Version 2

DEPARTMENT OF THE ARMY
DoD 25.4 Small Business Innovation Research (SBIR)
Annual Broad Agency Announcement (BAA)
Component-Specific Proposal Instructions
Release 6

IMPORTANT

The following topic number in this release is part of a prize competition, xTechPacific:
A254-P026

xTechPacific will be used to identify small business concerns that meet the criteria for award. Winners selected from the xTechPacific prize competition will be the only firms eligible to submit an SBIR proposal under the topic listed above. Proposals submitted to the topic listed above by non-winners of the xTechPacific competition will not be evaluated. See the full xTechPacific competition RFI here: https://www.xtech.army.mil/competition/xtechpacific/.

The following topic numbers are NOT part of the prize competition and are subject to submission deadlines as published in the DoD SBIR 25.4 Program BAA, Release 6.
A254-024 A254-025

To the extent possible, all Department of the Army component specific text follows the same numbering as the related sections in the Department of Defense (DoD) SBIR 25.4 Program BAA. Supplemental numbering is used only when the text cannot be integrated intelligibly with the DoD SBIR 25.4 Program BAA counterpart.

Each Small Business Concern (SBC) (also referred to herein as "proposer", "offeror", and/or "firm") is encouraged to thoroughly review the DoD SBIR 25.4 Program BAA, to include any amendments/revisions, and the Army component-specific proposal instructions herein.

Please note that these instructions contain active hyperlinks. Offerors are encouraged to utilize these hyperlinks for additional information and resources. Ensure your browser or Portable Document Format viewer settings permit hyperlink access to take full advantage of these resources.

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

- The DoD SBIR 25.4 Program BAA is located at: https://www.dodsbirsttr.mil/submissions/solicitation-documents/active-solicitations.
- 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.
- Department of the Army's SBIR|STTR Website: https://www.armysbir.army.mil/.

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Version 2

1.0 PROGRAM DESCRIPTION

1.1 Objectives and Context

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 leverages an approach that advertises SBIR funding opportunities through the DoD Annual BAA process, with monthly topic releases. Additionally, the Army has established a SBIR|STTR Contracting Center of Excellence dedicated to executing all SBIR|STTR Phase I and Phase II awards for Army customers.

1.4 Eligibility and Performance Requirements

Proposing SBCs may refer the DoD SBIR 25.4 Program BAA, to include any amendments/revisions, for full eligibility requirements.

Furthermore, firms must not be debarred, suspended, proposed for debarment, or excluded from Government contracting within the System for Award Management (SAM) –

- Contractors debarred, suspended, or proposed for debarment are excluded from receiving an award. Contractors that are debarred, suspended, or proposed for debarment are also excluded from conducting business with the Government as agents or representatives of other contractors.

- Contractors and other entities that have an active exclusion record in SAM because they have been declared ineligible on the basis of statutory or other regulatory procedures are excluded from receiving an award under the conditions and for the period set forth in the statute or regulation.

- The Army SBIR|STTR Program will not consent to subcontracts with these contractors.

1.5 Majority Ownership in Part by Multiple Venture Capital, Hedge Fund, and Private Equity Firms

Under the Department of the Army's SBIR Program, proposing SBCs that are owned in majority part by multiple venture capital operating companies (VCOCs), hedge funds (HF), or private equity funds (PEF) are eligible to submit applications or receive awards. Reference may be made to the DoD SBIR 25.4 Program BAA, including revisions/amendments, as well as 13 CFR 121.702, regarding eligibility standards, to include ownership and control requirements, applicable to the SBIR program.

All applicants that are majority-owned by multiple VCOC, HF or PEF, and are submitting a proposal to an Army Topic, shall complete the certification at Verification of Eligibility of Small Business Joint Ventures, prior to submitting an application/proposal and must include the certification with their submission.

1.7 Direct to Phase II (DP2) Program

Implementing the authority granted by 15 U.S.C. §638 (cc), as amended, the U.S. Army will be conducting 'Direct to Phase II' contract awards for eligible SBIR topics. For eligible topics, please refer to Section 3.9, Direct to Phase II (DP2) Proposal Instructions, below.

1.8 Program on Innovation Open Topics

This release may contain an open topic. Proposing SBCs shall refer to the DoD SBIR 25.4 Program BAA, to include any amendments/revisions, for additional information regarding open topic submissions.

1.9 Discretionary Technical and Business Assistance (TABA)

Participation in the Army SBIR TABA program is voluntary for each Army SBIR awardee. The Army, at its discretion, may provide TABA. Through a competitive process, the U.S. Army SBIR Program has selected FEDTech as its preferred TABA vendor. Should an offeror pursue the use the Army preferred vendor, the firm may opt for that support after selection if chosen to receive a contract award by completing FEDTech's Army SBIR Awardee Intake Survey for TABA.

Instead of using the Army preferred vendor, FEDTech, an SBC may, by subcontract or otherwise, select one or more vendors to assist the firm in meeting the TABA goals. However, to do so, the SBC must explicitly state in its Army SBIR proposal that it intends to use a different TABA provider. Additionally, the vendor must demonstrate that the selected vendor is uniquely postured to provide the required technical and business services. **This justification must be supported by documentation submitted in Volume 5, Supporting Documentation.**

The Army SBIR program sponsors participation in the TABA program. The 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. **Firm-Selected Vendor TABA funding will be denied if the offeror fails to include the cost in the Phase I proposal.**

- 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. **Firm-Selected Vendor TABA funding will be denied if the offeror fails to include the cost in the Phase II proposal.**

For additional resources regarding the Army SBIR Program's TABA, please refer the following link: https://www.armysbir.army.mil/taba/

1.10.1 Department of the Army Phase II Enhancement Policy

1.10.1 Overview

To further encourage the transition of SBIR|STTR research into DoD acquisition programs as well as the private sector, the Department of the Army may provide a Phase II awardee with up to $500,000.00 in matching SBIR funding (on a dollar-for-dollar basis) if the performer obtains commitment of non-SBIR|STTR funding from a DoD component(s), Federal Agency(ies), and/or a commercial investor(s).

Enhancement funding is typically applied to an active Phase II award via a contract modification and will result in an additional period of performance that is commensurate with the total funding received, typically 6 to 18 months (18 months being the maximum). On a case-by-case basis, however, a new Phase II contract may be awarded if appropriate. The proposed Enhancement effort must develop, deliver, and integrate a technology or product into a program within a DoD component(s), Federal Agency(ies), and/or the commercial sector.

1.10.2 Application Process

Enhancement requests should be submitted at least 6 months prior to the end of the Phase II period of performance to allow adequate time to complete the contracting process. Applications to the Enhancement Program will be reviewed for overall merit, transition potential, commercialization strategy, and value to the Army mission and are typically initiated through the Contracting Officer Representative (COR), Technical Point(s) of Contact (TPOC), SBIR|STTR Coordinator, and/or the Army SBIR|STTR Program Office, with oversight and input from the Contracting Officer.

Upon Army SBIR|STTR Program's Source Selection Authority (SSA) approval to proceed, assigned contracting personnel will prepare and issue a letter request for proposal (RFP), soliciting the firm's Enhancement proposal.

1.10.3 Limitations

All Enhancement requests are subject to the approval of the Army SBIR|STTR Program's SSA, successful completion of negotiations, and the availability of funding.

In order to be considered for matching SBIR funds under a Phase II Enhancement, the Contracting Officer must receive certified proof of the non-SBIR|STTR funding transfer. Certification consists of a notarized letter, stating that "$ in cash has been transferred to [company name] from [investor name] in accordance with the DA Enhancement Program procedures" that is signed by both the awardee and its investor. The letter must be sent to the Contracting Officer along with a copy of the SBIR awardees bank statement showing the funds were deposited. This certification should be received by the Contracting Officer within 45 days of the Enhancement approval notification. Failure of the awardee to certify and provide proof of the Investor's total cash contribution may significantly delay the Phase II enhancement or result in the awardee becoming ineligible for the Phase II Enhancement.

"Outside investment" must meet DoD Guidelines to qualify for Phase II Enhancement matching funds.

Eligible third-party investors include:

- Non-SBIR|STTR Department of Defense funds
- Any other non-SBIR|STTR federal agency funds
- An SBC other than the eligible/performing SBC
- Venture capital firms
- Individual investors

- A non-SBIR|STTR federal, state, or local government; or
- Any combination thereof

Ineligible sources include:

- The eligible SBC's internal research and development funds
- Funding in forms other than cash (such as in-kind or other tangible assets)
- Funding from the owners of the eligible SBC, or the family members or affiliates of such owners; or
- Funding attained through loans or other forms of debt obligations

2.0 CERTIFICATIONS AND REGISTRATIONS

2.1 System for Award Management (SAM) Registration

Interested SBCs are required to be registered and active in SAM in accordance with FAR Provision 52.204-7, System for Award Management, when submitting an offer or quotation and at time of award. Proposals or offers submitted by firms failing to meet this requirement shall be deemed unresponsive and will neither be evaluated or considered for potential contract award. For the requirement to maintain SAM registration during performance, and through final payment, interested SBCs may refer to FAR Clause 52.204-13, System for Award Management Maintenance.

SBCs may only submit offers using their legal business name or 'Doing Business As' (DBA) name, as indicated in the SAM registration for the provided Unique Entity Identifier (UEI). A firm submitting an offer using a DBA name shall have the DBA registered and linked to their current, active, SAM registration. Further, a firm may NOT submit an offer on behalf of another entity. Please refer to section 2.3 below for instructions regarding the correlation between your firm's DSIP account profile, and the SAM.

Refer to the Eligibility section above, for information regarding firms (proposing SBC and its subcontractor(s)) who are listed as debarred, suspended, proposed for debarment, or possessing an active exclusion within the SAM.

