatory DoD contract provisions, will submit unclassified DoD information for review and approval for release and approval for release in accordance with the standard DoDI 5230.09. All CUI records must follow the approved mandatory disposition authorities whenever the DoD provides CUI to, or CUI is generated by, non-DoD entities in accordance with Section 1220-1236 of Title 36, CFR, Section 3301a of Title 44, U.S.C., DoDI 5200.48.

## **RESEARCH THAT UTILIZES HUMAN/ANIMAL SUBJECTS OR RECOMBINANT DNA**

### **Research Involving Human Subjects.**

Research involving human subjects, including use of human biological specimens and human data, in accordance with 32 CFR Part 219, DoD Directive 3216.02, and 10 U.S.C. 980, including research that meets exemption criteria under 32 CFR 219.101(b), is prohibited under Army Phase I SBIR contracts. Proposed Army Phase II SBIR work shall not include research involving human subjects, including use of human biological specimens and human data, in accordance with 32 CFR Part 219, DoD Directive 3216.02, and 10 U.S.C. 980, including research that meets exemption criteria under 32 CFR 219.101(b), unless expressly allowed in the topic. If Phase I or not expressly allowed in the topic for Phase II, proposals with activities involving human subjects will be disqualified and rejected at any time throughout proposal evaluation and analysis.

If a Phase II SBIR proposal is submitted under a topic that allows the involvement of human subjects, including use of human biological specimens and human data, the offeror shall abide by DoD SBIR 24.4 Program BAA, to include any amendments/revisions, definitions and section 4.9, Research Involving Human Subjects; shall clearly segregate research activities involving human subjects from other research and development activities in its proposal; shall follow DFARS clause 252.235-7004, Protection of Human Subjects; and shall obtain all required approvals. It is the responsibility of the SBC to obtain Institutional Review Board (IRB) and Human Research Protection Official (HRPO) approvals. Ample time (four to eight months) should be allotted to complete both the IRB and HRPO approval processes. As such, SBCs shall begin the approval process during Phase I performance to be prepared for a possible Phase II contract. No funding can be used towards human subject research until ALL approvals are granted. Failure to provide such documentation in a timely manner will significantly delay Phase II contract award, become grounds for cancellation of the contract action, or become grounds for termination of an existing contract.

#### **Research Involving Animal Subjects.**

Research involving animal subjects is prohibited under Army Phase I SBIR contracts. Proposed Army Phase II SBIR work shall not include research involving animal subjects unless expressly allowed in the topic. If Phase I or not expressly allowed in the topic for Phase II, proposals with activities involving animal subjects will be disqualified and rejected at any time throughout proposal evaluation and analysis.

If a Phase II SBIR proposal is submitted under a topic that allows the involvement of animal subjects, the offeror shall abide by DoD SBIR 24.4 Program BAA, to include any amendments/revisions, definitions and section 4.10, Research Involving Animal Subjects; shall clearly segregate research activities involving animal subjects from other research and development activities in its proposal; shall include plans for Institutional Animal Care and Use Committee (IACUC) review and approval in its proposal; shall follow DFARS clause 252.235-7002, Animal Welfare; and shall obtain all required approvals, including secondary or headquarters-level approval by a DoD/Army veterinarian who is trained or experienced in laboratory animal medicine and science. SBCs shall begin the approval process during Phase I performance to be prepared for a possible Phase II contract. No animal research may be conducted using DoD funding until all the appropriate DoD office(s) grant approval. Failure to obtain approvals in a timely manner will significantly delay contract award, become grounds for cancellation of the contract action, or become grounds for termination of an existing contract.

#### **Research Involving Recombinant DNA.**

Research involving recombinant DNA is prohibited under Army Phase I SBIR contracts. Proposed Army Phase II SBIR work shall not include research involving recombinant DNA unless expressly allowed in the topic. If Phase I or not expressly allowed in the topic for Phase II, proposals with activities involving recombinant DNA will be disqualified and rejected at any time throughout proposal evaluation and analysis.

If a Phase II SBIR proposal is submitted under a topic that allows the involvement of recombinant DNA, the offeror shall abide by DoD SBIR 24.4 Program BAA, to include any amendments/revisions, definitions and section 4.11; shall clearly segregate research activities involving recombinant DNA from other research and development activities in its proposal; and shall obtain all required approvals. SBCs shall begin the approval process during Phase I performance to be prepared for a possible Phase II contract. No research involving recombinant DNA may be conducted using DoD funding until all the appropriate approvals are granted. Failure to obtain approvals in a timely manner will significantly delay contract award, become grounds for cancellation of the contract action, or become grounds for termination of an existing contract.

#### **ARMS, AMMUNITION AND EXPLOSIVES (AA&E)**

If the proposed statement of work requires the use, development, production, manufacture, purchase, or delivery of Arms, Ammunition and Explosives (AA&E) data and/or hardware, the offeror shall follow the following instructions:

1. References:
  - a. MIL-STD-1168 - Ammunition Lot Numbering and Ammunition Data Cards
  - b. DODM 5100.76 - Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives (AA&E)
  - c. AR 190-11 - Physical Security of Arms, Ammunition, and Explosives
  - d. Defense Transportation Regulation 4500.9-R
  - e. Technical Bulletin (TB) 700-2
2. The offeror, in its proposal, and resulting contractor, in performance of the work, shall comply with the requirements of the following DFARS provisions/clauses:
  - a. 252.223-7002, Safety Precautions for Ammunition and Explosives (NOV 2023);
  - b. 252.223-7003, Change in Place of Performance—Ammunition and Explosives (DEC 1991); and
  - c. 252.223-7007, Safeguarding Sensitive Conventional Arms, Ammunition, and Explosives (NOV 2023).
3. The offeror, in its proposal, and resulting contractor, in performance of the work, shall provide proper storage and accountability. These standards are set forth in Department of Defense (DOD) 5100.76-M, entitled "Physical Security of Sensitive Conventional Arms, Ammunition and Explosives".
4. Prior to any contract award, the offeror must first pass a pre-award physical security inspection of its and its subcontractor's facilities, conducted by Defense Security Service (DSS). See DOD 5100.76-M, Appendix 2, Attachment 1, for a listing of DSS regions. Facilities, including any subcontractor facilities, that do not meet all of the security requirements of DOD 5100.76-M will not be awarded a contract.
5. If the proposed statement of work requires transportation of Sensitive Conventional AA&E, the standards set forth in Defense Transportation Regulation 4500.9-R., Defense Traffic Management, shall be followed.
6. Place of Performance: In accordance with Federal Acquisition Regulation (FAR) provision/clause 52.215-6, Place of Performance (OCT 1997), and DFARS provision/clause 252.223-7003, Change in Place of Performance—Ammunition and Explosives (DEC 1991), the offeror shall include the following information in Volume 5 of its proposal. Failure to include this information may result in disqualification of the proposal and cancellation of the contract action.
  - a. The offeror, in the performance of any contract resulting from this solicitation,  intends,  does not intend [check applicable block] to use one or more plants or facilities located at a different address from the address of the offeror as indicated in its proposal.
  - b. If the offeror or respondent checks "intends" in paragraph (a), it shall include the following required information for each and every plant or facility (including subcontractor plants or facilities) located at a different address from the address of the offeror as indicated in its proposal.
    - i. Firm Name
    - ii. Place of Performance (Street Address, City, State, County, ZIP Code)
    - iii. Name and Address of Owner and Operator of the Plant or Facility

7. In accordance with local procedures and DFARS provision/clause 252.223-7007, Safeguarding Sensitive Conventional Arms, Ammunition, and Explosives (NOV 2023), the offeror shall include the following information in Volume 5 of its proposal for itself and for each plant or facility (including subcontractor plants or facilities) that the offeror listed as a “Place of Performance”. The offeror shall include the information to the best of its ability in order to avoid delay in contract award. Do not include locations that will not use, develop, produce, manufacture, purchase, or deliver AA&E in performance of the work.
  - a. Firm Name
  - b. Identify if the firm is the prime-contractor or sub-contractor
  - c. Place of Performance (Street Address, City, State, County, ZIP Code)
  - d. Unique Entity Identification (UEI) and Cage Code
  - e. Confirm that address and cage code match the information in SAM.gov (“unknown” is an acceptable response if unable to look up sub-contractors)
  - f. Full name, phone number, and email address for a point of contact at this location
  - g. Description of the AA&E and/or work involving AA&E
  - h. National Stock Number (NSN) of the AA&E (if none exist, indicate “N/A”)
  - i. Identify the Security Risk Classification (SRC) of the AA&E (Instructions for determining the SRC are found in Enclosure 7 (p. 40 - p.46) of DODM 5100.76) (The SRC can be either I, II, III, IV or U) (“unknown” is an acceptable response if Government input is required to make this determination)
  - j. Identify the hazard classification (HC) of the AA&E (Instructions for determining the HC are found in Chapter 2 (p.2) of TB 700-2) (“unknown” is an acceptable answer if Government input is required to make this determination)
  - k. Identify whether the AA&E will be furnished by the Government as Government Furnished Property (GFP) or if it will be developed, produced, manufactured, or purchased by the prime or sub-contractor

#### **ANTICIPATED FUNDING AGREEMENT STRUCTURE**

The Government plans to execute funding agreements as FAR-based, firm-fixed-price contracts. Fixed price payments shall be tied to measurable milestones or deliverables, as agreed to by the Government. The Government Contracting Officer retains the right to negotiate a contract type and price (or estimated cost and fee) that will promote the Government’s interest, result in reasonable contractor risk, and provide the contractor with the greatest incentive for efficient and economical performance (FAR Subpart 16.1 – Selecting Contract Types).

For this topic, Department of the Army will accept Phase I proposals for the cost of up to \$250,000 for up to a 6-month period of performance and Direct to Phase II proposals for the cost of up to \$2,000,000 for a 24-month period of performance.

