

UNITED STATES SPECIAL OPERATIONS COMMAND
22.4 Small Business Innovation Research (SBIR)
Phase I Proposal Submission Instructions

August 11, 2022: Topics issued for pre-release

September 1, 2022: USSOCOM begins accepting proposals via DSIP

September 22, 2022: DSIP Topic Q&A closes to new questions at 12:00 p.m. ET

September 29, 2022: Deadline for receipt of proposals no later than 12:00 p.m. ET

Join us for a virtual Q&A with our Technical Point of Contact

August 23, 2022 from 10:00-1:30 ET

<https://events.sofwerx.org/sbir224r2/>

INTRODUCTION

The United States Special Operations Command (USSOCOM) seeks small businesses with strong research and development capabilities to pursue and commercialize technologies needed by Special Operations Forces through the Department of Defense (DoD) SBIR 22.4 Program Broad Agency Announcement (BAA).

USSOCOM seeks small businesses with strong research and development capabilities to pursue and commercialize technologies needed by Special Operations Forces (SOF) through the Department of Defense (DoD) SBIR 22.4 Program Broad Agency Announcement (BAA).

Offerors responding to a topic in this BAA must follow all general instructions provided in the DoD SBIR Program BAA and USSOCOM requirements provided in the instructions below. A thorough reading of the “Department of Defense Small Business Innovation Research (SBIR) Program, SBIR 22.4 Program Broad Agency Announcement (BAA)”, located at <https://www.defensesbirsttr.mil/> prior to reading these USSOCOM instructions is strongly recommended. The offeror is responsible for ensuring that their proposal complies with all the requirements in the most current version of these instructions and all required documents are uploaded. The website only monitors the progress of the application process, not the completion of the proposal. Prior to submitting your proposal, please review the latest version of these instructions as they are subject to change before the submission deadline.

The USSOCOM SBIR/STTR Program Office will be hosting a virtual USSOCOM Industry Day on August 23, 2022 to further specify requirements and stimulate small business/research institute partnership-building. Please visit <https://events.sofwerx.org/sbir224r2/> for additional information and to sign up.

PHASE I PROPOSAL GUIDELINES

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

Proposal Volumes are key in the qualification of the proposal. Offerors shall complete each of the following volumes. Those volume are (1) Cover Sheet, (2) Technical Volume, (3) Cost Volume, (4) Company Commercialization Report, (5) Pitch Day Presentation, and (6) Fraud, Waste and Abuse Training.

Please Note:

1. It is the offeror's responsibility to make sure all DoD and USSOCOM instructions are followed, and proper documentations are submitted. The DSIP (DoD's SBIR/STTR proposal submission website) will NOT be able to ensure your submission is in accordance with both DoD and USSOCOM instructions. The DSIP "100% submitted" means that the upload process is complete; It does NOT mean the proposal submission is in compliance with the stated instructions and that all required documentation is successfully uploaded.
2. USSOCOM doesn't assist offerors with proposal preparation or review of proposals for completeness. We recommend you use your local and state resources for assistance. (See DoD Instructions for resources information.)
3. We have encountered issues while downloading proposals document titles, due to lengthy file names. **The contractor shall not use more than 20 characters to include spaces (spaces count as 3 characters) in any of the proposal documents titles.**

Cover Page (Volume 1) is created as part of the DoD Proposal Submissions process.

Technical Volume (Volume 2)

The technical volume is not to exceed 5 pages and must follow the formatting requirements provided in the DoD SBIR Program BAA. Format of Technical Volume (Volume 2). If the Technical Volume exceeds five pages, USSOCOM will only evaluate the first five pages of the Technical Volume. Additional pages will not be considered or evaluated.

Content of the Technical Volume

Required items are specified in the DoD SBIR Program BAA Phase I Technical Volume (Volume 2) located/accessed at <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities#announcements> under Current Funding Opportunities.

The identification of foreign national involvement in a USSOCOM SBIR topic is needed to determine if a firm is ineligible for award on a USSOCOM topic that falls within the parameters of the United States Munitions List, Part 121 in the International Traffic in Arms Regulation (ITAR). A firm employing a foreign national(s) (as defined section titled "Foreign Nationals" of the DoD SBIR Program BAA) to work on a USSOCOM ITAR topic must possess an export license to receive a SBIR Phase I contract.

Cost Volume (Volume 3)

The Phase I Base amount must not exceed \$150,000.00. Costs must be identified on the Proposal Cover Sheet (Volume 1) and in Volume 3. Once the proposal is initiated you will have access to the required USSOCOM specific Cost Volume instructions and template.

