DEPARTMENT OF THE ARMY
DoD 24.4 Small Business Innovation Research (SBIR) Annual BAA
Proposal Submission Instructions
Release 4

November 30, 2023: Topic issued for pre-release
December 21, 2023: Army begins accepting proposals via DSIP
January 3, 2024: DSIP Topic Q&A closes to new questions at 12:00 p.m. EST
January 17, 2024: Deadline for receipt of proposals no later than 12:00 p.m. EST

INTRODUCTION

Where big ideas come to life. The Army SBIR and STTR programs align innovative small businesses with critical U.S. Army priorities to turn over game-changing solutions to our most critical customer – the Soldier.

Proposers responding to a topic in this BAA must follow all general instructions provided in the Department of Defense (DoD) SBIR 24.4 Program BAA. Army requirements in addition to or deviating from the DoD Program BAA are provided in the instructions below.

Proposers are encouraged to thoroughly review the DoD Program BAA and register for the DSIP Listserv to remain apprised of important programmatic and contractual changes.

- The DoD Program BAA is located at: https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/#announcements. Be sure to select the tab for the appropriate BAA cycle.
- Register for the DSIP Listserv at: https://www.dodsbirsttr.mil/submissions/login.

Specific questions pertaining to the administration of the Army SBIR Program and these proposal preparation instructions should be directed to: Dr. Jennifer Rego at jennifer.m.rego.civ@army.mil.

From **November 30, 2023 to December 21, 2023**, this topic is issued for pre-release with the names of the topic authors. During the pre-release period, proposing firms have an opportunity to contact topic authors through https://calendly.com/jennifer-rego-aal/terrain-shaping to schedule a time to ask technical questions about the topic. Questions should be limited to specific information related to improving the understanding of the topic's requirements. Proposing firms may not ask for advice or guidance on solution approach and you may not submit additional material to the topic author. If information provided during an exchange with the topic author is deemed necessary for proposal preparation, that information will be made available to all parties through the DSIP Topic Q&A module.

Once the Army begins accepting proposals on **December 21, 2023**, no further direct contact between proposers and topic authors is allowed unless the Topic Author is responding to a question submitted during the pre-release period. However, proposers may submit written questions through the DSIP Topic Q&A module at https://www.dodsbirsttr.mil/submissions/login. The DSIP Topic Q&A for this topic opens on **November 30, 2023**, and closes to new questions on **January 3, 2024 at 12:00 p.m. EST**. Once the BAA closes to proposal submissions, no communication of any kind with the topic author or through Topic Q&A regarding your submitted proposal is allowed.

Deadline for Receipt: Proposals must be **completely** submitted no later than **12:00 p.m. EST** on **January 17, 2024**. Proposals submitted after 12:00p.m. EST will not be evaluated. The final proposal submission includes successful completion of all firm level forms, all required volumes, and electronic corporate official certification.

PHASE I PROPOSAL GUIDELINES

The Defense SBIR/STTR Innovation Portal (DSIP) is the official portal for DoD SBIR/STTR proposal submission. Proposers 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.

Technical Volume (Volume 2)

The technical volume is not to exceed 10 pages and must follow the formatting requirements provided in the DoD SBIR Program BAA.

Content of the Technical Volume

Detailed Phase I proposal instructions can be found at: http://aal.army/assets/files/pdf/sbir-phase-1-template.pdf.

Cost Volume (Volume 3)

The Phase I Base amount must not exceed $200,000 for a 3-month period of performance (PoP) and the Phase I Option amount must not exceed $50,000 for a 2-month extension. Costs for the Base and Option must be separated and clearly identified on the Proposal Cover Sheet (Volume 1) and in Volume 3.

Please review the updated Percentage of Work (POW) calculation details included in the DoD Program BAA. The Army will not accept any deviation to the POW requirements.

Company Commercialization Report (CCR) (Volume 4)

Completion of the CCR as 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 during proposal evaluations.

Supporting Documents (Volume 5)

All proposing small business concerns are REQUIRED to submit the following documents to Volume 5:

1. Contractor Certification Regarding Provision of Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment
2. Disclosures of Foreign Affiliations or Relationships to Foreign Countries
3. Disclosure of Funding Sources

Please refer to the DoD Program BAA for more information.

Proposers can submit an optional slide deck of 10 slides in Volume 5: Supporting Documents. The slide deck can contain information on the technical approach, the team, commercialization plans, or relevant technology/research the proposers have developed, and it should contain additional/complementary information to the technical volume. If a proposer elects to submit a slide deck, its information will be used in the evaluation process. A sample slide deck template is located here: http://aal.army/assets/files/pdf/sbir-optional-slide-template.pdf.

PHASE II PROPOSAL GUIDELINES

Only Phase I awardees may submit Phase II proposals. Phase II proposal submission window, notification process, expected budget/duration structure and additional instructions will be provided in the Phase I contract or by subsequent notification.

DISCRETIONARY TECHNICAL AND BUSINESS ASSISTANCE (TABA)

Discretionary Technical and Business Assistance (TABA) will not be offered for this Army topic.