#### **CONTRACT REQUIREMENTS**

In addition to the contractual requirements specified at section 8.0, ‘Contractual Requirements’, of the DoD 24.4 SBIR Program BAA, awards under the Army SBIR Program are also subject to the following:

##### **1. DELIVERABLE REQUIREMENTS**

- a) Hardware (Prototype) Deliverables: See topic for information to determine if development and delivery of prototypes is required. If your proposal identifies hardware that will be delivered to the government, be aware of the possible requirement for unique item identification in accordance with DFARS Clause 252.211- 7003, Item Unique Identification and Valuation. More information regarding item identification and valuation requirements may be found at DFARS Section 211.274. DFARS Clause



252.211-7003 is available at [https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS\\_252.211-7003](https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS_252.211-7003).

b) Data Deliverables (Contract Data Requirements Lists – CDRLS):

- Status Reports: Under the authority of Data Item Description number DI-MGMT-80368A, status reports are due at a specified time after contract award and periodically (e.g., Monthly, Bi-monthly, Quarterly) thereafter.
- Final Report: Under the authority of Data Item Description number DI-MISC-80711A, delivery of the final report shall be prior to the period of performance expiration date.
- Project Summary Report: Under the authority of Data Item Description number DI-MISC-80048, delivery of the final report shall be prior to the period of performance expiration date.
- Safety-Related Deliverables: Where applicable to an awardee's proposed project's design and performance, the following safety-related deliverables may be required:
  - Preliminary Hazard Analysis Report (if applicable): If hardware is to be developed, the contract shall include at least a preliminary hazard analysis prepared in accordance with Data Item Description number DI-SAFT-80101C, or similar.
  - Hazardous Material Report: If use of hazardous material is anticipated, the contract shall include a Hazardous Materials Management Program (HMMP) Plan to be prepared in Contractor format that at a minimum, shall include: Materials identification; Materials purpose; and possible alternative/procedures/safeguards to minimize risk.
- Additional Reporting: The Army end-user or customer may require additional reporting or documentation including Software documentation and user manuals; Engineering drawings; Operation and Maintenance documentation; Safety hazard analysis when the project will result in partial or total development/ delivery of hardware; and/or updated commercialization results.

c) Interim Report of Inventions and Subcontracts: An Interim (Phase II) and Final (Phase I and Phase II) Report of Inventions and Subcontracts, DD Form 882, will be required (<https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd0882.pdf>)

d) SBIR Funding Agreement Certification – Life-Cycle Certification: All SBIR Phase I and Phase II awardees must complete this certification at all times set forth in the funding agreement (see §8(j) of the SBIR/STTR Policy Directive).

- For a SBIR Phase I: The contractor shall submit a SBIR Funding Agreement Certification – Life Cycle Certification that it follows specific SBIR or STTR program requirements, as an attachment in Wide Area Workflow (WAWF) using a 2-in-1 (Service Only) voucher (FFP type contracts), when submitting invoices for final payment or disbursement on the Phase I contract.
- For a SBIR Phase II: The contractor shall submit a SBIR Funding Agreement Certification – Life Cycle Certification as an attachment in WAWF using a 2-in-1 (Services Only) voucher (FFP type contracts) when submitting invoices for any of the following payment requests:

- prior to receiving 50% of the total award amount on the Phase II award
- prior to final payment on the Phase II award.

A copy of the Life-Cycle Certification is available at:

<https://grants.nih.gov/sites/default/files/SBIR-Life-Cycle-Certification.pdf>

## 2. MEETING REQUIREMENTS

At a minimum, the following meetings will be required:

- **Start of Work Meeting:** Within 30 calendar days of contract award, SBCS are required to host a start of work meeting to assure a clear and mutual understanding of the contract terms, conditions, line items, technical requirements and sequence of events needed for successful execution of the contracted effort.
- **Periodic (e.g., Monthly, Bi-Monthly, Quarterly) Review Meetings:** Periodic review meetings shall be conducted to monitor and report on status of contractor effort towards achieving contract objectives, identify accomplishments to date and difficulties encountered, and compare the status achieved to planned goals and the resources expended.

## **PHASE I PROPOSAL INSTRUCTIONS**

The DSIP is the official portal for DoD SBIR/STTR proposal submission. Proposers/Offerors are required to submit proposals via DSIP; proposals submitted by any other means will be disregarded. Detailed instructions regarding registration and proposal submission via DSIP are provided in the DoD SBIR Program BAA.

Phase I proposal submissions under these component-specific proposal instructions shall include the following:

- Volume 1: Proposal Coversheet
- Volume 2: Technical Volume
- Volume 3: Cost Volume
- Volume 4: Company Commercialization Report (Auto generated for prior Federal SBIR or STTR awardees)
- Volume 5: Supporting Documents
- Volume 6: Fraud, Waste, and Abuse Training Certificate

### **Volume 1 - Proposal Coversheet**

The proposal coversheet shall follow the instructions and requirements provided in the DoD SBIR Program BAA. The offeror shall certify that to the best of its knowledge and belief, its eligibility information under the SBIR Program is accurate, complete, and current as of the date of the offer.

### **Volume 2 - Technical Volume**

The following instructions supersede those stated in section 5.3.c of the DoD SBIR 24.4 Program BAA.

The Technical Volume shall not exceed five (5) pages and shall follow the formatting requirements provided in section 5.3.b of the DoD SBIR 24.4 Program BAA. Any proposals submitted in a different format or exceeding the page count limits will be deemed unresponsive and will neither be evaluated nor considered for award. The technical volume shall contain two (2) key parts: technical approach and team qualifications, described in further detail below.

Volume 2, Part 1. The technical approach section shall explain, in detail, how the offeror is going to

solve the specific technical problem or opportunity addressed in the topic. The offeror shall include a statement of work with explicit, detailed descriptions and key elements of the technical approach (including subcontractors' efforts), any risks, relevant past work and how success was measured along with how success will be measured for this effort. Explain objectives while avoiding technical jargon. The statement of work shall indicate what tasks are planned, how and where the work will be conducted, a schedule of major events and meetings, and the final product(s) to be delivered (reference the 'Contractual Requirements' section above). The Phase I effort should attempt to determine the technical feasibility of the proposed concept. The methods planned to achieve each objective or task should be discussed explicitly and in detail. This section should be a substantial portion of the Technical Volume section. As a reminder, research or activities involving Human/Animal Subjects and/or Recombinant DNA is prohibited in Army Phase I SBIR contracts.

Volume 2, Part 2. The team qualifications section shall identify the key personnel working on the project (including information on directly related education and experience) and the resources that will be brought to bear on solving the problem. Further, if proposing the use of Foreign National personnel as defined at section 3 of the DoD SBIR 24.4 Program BAA, offerors shall specify each Foreign National's country of origin, the type of visa or work permit under which they are performing, and provide an explanation of their anticipated level of involvement on this project - Offerors may be asked to provide additional information during negotiations in order to verify the foreign citizen's eligibility to participate in the SBIR. The Government may withdraw from negotiations at any time for any reason to include matters of national security (foreign persons, foreign influence or ownership, inability to clear the firm or personnel for security clearances, or other related issues).

### **Volume 3 - Cost Volume**

The Cost Volume shall follow all instructions and requirements provided in the DoD SBIR Program BAA. The following instructions supersede those stated in section 5.3. d of the DoD SBIR 24.4 Program BAA.

Phase I proposals shall not exceed the funding and period of performance limits identified in the section herein titled 'Anticipated Funding Agreement Structure.' Proposals exceeding these limits shall be deemed unresponsive and will neither be evaluated nor considered for award. Phase I Options are not anticipated at this time. If an option is identified in the topic posting, costs for the Base and Option shall be separated and clearly identified on the Proposal Cover Sheet (Volume 1) and in Volume 3.

For pricing purposes, offerors shall assume a contract or agreement start date of approximately 180 calendar days after the closing date of the solicitation (in accordance with SBIR/STTR Policy Directive paragraph 7(c)(1)(ii)).

In the event that adequate price competition, as defined in FAR 15.403-1(1), is not realized, the Government will conduct additional proposal analysis, in accordance with the techniques identified at FAR 15.404-1. In accordance with FAR 15.402(a), Contracting officers shall purchase supplies and services from responsible sources at fair and reasonable prices. If the Contracting Officer is unable to deem the offeror as responsible (FAR 9.1), the offeror will be disqualified. Proposals lacking a fair and reasonable price will be eliminated.

### **Volume 3 - Content of the Cost Volume**

ALL proposed costs shall be accompanied by documentation to substantiate how the cost was derived. For example, if you proposed travel costs to attend a project-related meeting or conference, and used a

travel website to compare flight costs, include a screenshot of the comparison. Similarly, if you proposed to purchase materials or equipment, and used the internet to search for the best source, include your market research for those items. You do not necessarily have to propose the cheapest item or supplier, but you should explain your decision to choose one item or supplier over another. It's important to provide enough information to allow evaluators and contracting personnel to understand how the proposer plans to use the requested funds. Some items in the cost breakdown may not apply to the proposed project. If that is the case, there is no need to provide information on each and every item. Failure to include supporting documentation with the proposal may delay any potential contract award, as the proposer will be asked to submit the necessary documentation to the Contracting Officer to substantiate costs. It is important to respond as quickly as possible to the Contracting Officer's request for documentation. Failure or refusal to provide documentation may result in dissolution of the contract action.

#### Cost Breakdown Guidance:

- **DIRECT LABOR:**
  - List all key personnel by name as well as by number of hours dedicated to the project as direct labor.
  - Provide a task-level, time-phased (e.g., annual) breakdown of labor hours, rates, and cost by appropriate Direct Labor category, and explain the basis of estimates. Include substantiating documentation to support the costs (e.g., payroll reports)
- **MATERIAL/TOOLING/EQUIPMENT:**
  - Provide a consolidated priced summary of individual raw materials, parts, components, assemblies, and services to be produced or performed by others. For all items proposed, include the item nomenclature, description, part number, quantity, unit price, extended amount, vendor name, basis of estimate, and whether the item is commercial in accordance with the definition in FAR 2.101, based on adequate price competition or non-competitive.
  - The Offeror shall provide the basis for establishing the reasonableness of price through price analysis. Proposing firms shall provide substantiating documentation for the costs (e.g. vendor quotes, invoice prices, competitive bids, etc.). If your choice isn't the lowest cost available, explain the decision to choose one item or supplier over another.
  - Ensure all materials are American made to the maximum extent practicable. Offerors who propose to use a foreign-made product in its technology may be required to find an American-made equivalent.
  - While special tooling and test equipment and material cost may be included, it will be carefully reviewed relative to need and appropriateness for the work proposed. The purchase of special tooling and test equipment shall, in the opinion of the Procurement/Government Component Contracting Officer, be advantageous to the Government and should be related directly to the specific topic. These may include such items as innovative instrumentation or automatic test equipment. Title to

property furnished by the Government or acquired with Government funds will be vested with the DoD Component, unless it is determined that transfer of title to the contractor would be more cost effective than recovery of the equipment by the DoD Component.

- **SUBCONTRACTS:** A subcontract is any contract as defined at FAR 2.101, other than one involving an employer-employee relationship, entered into by the prime contractor (awardee) calling for supplies or services for the performance of the contract.
  - Provide data showing the degree of Subcontractor competition and the basis for establishing the source and reasonableness of price through price analysis.
  - All subcontractor costs and consultant costs, such as labor, travel, equipment, materials, shall be detailed at the same level as prime contractor costs. Provide detailed substantiation of subcontractor costs in your cost proposal.
  - Percentage of Work Requirement: For Phase I, the offeror shall perform a minimum of two-thirds (66.66%) of the research and/or analytical effort. One third (33.33%) may be subcontracted to another firm or research organization/facility. The percentage of work is measured by both direct and indirect costs.
  - Offerors shall not propose to subcontract to the issuing agency, to any other Federal Government agency, or to other units of the Federal Government, except Federal Laboratories in rare circumstances. As defined in 15 United States Code (U.S.C.) 3703, Federal Laboratory means any laboratory, any federally funded research and development center, or any center established under 15 U.S.C. 3705 and 3707 that is owned, leased, or otherwise used by a Federal Agency and funded by the Federal Government, whether operated by the Government or by a contractor. A waiver is no longer required for the use of federal laboratories and FFRDCs; however, Offerors must certify their use of such facilities on the Cover Sheet of the proposal. A list of eligible FFRDCs is available at: <https://www.nsf.gov/statistics/ffrdclist/>
  - Offerors shall not propose to subcontract to any prohibited sources, as prescribed at FAR 25.7 – Prohibited Sources, and its supplements. Proposals identifying a subcontractor/vendor arrangement with a prohibited source may be rejected.
  - Offerors shall ensure subcontracting arrangements are with United States SBCs to the maximum extent practicable. Offerors proposing a subcontractor arrangement with other than a United States SBC (such as, a large business, foreign firm, foreign government, educational institution, unit of Federal Government, etc.) may be required to submit further explanation, and/or have the submitted proposal disqualified.
- **TRAVEL:**
  - Explain the basis of proposed travel, including to/from locations, number of trips, number of travelers per trip, and number of days/nights per trip. Include substantiating documentation for the costs (e.g. screenshots of flight cost comparison, rental car quotes, etc.). NOTE: Virtual meetings shall be utilized to the maximum extent practicable.