A minimum of two-thirds of the research and/or analytical work in Phase I must be conducted by the proposing firm. The percentage of work is measured by both direct and indirect costs as a percentage of the total contract cost.

Company Commercialization Report (CCR) (Volume 4)

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

Supporting Documents (Volume 5)

In addition to the documentation outlined in the DoD SBIR Program BAA, the following USSOCOM documents must also be included with Volume 5: (1) PowerPoint presentation, (2) Section K, and (3) Resumes.

- (1) PowerPoint Presentation: Potential Offerors shall submit a slide deck **not to exceed 15 PowerPoint slides (inclusive of the cover sheet)**. The presentation shall not have any videos or links to videos. There is no set format for this document. It is recommended (but not required) that more detailed information is included in the technical volume and higher-level information is included in the slide deck suitable for a possible presentation. Refer to the “Phase I Evaluations” Section of this instruction for more details.
- (2) Section K - Titled “Representations, Certifications, and other statements of Offerors”: If Section K is not submitted with the proposal, the proposal will still be considered responsive, but the completed Section K shall be required at the time of award.
- (3) Resumes: Include resumes as required.

Fraud, Waste and Abuse Training (Volume 6)

Fraud, Waste and Abuse (FWA) training is required for Phase I proposals. Please refer to the DoD SBIR Program BAA instructions for full details.

DISCRETIONARY TECHNICAL AND BUSINESS ASSISTANCE (TABA)

USSOCOM does not provide Discretionary Technical and Business Assistance for Phase I awards.

INQUIRIES

USSOCOM does not allow direct communication with the topic authors (differs from the DoD SBIR Program BAA instructions).

During the Pre-release and Open Periods of the DoD SBIR Program BAA, all, and only technical questions, that enhance the offeror’s understanding of the topics requirements, must be submitted to the online **Defense SBIR/STTR Innovation Portal (DSIP) Topic Q&A**. All questions and answers submitted to DSIP Topic Q&A will be released to the general public.

Only questions pertaining to the proposal preparation instructions should be directed to: sbir@socom.mil. All inquiries must include the topic number in the subject line of the e-mail. **Consistent with DoD SBIR instructions, USSOCOM will not answer programmatic questions, such as who the technical point of contact is, the number of contracts to be awarded, the source of funding, transition strategy.**

Physical site visits will not be permitted during the Pre-release and Open Periods of the DoD SBIR Program BAA.

EVALUATION AND SELECTION

All proposals will be evaluated in accordance with the evaluation criteria listed in the DoD SBIR Program BAA, with the following exceptions:

1. Proposals missing any of the six above stated volumes or those that do not comply with the requirement of two-thirds of the work conducted by the proposing firm will not be evaluated.

Likewise, proposals that exceed the maximum price allowed as per Table 1 of these instructions will be considered non-responsive.

2. The technical evaluation will utilize the Evaluation Criteria provided in DoD SBIR Program BAA instructions. Refer to the "Phase I Evaluations" Section of this instruction for more details. The Technical Volume and slide deck will be reviewed holistically. The technical evaluation is performed in two parts:

Part I: The evaluation of the Technical Volume will utilize the Evaluation Criteria provided in the DoD SBIR Program BAA. Once the evaluations are complete, all Offerors will be notified in a timely manner.

Selected Offerors **may** receive an invitation to present their slide deck (30 minute presentation time/ 30 minute Government question and answer period) to the USSOCOM technical evaluation team, using virtual teleconference. This will be a technical presentation of the proposed solution ONLY. The key personnel listed in the proposal should represent the presentation and responding to the questions of the evaluation team. This presentation is NOT intended for business development personnel, it is purely technical. Selected Offerors shall restrict their Pitch Day presentations to the 15-page PowerPoint presentations ONLY that were submitted with their respective proposals. There will be no changes or updates to the presentations from what was proposed. All selected firms will be required to provide teleconference information for the presentation. This presentation will complete the evaluation of the proposal against the criteria listed in the DoD SBIR Program BAA. Notifications of selection/non-selection for Phase I award will be completed within a timely manner.

Part II: The Cost Volume award amount is set at a not to exceed (NTE) amount and a technical evaluation of the proposal cost will be completed to assess price fair and reasonableness. Proposals above the established NTE for the Phase I effort will not be considered for award. The team will assess the technical approach presented for the effort based on the number of labor hours by labor categories, the key personnel level of involvement, materials, subcontractors and consultants (scope of work, expertise, participation and proposed effort), and other direct costs as proposed.