2.3 Defense SBIR|STTR Innovation Portal (DSIP) Registration

It is the SBCs responsibility to ensure that the firm's DSIP account profile information correlates to the data found within the firm's SAM registration. This includes, but is not limited to the following:

- 5-Digit Commercial and Government Entity Code
- 12-Digit UEI
- Legal Business Name
- "Doing Business As" Name
- Physical Address

Failure to correlate the SBCs entity information between the DSIP application and SAM and/or submit required certifications may significantly delay funding agreement award, become grounds for cancellation of the funding agreement, or become grounds for termination of an existing funding agreement.

2.4 Required Certifications

- Under a SBIR Phase I contract, the contractor shall submit a SBIR Funding Agreement

Certification – Life Cycle Certification, certifying as to whether it follows specific SBIR program requirements at the time of final payment or disbursement. This form shall be submitted as an attachment in Wide Area Workflow (WAWF), when submitting an invoice for final payment or disbursement on the Phase I contract.

- Under a SBIR Phase II contract, the contractor shall submit a SBIR Funding Agreement Certification – Life Cycle Certification, certifying as to whether it follows specific SBIR program requirements prior to receiving more than 50% of the total award amount and prior to final payment or disbursement. This form shall be submitted as an attachment in WAWF when submitting invoices for each of the aforementioned milestones.

3.0 PROPOSAL PREPARATION INSTRUCTIONS AND REQUIREMENTS

3.2 Export-Controlled Topic Requirements

Export of all unclassified technical data with military or space application in the possession of, or under the control of, a DoD Component information, which includes, in some circumstances, release to foreign nationals within the United States, without first obtaining approval, authorization, or license from the Department of State for items controlled by the International Traffic in Arms Regulations (ITAR), or the Department of Commerce for items controlled by the Export Administration Regulations (EAR), may constitute a violation of law.

Pursuant to Defense Federal Acquisition Regulation Supplement (DFARS) Procedures Guidance and Information 225.7901-2, your firm should direct its attention to the clause at DFARS 252.225-7048, Export-Controlled Items for questions concerning compliance with ITAR/EAR.

Further, in accordance with Department of Defense Directive 5230.25, Withholding of Unclassified Technical Data from Public Disclosure, contractors, or subcontractors that will handle technical data that might have military or space applications, must certify that they will comply with all applicable U.S. laws that control the export of sensitive data, as follows:

If any portion of the proposed SBIR effort is subject to ITAR your firm must complete a fully certified DD Form 2345, Military Critical Technical Data Agreement. 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. Failure to complete the DD From 2345 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.

If any portion of the proposed SBIR effort is subject to EAR, your firm must submit for and obtain the proper export licenses through the Department of Commerce's Bureau of Industry and Security on-line system, SNAP-R. Failure to obtain the proper export licenses 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.

Topics under this announcement may be subject to ITAR/EAR and may be identified as such. However, export control compliance statements found in this document are not meant to be all inclusive. They do not remove any liability from the applicant to comply with applicable ITAR or EAR export control

restrictions.

3.7 Phase I Proposal Instructions

The following proposal instructions supplement, and in some cases, supersede, those found within the DoD SBIR 25.4 Program BAA, including any amendments/revisions/appendices.

a. Proposal Cover Sheet (Volume 1)

The proposal cover sheet shall follow the instructions and requirements provided in the DoD SBIR 25.4 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.

b. Technical Volume Format (Volume 2)

Proposals shall adhere to the formatting instructions provided in the DoD SBIR Program 25.4 BAA, including any amendments/revisions, as supplemented by the technical volume formatting requirements described herein. Information provided in these Service/Component-specific proposal instructions take precedence over any instructions listed in the DoD SBIR Program BAA. **Submissions that fail to conform to the technical volume formatting requirements shall be deemed unresponsive.**

1. **File Type**: The Technical Volume shall be a single Adobe Acrobat (supporting Windows 10-11) Portable Document Format (.pdf) searchable text format file, including graphics. PDF files that cannot be opened using Adobe Acrobat products may be rejected by the Government. Perform a virus check before uploading the technical volume file. If a virus is detected, the proposal may be rejected. Do not lock, password protect or encrypt the uploaded file. Do not include or embed active graphics, such as videos, moving pictures, or other similar media, in the document.

2. **Length**: The Technical Volume shall not exceed seven (7) pages including all key sections described in Section 3.7(c), Technical Volume Content, below. SBCs may allocate any portion of the seven (7) page technical volume limit to each of the key sections as desired. It is the proposing SBC's responsibility to verify that the Technical Volume does not exceed the page limit after upload to DSIP. **Any proposals exceeding the page count limit will be deemed unresponsive.**

3. **Layout**: Number all proposal pages consecutively. Submit a direct, concise, and informative research or R&D proposal (no type smaller than 10-point on standard 8-1/2" x 11" paper with one-inch margins, including the header). The header on each page of the technical volume, which may be included in the one-inch margin, should contain the proposing SBC's name, topic number, and the DSIP assigned proposal number from the cover sheet.

4. **General**:
   - Technical volume MUST be a single Adobe Acrobat PDF file
   - Graphics are strongly encouraged to be included throughout the white paper as you see fit. Ensure they are logical and easy to read. Supporting images should be thoughtful and visually attractive.
   - For plots and charts: Include title, caption, axes labels, and be sure to include scale.
   - Avoid jargon and define all technical terms

- Use the "Compress Pictures" feature to reduce file size when possible.

c. Technical Volume Content (Volume 2)

The following technical volume content instructions supersede those stated in the DoD SBIR 25.4 Program BAA, including any amendments/revisions/appendices. The Technical Volume shall be structured in the following order:

i. **Introduction;**
ii. **Army Benefits;**
iii. **Technical Approach;**
iv. **Programmatic Potential; and**
v. **Commercial Potential**

Each of the key sections align directly with the evaluation rubric, Phase I Evaluation Criteria (Appendix A), ensuring clarity in how proposals will be assessed. The following outlines the specific content expectations for each section of the Technical Volume, as guided by the evaluation criteria in Appendix A. Offerors should ensure their proposals clearly address the key elements identified in the rubric to maximize the proposal's competitiveness.

i. **Introduction**: 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.

ii. **Army Benefits**: Briefly describe any identified Army use cases, the solutions' advantages and potential level of impact and scale of impact the solution would have for the Army. If you are unsure how an Army end-user might benefit from this technology or the scale of impact it could have, please provide an analogous use case to allow the Army evaluators a way to connect the dots using their knowledge of potential Army use cases when evaluating this section. The rubric prompts below are provided to guide you in preparing this section:

- **Alignment.** Argue your technology innovation is aligned with this Army topic's priorities as defined in the solicitation.
- **Solution's Advantages.** Prove your prospective customers will choose you given limited resources and myriad choices. Have you accounted for indirect substitute products as well as direct competitors?
- **Solution's Impact.** The Army seeks higher-risk, high-impact solutions through SBIR - not engineering changes or incremental improvements. Use this section to describe your technology's impact and improvement upon the state of the art.

iii. **Technical Approach**: Provide details and supporting data on how the proposer is going to solve the problem. It shall detail key elements of the firm's approach, the technical team, and any risks and mitigation plans identified. Use data to substantiate your claims that your technical risk mitigation plans are credible. Show us quality data attributed to reliable, credible sources. The rubric prompts below are provided to guide you in preparing this section:

- **Scientific Feasibility.** Convince readers that your innovation is built atop sound scientific and/or engineering principles. Ensure that your feasibility argument adequately responds to the requirements this Army topic.
- **Enabling Technologies.** Do the required enabling technologies introduce added risk?

- **Technical Team.** Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences that would relate to this Army SBIR topic.
- **Technical Risk and Mitigation Plans.** Describe any technical risks that still exist between you and a fully mature solution and your plans to mitigate those risks.

iv. **Programmatic Potential**: Outline where your company is today, what will be accomplished under this SBIR effort with Army customer discovery and in identifying the risks and mitigation plans for successfully transitioning beyond SBIR funding into a contract with an Army or integration with an Army system. The rubric prompts below are provided to guide you in preparing this section:

- **Project Milestone Schedule.** Outline your execution plan. What milestones do you hope to accomplish, and what deliverables if any do you hope to produce during this phase and subsequent phases of the effort.
- **Army Customer Discovery and Validation.** Argue you are "getting out of the building" to engage in productive customer-discovery with Army stakeholders and describe any customer validation you may have received formally or informally to date on this proposed technology.
- **Army Transition Pathways.** Describe the next type of deal you aim to make with the Army following this award. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award to transition this technology to the Army.

v. **Commercialization Potential**: Highlight any commercial market for this solution that the DoD can build upon. Describe your past success and future potential in commercial applications. The rubric prompts below are provided to guide you in preparing this section:

- **R&D to Product Revenue.** Argue that your team members have transitioned research and development efforts into products successfully, as evidenced by product revenue. (Product revenue is realized by directly selling a solution to solve a problem vs. selling consulting, services, or research activities.)
- **Competitive Edge.** Why will you win? A small company needs to have a competitive edge in the marketplace: Something your team does very well that is difficult to match. Some examples may include: well protected intellectual property; unmatched relevant experience; a novel business model; network effects; etc.
- **Other People's Money.** Make the case for the commercial market (non-DoD) potential of your technology from which the Army will benefit.

d. Cost Volume Content (Volume 3)

With the exception of the instructions provided below, Offerors must comply with all Cost Volume (Volume 3) requirements outlined in the DoD SBIR 25.4 Program BAA. Note: 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.

In anticipation of a possible contract award, all proposed costs shall be accompanied by documentation to substantiate how the cost was derived. 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.

- 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.
    - Proposing firms shall provide substantiating documentation for the cost of all material, tooling, and equipment (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:
    - Provide data showing the degree of Subcontractor competition and the basis for establishing the source and reasonableness of price through price analysis.
    - Provide detailed substantiation of subcontractor costs in your cost proposal.
    - Subcontracts with Federal Laboratories - 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 will be deemed **unresponsive**.

- Considering the goals of the SBIR|STTR Programs, Offerors shall ensure subcontracts (as defined in Appendix B of the overarching DoD SBIR 25.4 Program BAA) 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, FFRDC, unit of Federal Government, etc.) may be required to submit further explanation.