- In accordance with FAR 31.205-46 Travel costs incurred shall not exceed the maximum per diem rates set forth in Federal Travel Regulation, Joint Travel Regulation, or standard regulations, unless the travel is special or considered unusual. Any special or unusual travel costs shall be supported with substantiating documentation for review and consideration. Per diem rate lookup can be located at <https://www.gsa.gov/travel/plan-book/per-diem-rates?gsaredirect=perdiem>.
- **INDIRECT COSTS:**
  - Indicate how you have computed and applied your indirect costs (e.g., overhead, general & administrative, material handling, fringe, etc.), including cost breakdowns. Indicate the rates used and provide an appropriate explanation.
  - If a Defense Contract Audit Agency (DCAA) Audit has been conducted within the last five (5) years, include the audit compliance documentation in the cost proposal documents. The documentation should also include the offeror's DCAA Point of Contact (if applicable). Further, if applicable Offerors shall provide any current Forward Pricing Rate Agreements (FPRA) in effect at time of proposal submission.

#### **Volume 4 - Company Commercialization Report (CCR)**

Completion of the CCR as Volume 4 of the proposal submission in DSIP is required for prior SBIR/STTR awardees. Please refer to the DoD SBIR Program BAA for full details on this requirement. Information contained in the CCR will be considered by the Department of the Army during proposal evaluations.

#### **Volume 5 - Supporting Documents**

Volume 5 is provided for proposers to submit additional documentation to support the Cover Sheet (Volume 1) and the Technical Volume (Volume 2), and the Cost Volume (Volume 3).

All proposing SBCs are REQUIRED to submit the following documents to Volume 5:

1. Proposing SBCs shall submit an eight (8) slide Commercialization Plan, utilizing the template found at Appendix D – Commercialization Plan Template attached hereto. The offeror shall convert the Commercialization Plan to a Portable Document Format (PDF) prior to submitting as an attachment to Volume 5 – Supporting Documents. Any proposals submitted without a Commercialization Plan, or in a format other than the template provided at Appendix D – Commercialization Plan Template, shall be deemed unresponsive and will neither be evaluated nor considered for award. The Commercialization Plan content requirements, as described at Appendix D, include:
  - a. SBIR Project Title: Opening slide that includes the SBIR project title, principal investigator name/title key (or other relevant) personnel, and subcontractors, firm name, topic number, and proposal number.
  - b. Bottom Line Up Front (BLUF): Slide that outlines/summarizes key areas of the Commercialization Plan. See slide 2 of Appendix D.
  - c. Company Information & Background: Focused objectives/core competencies; Specialization area(s); Products with significant sales; Concise history of previous Federal and non-Federal funding, Regulatory experience (if applicable), Past commercialization successes; and Past failure and how your firm overcame.
  - d. Customer and Competition: Clear description of key technology objectives; Current competition and/or alternative solutions; Advantages of company's solution compared to competing products or services; Description of hurdles to acceptance of

the proposed innovation; and Description of possible areas where your technology may be utilized or is underutilized.

- e. Market: Provide an analysis of market size, and estimated market share after first year sales and after 5 years; Explain milestones target dates of plan to obtain market share; Respond to specific questions regarding your qualifications and approach to bring the product to market (See slide 5 of Appendix D)
  - f. Intellectual Property: Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporal competitive advantage; Describe how you will protect the intellectual property that enables commercialization of its products while keeping competitors at bay. **Note**: This cannot conflict with the final negotiated assertion of use, release, or disclosure restriction (in accordance with DFARS 252.227- 7017), if any.
  - g. Financing: Plans for securing necessary non-SBIR funding; Describe your firm's revenue stream generation.
  - h. Assistance and mentoring: Plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with government sponsored (e.g., State assistance programs, Federally-funded research laboratories, Manufacturing Extension Partnership centers), not-for-profits (e.g., SBDC), commercial accelerators, DOD Prime Contractors, or other assistance provider.
2. Contractor Certification Regarding Provision of Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Attachment 1 of the DoD 24.4 SBIR Program BAA) (reference section 5.3.g of the DoD 24.4 SBIR Program BAA)
  3. Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Attachment 2 of the DoD 24.4 SBIR Program BAA) (reference section 2.2, 4.3, and 5.3.h of the DoD 24.4 SBIR Program BAA) – Previous versions of Attachment 2 or versions created by other Federal agencies will not be accepted.

All proposing SBCs are required to submit the following documents to Volume 5, *if applicable*:

4. Verification of Eligibility of Small Business Joint Ventures (Attachment 3 of the DoD 24.4 SBIR Program BAA), if applicable (reference section 4.4 of the DoD 24.4 SBIR Program BAA)
5. Assertion of use, release, or disclosure restriction (in accordance with DFARS 252.227- 7017), if applicable (reference section 8.7 of the DoD 24.4 SBIR Program BAA)
6. Justification for SBC-selected TABA vendor

In addition to the Volume 5 requirements, the Department of the Army may accept the following documents in Volume 5:

7. Cost/Pricing Information
8. SBIR Funding Agreement Certification
9. Other (only as specified in the topic)

Please only submit documents that are identified immediately above, and as required by the DoD SBIR Program BAA. All other documents submitted will be disregarded, including but not limited to promotional and non-project related information. Information provided via Universal Resource Locator (URL) links or on computer disks, CDs, DVDs, video tapes or any other medium will not be accepted or considered in the proposal evaluation.

### **Volume 6 Fraud, Waste and Abuse Training**

Follow instructions provided in the DoD Program BAA for completion of the Fraud, Waste and Abuse training in DSIP.

### **DIRECT TO PHASE II (DP2) PROPOSAL INSTRUCTIONS**

The DSIP is the official portal for DoD SBIR/STTR proposal submission. Proposers/Offerors are required to submit proposals via DSIP; proposals submitted by any other means will be disregarded. Detailed instructions regarding registration and proposal submission via DSIP are provided in the DoD SBIR Program BAA.

For topics eligible for DP2 proposal submission under these component-specific proposal instructions, proposals shall include the following:

- Volume 1: Proposal Coversheet
- Volume 2: Technical Volume
- Volume 3: Cost Volume
- Volume 4: Company Commercialization Report (Auto generated for prior Federal SBIR or STTR awardees)
- Volume 5: Supporting Documents
- Volume 6: Fraud, Waste, and Abuse Training Certificate

With the exception of the DP2 component specific proposal instructions identified below, DP2 Proposals shall follow the Phase I Proposal instructions described at Section 5.0 of the DoD SBIR 24.4 Program BAA.

#### **Volume 1 - Proposal Coversheet**

The proposal coversheet shall follow the instructions and requirements provided in the DoD SBIR Program BAA. The offeror shall certify that to the best of its knowledge and belief, its eligibility information under the SBIR Program is accurate, complete, and current as of the date of the offer.

#### **Volume 2 - Technical Volume**

The following instructions supersede those stated in section 5.3.c of the DoD SBIR 24.4 Program BAA.

The Technical Volume shall include two (2) sections, and is subject to a total page limit of 15 pages broken down as follows:

- A. Feasibility Documentation (five (5) pages maximum);
- B. Technical Proposal (10 pages maximum)

#### **Volume 2A, Feasibility Documentation**

Feasibility documentation shall not exceed five (5) pages in length. Any proposals exceeding the page count limits will neither be evaluated nor considered for award.

Proposers interested in submitting a DP2 proposal in response to these topics shall provide documentation to substantiate that the scientific and technical merit and feasibility described in the Phase I section of the topic has been met and describes the potential commercial applications. Documentation shall include all relevant information including, but not limited to: technical reports (summary and citation), test data, prototype designs/models, and performance goals/results. If references exist, the offeror shall include a reference list or works cited list as the last page of the feasibility documentation. This will count towards the total page limit.



Work submitted within the feasibility documentation must have been substantially performed by the proposer and/or the Principal Investigator.

The Army will not evaluate the proposer's related Phase II proposal if it determines that the proposer has failed to demonstrate that technical merit and feasibility has been established or the proposer has failed to demonstrate that work submitted in the feasibility documentation was substantially performed by the proposer and/or the PI.

Feasibility documentation and DP2 proposals cannot be based upon or logically extend from any prior or ongoing federally funded SBIR or STTR work.

If technology in the feasibility documentation is subject to Intellectual Property (IP), the proposing small business concern must either own the IP or must have obtained license rights to such technology prior to proposal submission, to enable it and its subcontractors to legally carry out the proposed work.

If the proposing SBC fails to demonstrate technical merit and feasibility equivalent to the Phase I level as described in the associated topic, the related Phase II proposal will not be accepted or evaluated.

### **Volume 2B, Technical Proposal**

The Technical Proposal shall not exceed 10 pages and shall follow the formatting requirements provided in section 5.3.b of the DoD SBIR 24.4 Program BAA. Any proposals submitted in a different format or exceeding the page count limits will neither be evaluated nor considered for award. The technical proposal shall contain two key parts: (1) technical approach and (2) team qualifications.

Volume 2B, Part 1. The technical approach section shall explain, in detail, how the offeror is going to solve the specific technical problem or opportunity addressed in the topic. The offeror shall include a statement of work with explicit, detailed descriptions and key elements of the technical approach (including subcontractors' efforts), any risks, relevant past work and how success was measured along with how success will be measured for this effort. Explain objectives while avoiding technical jargon. The statement of work shall indicate what tasks are planned, how and where the work will be conducted, a schedule of major events and meetings, and the final product(s) to be delivered (reference the 'Contractual Requirements' section above). The Phase II effort should attempt to provide proof of concept and prototype development. The methods planned to achieve each objective or task should be discussed explicitly and in detail. This section should be a substantial portion of the Technical Volume section. If the topic allows research or activities involving Human/Animal Subjects and/or Recombinant DNA, offerors shall identify the applicable protocols and how those protocols will be followed.