Additionally, input on technical aspects of the proposals may be solicited by USSOCOM from non-Government consultants and advisors who are bound by appropriate non-disclosure requirements. When appropriate, non-government advisors may have access to Offeror's proposals and may be utilized to objectively review a proposal in a particular functional area and provide comments and recommendations to the Government's decision makers. They may not establish final assessments of risk, rate or rank Offerors' proposals. All advisors shall comply with procurement Integrity Laws and shall sign Non-Disclosure and Rules of Conduct/ Conflict of Interest statements. The Government shall take into consideration requirements for avoiding conflicts of interest. Submission of a proposal in response to this request constitutes approval to release the proposal to Government support contractors.

Proposing firms will be notified of selection or non-selection status for a Phase I award within 90 calendar days of the closing date of the BAA by the USSOCOM Contracting Office. This notification will come by e-mail to the Corporate Official identified by the Offeror during proposal submission. The Government will also notify the Offerors if their proposal is considered non-responsive (disqualified).

A non-selected Offeror can make a written request to the Contracting Officer, within 30 calendar days of receipt of notification of non-selection, for informal feedback. The Contracting Officer will provide informal feedback after receipt of an Offeror’s written request rather than a debriefing as specified in the DoD SBIR Program BAA instructions.

Refer to the DoD SBIR Program BAA for procedures to protest the Announcement.

As further prescribed in FAR 33.106(b), FAR 52.233-3, Protests after Award should be submitted to: sbir@socom.mil.

AWARD AND CONTRACT INFORMATION

Table 1: Consolidated SBIR Topic Information

Topic	Technical Volume (Vol 2)	Additional Info. (Vol 5)	Period of Performance	Award Amount	Contract Type
<i>Phase I</i> SOCOM224-007	Not to exceed 5 pages	15 page PowerPoint	Not to exceed 6 months	NTE \$150,000.00	Firm-Fixed- Price

The Government will conduct evaluations and selections for award(s). Award(s) will be made by USSOCOM SBIR Contracting Office.

ADDITIONAL INFORMATION

Phase I proposals shall NOT include:

- 1) Any travel for Government meetings. All meetings with the Government will be conducted via electronic media.
- 2) Government furnished property or equipment.
- 3) Priced or Unpriced Options.
- 4) “Basic Research” (or “Fundamental Research”) defined as a “Systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and/or observable facts without specific applications toward processes or products in mind.”
- 5) Human or animal studies.
- 6) Discretionary Technical and Business Assistance

SOCOM SBIR 22.4 Topic Index
Release 2

SOCOM224-007 TITLE: Topological Anomaly Detection

SOCOM224-007 TITLE: Topological Anomaly Detection

OUUSD (R&E) MODERNIZATION PRIORITY: Artificial Intelligence/ Machine Learning

TECHNOLOGY AREA(S): Information Systems

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730-774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the statement of work (SOW) tasks intended for accomplishment by the FN(s) in accordance with the Announcement. Offerors are advised foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws.

OBJECTIVE: The objective of this topic is to develop applied research toward an innovative capability to apply Artificial Intelligence/Machine Learning (AI/ML) to discover unknown networks and identify activities' anomalies in financial data.

DESCRIPTION: As a part of this feasibility study, the proposers shall address all viable overall system design options with respective specifications on the key system attributes to identify suspicious financial transactions and other types of personas by deploying a Topological Anomaly Detection algorithm applied to two types of entities: Personas, which represents individuals or organizations, and Transactions, which are any exchange of resources between Personas.

PHASE I: Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled "Objective" and "Description."

The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study ("Technology Readiness Level 3") to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.

PHASE II: Develop, install, and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study on a capability to apply AI/ML to discover unknown networks and identify anomalies in investment activities based on available financial information by applying Topological Anomaly Detection algorithms.

PHASE III DUAL USE APPLICATIONS: This system could be used in a broad range of military applications where structured financial information can be utilized to discern any ownership or control.

REFERENCES:

1. Aktas, M.E., Akbas, E. & Fatmaoui, A.E. Persistence homology of networks: methods and applications. Appl Netw Sci 4, 61 (2019). <https://doi.org/10.1007/s41109-019-0179-3>;
2. V. Bahel, S. Pillai and M. Malhotra, "A Comparative Study on Various Binary Classification Algorithms and their Improved Variant for Optimal Performance," 2020 IEEE Region 10 Symposium (TENSYP), 2020, pp. 495-498, <https://doi.org/10.1109/TENSYP50017.2020.9230877>

KEYWORDS: Topological Anomaly Detection; Persona; Finance; Financial Intelligence; Artificial Intelligence

TPOC-1: SOCOM SBIR
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