- TRAVEL:

  - **Virtual meetings shall be utilized to the maximum extent practicable.**

  - 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.).

  - 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.

e. Company Commercialization Report (Volume 4)

Completion of the Company Commercialization Report (CCR) as Volume 4 of the proposal submission in DSIP is required for prior SBIR|STTR awardees. Please refer to the DoD SBIR 25.4 Program BAA for full details on this requirement.

f. Supporting Documents (Volume 5)

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). A completed proposal submission in DSIP does NOT indicate that the mandatory supporting documents have been uploaded. It is the responsibility of the proposing small business concern to ensure that the mandatory documents listed above have been uploaded and included with the proposal submission.

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

1. Verification of Eligibility of Small Business Joint Ventures
2. Assertion of use, release, or disclosure restriction (in accordance with DFARS 252.227-7017)
3. DD Form 2345, Military Critical Technical Data Agreement
4. Foreign National/Persons Information - Identify any foreign citizens or individuals expected to be involved on your project as a direct employee, subcontractor, or consultant. For these individuals, please specify their country of origin, the type of visa or work permit under which they are performing and an explanation of their anticipated level of involvement on this project. **Note**: You may be asked to provide additional information during proposal evaluation and/or negotiations in order to verify the foreign citizen's eligibility to participate on a SBIR contract.
5. Justification for SBC-selected TABA vendor (refer to Section 1.9, Discretionary Technical and Business Assistance (TABA), above)
6. Place of Performance - Ammunition and Explosives (refer to section 3.11 – Arms, Ammunitions and Explosives, Paragraph (f) below)

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|STTR 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 25.4 Program BAA. All other documents submitted will be disregarded, including but not limited to promotional and non-project related information.

g. Fraud, Waste and Abuse Training (Volume 6)

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

h. Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Volume 7)

SBCs must complete the Disclosures of Foreign Affiliations or Relationships to Foreign Countries webform in Volume 7 of the DSIP proposal submission.

Please be aware that the Disclosures of Foreign Affiliations or Relationships to Foreign Countries WILL NOT be accepted as a PDF Supporting Document in Volume 5 of the DSIP proposal submission. Do not upload any previous versions of this form to Volume 5. For additional details, please refer to the DoD SBIR 25.4 Program BAA.

3.8 Phase II Proposal Information

Unless a Topic posting specifies that the DA will be accepting Direct to Phase II proposal submissions, Phase II proposals may only be submitted by Phase I awardees. Submission of Phase II proposals is not permitted at this time, and if submitted, may be rejected without evaluation. Phase II proposal preparation and submission instructions will be provided via subsequent notification.

3.9 Direct to Phase II (DP2) Proposal Instructions

Offerors may submit DP2 proposals only if allowed pursuant to the topic posting. With the exception of the DP2 component specific proposal instructions for the Technical Volume (Volume 2), identified below, DP2 Proposals shall follow the Phase I Proposal Instructions described above.

b. Technical Volume Format (Volume 2)

2. **Length**: The Technical Volume shall not exceed 15 pages including all key sections described in section 3.9(c), Technical Volume Content, below. SBCs may allocate any portion of the 15-page technical volume limit to each of the key sections as desired. It is the proposing SBC's responsibility to verify that the Technical Volume does not exceed the page limit after upload to DSIP. **Any proposals exceeding the page count limit will be deemed unresponsive**.

c. Technical Volume Content (Volume 2)

The following instructions supersede those stated in the DoD SBIR 25.4 Program BAA, including any amendments/revisions/appendices. The Technical Volume shall be structured in the following order:

i. **Introduction;**
ii. **Army Benefits;**
iii. **Feasibility for Direct to Phase II;**
iv. **Technical Approach;**
v. **Programmatic Potential; and**
vi. **Commercial Potential**

Each of the key sections align directly with the evaluation rubric, Direct to Phase II Evaluation Criteria (Appendix B), ensuring clarity in how proposals will be assessed. The following outlines the specific content expectations for each section of the Technical Volume, as guided by the evaluation criteria in Appendix B. Offerors should ensure their proposals clearly address the key elements identified in the rubric to maximize the proposal's competitiveness.

i. **Introduction**: 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.

ii. **Army Benefits**: Briefly describe any identified Army use cases, the solutions' advantages and potential level of impact and scale of impact the solution would have for the Army. If you are unsure how an Army end-user might benefit from this technology or the scale of impact it could have, please provide an analogous use case to allow the Army evaluators a way to connect the dots using their knowledge of potential Army use cases when evaluating this section. The rubric prompts below are provided to guide you in preparing this section:

- **Alignment.** Argue your technology innovation is aligned with this Army topic's priorities as defined in the solicitation.
- **Solution's Advantages.** Prove your prospective customers will choose you given limited resources and myriad choices. Have you accounted for indirect substitute products as well as direct competitors?
- **Solution's Impact.** The Army seeks higher-risk, high-impact solutions through SBIR - not engineering changes or incremental improvements. Use this section to describe your technology's impact and improvement upon the state of the art.

iii. **Feasibility for Direct to Phase II:** Provide documentation that demonstrates the scientific and technical merit, feasibility, and commercialization potential of ideas that would otherwise have been accomplished in a SBIR Phase I feasibility study. Use data to substantiate your claims. Documentation should include all relevant information including, but not limited to: technical reports, test data, prototype designs/models, and performance goals/results. Work submitted within this section must have been substantially performed by the proposer and/or the Principal Investigator. Feasibility documentation cannot be based upon any prior or ongoing federally funded SBIR or STTR work and DP2 proposals MUST NOT logically extend from any prior or ongoing federally funded SBIR or STTR work. The rubric prompts below are provided to guide you in preparing this section:

- **Proof of Feasibility.** Provide documentation to substantiate the scientific and technical merit and feasibility has been met.
- **Work Ownership.** Document the people, organizations, and any intellectual property (IP) ownership responsible for the work products in this section. The work must have been at least "substantially" performed by your organization and/or the proposed principal investigator for this research, and your firm must either own any IP discussed outright or have appropriate and sufficient licenses thereto.
- **New Research.** Prove that the proposed DP2 research is not in any way a logical extension of previous or ongoing federally funded SBIR or STTR research.
- **Prototype Delivery.** Demonstrate that the research will result in appropriately mature Prototype at the conclusion of the DP2 SBIR contract.

iv. **Technical Approach**: Provide details and supporting data on how the proposer is going to solve the problem. It shall detail key elements of the firm's approach, the technical team, and any risks and mitigation plans identified. Use data to substantiate your claims that your technical risk mitigation plans are credible. Show us quality data attributed to reliable, credible sources. The rubric prompts below are provided to guide you in preparing this section:

- **Scientific Feasibility.** Convince readers that your innovation is built atop sound scientific and/or engineering principles. Ensure that your feasibility argument adequately responds to the requirements this Army topic.
- **Enabling Technologies.** Do the required enabling technologies introduce added

risk?

- **Technical Team.** Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences that would relate to this Army SBIR topic.
- **Technical Risk and Mitigation Plans.** Describe any technical risks that still exist between you and a fully mature solution and your plans to mitigate those risks.

v. **Programmatic Potential**: Outline where your company is today, what will be accomplished under this SBIR effort with Army customer discovery and in identifying the risks and mitigation plans for successfully transitioning beyond SBIR funding into a contract with an Army or integration with an Army system. The rubric prompts below are provided to guide you in preparing this section:

- **Project Milestone Schedule.** Outline your execution plan. What milestones do you hope to accomplish, and what deliverables if any do you hope to produce during this phase and subsequent phases of the effort.
- **Army Customer Discovery and Validation.** Argue you are "getting out of the building" to engage in productive customer-discovery with Army stakeholders and describe any customer validation you may have received formally or informally to date on this proposed technology.
- **Army Transition Pathways.** Describe the next type of deal you aim to make with the Army following this award. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award to transition this technology to the Army.

vi. **Commercialization Potential**: Highlight any commercial market for this solution that the DoD can build upon. Describe your past success and future potential in commercial applications. The rubric prompts below are provided to guide you in preparing this section:

- **R&D to Product Revenue.** Argue that your team members have transitioned research and development efforts into products successfully, as evidenced by product revenue. (Product revenue is realized by directly selling a solution to solve a problem vs. selling consulting, services, or research activities.)
- **Competitive Edge.** Why will you win? A small company needs to have a competitive edge in the marketplace: Something your team does very well that is difficult to match. Some examples may include: well protected intellectual property; unmatched relevant experience; a novel business model; network effects; etc.
- **Other People's Money.** Make the case for the commercial market (non-DoD) potential of your technology from which the Army will benefit.

3.10 Expeditionary Technologies (xTech) Prize Competition Selectees

This section applies exclusively to companies selected as winners in Part 2 of the respective Expeditionary Technologies (xTech) Prize Competition. These companies, having successfully pitched their solutions to Army and DoD experts, are the only SBCs eligible to submit Army SBIR proposals under the corresponding topic area.

xTech Prize Competition selectees must follow the Army Phase I Proposal Submission Instructions, with one important exception regarding the Technical Volume (Volume 2). In lieu of submitting a full Technical Volume (Volume 2), xTech selectees shall submit the Non-Proprietary Work Plan, outlined in

Section f. Supporting Documents (Volume 5) of the Army Phase I Proposal Submission Instructions, in place of a Technical Volume. This waives the requirement to include the Non-Proprietary Work Plan in Volume 5 – Supporting Documents. Ensure your Non-Proprietary Work Plan adheres to the guidelines outlined in Section f. Supporting Documents (Volume 5), including the two (2) page limitation.

All remaining proposal volumes, including any applicable and/or optional documents discussed in Section f. Supporting Documentation (Volume 5) must be completed according to the standard Army Phase I Proposal Submission Instructions.

NOTE: The Technical Evaluation (Section 4.1.2) and Selection (Section 4.1.3) guidance defined below do not apply to xTech Prize Competition selectees. Your proposals have already undergone a comprehensive evaluation as part of the xTech competition.