Volume 2B, Part 2. The team qualifications section shall highlight identify the key personnel working on the project (including information on directly related education and experience), and the resources that will be brought to bear on solving the problem. Further, if proposing the use of Foreign National personnel as defined at section 3 of the DoD SBIR 24.4 Program BAA, offerors shall specify each Foreign National's country of origin, the type of visa or work permit under which they are performing and provide an explanation of their anticipated level of involvement on this project. Offerors may be asked to provide additional information during negotiations in order to verify the foreign citizen's eligibility to participate in the SBIR. The Government may withdraw from negotiations at any time for any reason to include matters of national security (foreign persons, foreign influence or ownership,

inability to clear the firm or personnel for security clearances, or other related issues).

### **Volume 3 - Cost Volume**

The Cost Volume shall follow all instructions and requirements provided in the DoD SBIR Program BAA. The following instructions supersede those stated in section 5.3. d of the DoD SBIR 24.4 Program BAA.

DP2 proposals shall not exceed the funding and period of performance limits identified in the section herein titled 'Anticipated Funding Agreement Structure.' Proposals exceeding these limits shall be deemed unresponsive and will neither be evaluated nor considered for award. Proposers are required to use the Cost Proposal method as provided on the DSIP submission site. The Cost Volume (and supporting documentation) DOES NOT count toward the page limit of the Technical Volume.

For pricing purposes, offerors shall assume a contract or agreement start date of approximately 180 calendar days after the closing date of the solicitation (in accordance with SBIR/STTR Policy Directive paragraph 7(c)(1)(ii)).

In the event that adequate price competition, as defined in FAR 15.403-1(1), is not realized, the Government will conduct additional proposal analysis, in accordance with the techniques identified at FAR 15.404-1. In accordance with FAR 15.402(a), Contracting officers shall purchase supplies and services from responsible sources at fair and reasonable prices. If the Contracting Officer is unable to deem the offeror as responsible (FAR 9.1), the offeror will be disqualified. Proposals lacking a fair and reasonable price will be eliminated.

### **Volume 3 - Content of the Cost Volume**

ALL proposed costs shall be accompanied by documentation to substantiate how the cost was derived. For example, if you proposed travel costs to attend a project-related meeting or conference, and used a travel website to compare flight costs, include a screenshot of the comparison. Similarly, if you proposed to purchase materials or equipment, and used the internet to search for the best source, include your market research for those items. You do not necessarily have to propose the cheapest item or supplier, but you should explain your decision to choose one item or supplier over another. It's important to provide enough information to allow evaluators and contracting personnel to understand how the proposer plans to use the requested funds. Some items in the cost breakdown may not apply to the proposed project. If that is the case, there is no need to provide information on each and every item. Failure to include supporting documentation with the proposal may delay any potential contract award, as the proposer will be asked to submit the necessary documentation to the Contracting Officer to substantiate costs. It is important to respond as quickly as possible to the Contracting Officer's request for documentation. Failure or refusal to provide documentation may result in dissolution of the contract action.

Cost Breakdown Guidance:

- **DIRECT LABOR:**
  - List all key personnel by name as well as by number of hours dedicated to the project as direct labor.

- Provide a task-level, time-phased (e.g., annual) breakdown of labor hours, rates, and cost by appropriate Direct Labor category, and explain the basis of estimates. Include substantiating documentation to support the costs (e.g., payroll reports)
- MATERIAL/TOOLING/EQUIPMENT:
  - Provide a consolidated priced summary of individual raw materials, parts, components, assemblies, and services to be produced or performed by others. For all items proposed, include the item nomenclature, description, part number, quantity, unit price, extended amount, vendor name, basis of estimate, and whether the item is commercial in accordance with the definition in FAR 2.101, based on adequate price competition or non-competitive.
  - The Offeror shall provide the basis for establishing the reasonableness of price through price analysis. Proposing firms shall provide substantiating documentation for the costs (e.g. vendor quotes, invoice prices, competitive bids, etc.). If your choice isn't the lowest cost available, explain the decision to choose one item or supplier over another.
  - Ensure all materials are American made to the maximum extent practicable. Offerors who propose to use a foreign-made product in its technology may be required to find an American-made equivalent.
  - While special tooling and test equipment and material cost may be included, it will be carefully reviewed relative to need and appropriateness for the work proposed. The purchase of special tooling and test equipment shall, in the opinion of the Procurement/Government Component Contracting Officer, be advantageous to the Government and should be related directly to the specific topic. These may include such items as innovative instrumentation or automatic test equipment. Title to property furnished by the Government or acquired with Government funds will be vested with the DoD Component, unless it is determined that transfer of title to the contractor would be more cost effective than recovery of the equipment by the DoD Component.
- SUBCONTRACTS: A subcontract is any contract as defined at FAR 2.101, other than one involving an employer-employee relationship, entered into by the prime contractor (awardee) calling for supplies or services for the performance of the contract.
  - Provide data showing the degree of Subcontractor competition and the basis for establishing the source and reasonableness of price through price analysis.
  - All subcontractor costs and consultant costs, such as labor, travel, equipment, materials, shall be detailed at the same level as prime contractor costs. Provide detailed substantiation of subcontractor costs in your cost proposal.
  - Percentage of Work Requirement: For DP2, the offeror shall perform a minimum of one-half (50%) of the research and/or analytical effort. The percentage of work is measured by both direct and indirect costs.
  - Offerors shall not propose to subcontract to the issuing agency, to any other Federal Government agency, or to other units of the Federal Government, except Federal

Laboratories in rare circumstances. As defined in 15 United States Code (U.S.C.) 3703, Federal Laboratory means any laboratory, any federally funded research and development center, or any center established under 15 U.S.C. 3705 and 3707 that is owned, leased, or otherwise used by a Federal Agency and funded by the Federal Government, whether operated by the Government or by a contractor. A waiver is no longer required for the use of federal laboratories and FFRDCs; however, Offerors must certify their use of such facilities on the Cover Sheet of the proposal. A list of eligible FFRDCs is available at: <https://www.nsf.gov/statistics/ffrdclist/>

- Offerors shall not propose to subcontract to any prohibited sources, as prescribed at FAR 25.7 – Prohibited Sources, and its supplements. Proposals identifying a subcontractor/vendor arrangement with a prohibited source may be rejected.
  - Offerors shall ensure subcontracting arrangements are with United States SBCs to the maximum extent practicable. Offerors proposing a subcontractor arrangement with other than a United States SBC (such as, a large business, foreign firm, foreign government, educational institution, unit of Federal Government, etc.) may be required to submit further explanation, and/or have the submitted proposal disqualified.
- TRAVEL:
    - Explain the basis of proposed travel, including to/from locations, number of trips, number of travelers per trip, and number of days/nights per trip. Include substantiating documentation for the costs (e.g. screenshots of flight cost comparison, rental car quotes, etc.). NOTE: Virtual meetings shall be utilized to the maximum extent practicable.
    - In accordance with FAR 31.205-46 Travel costs incurred shall not exceed the maximum per diem rates set forth in Federal Travel Regulation, Joint Travel Regulation, or standard regulations, unless the travel is special or considered unusual. Any special or unusual travel costs shall be supported with substantiating documentation for review and consideration. Per diem rate lookup can be located at <https://www.gsa.gov/travel/plan-book/per-diem-rates?gsaredirect=perdiem>.
  - INDIRECT COSTS:
    - Indicate how you have computed and applied your indirect costs (e.g., overhead, general & administrative, material handling, fringe, etc.), including cost breakdowns. Indicate the rates used and provide an appropriate explanation.
    - If a DCAA Audit has been conducted within the last five (5) years, include the audit compliance documentation in the cost proposal documents. The documentation should also include the offeror's DCAA Point of Contact (if applicable). Further, if applicable Offerors shall provide any current Forward Pricing Rate Agreements (FPRA) in effect at time of proposal submission.

#### **Volume 4 - Company Commercialization Report (CCR)**

Completion of the CCR as Volume 4 of the proposal submission in DSIP is required for prior SBIR/STTR awardees. Please refer to the DoD SBIR Program BAA for full details on this requirement. Information contained in the CCR will be considered by the Department of the Army during proposal evaluations.

## Volume 5 - Supporting Documents

Volume 5 is provided for proposers to submit additional documentation to support the Cover Sheet (Volume 1) and the Technical Volume (Volume 2), and the Cost Volume (Volume 3).

All proposing SBCs are REQUIRED to submit the following documents to Volume 5:

1. Proposing SBCs shall submit an eight (8) slide Commercialization Plan, utilizing the template found at Appendix D – Commercialization Plan Template attached hereto. The offeror shall convert the Commercialization Plan to a PDF prior to submitting as an attachment to Volume 5 – Supporting Documents. Any proposals submitted without a Commercialization Plan, or in a format other than the template provided at Appendix D – Commercialization Plan Template, shall be deemed unresponsive and will neither be evaluated nor considered for award. The Commercialization Plan content requirements, as described at Appendix D, include:
  - a. SBIR Project Title: Opening slide that includes the SBIR project title, principal investigator name/title key (or other relevant) personnel, and subcontractors, firm name, topic number, and proposal number.
  - b. Bottom Line Up Front (BLUF): Slide that outlines/summarizes key areas of the Commercialization Plan. See slide 2 of Appendix D.
  - c. Company Information & Background: Focused objectives/core competencies; Specialization area(s); Products with significant sales; Concise history of previous Federal and non-Federal funding, Regulatory experience (if applicable), Past commercialization successes; and Past failure and how your firm overcame.
  - d. Customer and Competition: Clear description of key technology objectives; Current competition and/or alternative solutions; Advantages of company's solution compared to competing products or services; Description of hurdles to acceptance of the proposed innovation; and Description of possible areas where your technology may be utilized or is underutilized.
  - e. Market: Provide an analysis of market size, and estimated market share after first year sales and after 5 years; Explain milestones target dates of plan to obtain market share; Respond to specific questions regarding your qualifications and approach to bring the product to market (See slide 5 of Appendix D)
  - f. Intellectual Property: Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporal competitive advantage; Describe how you will protect the intellectual property that enables commercialization of its products while keeping competitors at bay. **Note:** This cannot conflict with the final negotiated assertion of use, release, or disclosure restriction (in accordance with DFARS 252.227- 7017), if any.
  - g. Financing: Plans for securing necessary non-SBIR funding; Describe your firm's revenue stream generation.
  - h. Assistance and mentoring: Plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with government sponsored (e.g., State assistance programs, Federally-funded research laboratories, Manufacturing Extension Partnership centers), not-for-profits (e.g., SBDC), commercial accelerators, DOD Prime Contractors, or other assistance provider.
2. Contractor Certification Regarding Provision of Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Attachment 1 of the DoD 24.4 SBIR Program BAA) (reference section 5.3.g of the DoD 24.4 SBIR Program BAA)

3. Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Attachment 2 of the DoD 24.4 SBIR Program BAA) (reference section 2.2, 4.3, and 5.3.h of the DoD 24.4 SBIR Program BAA) – Previous versions of Attachment 2 or versions created by other Federal agencies will not be accepted.

All proposing SBCs are required to submit the following documents to Volume 5, *if applicable*:

4. Verification of Eligibility of Small Business Joint Ventures (Attachment 3 of the DoD 24.4 SBIR Program BAA), if applicable (reference section 4.4 of the DoD 24.4 SBIR Program BAA)
5. Assertion of use, release, or disclosure restriction (in accordance with DFARS 252.227- 7017), if applicable (reference section 8.7 of the DoD 24.4 SBIR Program BAA)
6. Justification for SBC-selected TABA vendor

In addition to the Volume 5 requirements, the Department of the Army may accept the following documents in Volume 5:

7. Cost/Pricing Information
8. SBIR Funding Agreement Certification
9. Other (only as specified in the topic)

Please only submit documents that are identified immediately above, and as required by the DoD SBIR Program BAA. All other documents submitted will be disregarded, including but not limited to promotional and non-project related information. Information provided via URL links or on computer disks, CDs, DVDs, video tapes or any other medium will not be accepted or considered in the proposal evaluation.

#### **Volume 6 Fraud, Waste and Abuse Training**

Follow instructions provided in the DoD Program BAA for completion of the Fraud, Waste and Abuse training in DSIP.

#### **DISCRETIONARY TECHNICAL AND BUSINESS ASSISTANCE**

The Army, at its discretion, may provide Technical and Business Assistance (TABA). The Army will select a preferred vendor(s) for the Army SBIR TABA program through a competitive process. Alternately, a SBC may, by subcontract or otherwise, select one or more vendors to assist the firm in meeting the TABA goals. The Applicant must request the authority to select its own TABA provider in its Army SBIR proposal and must demonstrate that the vendor is *uniquely* postured to provide the specific technical and business services required by providing documentation in Volume 5, Supporting Documentation. TABA funding will be denied if the offeror fails to include the cost and detailed explanation in its proposal. If you prefer to use the Army preferred vendor, you may opt for that support after selection if chosen to receive a contract award.

Participation in the Army SBIR TABA program is voluntary for each Army SBIR awardee. Services provided to Army SBIR firms under the auspices of the TABA program may include, but are not limited to:

1. Access to a network of scientists, engineers, and technologists focused on commercialization and transition considerations such as protected supply chain management, advanced manufacturing, process/product/production scaling, etc.;
2. Assistance with intellectual property protections, such as legal considerations, intellectual property rights, patent filing, patent fees, licensing considerations, etc.;

3. Commercialization and technology transition support such as market research, market validation, development of regulatory or manufacturing plans, brand development; and
4. Regulatory support such as product domain regulatory considerations, regulatory planning, and regulatory strategy development.

The Army SBIR program sponsors participation in the TABA program. The resource limitation for each firm is as follows:

- Phase I Firms:
  - Army-Preferred Vendor: If approved, the contractor may receive up to \$6,500 worth of assistance services per project (in addition to the maximum value identified in the ‘Anticipated Funding Agreement Structure’ section herein).
  - Firm-Selected Vendor: If approved, the contractor may receive up to \$6,500 in contract obligation (in addition to the maximum value identified in the ‘Anticipated Funding Agreement Structure’ section herein) per project.
- Phase II Firms:
  - Army-Preferred Vendor: If approved, the contractor may receive up to \$50,000 worth of assistance services per project (in addition to the maximum value identified in the ‘Anticipated Funding Agreement Structure’ section herein).
  - Firm-Selected Vendor: If approved, the contractor may receive up to \$50,000 in contract obligation (must be included as part of the maximum value identified in the ‘Anticipated Funding Agreement Structure’ section herein) per project.

## **EVALUATION AND SELECTION**

The Army shall conduct an evaluation of each responsive, timely, eligible proposal in accordance with the evaluation criteria listed in the DoD SBIR 24.4 Program BAA (see Section 6.0 – Phase I Evaluation Criteria), as supplemented by the component-specific instructions herein (Appendix A, B & C, as applicable). It is the policy of the Army to ensure equitable and comprehensive proposal evaluations based on the evaluation criteria and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. Selections for further consideration of possible contract award will be based on a determination of the overall technical value of each proposal. Proposals will not be evaluated against each other during the evaluation process, but rather evaluated on their own individual merit to determine how well the proposal meets the criteria stated in this BAA and the corresponding opportunity.

Designated support contractors may review submissions for the purposes of technical evaluation. All support contractors are bound by appropriate non-disclosure agreements.

As previously stated herein, timeliness, responsiveness, and eligibility will be assessed upon initial screening, during evaluation, and after selection for further consideration of possible contract award. Proposals that do not comply with the instructions and requirements detailed in this document, the DoD Program BAA, or the corresponding Topic posting (including the research objective(s)), will be considered ineligible, unresponsive, untimely, or non-conforming and therefore will not be evaluated or considered for award.

Consistent with the instructions and evaluation criteria specified in the DoD SBIR 24.4 Program BAA (see Section 6.0 – Phase I Evaluation Criteria), as supplemented by the component-specific instructions herein (e.g. Appendix A, B & C, as applicable), and the corresponding Topic posting, proposals selected for further consideration of possible contract award are those that, through a peer or scientific review, have been

determined to be a best value to the Government, as they have demonstrated the strongest understanding of the problem to be solved, offered the most capable solutions with the greatest overall benefit and potential to meet the Government's requirement, and were determined to be the most advantageous to the Government.

Proposing firms will be notified via email of selection or non-selection status of its Phase I or DP2 proposal within 90 days of the closing date of the Topic. The notification will be sent to the Corporate Official listed on the proposal cover sheet, from the Army SBIR Program Office mailbox.

Selected proposals are not guaranteed a contract award. Proposers shall not regard the notification email (selection decision notice) as an authorization to commit or expend funds. Upon selection, proposals are forwarded to a Government Contracting Officer for contract negotiation and further consideration. The Government Contracting Officer shall evaluate selected proposal(s) for price reasonableness utilizing the various proposal analysis techniques described at FAR 13.106-3, or 15.404-1, to ensure a fair and reasonable price is paid. A Government Contracting Officer may contact the proposer in order to discuss and request additional information required for award. This may include representations and certifications, certified or other than certified cost data, subcontracting plan for small businesses, and/or other information as applicable to the proposed award. Proposers shall not regard these communications as an authorization to commence work or commit or expend funds. In the event that an Offeror has not provided fair and reasonable pricing, the proposal shall be eliminated from further consideration for award.

Upon an affirmative determination of price reasonableness and responsibility, the Contracting Officer may proceed with an award, subject to the availability of funds. Unless a Government Contracting Officer signs an award document (e.g., contract), no obligations to provide funding are made. The Government may reject the proposal or dissolve award of the contract action at any time.

If signed by the Government Contracting Officer, the award document is the official and authorizing instrument, thereafter, referred to as the "contract". The period of performance will begin upon award of the contract. The Contracting Officer will email the signed contract to the principal investigator (PI) and/or an authorized organization representative.

## **FEEDBACK**

The Army promotes transparency regarding the technical evaluation for all Army SBIR proposals. The Army will provide feedback to offerors in accordance with section 4.12 of the DoD SBIR 24.4 Program BAA. The selection decision notice contains instructions for obtaining feedback in the form of a ValidEval Report. The Army shall not provide any additional feedback beyond the ValidEval report. Offerors are entitled to no more than one feedback per proposal.

NOTE: Feedback is not the same as a FAR Part 15 debriefing. The competitive procedures for this solicitation are governed by the SBA SBIR/STTR Policy Directive. Therefore, offerors are neither entitled to, nor will they be provided FAR Part 15 debriefs.

## **PROTESTS**

Pre-award agency protests related to the terms of the BAA must be served to the point of contact listed in section 4.13 of the DoD SBIR 24.4 Program BAA.

Post award agency protests related to a selection or award decision must be served to the following address:

Email: [usarmy.SBIRSTTR@army.mil](mailto:usarmy.SBIRSTTR@army.mil)



Mailing Address:

Army SBIR Office  
2530 Crystal Drive; Suite 11192  
Arlington, Virginia 22202

Firms shall follow section 4.13 of the DoD SBIR 24.4 Program BAA for protests filed with the Government Accountability Office (GAO) and size protests regarding the small business status of a selected proposing small business concern.

## Appendix A Phase I Evaluation Criteria

### Army SBIR Phase I Proposal Review v2 Evaluation Criteria Defined



		DEFINITION
<b>INTRODUCTION</b>	<i>weight 5%</i>	Write a clear, concise description of what your innovation does or will do, and where you are in your evolution. Make clear its intended impact on the Army. Evaluators should "get it" after reading this. At the scale of a single Army end-user, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier/Army civilian vs. today's solutions?
<b>POTENTIAL FOR ARMY IMPACT</b>	<b>OPERATIONAL IMPACT</b>	Here, we're looking for an idea of how broad the impact you described above could be. Look into the future to a time when your solution is both technically mature and actively in use by Army personnel. Describe the scale and scope of your impact within the context of the Army.
	<b>POTENTIAL SCALE OF IMPACT</b>	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
<b>TECHNICAL FEASIBILITY</b>	<b>SCIENTIFIC FEASIBILITY</b>	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-felted) underlying technologies and techniques helps to lower technical risk.
	<b>ENABLING TECHNOLOGIES</b>	From a technologist's perspective, why is your proposed solution the best choice for the Army? Refute the alternative engineering approaches others are using. Why does your technology win?
	<b>ALTERNATIVE TECHNICAL APPROACHES</b>	No matter your current technology readiness level, technical risks remain. Identify those risks. Present a credible plan to tackle those risks.
	<b>TECHNICAL RISK MITIGATION</b>	Planning for success, what's next for you after the SBIR award? Describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award.
<b>TRANSITION</b>	<b>ARMY TRANSITION PATHWAY</b>	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.
	<b>SBIR MILESTONE SCHEDULE</b>	SBIR funds are meant to fuel growth rather than stave off a firm's impending financial failure. Demonstrate that your company will survive financially as a going concern through the early stages of a Phase III contract, sometimes referred to as "transitioning" into use by Army personnel.
<b>FIRM CASH FLOW</b>	<b>FIRM SURVIVAL RISK</b>	Make the case that non-Army and/or non-DoD dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-Army and/or non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.
	<b>OTHER PEOPLE'S MONEY</b>	Through the Applied SBIR program, the Army wants to take advantage of the speed and scalability of dialysis companies. Make your best case that your product is or will be profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.
	<b>FINANCIAL PROFIT POTENTIAL</b>	Prove your team has executed well as a group. Please draw clear distinctions between private sector, DoD and civilian government work. What milestones have you accomplished as a group in this company?
<b>TEAM ABILITY</b>	<i>weight 10%</i>	
<b>SUBMISSION QUALITY</b>	<b>QUALITY OF PROSE</b>	Prove you write clearly. Prove you argue convincingly.
	<b>DATA QUALITY &amp; ATTRIBUTION</b>	Support your arguments with relevant, properly attributed data to enhance your credibility.