3.11 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.

3.12 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:

a. References:

1. MIL-STD-1168 - Ammunition Lot Numbering and Ammunition Data Cards
2. DODM 5100.76 - Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives (AA&E)
3. AR 190-11 - Physical Security of Arms, Ammunition, and Explosives
4. Defense Transportation Regulation 4500.9-R
5. Technical Bulletin (TB) 700-2

b. The offeror, in its proposal, and resulting contractor, in performance of the work, shall comply with the requirements of the following DFARS provisions/clauses:

1. 252.223-7002, Safety Precautions for Ammunition and Explosives (NOV 2023);
2. 252.223-7003, Change in Place of Performance-Ammunition and Explosives (DEC 1991); and
3. 252.223-7007, Safeguarding Sensitive Conventional Arms, Ammunition, and Explosives (NOV 2023).

c. 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".

d. 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.

e. 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.

f. 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 in proposals involving AA&E may result in the proposal being deemed unresponsive.

1. 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.
2. 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

g. 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.

1. Firm Name
2. Identify if the firm is the prime-contractor or sub-contractor
3. Place of Performance (Street Address, City, State, County, ZIP Code)
4. Unique Entity Identification (UEI) and Cage Code
5. Confirm that address and cage code match the information in SAM.gov ("unknown" is an acceptable response if unable to look up sub-contractors)
6. Full name, phone number, and email address for a point of contact at this location
7. Description of the AA&E and/or work involving AA&E
8. National Stock Number (NSN) of the AA&E (if none exist, indicate "N/A")

9. 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)
10. 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)
11. 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

4.0 METHOD OF SELECTION AND EVALUATION CRITERIA

4.1 Evaluation Process

4.1.1 Initial Screening

Proposals will only be evaluated in response to an active, corresponding Army topic. Proposals will be initially screened to determine responsiveness, timeliness, and SBC eligibility. Assessment of responsiveness and eligibility may continue during technical evaluation, and after selection. For purposes of this solicitation, these terms are defined as:

Responsiveness: When a proposal fails to meet a material requirement of the solicitation, to include compulsory terms and conditions, the proposal shall be deemed unresponsive.

Timeliness: A Timely Proposal is one that is received by the Government on or before the due date and prior to the established set time.

SBC Eligibility: An eligible SBC is a firm that meets all requirements identified in the "Eligibility" section herein.

4.1.2 Technical Evaluation (Not Applicable to xTech Prize Competition Selectees)

Proposals passing the initial screening will receive a technical evaluation using 'Valid Evaluation,' a software as a service analytics tool. Each proposal is assigned a cadre of evaluators (typically engineers, scientists, and/or program managers) who perform a review based on the evaluation criteria defined in the DoD SBIR 25.4 Program BAA, as supplemented by the Army's Phase I and Direct to Phase II Evaluation Criteria, which further define the overall evaluation criteria by breaking it down into sub-dimensions, or elements.

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 merit of each proposal. As a common statement of work does not exist, each proposal is assessed on their own individual merit to determine how well the proposal meets the criteria stated in this BAA and the corresponding opportunity. Proposals will not be evaluated against each other during the evaluation process.

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

4.1.3 Selection (Not Applicable to xTech Prize Competition Selectees)

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|STTR 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 further evaluation and contract negotiation. 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, 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.

4.1.4 Other Assessment Considerations

SBCs will be evaluated for responsibility, meaning the prospective SBC meets the standards set forth in FAR 9.104. A prospective contractor must affirmatively demonstrate its responsibility, including, when necessary, the responsibility of its proposed subcontractors.

In considering an SBC's utilization of foreign national personnel, the Government may withdraw from negotiations based on deleterious findings associated with a firm's Foreign Disclosure (Volume 7) or matters of national security not limited to: persons tied to foreign countries of concern; foreign influence or ownership; inability to clear the firm or personnel for security clearances; risk associated with Military Critical Technologies; or other related issues.

Further, in accordance with FAR 15.402(a), Contracting officers shall purchase supplies and services from responsible sources at fair and reasonable prices. As a result, Contracting Officials will conduct proposal analysis in accordance with the techniques identified at FAR 13.106-3 and/or 15.404-1. Proposals lacking a fair and reasonable price will be deemed unsuccessful.

4.1.5 Potential Contract Award

If at any point the proposal is deemed untimely, unresponsive, or the SBC (or its subcontractors) is deemed ineligible or non-responsible, the proposal will be unsuccessful, meaning the proposal is not one that will result in an award (it is un-awardable). Successful proposals, therefore, are those that have met all stated requirements and qualifications and will receive an award.

Upon an affirmative determination of proposal timeliness, responsiveness, compliance, and price reasonableness, as well as prospective contractor eligibility 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 cancel 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.

4.3 Proposal Status and Feedback

The Army promotes transparency regarding the technical evaluation for all Army SBIR proposals. The Army will provide feedback to offerors in accordance with the DoD SBIR 25.4 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.

4.5 Pre-Award and Post Award BAA Protests

Pre-award agency protests related to the terms of the BAA must be served to the point of contact listed in the DoD SBIR 25.4 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
Mailing Address:
U.S. Army SBIR|STTR Office
2530 Crystal Drive; Suite 11192
Arlington, Virginia 22202

Firms shall follow the DoD SBIR 25.4 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.

5.0 ADDITIONAL CONSIDERATIONS

5.1 Award Information

a. Number of Awards. The number of awards will depend upon funds availability. The Army reserves the right to award none, one, or more than one contract under any topic. No awards will be made until evaluation of all qualified proposals for a specific topic have been made. The Army is not responsible for costs incurred before award receipt.

b. Type of Funding Agreement. The Army 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. Milestone schedules are used as a means to monitor technical progress, to mitigate technical and cost risk, and to address the cashflow needs of awardees. 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).

c. Dollar Value and Period of Performance. Award guideline and associative period of

performance limitations have been established for each SBIR|STTR Topic. **Proposals exceeding these limitations will be deemed unresponsive**.

5.2 Contract Requirements

In addition to the contractual requirements specified in the DoD 25.4 SBIR Program BAA, awards under the Army SBIR|STTR Program are also subject to the following:

5.2.1 Deliverable Requirements

a. Hardware (Prototype) Deliverables (if applicable): 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.

b. Data Deliverables (Contract Data Requirements Lists – CDRLS):
Data can be in the form of test data, computer software, algorithms, design details, progress reports, technical data, financial or management reports, or any information required by contract to be delivered. Data is ordered using single or multiple DD Form 1423, Contract Data Requirements Lists (CDRLS), which will be located in the contract at Section J, Exhibits. A CDRL is the "data delivery" vehicle providing the what, when, who, and how of the delivery. CDRLS require the contractor to formally deliver the data (contractual obligation) to the Government. Each CDRL will reference a Data Item Description (DID) that describes data content, format, media, and intended use of a single data product. Each DID is uniquely numbered to identify the data deliverables in terms of purpose, description, requirements, and preparation instructions. DIDs may be viewed using the Acquisition Streamlining and Standardization Information System (ASSIST).

All funding agreements executed under the Army SBIR|STTR Program shall include the following CDRL requirements:

1. Status Reports: Under the authority of DID number DI-MGMT-80368A, status reports are due at a specified time after contract award and periodically (e.g., Monthly, Bi-monthly, Quarterly) thereafter in accordance with the prepared DD Form 1423 that will be incorporated via Section J, Exhibits of any resultant contracts.

2. Scientific and Technical Report: Under the authority of DID number DI-MISC-80711A, a final report shall be delivered in accordance with the prepared DD Form 1423 that will be incorporated via Section J, Exhibits of any resultant contract (see section 12.9 below for additional information regarding the Final Technical Report).

The Army end-user or customer may require additional deliverables 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.

5.2.2 Meeting Requirements:

a. Start of Work Meeting: The contractor shall hold a start of work meeting at its facility, unless some other location is designated in the contract, within 30 calendar days after contract award. The Start of Work Meeting is 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. The contractor shall coordinate with the Government to arrange a schedule and agenda for the meeting.

b. 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.

5.6 Invention Reporting

In accordance with FAR clause 52.227-11, "Patent Rights-Ownership by the Contractor", and DFARS clause 252.227-7039, "Patents – Reporting of Subject Inventions", the contractor shall execute the following:

a. Interim Report of Inventions and Subcontracts: Under all Phase II SBIR contracts, the contractor shall deliver an Interim Report of Inventions and Subcontracts, DD Form 882,12-months from the date of initial contract award, listing subject inventions during that period and stating that all subject inventions have been disclosed or that there are no such inventions.

b. Final Report of Inventions and Subcontracts: Under all Phase I and Phase II SBIR contracts, the contractor shall deliver a Final Report of Inventions and Subcontracts, DD Form 882, within three (3) months after completion of the contracted work, listing all subject inventions or stating that there were no such inventions.

c. SBIR awardees must report inventions within two months of the inventor's report to the awardee. The reporting of inventions may be accomplished by submitting paper documentation, including fax, or through the Edison Invention Reporting System at www.iedison.gov.