## Army SBIR Phase I Proposal Review v2 Evaluation Criteria



		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
<b>INTRODUCTION</b>	<i>weight 5%</i>	Ineffective introduction. Failed to provide concise innovation proposition.	Adequate introduction. Gradually conveyed innovation's purpose and value. Should be more crisp.	Effective introduction. Systematically conveys innovation's purpose and value.	Exceptional introduction. Immediately conveys innovation's purpose and value.
<b>POTENTIAL FOR ARMY IMPACT</b>	<b>OPERATIONAL IMPACT</b>	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.
	<i>weight 25%</i> <b>POTENTIAL SCALE OF IMPACT</b>	A fully deployed, mature solution could impact only niche use cases.	A fully deployed, mature solution could impact an Army element.	A fully deployed, mature solution could impact several Army elements.	A fully deployed, mature solution could have impact across the entire Army.
<b>TECHNICAL FEASIBILITY</b>	<b>SCIENTIFIC FEASIBILITY</b>	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Compelling scientific basis for presented approach.
	<b>ENABLING TECHNOLOGIES</b>	Requires nonexistent or unavailable technology.	Requires emerging, cutting edge technology.	Requires proven technologies.	Requires Army-fielded technologies.
	<b>ALTERNATIVE TECHNICAL APPROACHES</b>	No examination of alternatives.	Partially refutes alternatives.	Adequately refutes alternatives.	Persuasively refutes alternatives.
	<i>weight 25%</i> <b>TECHNICAL RISK MITIGATION</b>	Inappropriate next steps.	Somewhat appropriate next steps.	Appropriate next steps.	Highly appropriate next steps.
<b>TRANSITION</b>	<b>ARMY TRANSITION PATHWAY</b>	Fails to identify next contract goal and/or fails to present a plan for near-term execution.	Identifies next contract goal. Has a plan for near-term execution.	Identifies stage-appropriate next contract goal. Credible plan for near-term execution.	Identifies ideal next contract goal. Convincing plan for near-term execution.
	<i>weight 20%</i> <b>SBIR MILESTONE SCHEDULE</b>	Unclear or non-credible project milestones, or timing.	Mostly clear, credible project milestones and timing. Mostly appropriate level of detail.	Mostly clear, credible project milestones and timing. Appropriate level of detail.	Completely clear, credible project milestones and timing. Appropriate level of detail.
<b>FIRM CASH FLOW</b>	<b>FIRM SURVIVAL RISK</b>	Fails to demonstrate solvency through a Phase III.	Marginally demonstrates solvency through a Phase III.	Credibly demonstrates solvency through a Phase III.	Convincingly demonstrates solvency through a Phase III.
	<b>OTHER PEOPLE'S MONEY</b>	Fails to present non-DoD sources for future R&D funding.	Evolving non-DoD sources of future R&D funding.	Secure non-DoD source(s) of future R&D funding.	Diverse and robust non-DoD sources of future R&D funding.
	<i>weight 10%</i> <b>FINANCIAL PROFIT POTENTIAL</b>	Product does not have a path to profitability.	Demonstrates product has a path to profitability.	Demonstrates product progressing toward profitability.	Demonstrates product has achieved profitability.
<b>TEAM ABILITY</b>	<i>weight 10%</i>	Evidence of marginal group execution.	Evidence of some group execution.	Evidence of impressive group execution.	Evidence of exceptional group execution.
<b>SUBMISSION QUALITY</b>	<b>QUALITY OF PROSE</b>	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.
	<i>weight 5%</i> <b>DATA QUALITY &amp; ATTRIBUTION</b>	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.

## Appendix B Direct to Phase II Evaluation Criteria

### Army SBIR Direct to Phase II v2 Evaluation Criteria Defined



		DEFINITION
<b>INTRODUCTION</b>	<i>weight 2%</i>	Write a clear, concise description of what your innovation does or will do, and where you are in your evolution. Make clear its intended impact on the Army. Evaluators should "get it" after reading this.
<b>POTENTIAL FOR ARMY IMPACT</b>	<b>OPERATIONAL IMPACT</b>	At the scale of a single Army end-user, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier/Army civilian vs. today's solutions?
	<b>POTENTIAL SCALE OF IMPACT</b>	Here, we're looking for an idea of how broad the impact you described above could be. Look into the future to a time when your solution is both technically mature and actively in use by Army personnel. Describe the scale and scope of your impact within the context of the Army.
<b>TECHNICAL FEASIBILITY</b>	<b>SCIENTIFIC FEASIBILITY</b>	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
	<b>ENABLING TECHNOLOGIES</b>	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.
	<b>ALTERNATIVE TECHNICAL APPROACHES</b>	From a technologist's perspective, why is your proposed solution the best choice for the Army? Refute the alternative engineering approaches others are using. Why does your technology win?
<b>TRANSITION</b>	<b>TECHNICAL RISK MITIGATION</b>	No matter your current technology readiness level, technical risks remain. Identify those risks. Present a credible plan to tackle those risks.
	<b>ARMY TRANSITION PATHWAY</b>	Planning for success, what's next for you after this SBIR award? Describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award.
<b>FIRM CASH FLOW</b>	<b>SBIR MILESTONE SCHEDULE</b>	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.
	<b>FIRM SURVIVAL RISK</b>	SBIR funds are meant to fuel growth rather than stave off a firm's impending financial failure. Demonstrate that your company will survive financially as a going concern through the early stages of a Phase III contract, sometimes referred to as "transitioning" into use by Army personnel.
	<b>OTHER PEOPLE'S MONEY</b>	Make the case that non-Army and/or non-DoD dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-Army and/or non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.
<b>TEAM ABILITY</b>	<b>FINANCIAL PROFIT POTENTIAL</b>	Through the Applied SBIR program, the Army wants to take advantage of the speed and scalability of dual-use companies. Make your best case that your product is or will be profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.
	<i>weight 10%</i>	Prove your team has executed well as a group. Please draw clear distinctions between private sector, DoD and civilian government work. What milestones have you accomplished as a group in this company?
<b>SUBMISSION QUALITY</b>	<b>QUALITY OF PROSE</b>	Prove you write clearly. Prove you argue convincingly.
	<i>weight 3%</i>	<b>DATA QUALITY &amp; ATTRIBUTION</b> Support your arguments with relevant, properly attributed data to enhance your credibility.

## Army SBIR Direct to Phase II v2 Evaluation Criteria



		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
<b>INTRODUCTION</b>	<i>weight 2%</i>	Ineffective introduction. Failed to provide concise innovation proposition.	Adequate introduction. Gradually conveyed innovation's purpose and value. Should be more crisp.	Effective introduction. Systematically conveys innovation's purpose and value.	Exceptional introduction. Immediately conveys innovation's purpose and value.
<b>POTENTIAL FOR ARMY IMPACT</b>	<b>OPERATIONAL IMPACT</b>	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.
	<i>weight 20%</i> <b>POTENTIAL SCALE OF IMPACT</b>	A fully deployed, mature solution could impact only niche use cases.	A fully deployed, mature solution could impact an Army element.	A fully deployed, mature solution could impact several Army elements.	A fully deployed, mature solution could have impact across the entire Army.
<b>TECHNICAL FEASIBILITY</b>	<b>SCIENTIFIC FEASIBILITY</b>	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Compelling scientific basis for presented approach.
	<b>ENABLING TECHNOLOGIES</b>	Requires nonexistent or unavailable technology.	Requires emerging, cutting edge technology.	Requires proven technologies.	Requires Army-fielded technologies.
	<b>ALTERNATIVE TECHNICAL APPROACHES</b>	No examination of alternatives.	Partially refutes alternatives.	Adequately refutes alternatives.	Persuasively refutes alternatives.
	<i>weight 30%</i> <b>TECHNICAL RISK MITIGATION</b>	Inappropriate next steps.	Somewhat appropriate next steps.	Appropriate next steps.	Highly appropriate next steps.
<b>TRANSITION</b>	<b>ARMY TRANSITION PATHWAY</b>	Fails to identify next contract goal and/or fails to present a plan for near-term execution.	Identifies next contract goal. Has a plan for near-term execution.	Identifies stage-appropriate next contract goal. Credible plan for near-term execution.	Identifies ideal next contract goal. Convincing plan for near-term execution.
	<i>weight 20%</i> <b>SBIR MILESTONE SCHEDULE</b>	Unclear or non-credible project milestones, or timing.	Mostly clear, credible project milestones and timing. Mostly appropriate level of detail.	Mostly clear, credible project milestones and timing. Appropriate level of detail.	Completely clear, credible project milestones and timing. Appropriate level of detail.
<b>FIRM CASH FLOW</b>	<b>FIRM SURVIVAL RISK</b>	Fails to demonstrate solvency through a Phase III.	Marginally demonstrates solvency through a Phase III.	Credibly demonstrates solvency through a Phase III.	Convincingly demonstrates solvency through a Phase III.
	<b>OTHER PEOPLE'S MONEY</b>	Fails to present non-DoD sources for future R&D funding.	Evolving non-DoD sources of future R&D funding.	Secure non-DoD source(s) of future R&D funding.	Diverse and robust non-DoD sources of future R&D funding.
	<i>weight 15%</i> <b>FINANCIAL PROFIT POTENTIAL</b>	Product does not have a path to profitability.	Demonstrates product has a path to profitability.	Demonstrates product progressing toward profitability.	Demonstrates product has achieved profitability.
<b>TEAM ABILITY</b>	<i>weight 10%</i>	Evidence of marginal group execution.	Evidence of some group execution.	Evidence of impressive group execution.	Evidence of exceptional group execution.
<b>SUBMISSION QUALITY</b>	<b>QUALITY OF PROSE</b>	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.
	<i>weight 3%</i> <b>DATA QUALITY &amp; ATTRIBUTION</b>	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.



## Appendix C Phase II Evaluation Criteria

### Army SBIR Phase II Proposal Review v3 Evaluation Criteria Defined



		DEFINITION
<b>INTRODUCTION</b>	<i>weight 2%</i>	Write a clear, concise description of what your innovation does or will do, and where you are in your evolution. Make clear its intended impact on the Army. Evaluators should "get it" after reading this.
<b>POTENTIAL FOR ARMY IMPACT</b>	<b>OPERATIONAL IMPACT</b>	At the scale of a single Army end-user, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier/Army civilian vs. today's solutions?
	<b>POTENTIAL SCALE OF IMPACT</b>	Here, we're looking for an idea of how broad the impact you described above could be. Look into the future to a time when your solution is both technically mature and actively in use by Army personnel. Describe the scale and scope of your impact within the context of the Army.
<b>TECHNICAL FEASIBILITY</b>	<b>SCIENTIFIC FEASIBILITY</b>	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
	<b>ENABLING TECHNOLOGIES</b>	Point to the foundational technologies that you rely on to deliver your solution. Do the required technologies introduce added risk? Using proven (and ideally Army-felted) underlying technologies and techniques helps to lower technical risk.
	<b>ALTERNATIVE TECHNICAL APPROACHES</b>	From a technologist's perspective, why is your proposed solution the best choice for the Army? Refute the alternative engineering approaches others are using. Why does your technology win?
	<b>TECHNICAL RISK MITIGATION</b>	No matter your current technology readiness level, technical risks remain. Identify those risks. Present a credible plan to tackle those risks.
<b>TRANSITION</b>	<b>ARMY TRANSITION PATHWAY</b>	Planning for success, what's next for you after this SBIR award? Describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award.
	<b>SBIR MILESTONE SCHEDULE</b>	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.
<b>FIRM CASH FLOW</b>	<b>FIRM SURVIVAL RISK</b>	SBIR funds are meant to fuel growth rather than stave off a firm's impending financial failure. Demonstrate that your company will survive financially as a going concern through the early stages of a Phase III contract, sometimes referred to as "transitioning" into use by Army personnel.
	<b>OTHER PEOPLE'S MONEY</b>	Make the case that non-Army and/or non-DoD dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-Army and/or non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.
	<b>FINANCIAL PROFIT POTENTIAL</b>	Through the Applied SBIR program, the Army wants to take advantage of the speed and scalability of dual-use companies. Make your best case that your product is or will be profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.
<b>TEAM ABILITY</b>	<i>weight 10%</i>	Prove your team has executed well as a group. Please draw clear distinctions between private sector, DoD and civilian government work. What milestones have you accomplished as a group in this company?
<b>SUBMISSION QUALITY</b>	<b>QUALITY OF PROSE</b>	Prove you write clearly. Prove you argue convincingly.
	<b>DATA QUALITY &amp; ATTRIBUTION</b>	Support your arguments with relevant, properly attributed data to enhance your credibility.

## Army SBIR Phase II Proposal Review v3 Evaluation Criteria



		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
<b>INTRODUCTION</b>	<i>weight 2%</i>	Ineffective introduction. Failed to provide concise innovation proposition.	Adequate introduction. Gradually conveyed innovation's purpose and value. Should be more crisp.	Effective introduction. Systematically conveys innovation's purpose and value.	Exceptional introduction. Immediately conveys innovation's purpose and value.
<b>POTENTIAL FOR ARMY IMPACT</b>	<b>OPERATIONAL IMPACT</b>	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.
	<i>weight 20%</i> <b>POTENTIAL SCALE OF IMPACT</b>	A fully deployed, mature solution could impact only niche use cases.	A fully deployed, mature solution could impact an Army element.	A fully deployed, mature solution could impact several Army elements.	A fully deployed, mature solution could have impact across the entire Army.
<b>TECHNICAL FEASIBILITY</b>	<b>SCIENTIFIC FEASIBILITY</b>	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Compelling scientific basis for presented approach.
	<b>ENABLING TECHNOLOGIES</b>	Requires nonexistent or unavailable technology.	Requires emerging, cutting edge technology.	Requires proven technologies.	Requires Army-fielded technologies.
	<b>ALTERNATIVE TECHNICAL APPROACHES</b>	No examination of alternatives.	Partially refutes alternatives.	Adequately refutes alternatives.	Persuasively refutes alternatives.
	<i>weight 30%</i> <b>TECHNICAL RISK MITIGATION</b>	Inappropriate next steps.	Somewhat appropriate next steps.	Appropriate next steps.	Highly appropriate next steps.
<b>TRANSITION</b>	<b>ARMY TRANSITION PATHWAY</b>	Fails to identify next contract goal and/or fails to present a plan for near-term execution.	Identifies next contract goal. Has a plan for near-term execution.	Identifies stage-appropriate next contract goal. Credible plan for near-term execution.	Identifies ideal next contract goal. Convincing plan for near-term execution.
	<i>weight 20%</i> <b>SBIR MILESTONE SCHEDULE</b>	Unclear or non-credible project milestones, or timing.	Mostly clear, credible project milestones and timing. Mostly appropriate level of detail.	Mostly clear, credible project milestones and timing. Appropriate level of detail.	Completely clear, credible project milestones and timing. Appropriate level of detail.
<b>FIRM CASH FLOW</b>	<b>FIRM SURVIVAL RISK</b>	Fails to demonstrate solvency through a Phase III.	Marginally demonstrates solvency through a Phase III.	Credibly demonstrates solvency through a Phase III.	Convincingly demonstrates solvency through a Phase III.
	<b>OTHER PEOPLE'S MONEY</b>	Fails to present non-DoD sources for future R&D funding.	Evolving non-DoD sources of future R&D funding.	Secure non-DoD source(s) of future R&D funding.	Diverse and robust non-DoD sources of future R&D funding.
	<i>weight 15%</i> <b>FINANCIAL PROFIT POTENTIAL</b>	Product does not have a path to profitability.	Demonstrates product has a path to profitability.	Demonstrates product progressing toward profitability.	Demonstrates product has achieved profitability.
<b>TEAM ABILITY</b>	<i>weight 10%</i>	Evidence of marginal group execution.	Evidence of some group execution.	Evidence of impressive group execution.	Evidence of exceptional group execution.
<b>SUBMISSION QUALITY</b>	<b>QUALITY OF PROSE</b>	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.
	<i>weight 3%</i> <b>DATA QUALITY &amp; ATTRIBUTION</b>	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.

## **Appendix D Commercialization Plan Template**

### **General Instructions/Guidance:**

1. As stated above, proposing SBCs shall prepare an eight (8) slide commercialization plan, utilizing the template and format below. The commercialization plan shall be converted to a PDF and included with Volume 5 – Supporting Documentation.
2. Font size shall be no smaller than 10-point font.
3. Slides should display the slide number in bottom right corner.
4. All text (including tables, charts, plots, axis labels, legends, captions) shall be readable without zooming and understandable without voice-over.
5. For plots and charts:
  - a. Include title/bullet describing importance of plot/chart, and/or data (be specific).
  - b. Axis shall be meaningfully labeled (to be understandable by non-experts) and include scale.
6. Avoid jargon; define technical terms.
7. To insert images, capture a screenshot of the image and paste it into the slide. Please do not drag-drop a file into the presentation or use the Insert Pictures menu function.
8. Use PowerPoint's "Compress Pictures" feature to reduce file size.
  - a. Select 96ppi resolution
  - b. Uncheck "For this picture only"
9. Replace the boilerplate footer below with distribution markings as appropriate, i.e. sensitive, proprietary, intellectual property.

**To be considered valid proposals, Commercialization Plan submissions shall follow the number and content of each slide as contained in the attached template.**



**Firm Name**

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**SBIR Project Title**

Principal Investigator Name / Title  
Key (or other relevant) Personnel, and  
Subcontractors

**BLUF: Bottom Line Up Front**

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- **BLUF:**
  - 1. Company information and background:** Core competencies, significant sales, previous funding, commercialization successes.
  - 2. Customer and Competition:** Clear description of key technology objectives, current competition, and advantages.
  - 3. Market:** Plan to obtain market share.
  - 4. Intellectual Property:** Patent status, technology lead, trade secrets or other demonstration of a plan to protect the company's technical advantage.
  - 5. Financing/Revenue:** Plans for securing necessary non -SBIR funding.
  - 6. Assistance and mentoring:** Plans for securing needed technical or business assistance.

## Company Information and Background

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- Core competencies and areas of specialization.
- Products with significant sales.
- Concise history of previous Federal and non -Federal funding/investments.
- Regulatory experience (if applicable).
- Past commercialization successes.
- Past failure and how you overcame.

## Customer & Competition

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- Description of key technology objectives.
- Current competition and/or alternative solutions.
- Advantages of company's offer compared to competing products or services.
- Hurdles to acceptance of the proposed innovation.
- Description of possible areas where your technology may be utilized or is under utilized.

## Market

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- Analysis of market size and 1 and 5 year forecasted market share.
- Explanation of milestones and target dates of plan to obtain that market share.
- What experience do you have with marketing to this target market?
- What commercialization strategy appears to be the best for bringing this product to the target market?
- What experience do you have with bringing products to market – either through this company or through other companies with which you have worked.
- Does the company currently market, manufacture, or license technology? Describe what you do.

## Intellectual Property

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- Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporary competitive advantage.
- Describe how you will protect the intellectual property that enables commercialization of its products while keeping competitors at bay. Note any actions you may consider to attain at least a temporary competitive advantage. Also consider your company's prior record in this area. Comment on your company's strategy to build a sustainable business through protection of intellectual property.

## Financing

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- Plan for securing non -SBIR, private or government funding necessary to enter low rate of production of anticipated technical solution.
- Describe your revenue stream generation to include but not limited to:
  - Manufacture and direct sales
  - Sales through value added resellers or other distributors
  - Joint venture

## Assistance & Mentoring

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- Plans for securing needed technical or business assistance through mentoring, partnering, or arrangements with government sponsored (e.g., SBIR funded Discretionary Technical and Business Assistance (TABAs), State assistance programs, Federally-funded research laboratories, Manufacturing Extension Partnership centers), not -for-profits (e.g., Small Business Development Center (SBDC) or Small Business Technical Development Center (SBTDC)), commercial accelerators, DOD Prime Contractors, SBA Mentor - Protégé program, Procurement Technical Assistance Center (PTAC) or other assistance provider.

**Army SBIR 24.4 Topic Index**  
**Release 16**

- A244-028      Software Defined RadioHead (SDRH)
- A244-029      Multisystem Mobile Corrosion Unit
- A244-030      Miniaturization of Hyperspectral Sensors for UAS Applications
- A244-031      Advanced Miniature Mission Processor for Hyperspectral Applications

A244-028            TITLE: Software Defined RadioHead (SDRH)

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Advanced Computing and Software; Integrated Network Systems-of-Systems

OBJECTIVE: Develop a radio agnostic Software Defined RadioHead (SDRH) system with the capability to rapidly adapt the radio carrier frequency among diverse targeted frequency bands using analog and/or digital frequency conversion. Frequency translation of the original signal into a broad range of non-standard bands via the SDRH will help provide additional flexibility to the commander's Primary, Alternate, Contingency, and Emergency communication plan. The SBIR effort proposed will leverage the foundational knowledge of SDRH and mature them to support a single antenna design to support multiple radios and waveforms.

DESCRIPTION: The SDRH design will be a flexible antenna prototype capable of supporting multiple frequencies and radio modules. A SDRH would complement the Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance (C5ISR)/Electronic Warfare Modular Open Suite of Standards (CMOSS) standard's objective for agnostic hardware.

PHASE I: This topic is only accepting Direct to Phase II (DP2) proposals for a cost up to \$2,000,000 for a 12-month period of performance.

Proposers interested in submitting a DP2 proposal must provide documentation to substantiate that the scientific and technical merit and feasibility equivalent to a Phase I project has been met. Documentation can include data, reports, specific measurements, success criteria of a prototype, etc.

PHASE II: Phase II will develop a prototype Software Defined RadioHead's for delivery to the U.S. Army Combat Capabilities Development Command (DEVCOM) C5ISR Center for direct evaluation and testing. The associated software to operate the SDRH prototypes will also be delivered to the C5ISR Center at the conclusion of the Phase II effort. A technical data package with the associated manuals to operate the prototypes will also be required.