6.0 PROPOSAL SUBMISSION

6.3 Contact Information

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

a. Army Component Specific Proposal Instructions: General questions regarding the administration of the Army SBIR Program, and the Army Component-Specific Proposal Instructions should be submitted as soon as possible, but not later than 15 days prior to solicitation closing, and can be directed to the following:

Email: usarmy.SBIRSTTR@army.mil
Website: https://www.armysbir.army.mil/
Mailing Address: U.S. Army SBIR|STTR Office
2530 Crystal Drive, Suite 11192
Arlington, Virginia 22202

Version 2

Appendix A
Army Phase I Evaluation Criteria

Army SBIR STTR Phase I Evaluation Criteria v4-0

U.S. ARMY SBIR|STTR

		DEFINITION
INTRODUCTION	*weight 3%*	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.
ARMY BENEFITS	ALIGNMENT	Argue your technology innovation is aligned with this Army topic's priorities as defined in the solicitation.
	SOLUTION'S ADVANTAGES	Prove your prospective customers will choose you given limited resources and myriad choices. Have you accounted for indirect substitute products as well as direct competitors?
weight 15%	SOLUTION'S IMPACT	The Army seeks higher-risk, high-impact solutions through SBIR/STTR not engineering changes or incremental improvements. Use this section to describe your technology's impact and improvement upon the state of the art.
TECHNICAL APPROACH	SCIENTIFIC FEASIBILITY	Convince readers that your innovation is built atop sound scientific and/or engineering principles. Ensure that your feasibility argument adequately responds to the requirements this Army topic.
	ENABLING TECHNOLOGIES	Do the required enabling technologies introduce added risk?
	TECHNICAL TEAM	Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences that would relate to this Army SBIR/STTR topic.
	TECHNICAL RISKS AND MITIGATION PLANS	Describe any technical risks that still exist between you and a fully mature solution. What are your plans to mitigate those risks?
weight 35%	DATA QUALITY, TECHNICAL	Use data to substantiate your claims that your Technical Approach (this section of your proposal) is credible. Provide quality data attributed to reliable, credible sources.
PROGRAMMATIC POTENTIAL	PROJECT MILESTONE SCHEDULE	Outline your execution plan. What milestones do you hope to accomplish, and what deliverables (if any) do you hope to produce during this phase and subsequent phases of the effort?
	ARMY CUSTOMER DISCOVERY & VALIDATION	Argue you are "getting out of the building" to engage in productive customer-discovery with Army stakeholders. Describe any customer validation you may have received formally or informally to date on this proposed technology.
weight 20%	ARMY TRANSITION PATHWAY	Describe the next type of deal you aim to make with the Army following this award. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR/STTR award to transition this technology to the Army.
COMMERCIAL POTENTIAL	R&D TO PRODUCT REVENUE	Argue that your team members have transitioned research and development efforts into products successfully, as evidenced by product revenue. (Product revenue is realized by directly selling a solution to solve a problem vs. selling consulting, services or research activities.)
	COMPETITIVE EDGE	Why will you win? A small company needs to have a competitive edge in the marketplace: Something your team does very well that's difficult to match. Some examples include: well protected intellectual property, unmatched relevant expertise, a novel business model, or network effects.
weight 25%	OTHER PEOPLE'S MONEY	Make the case for the commercial market (non-DOD) potential of your technology from which the Army will benefit.
PROPOSAL QUALITY	QUALITY OF PROSE	Provide a clear, well written, and convincing proposal. Avoid jargon and define technical terms.
weight 2%	IMAGES, CHARTS, GRAPHICS	Graphics are encouraged throughout. Ensure they are logical and easy to read. Supporting images should be thoughtful and visually attractive. For plots and charts include: title, axis labels and captions. For technical images include appropriate scales or legends.

Army SBIR STTR Phase I Evaluation Criteria v4-0

U.S. ARMY SBIR|STTR

		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
INTRODUCTION	weight 3%	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.
ARMY BENEFITS	ALIGNMENT	Not aligned with this Army topic's priorities.	Somewhat aligned with this Army topic's priorities.	Aligned with this Army topic's priorities.	Perfectly aligned with this Army topic's priorities.
	SOLUTION'S ADVANTAGES	No evidence of competitive analysis. Undifferentiated product.	Incomplete or too narrow competitive analysis. Weak product differentiation.	Thorough competitive analysis. Strongly differentiated product. Accounted for most substitutes.	Persuasive competitive analysis. Highly differentiated, accounted for all substitutes, provides novel solution.
weight 15%	SOLUTION'S IMPACT	If successful, no improvement vs. the state of the art.	If successful, incremental improvement vs. the state of the art.	If successful, significant improvement vs. the state of the art.	If successful, radical improvement vs. the state of the art.
TECHNICAL APPROACH	SCIENTIFIC FEASIBILITY	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Convincing scientific basis for presented approach.
	ENABLING TECHNOLOGIES	Requires nonexistent or unavailable technology.	Requires emerging, cutting edge technology.	Requires proven technologies.	Requires Army-fielded technologies.
	TECHNICAL TEAM	Technical people lack qualifications OR have no experience.	Technical people are somewhat qualified and have some experience.	Technical people are highly qualified OR have significant experience.	Technical people are highly qualified AND have significant experience.
	TECHNICAL RISKS AND MITIGATION PLANS	Failed to present challenges and risks.	Inadequate risk analysis. Mitigation marginally addressed.	Credible risk analysis. Mitigation effectively addressed.	Highly credible risk analysis. Mitigation convincingly addressed.
weight 35%	DATA QUALITY, TECHNICAL	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.
PROGRAMMATIC POTENTIAL	PROJECT MILESTONE SCHEDULE	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.
	ARMY CUSTOMER DISCOVERY & VALIDATION	No customer interviews completed. No validation.	A handful customer interviews completed. No validation.	Extensive interviews completed. Early validation beginning to inform transition strategy.	Exhaustive interviews completed. Validation informs credible transition strategy.
weight 20%	ARMY TRANSITION PATHWAY	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.
COMMERCIAL POTENTIAL	R&D TO PRODUCT REVENUE	No evidence of creating product revenue from R&D efforts.	Evidence of R&D yielding product revenue at previous company(ies).	Evidence of R&D yielding product revenue at this company.	Evidence of R&D yielding product revenue sufficient to fuel this company's growth.
	COMPETITIVE EDGE	Undifferentiated firm. Fails to argue it has an advantage.	Weakly differentiated firm. Some evidence of an advantage.	Strongly differentiated firm. Credibly argues it has durable advantage.	Highly differentiated firm. Convincingly argues it has durable advantage.
weight 25%	OTHER PEOPLE'S MONEY	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.
PROPOSAL QUALITY	QUALITY OF PROSE	Poorly written. Very difficult to impossible to follow argument. Several spelling or grammar errors.	Moderately written. Sometimes difficult to follow argument. A few spelling / grammar errors.	Effectively written. Convincing, easy to follow argument. No spelling or grammar errors.	Clearly and persuasively written. Compelling arguments. No spelling or grammar errors.
weight 2%	IMAGES, CHARTS, GRAPHICS	Poor visual aids. Often difficult to understand, distracting, or irrelevant.	Inadequate visual aids. Sometimes difficult to understand, distracting, or irrelevant.	Effective visual aids. Support argument in relevant ways, aiding comprehension.	Exceptional visual aids. Greatly enhance delivery and understanding.

Appendix B
Army Direct to Phase II Evaluation Criteria

Army SBIR DP2 Evaluation Criteria

		DEFINITION
INTRODUCTION	weight 2%	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.
ARMY BENEFITS	ALIGNMENT	Argue your technology innovation is aligned with this Army topic's priorities as defined in the solicitation.
	SOLUTION'S ADVANTAGES	Prove your prospective customers will choose you given limited resources and myriad choices. Have you accounted for indirect substitute products as well as direct competitors?
weight 15%	SOLUTION'S IMPACT	The Army seeks higher-risk, high-impact solutions through SBIR/STTR not engineering changes or incremental improvements. Use this section to describe your technology's impact and improvement upon the state of the art.
FEASIBILITY FOR DP2	PROOF OF FEASIBILITY	Provide documentation to substantiate the scientific and technical merit and feasibility has been met.
	WORK OWNERSHIP	Document the people and organizations and any intellectual property (IP) ownership responsible for the work products in this section. The work must have been at least "substantially" performed by your organization and/or the proposed principle investigator for this research, and your firm must either own any IP discussed outright, or has appropriate and sufficient licenses thereto.
	NEW RESEARCH	Prove that the proposed DP2 research is a not in any way a logical extension of previous or ongoing federally funded SBIR or STTR research.
weight 15%	PROTOTYPE DELIVERY	Demonstrate that the research will result in appropriately mature Prototype at the conclusion of the DP2 SBIR contract.
TECHNICAL APPROACH	SCIENTIFIC FEASIBILITY	Convince readers that your innovation is built atop sound scientific and/or engineering principles. Ensure that your feasibility argument adequately responds to the requirements this Army topic.
	ENABLING TECHNOLOGIES	Do the required enabling technologies introduce added risk?
	TECHNICAL TEAM	Briefly list and describe your core scientific and technical team with an emphasis on their past accomplishments and experiences that would relate to this Army SBIR/STTR topic.
	TECHNICAL RISKS AND MITIGATION PLANS	Describe any technical risks that still exist between you and a fully mature solution. What are your plans to mitigate those risks?
weight 25%	DATA QUALITY, TECHNICAL	Use data to substantiate your claims that your Technical Approach (this section of your proposal) is credible. Provide quality data attributed to reliable, credible sources.
PROGRAMMATIC POTENTIAL	PROJECT MILESTONE SCHEDULE	Outline your execution plan. What milestones do you hope to accomplish, and what deliverables (if any) do you hope to produce during this phase and subsequent phases of the effort?
	ARMY CUSTOMER DISCOVERY & VALIDATION	Argue you are "getting out of the building" to engage in productive customer-discovery with Army stakeholders. Describe any customer validation you may have received formally or informally to date on this proposed technology.
weight 20%	ARMY TRANSITION PATHWAY	Describe the next type of deal you aim to make with the Army following this award. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR/STTR award to transition this technology to the Army.
COMMERCIAL POTENTIAL	R&D TO PRODUCT REVENUE	Argue that your team members have transitioned research and development efforts into products successfully, as evidenced by product revenue. (Product revenue is realized by directly selling a solution to solve a problem vs. selling consulting, services or research activities.)
	COMPETITIVE EDGE	Why will you win? A small company needs to have a competitive edge in the marketplace: Something your team does very well that's difficult to match. Some examples include: well protected intellectual property, unmatched relevant expertise, a novel business model, or network effects.
weight 20%	OTHER PEOPLE'S MONEY	Make the case for the commercial market (non-DOD) potential of your technology from which the Army will benefit.
PROPOSAL QUALITY	QUALITY OF PROSE	Provide a clear, well written, and convincing proposal. Avoid jargon and define technical terms.
weight 3%	IMAGES, CHARTS, GRAPHICS	Graphics are encouraged throughout. Ensure they are logical and easy to read. Supporting images should be thoughtful and visually attractive. For plots and charts include: title, axis labels and captions. For technical images include appropriate scales or legends.