PHASE III DUAL USE APPLICATIONS: SDRH, and tangential opportunities, have a myriad of future-looking dual use applications and are primed to disrupt industries ranging from IoT, UAVs, and smart cities.

From the defense perspective, DARPA's Prowess looks to foster AI-enabled radios, which will likely augment SDRH applications and efficacy.

Potential dual use cases for SDRHs include:

- IoT and IoT-like use cases like smart homes, smart cities, and smart factories
- UAS and travel industry
- Supply chain tracking and contested logistics support (in EW and comms-denied environments)
- Space operations
- Mobile communications like cellphones

## REFERENCES:

1. Benham, S. P., et al. "Software Defined Antenna | IEEE Conference Publication | IEEE Xplore." IEEE Xplore, IEEE, 11 Dec. 2009, [ieeexplore.ieee.org/document/5352499](https://ieeexplore.ieee.org/document/5352499).
2. Walton, E., et al. CITeseerX, [citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=9a4862467e5ec405aee4b8afb57ca947ad40ced1](https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=9a4862467e5ec405aee4b8afb57ca947ad40ced1). Accessed 16 Jan. 2024.
3. Chisum, Professor, and David Connelly. "Software-Defined Antennas with Phase-Change Materials." ND Wireless Institute, University of Notre Dame, [wireless.nd.edu/research/software-defined-antennas-with-phase-change-materials/](https://wireless.nd.edu/research/software-defined-antennas-with-phase-change-materials/). Accessed 16 Jan. 2024.
4. Y. Fan, D. Xiao, X. Mei, C. Liu, X. Yan and C. Hu, "A Software-Defined Intelligent Method for Antenna Design," 2014 IEEE 12th International Conference on Dependable, Autonomic and Secure Computing, Dalian, China, 2014, pp. 470-474, doi: 10.1109/DASC.2014.90.

**KEYWORDS:** Software Defined Radio Head, Software Defined Antenna, C5ISR Modular Open Suite of Standards (CMOSS), Command Control Communications Computer Cyber Intelligent Surveillance and Reconnaissance (C5ISR), U.S. Army Combat Capabilities Development Command (DEVCOM)

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A244-029

TITLE: Multisystem Mobile Corrosion Unit

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Advanced Materials; Advanced Infrastructure & Advanced Manufacturing

OBJECTIVE: The objective of this topic is to create a deployable solution for the Army's major corrosion issue, to be able to repair in austere environments while out in the field.

DESCRIPTION: The Letterkenny Army Depot (LEAD) has requirements to deploy a mobile corrosion unit that has the following capabilities: laser ablation, corrosion preventative coating application (primer, polyurea, topcoat), cold spray (dragonfly), plasma blast, welding, sander/blaster, and all supporting equipment/power requirements. Deliverables must include a reliable supply chain for the maintenance and replacement of parts through normal wear and tear as well as an operator training plan. Any solution must include the integrated technologies as part of a deployable, ruggedized system that is able to operate in an austere environment.

PHASE I: This topic is accepting only Phase I proposals for the cost of up to \$250,000 for up to a 6-month period of performance.

Develop a proof-of-concept for a multisystem corrosion unit prototype. In this phase, proposals shall demonstrate how required capabilities will be integrated, powered and maintained. Proposals should include all specifications that would constrain operations (such as weight, operating temperature, electromagnetic interference and decibel output, power requirements, run-time etc.). Proposals must include a detailed procurement plan along with supply chain risk analysis (identify sole source or proprietary technologies, identify the nationality of the manufactured down parts, identify years to end of life for any of the selected technologies). Proposals should include a testing plan for the prototype along with identified events for customer input and approvals.

PHASE II: Develop a multisystem corrosion unit to a deployment ready state. Solutions shall consist of laser ablation, corrosion preventative coating capabilities (primer, polyurea, topcoat), cold spray, a welder, sander/blaster and all supporting equipment/power requirements that are deployable and self-sustaining in any environment to repair corrosion and mitigate future issues on Warfighter equipment.

PHASE III DUAL USE APPLICATIONS: In recent years, there has been a significant increase in government spending on infrastructure development across various economies. Governments are investing large sums of money in the development of different sectors, such as roads, bridges, railways, telecom, and power sectors, among others. This has resulted in a high demand for heavy machinery and equipment.

High dual use applicable industries and applications

Automotive and aircraft (welding repair services)

Construction (general-purpose machinery and equipment, heavy machinery and equipment, commercial and service-industry machinery and equipment)

Agriculture (Farming, heavy equipment for feedstuff, and transportation)

Power and Energy (Hydraulic equipment)

REFERENCES:



1. <https://www.defensenews.com/opinion/2023/11/14/shifting-perspectives-reframe-readiness-with-a-focus-on-availability/>
2. <https://www.dvidshub.net/news/438700/army-depot-additive-manufacturing-advancements-arise>

KEYWORDS: Multisystem Corrosion Unit; Mobile; Repair; Maintenance

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A244-030

TITLE: Miniaturization of Hyperspectral Sensors for UAS Applications

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Integrated Sensing and Cyber; Microelectronics

OBJECTIVE: Further develop existing sensor or prototype to meet the necessary Size, Weight and Power (SWaP) requirements for integration into various ongoing modernization programs. This topic seeks to develop a direct-to-phase-two, internally calibrated, compact, passive, day/night capable hyperspectral (hundreds of channels) sensor that will result in up to an order of magnitude of cost savings (< \$850K to produce - not including non-recurring costs) and substantial reductions in weight (<10lbs), power and volume without sacrificing capability. This sensor payload will be developed for use on smaller Unmanned Aerial Systems (UASs).

DESCRIPTION: Airborne hyperspectral imaging (HSI) systems have historically required heavy and complex optical components, high power consumption, and large ancillary hardware to facilitate cooling, calibration, data collection, and data processing. These factors combine to limit the number of potential operating platforms capable of handling such payloads to larger aircraft, resulting in limited accessibility and availability.

PHASE I: This topic is only accepting Direct to Phase II (DP2) proposals for a cost up to \$2,000,000 for a 24-month period of performance.

Proposers interested in submitting a DP2 proposal must provide documentation to substantiate that the scientific and technical merit and feasibility equivalent to a Phase I project has been met. Documentation can include data, reports, specific measurements, success criteria of a prototype, etc.

PHASE II: During Phase II, Firms should: (1) complete the sensor design, (2) fabricate, and test the component to show that it is ready for integration into a gimbal, (3) integrate into a gimbal for final integration onto a Class II or smaller UAS platform (4) refine the design as necessary and iteratively re-fabricate and re-test if appropriate, (5) validate sensor payload performance in the government run laboratory (6) define and document relevant interfaces to enable integration, (7) lay out a high-level plan for how your component could be integrated into a Class II or smaller UAS platform and explore possible partners to enable the transition plan if needed.

PHASE III DUAL USE APPLICATIONS: Integrate sensor/gimbal payload into prototype system for field collection. Deploy the sensor on at least one (1) test event to observe performance and generate quantitative/qualitative sensor performance data.

#### REFERENCES:

1. A. U. G. Sankararao, N. T. S. Kumar and P. Rajalakshmi, "Workflow and Calibration of Airborne Hyperspectral Imaging System," 2020 IEEE International Conference on Computing, Power and Communication Technologies (GUCon), Greater Noida, India, 2020, pp. 757-762, doi: 10.1109/GUCon48875.2020.9231236. URL: <https://ieeexplore.ieee.org/document/9231236>
2. Y. Zhong et al., "Mini-UAV-Borne Hyperspectral Remote Sensing: From Observation and Processing to Applications," in IEEE Geoscience and Remote Sensing Magazine, vol. 6, no. 4, pp. 46-62, Dec. 2018, doi: 10.1109/MGRS.2018.2867592. URL: <https://ieeexplore.ieee.org/document/8573977>

KEYWORDS: Hyperspectral, VNIR, SWIR, LWIR

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A244-031

TITLE: Advanced Miniature Mission Processor for Hyperspectral Applications

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Integrated Sensing and Cyber; Microelectronics

OBJECTIVE: Further develop existing computer or prototype to meet the necessary Size, Weight, and Power (SWaP) requirements for integration into various ongoing modernization programs. This topic seeks to develop a direct-to-phase-two, low-size, weight (<3lbs) and power (SWaP), high-performance computer for an Unmanned Aircraft Systems (UAS)-integrated hyperspectral imaging (HSI) camera.

DESCRIPTION: Onboard capabilities for payload command, control, and processing data from airborne hyperspectral imaging (HSI) systems have historically required large custom solutions needing extensive power and thermal management. These units are generally purpose-built and inflexible to modification or scaling, rendering component and payload changes costly in both time and money, or entirely prohibitive due to integral dependencies and a lack of alternative sensor/payload options.

The mission processor will aggregate multiple core payload operation functions that have traditionally required separate modules. The exact functions are additional details/specifications to be provided to the firm upon award. An objective requirement for this program is the Mission Processor shall be compliant with current Sensor Open System Architecture (SOSA) Small Form Factor (SFF) standards. The VNX+ form factor as defined in VITA 90.0-202x, 90.1-202x, and 90.2-202x shall be used as the SOSA Technical Standard VNX+PIC form factor. The objective of this effort is to demonstrate substantial reductions in weight, power, and volume while also realizing up to an order of magnitude in cost savings from legacy systems while being flexible for reutilization with other payloads.

PHASE I: This topic is only accepting Direct to Phase II (DP2) proposals for a cost up to \$2,000,000 for a 24-month period of performance.

Proposers interested in submitting a DP2 proposal must provide documentation to substantiate that the scientific and technical merit and feasibility equivalent to a Phase I project has been met. Documentation can include data, reports, specific measurements, success criteria of a prototype, etc.

PHASE II: During Phase II, Firms should: (1) complete the component design, (2) fabricate, test, and characterize the component using simulated data streams to show that it is ready for integration into a Class II or smaller UAS platform, (3) refine the design as necessary and iteratively re-fabricate and re-test if appropriate, (4) define and document relevant interfaces to enable integration, (5) lay out a high-level plan for how your component could be integrated into a Class II or smaller UAS platform and explore possible partners to enable the transition plan if needed.

PHASE III DUAL USE APPLICATIONS: Integrate mission processor with sensor/gimbal into prototype system for field collection. Deploy the system at least one test event to observe performance and generate quantitative/qualitative system performance data.

#### REFERENCES:

1. Y. -C. Lo, Y. -C. Wu and C. -H. Yang, "A 44.3mW 62.4fps Hyperspectral Image Processor for MAV Remote Sensing," 2022 IEEE Symposium on VLSI Technology and Circuits (VLSI Technology and Circuits), Honolulu, HI, USA, 2022, pp. 74-75, doi: 10.1109/VLSITechnologyandCir46769.2022.9830370. URL: <https://ieeexplore.ieee.org/document/9830370>
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KEYWORDS: Hyperspectral, Real-Time Processor, Near-Real-Time Processor, Mission Processor

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