Army SBIR DP2 Evaluation Criteria

		UNSATISFACTORY	MARGINAL	SATISFACTORY	SUPERIOR
INTRODUCTION	*weight 2%*	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.
ARMY BENEFITS	ALIGNMENT	Not aligned with this Army topic's priorities.	Somewhat aligned with this Army topic's priorities.	Aligned with this Army topic's priorities.	Perfectly aligned with this Army topic's priorities.
	SOLUTION'S ADVANTAGES	No evidence of competitive analysis. Undifferentiated product.	Incomplete or too narrow competitive analysis. Weak product differentiation.	Thorough competitive analysis. Strongly differentiated product. Accounted for most substitutes.	Persuasive competitive analysis. Highly differentiated, accounted for all substitutes, provides novel solution.
weight 15%	SOLUTION'S IMPACT	If successful, no improvement vs. the state of the art.	If successful, incremental improvement vs. the state of the art.	If successful, significant improvement vs. the state of the art.	If successful, radical improvement vs. the state of the art.
FEASIBILITY FOR DP2	PROOF OF FEASIBILITY	Fails to demonstrate Feasibility of solution.	Partially demonstrates Feasibility of solution.	Successfully demonstrates Feasibility of solution.	Unquestionably demonstrates Feasibility of solution.
	WORK OWNERSHIP	Fails to document prior Feasibility work was substantially completed by the offeror and/or the PI, AND offer's IP rights are unclear.	Partially documents prior Feasibility work was substantially completed by the offeror and/or the PI, AND offeror's rights to any necessary IP.	Sufficiently documents prior Feasibility work was substantially completed by the offeror and/or the PI, AND offeror's rights to any necessary IP.	Persuasively documents prior Feasibility work was substantially completed by the offeror and/or the PI, AND offeror's rights to any necessary IP.
	NEW RESEARCH	This research is likely a logical extension of offeror's prior SBIR / STTR work.	This research might be a logical extension of offeror's prior SBIR / STTR work.	Evidence this research is not a logical extension of offeror's prior SBIR / STTR work.	Compelling evidence this research is not a logical extension of offeror's prior SBIR / STTR work, OR offeror has no prior SBIR / STTR contracts.
weight 15%	PROTOTYPE DELIVERY	Unlikely that an appropriately mature prototype can be delivered.	Flawed argument that an appropriately mature prototype can be delivered.	Credible argument that an appropriately mature prototype can be delivered.	Convincing argument that an appropriately mature prototype can be delivered.
TECHNICAL APPROACH	SCIENTIFIC FEASIBILITY	No scientific basis for presented approach.	Incomplete scientific basis for presented approach.	Credible scientific basis for presented approach.	Convincing scientific basis for presented approach.
	ENABLING TECHNOLOGIES	Requires nonexistent or unavailable technology.	Requires emerging, cutting edge technology.	Requires proven technologies.	Requires Army-fielded technologies.
	TECHNICAL TEAM	Technical people lack qualifications OR have no experience.	Technical people are somewhat qualified and have some experience.	Technical people are highly qualified OR have significant experience.	Technical people are highly qualified AND have significant experience.
	TECHNICAL RISKS AND MITIGATION PLANS	Failed to present challenges and risks.	Inadequate risk analysis. Mitigation marginally addressed.	Credible risk analysis. Mitigation effectively addressed.	Highly credible risk analysis. Mitigation convincingly addressed.
weight 25%	DATA QUALITY, TECHNICAL	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.
PROGRAMMATIC POTENTIAL	PROJECT MILESTONE SCHEDULE	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.
	ARMY CUSTOMER DISCOVERY & VALIDATION	No customer interviews completed. No validation.	A handful customer interviews completed. No validation.	Extensive interviews completed. Early validation beginning to inform transition strategy.	Exhaustive interviews completed. Validation informs credible transition strategy.
weight 20%	ARMY TRANSITION PATHWAY	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.
COMMERCIAL POTENTIAL	R&D TO PRODUCT REVENUE	No evidence of creating product revenue from R&D efforts.	Evidence of R&D yielding product revenue at previous company(ies).	Evidence of R&D yielding product revenue at this company.	Evidence of R&D yielding product revenue sufficient to fuel this company's growth.
	COMPETITIVE EDGE	Undifferentiated firm. Fails to argue it has an advantage.	Weakly differentiated firm. Some evidence of an advantage.	Strongly differentiated firm. Credibly argues it has durable advantage.	Highly differentiated firm. Convincingly argues it has durable advantage.
weight 20%	OTHER PEOPLE'S MONEY	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.
PROPOSAL QUALITY	QUALITY OF PROSE	Poorly written. Very difficult to impossible to follow argument. Several spelling or grammar errors.	Moderately written. Sometimes difficult to follow argument. A few spelling / grammar errors.	Effectively written. Convincing, easy to follow argument. No spelling or grammar errors.	Clearly and persuasively written. Compelling arguments. No spelling or grammar errors.
weight 3%	IMAGES, CHARTS, GRAPHICS	Poor visual aids. Often difficult to understand, distracting, or irrelevant.	Inadequate visual aids. Sometimes difficult to understand, distracting, or irrelevant.	Effective visual aids. Support argument in relevant ways, aiding comprehension.	Exceptional visual aids. Greatly enhance delivery and understanding.

Version 2

Army SBIR 25.4 Topic Index
Release 6

The following dates are only applicable to topics A254-024 and A254-025:

March 5, 2025: Topics Pre-release
March 26, 2025: Topics Open; DoD begins accepting proposals in DSIP
April 9, 2025: DSIP Topic Q&A closes to new questions at 12:00 p.m. ET
April 23, 2025: Topics Close; Deadline for receipt of proposals is 12:00 p.m. ET

A254-024	Context-Aware Decision Support
A254-025	Wearable Sensors to Monitor Environmental and Occupational Impacts to Brain Health

Version 2

A254-024 TITLE: Context-Aware Decision Support

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Trusted AI and Autonomy

OBJECTIVE: Develop innovative capabilities that provide commanders with real-time, context-aware summaries and actionable insights by integrating dynamic data, enabling informed, unbiased decision-making that enhances training effectiveness and mission success.

DESCRIPTION: In today's training and operational environments, commanders are confronted with vast amounts of data from diverse sources, including training schedules, Soldier readiness metrics, intelligence reports, and real-time battlefield information. While critical for decision-making, this influx of information creates a high cognitive load, which can result in delays or biased interpretations, especially in time-sensitive situations. Current decision-support tools utilize advanced algorithms to turn data into actionable insights. However, these tools often add to the information burden, leaving commanders to manually integrate and interpret data, often outside their core expertise. This topic aims to develop innovative solutions that leverage the latest advancements in generative AI (GenAI) to create interoperable, AI-driven capabilities. These capabilities will consolidate, synthesize, and prioritize real-time data to support military planning and tactical decision-making. The proposed solution will offer commanders, and potentially other AI systems, contextual summaries and actionable insights that enhance human decision-making and Soldier performance. It seeks secure, advanced solutions that can access, aggregate, and contextualize data from varied sources, delivering concise, actionable summaries. These summaries will enable commanders—and potentially AI partners—to anticipate threats, adjust plans, and make confident, real-time recommendations. This topic seeks to align with existing Army efforts exploring the latest breakthroughs and capabilities enabled by GenAI, namely, Large Language Models (e.g., COA-GPT, SmartBook).

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

The primary goal of Phase I is to establish the technical and commercial feasibility by delivering a proof-of-concept model that demonstrates real-time integration and summarization of mission-relevant data. Phase I deliverables include:
• Demonstrate ability to consolidate data from key Army data sources, with contextual summaries, and actionable insights meeting or exceeding human commanders.
• Develop a prototype interface capable of displaying synthesized information to commanders

PHASE II: Develop a fully operational prototype, with a focus on enhancing the system's interoperability, AI-driven data processing, and Soldier-centered interface. Phase II deliverables include:
• Real-Time Data Processing: Refine algorithms to access and integrate real-time feeds from wearable sensors, training data, performance analytics, and environmental factors.
• Concise Summarization and Actions: Ensure that the system's summaries and actionable insights directly support commanders at the company level and above.
• Advanced, Scalable Interface: A fully developed user interface and ability to integrate or communicate with external or 3rd-party systems (e.g., COA-GPT, SmartBook).

PHASE III: Develop a scalable, AI-driven system that delivers contextual summaries and actionable insights to support commanders across diverse training environments.
Phase III capabilities include:

- Real-Time Data Aggregation and Contextual Summarization
- Ability to dynamically and securely access and integrate additional data sources
- Interoperability Across Systems and Platforms

- Actionable insights must be based in Amry doctrine.
- A primary focus on enhancing Soldier performance in training and operational contexts
- Automated Data Prioritization Based on Mission Relevance
- User-Friendly Interface with Customizable Views
- Offline Functionality

REFERENCES:
Reddy, R. G., Lee, D., Fung, Y. R., Nguyen, K. D., Zeng, Q., Li, M., Wang, Z., Voss, C., & Ji, H. (2024). SmartBook: AI-Assisted Situation Report Generation for Intelligence Analysts. arXiv. https://arxiv.org/abs/2303.14337.
Goecks, V. G., & Waytowich, N. (2024). COA-GPT: Generative Pre-trained Transformers for Accelerated Course of Action Development in Military Operations. arXiv. https://arxiv.org/abs/2402.01786v1.

KEYWORDS Real-Time Data Synthesis, Context-Aware Summaries, Actionable Insights, Generative AI (GenAI), Military Planning and Decision-Making, Interoperable Capabilities, Soldier Readiness, Soldier Performance and Prioritization, Soldier-Centered Interface :

A254-025 TITLE: Wearable Sensors to Monitor Environmental and Occupational Impacts to Brain Health

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

OBJECTIVE: The goal of this topic is to develop a wearable (integrated into kit or stand-alone applique) that measures 360-degree blast exposure to the wearer. Additionally, it is desired to have a User dashboard for use on a Nett Warrior-enabled end user device which leverages Android, Windows, Linux, and HTML. The data collected from this sensor will need to be transferred off the device and into a data Lakehouse (repository) in a specified format that will allow the data to be distributed to multiple users and who may only want partial data sets.

DESCRIPTION: The blast gauge sensor is intended to be used in a variety of high risk of exposure scenarios where the wearer may be operating weapon systems and or in and around explosives. The environments for these type activities are both in open space (field, range, woods, etc.) as well as close quarters (rooms, buildings, around vehicles, etc.) where multiple reflections from blast waves can occur. This necessitates a sampling rate high enough to catch these multiple waves as well as the ability to read and write data at a high and reliable rate as these events are in the millisecond range of duration. The ability for this sensor to accurately measure and record the exposure (overpressure (psi), acceleration (g's) and or acoustic (dB or Hz) as it relates to the fidelity of lab grade gauges is also sought. The sensor is intended to have a mechanism to locally store data until the data can be transferred wired or wirelessly to a repository for future use or dissemination of the raw data. The sensor should be able to be linked to the wearer by scanning their Common Access Card (CAC) to store the wearer's PKI as a part of any exposure data package. The sensor should be reusable, rechargeable and data retrieval/download should require minimal to no action by the wearer other than to come within proximity of a data collection point or a Nett Warrior type device. A User dashboard will also be developed, that can be an App integrated onto the Nett Warrior end user device, that can quickly inform leaders on concerning exposures in near real time once the blast sensor comes within range of the device. It is envisioned this feedback will be in the form of programmable ranges that will simply indicate a "green", "yellow" or "red" status based on preprogrammed fields in the sensor or user dashboard on board software. The data generated from the blast gage sensor will ultimately be transferred off the sensor to a repository. It is expected the performer will need to work with ongoing database and repository efforts separate from this announcement to ensure operability and integration where needed.

PHASE I: 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.

(DIRECT TO) PHASE II: This topic is accepting Direct to Phase II proposals for a cost up to $1,500,000 for a 12-month period of performance.

Proposer are expected to have already designed and developed some form of blast measuring device that needs to be enhanced under this effort. End goal is to provide a holistic and unified, 360-degree, blast exposure picture for the sensor wearer. Multiple "linked" blast sensors are typically required to accomplish this "picture" and all the sensors will need to be time synced (i.e. GPS time, not location) in order to accurately reflect the exposure event. The culmination of the effort should result in an integrated (into kit if possible or as a stand-alone applique) blast sensor system that is hardened and capable of being tested to MIL-STD-810G conditions and shows very good agreement when compared to lab grade sensors such as pencil gauges. Development of a mature User dashboard on a Nett Warrior end user device that demonstrates green, yellow, red conditions based on programable ranges in the software. Data files that are output in a standard format that will provide at least the following information:

- Wearer's PKI
- Peak Positive and Negative Overpressure (psi)
- Peak Acceleration (g's)
- Impulse
- GPS Date/Time of the event
- Event duration (ms / sec)

PHASE III DUAL USE APPLICATIONS:

- **Mining & Construction Blasts:** Overpressure impacts from blasting in mining and construction.
- **Law Enforcement:** Understanding impact from repetitive live fire training and operations.
- **Impact Sports:** Acceleration data is being used by many high impact sports (football, combat sports, soccer, etc.) for study and prevention of mild TBI (mTBI), TBI, and CTE.
- **Construction Noise:** Acoustic exposure data could improve site safety regarding noise, as construction workers experience higher rates of hearing loss than the general population.
- **Blast Tracing:** In various settings (e.g., industrial, gas, forestry) where explosion risks are present and a large area need to be monitored.
- High impact sports where mild TBI (mTBI) & TBI can occur and data, particularly head acceleration, is needed (football, hockey, soccer, etc.)
- Law Enforcement (weapons fire and breaching operations)
- Mining and demolition activities for exposure tracking, akin to a dosimeter

REFERENCES:

1. https://blastinjuryresearch.health.mil/index.cfm/news_and_highlights/facilitating_collaboration
2. https://www.thelancet.com/journals/laneur/article/PIIS1474-4422(13)70161-3/abstract
3. https://dodiac.dtic.mil/wp-content/uploads/2019/01/DS-SS-GTRI_ISSS-Blast-Sensor.pdf

KEYWORDS: Blast Overpressure (BOP) Sensor; Nett Warrior; Tactical Assault Kit (TAK); Data Repository, Data Lakehouse; TBI; mTBI; Blast gauge; Overpressure; Blast Overpressure

Version 2

xTechPacific Prize Competition Topic

Note: The topic listed below is part of the xTechPacific Prize Competition. See the full xTechPacific competition RFI here: https://www.xtech.army.mil/competition/xtechpacific/.

A254-P026 xTechPacific Open Topic

A254-P026 TITLE: xTechPacific Open Topic

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Trusted AI and Autonomy; Advanced Computing and Software; Integrated Sensing and Cyber; Microelectronics; Integrated Network Systems-of-Systems; Advanced Materials; Human-Machine Interfaces

OBJECTIVE: The U.S. Army Pacific (USARPAC) is interested in finding and developing capabilities that work for the Warfighter by experimenting early, often, and in-theater. USARPAC integrates experimentation to develop and test future capabilities and formations while concentrating on training forward. The Indo-Pacific is the most consequential region in modern history and this region contains the most rugged, distributed, and diverse terrain in the world; from hot, humid rainforests, low-lying coral atolls, to artic plateaus and mountain ranges. USARPAC is interested in cutting-edge technology solutions that will drive significant advances in military capabilities while addressing complex challenges specific to the Indo-Pacific's geographical uniqueness and enabling technologies that could help overcome the tyranny of distance. The capabilities and technologies proposed should be able to operate everywhere from tropics, jungle, archipelagos to extreme cold weather and high-altitude arctic conditions. The xTech competition and experimentation seek technological solutions that address these topic areas but are not limited to:

- **Detection of Buried Explosives and Unexploded Ordnance (UXO) in Complex Soils and Magnetically Complex Environments:** The U.S. Army seeks innovative detection technologies that should be designed for various operational scales, from small, portable, and easy-to-use systems to more advanced solutions that can detect deeply buried explosives/munitions and UXO in high ferrous content and volcanic soils.

- **Advanced Defensive and Deterrent Capabilities for Army and Commercial Watercraft**: The U.S. Army seeks innovative, affordable, non-exquisite solutions to enhance the protection of Army and commercial watercraft against modern threats, including uncrewed surface vessels (USVs) and harassing less than lethal, escalation of force effects and emerging aerial UxS threats. The desired solutions should provide defensive and deterrent capabilities, be modular and scalable, and operate effectively in various maritime environments, with a focus on five key areas: interceptor systems, non-lethal repellent systems, ramming protection systems, anti-floating barrier technologies, and water cannon defense systems.

Electronic Warfare (EW) Domain Awareness and Sensing: The US Army seeks innovative, affordable and widespread EW domain awareness and RF sensing capabilities for operations in the Indo-Pacific region. The solution should provide persistent situational awareness using modular, platform-agnostic sensor payloads that can operate unattended for extended periods or user operated with minimal training and maintenance. The payloads should be designed to integrate seamlessly with existing ground, maritime, and aerial platforms, and function reliably in diverse Indo-Pacific environments, including tropical, high altitude, article, and dense urban areas/megacities.

DESCRIPTION:

Version 2

Topic 1: Detection of Buried Explosives and Unexploded Ordnance (UXO) in Magnetically Complex Environments

Throughout the Indo-Pacific, volcanic islands feature iron-rich soil, which makes magnetic detection of buried metals and unexploded ordnance (UXO) extremely challenging. This environment allows threat actors to conceal munitions, improvised explosive devices (IEDs), and other hazardous materials with relative ease. Additionally, many areas, such as Papua New Guinea and the Philippines, still contain legacy UXO, further complicating detection efforts. To address these challenges, novel detection technologies must be developed that are effective in magnetically complex environments, adaptable to diverse operational conditions, and deployable across multiple platforms. Proposed detection technologies should be designed for various operational scales, from small, portable, and easy-to-use systems requiring minimal maintenance to more advanced solutions that can be integrated with Class 1 or 2 UAV systems. Prototype solutions can initially be developed for ground or aerial use cases but must have the foundational capability to scan large areas in the future, with additional funding and development. Capabilities should emphasize high detection accuracy with low probably of false alarms in environments with iron-rich soils and other geological interferences. The prototype should demonstrate minimal viable product (MVP) capability to detect representative inert munitions/UXO surrogates in relevant environment in Hawaii. Minimum threshold accuracy p(d) and other attributes, p(fa) and requirements can be determined during demonstration, evaluation, and development based on SWAP and technical readiness.

General Requirements:

1. **Detection Performance:**
    - Solutions should detect deeply buried explosives, munitions, and UXO such as; 60-mm and 80-mm high explosive mortars, 75-mm, 105-mm, and 155-mm projectiles, 2.36-inch rocket propelled anti-tank rounds, US MK II hand grenades, Rockets, M1 anti-tank land mines, and WWII era ordnance.
    - Solutions must detect buried explosives and UXO with a minimum detection accuracy of <90% in magnetically complex environments and at a depth of at least >1 feet.
2. **Testing in High-Iron Soils:**
    - Proposed technologies must demonstrate effectiveness in representative volcanic soils. The most extensive soil type in Hawaii are Andisols, derived from volcanic ejecta followed by Histosols, formed on recent lava flows, Oxisols, and Mollisols. Solutions should demonstrate high probability of detection across several types of complex soil examples as seen in Hawaii and other representative soil samples from around the INDO-Pacific containing high iron or iron-like minerals, which can interfere with traditional magnetic-based detection.

3. **Data Processing and Analysis:**
    - Multimodal data fusion solutions are ideal and can enhance the effectiveness of identifying UXOs by integrating inputs from multiple sensors. However, solutions do not necessarily need to include data fusion to be successful.

- AI/ML-based analytics to enhance detection accuracy and reduce false positives would strengthen proposals and improve performance, but their inclusion is not required for a successful solution.

Potential Sensor/Detection Ecosystems and Considerations:

1. **Non-Magnetic Detection Technologies**
   - Example technologies include, but are not limited to, those that leverage alternative properties (e.g., electrical, acoustic, spectroscopic, or seismic) to detect buried objects.
   - Must be able to detect threats in high iron soil with a minimum detection accuracy of >90% at a depth of >1 feet.
2. **Spectroscopic Detection Technologies**
   - The detection range should be standoff range from the target area.
   - Systems should operate effectively in environments with high humidity, high mineral content, and variable lighting conditions.
3. **Acoustic Detection Technologies**
   - Systems should function effectively in varying terrain types (e.g., coastal, jungle, and urban environments).
   - Must be capable of penetrating representative volcanic soil and detecting buried threats at a minimum depth of >1 feet.
   - Must mitigate background noise to maintain a false positive rate.
4. **Chemical Detection Technologies**
   - Must be able to identify explosive residues at trace levels (ppb).

Topic 2: Advanced Defensive and Deterrent Capabilities for Army and Commercial Watercraft

The U.S. Army seeks affordable, non-exquisite, innovative solutions to enhance the protection of Army and commercial watercraft. These solutions should add defensive and deterrent capabilities to increase survivability and help surface vessels counter modern threats, including uncrewed surface vessels (USVs) and harassing less than lethal, escalation of force effects and emerging aerial UxS threats.

The Army is interested in modular and scalable technologies that provide a range of defense options, from non-lethal deterrents to low-cost weapons that neutralize threats. Companies can propose solutions in any of the five key areas listed below—they do not need to combine multiple functions into one system. Proposed solutions should work on a variety of maritime platforms, including Army and commercial long-haul ships (such as Logistic Support Vessels – LSVs), surrogate or commercial maritime surface vessels, and be effective even on unarmored vessels.

Potential Specifications and Key Performance Parameters:

1. **Cost-Effective Interceptor Systems for Hard-Kill or Soft-Kill Defense Against UxS and USVs**

- Able to detect, classify, and potentially engage and neutralize aerial UxS and USVs at a range sufficient to prevent fragmentation damage to the host vessel.
- Low-cost threshold per effect, interceptor, or system kill for target system neutralization.
- Production capacity must support a minimum production rate of 100 effects/interceptors per day.

- Fire-and-forget capability with a COTS seeker.
- Solutions may alternatively employ novel non-kinetic interceptors
- Must sense and track multiple threats simultaneously and prioritize engagements.

2. **Non-Lethal Repellent and Disruption Systems for Vessel Protection**

- Non-lethal deterrent systems must be effective at a minimum standoff range of at least 50 feet.
- Potential non-lethal solutions may include microwave or acoustic deterrence devices, prop fouling systems, engine disruption technologies, and autonomous-targeting water cannons.
- Non-lethal materials for degrading enemy vessel performance and mobility must be safe for operators and environmentally compliant.

3. **Ramming Protection Systems**

- Physical countermeasures must minimize damage to friendly vessels while maximizing damage to aggressor vessels.
- Must be applique-based and not require extensive vessel modifications or significant weight increase.
- Solutions may include inflatable airbag systems for impact absorption and damage mitigation.

4. **Anti-Floating Barrier Technologies**

- Must prevent propeller fouling and entanglement from floating barriers while maintaining normal propulsion performance.
- Stopping to clear entanglements or slowing on contact is acceptable, but the system must not require diver deployment.

5. **Water Cannon Defense Systems**

- Must protect the vessel (like a shield) or degrade hostile water cannon performance by at least 50% to prevent personnel/human harm
- Countermeasures may include technologies to obstruct or redirect high-pressure water streams and protect critical vessel components and personnel.
- Solutions may include systems to block water cannon intakes or deflective shields.

6. **General Key Performance Parameters:**

- All systems must function effectively in day and night conditions.
- Must maintain operational performance in at least Sea State 4 conditions.
- Systems must be modular, scalable, and capable of integration across at least three classes of Army and commercial watercraft.

Topic 3: Electronic Warfare (EW) Domain Awareness and Sensing

The United States Army seeks low-cost and ubiquitous Electronic Warfare (EW) domain awareness and sensing capabilities for multi-domain operations against peer and near-peer threats in the Indo-Pacific

Area of Responsibility (AOR). These capabilities should provide persistent situational awareness, leveraging attritable and modular/platform-agnostic sensor payloads for terrestrial sensing. The sensors should operate unattended with extended power life or soldier carried, ensuring reliable functionality in austere environments with minimal sustainment support. Additionally, the solution must seamlessly integrate with existing ground, maritime, and aerial platforms using standardized interfaces and open architectures while being robust enough to function across the Indo-Pacific's diverse operational landscapes, including desert, tropical, and megacity environments. The proposed solutions should focus on developing modular, platform-agnostic sensor payloads designed for seamless integration with various military platforms. These payloads should feature long-duration, unattended operation capabilities, leveraging advanced battery technologies, energy harvesting, and low-power electronics to extend operational life. Solutions must be designed to be compatible with existing interface standards and open architecture(s) across multiple domains.
Minimum threshold accuracy and other attributes and requirements can be determined during demonstration, evaluation, and development based on SWAP and technical readiness.

Key Requirements

1. **Modular and Attritable Sensor Payloads**: Design modular, platform-agnostic payloads that can be easily integrated with various ground, maritime, and aerial platforms.
2. **Unattended and Low-Power Operation:** Develop payloads that can operate unattended with long battery life, using energy harvesting, low-power electronics, and advanced battery technologies.
3. **Platform-Agnostic Interfaces:** Ensure payloads can communicate with various platforms using standardized interfaces, open architecture, and software-defined interfaces. Ability for software ecosystem to integrate with Android Team Awareness Kit (ATAK)
4. **Environmental Hardening**: Design payloads to operate in diverse environments, including desert, tropical, and megacity areas, with ruggedized designs, weatherproofing, and thermal management.
5. **Autonomous Operation and Edge Computing**: Enable autonomous operation using artificial intelligence (AI), machine learning (ML), and edge computing, with local data storage and processing to minimize latency and dependence on cloud connectivity**.**
6. **Multi-Function and Multi-Band Capabilities:** Develop payloads with multi-band antennas, multi-function capabilities, and frequency-agile designs to provide comprehensive EW domain awareness.
7. **Cybersecurity and Information Assurance:** Ensure payload security and integrity using encryption, secure communication protocols, intrusion detection and prevention systems.

Technology Areas and Components Include but not limited to:

To address these requirements, the following technology areas may be relevant:

1. **Software-Defined Radios (SDRs):** Modular, reconfigurable radios for flexible payload design, supporting multi-band and frequency-agile operations.
2. **Cognitive RF Sensing and Adaptive Filtering:** AI-driven RF signal analysis to detect, classify, and mitigate interference in congested or contested electromagnetic environments.
3. **Advanced Passive RF Sensing Technologies:** Leveraging low-power, passive RF detection techniques to monitor electromagnetic activity without emitting detectable signals.
4. **AI-Enhanced Signal Processing:** Using machine learning algorithms to improve the identification and classification of electromagnetic signals in real-time.

5. **Low-SWaP (Size, Weight, and Power) Sensor Technologies:** Miniaturized sensor components that maintain high-performance capabilities while reducing the burden on host platforms.
6. **NDA compliant extremely low cost sensor technologies.**
7. **Energy Harvesting and Advanced Power Management:** Technologies that extend operational endurance through energy harvesting, smart power management, and low-power design principles.
8. **Distributed and Collaborative Sensor Networks**: Swarm-based, networked sensing architectures that share and process EW data across multiple platforms for enhanced situational awareness.
9. **Secure and Resilient Communications:** Advanced encryption techniques, frequency hopping, and anti-jamming capabilities to ensure robust and secure data transmission.
10. **Miniaturized Multiband Antennas**: Compact, frequency-agile antenna solutions designed for multi-domain operations with enhanced directionality and efficiency.
11. **Hyperspectral and Multispectral RF Sensing:** Leveraging advanced spectral analysis techniques to detect and classify electromagnetic emissions with greater precision.

PHASE I: This topic is for Direct to Phase II (DP2) submission. Department of the Army will accept Direct to Phase II proposals for the cost of up to $2,000,000 for an 18-month period of performance.

In order for proposers to submit a DP2 proposal, they must provide the justification documentation to substantiate that the scientific and technical merit and feasibility described above has been met and describes the potential military and/or commercial applications. Documentation should include all relevant information including, but not limited to: technical reports, test data, prototype designs/models, and performance goals/results.

(DIRECT TO) PHASE II: Produce prototype solutions that will be easy to operate by a Soldier. These products will be provided to select Army units for further evaluation by the soldiers. In addition, companies will provide a technology transition and commercialization plan for DOD and commercial markets.

PHASE III DUAL USE APPLICATIONS: Complete the maturation of the company's technology developed in Phase II to TRL 6/7 and produce prototypes to support further development and commercialization. The Army will evaluate each product in a realistic field environment and provide small solutions to stakeholders for further evaluation. Based on soldier evaluations in the field, companies will be requested to update the previously delivered prototypes to meet final design configuration.

REFERENCES: https://www.xtech.army.mil/competitions/

KEYWORDS: xTech; Special Forces Command; ATAK; GPS; Autonomy; Counter UxS; PSYOP; Air Delivery Vehicle; Radio; PLI; SFC; Radio Frequency; Electronic Warfare; Sensors; AI/ML; Signal Detection; Systems