EVALUATION AND SELECTION

All proposals will be evaluated in accordance with the evaluation criteria listed in the DoD SBIR Program BAA. The Army will conduct an evaluation of each responsive, timely, eligible proposal in accordance with the evaluation criteria listed in the DoD Program BAA. 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.

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

Using the evaluation criteria, the Government will evaluate each responsive, timely, eligible proposal in its entirety, documenting the strengths and weaknesses relative to each evaluation criterion: technical merit, commercialization, and team. Proposals will not be evaluated against each other during the evaluation process, but rather evaluated on their own individual merit to determine how well the proposal meets the criteria stated in this BAA and this corresponding opportunity.

Selected proposals are those determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the DoD Program BAA, the component-specific instructions herein, the corresponding topic posting, and availability of funding.

Proposing firms will be notified of selection or non-selection status for a Phase I award within 90 days of the closing date of the topic. The notification will be sent to the Corporate Official listed on the proposal cover sheet from the Army SBIR Program Office mailbox. The Army promotes transparency regarding the technical evaluation for all Army SBIR proposals. The Army will provide a technical evaluation narrative to the proposer in accordance with the SBA Policy Directive, Appendix I, paragraph 4. The selection decision notice contains instructions for retrieving the technical evaluation narrative.

Proposers must not regard the notification email (selection decision notice) as an authorization to commit or expend funds. After the Army SBIR Office has recommended a proposal for award, a Government Contracting Officer may contact the proposer to discuss and request additional information required for award. This may include representations and certifications, certified or other than certified cost data, subcontracting plan for small businesses, and/or other information as applicable to the proposed award. Proposers must not regard these communications as an authorization to commit or expend funds. Unless a Government Contracting Officer signs the award document (i.e. contract), no obligations to provide funding are made. The Government may reject the proposal or cancel the contract action at any time.

If signed by the Government Contracting Officer, the award document is the official and authorizing instrument (i.e. contract). The anticipated period of performance start date will be determined at time of award. The Contracting Officer will email the signed, authorizing award instrument to the principal investigator (PI) and/or an authorized organization representative.

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: Mr. Christopher Justice, christopher.d.justice4.civ@army.mil.

AWARD AND CONTRACT INFORMATION

Please refer to the DoD Program BAA for detailed information regarding SBIR/STTR phase structure and flexibility.

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A244-003 TITLE: Deep Terrain Shaping

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Trusted AI and Autonomy; Integrated Sensing and Cyber; Human Machine Interfaces; Directed Energy

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: Develop and demonstrate solutions or components of solutions for terrain shaping to delay, deter, and deny enemy forces freedom of movement 70–150km+ beyond the forward line of troops (FLOT).

DESCRIPTION: The Army uses "terrain shaping" to impede enemy movement or operations. Terrain-shaping operations also help the mobility and survivability of friendly forces. Currently, the Army uses cannon-fired or air-dropped anti-tank mines to shape the deep maneuver area of the battlefield, which is 70km+ beyond the FLOT. The systems the Army currently uses to conduct terrain-shaping operations, while still broadly effective, are aging and resource intensive to emplace. Additionally, while current US anti-personnel landmine policy does not prevent the use of cannon-fired or air-dropped anti-tank mines, the policy does restrict to the Korean peninsula the use of current systems using anti-personnel mines. This restriction prevents current systems from being a world-wide solution for terrain shaping.

The Army is seeking deep terrain shaping obstacles (DTSO) that will delay, deter, and deny enemy forces 70–150km+ beyond the FLOT. DTSO solutions should delay operational maneuver through restricting terrain to defeat/destroy or to gain space/time, deny use of or access to key terrain/facilities, and deter operational movement of enemy forces. Technology solutions that contribute to one or more DTSO tasks are of particular interest. Solutions that will be considered, but not limited to, are the following:

- Uncrewed systems capable of forming obstacles to shape existing terrain, affecting the adversary's ability to maneuver
- Uncrewed systems that can position multiple explosive loitering munitions
- Uncrewed systems that can position themselves in the deep battlespace and activate when a threat is identified
- Lethal or non-lethal effectors initiated from behind the front line to impact enemy maneuver in the deep fight (70–150km+)
- Integration of remote sensing and lethal effectors at machine speed with human-in-the-loop to approve lethal action

Solutions should allow Soldiers to conduct terrain-shaping operations 70km+ beyond the FLOT. This may include technology solutions that can be employed by air or ground uncrewed systems or launched from a safe distance. If the solution includes a lethal munition it must be able to classify an/or discriminate between types of targets.

The Army desires flexibility in future terrain shaping methods. Solutions should incorporate the ability to be controlled (activated/deactivated) from behind the frontline. However, solutions with the potential to

be controlled from behind the frontline will be considered. Ideally, solutions should be scalable for use depending on the desired effect on enemy maneuver (disrupt, turn, fix, or block).

PHASE I: Design a proof-of-concept solution or component(s) of a solution for terrain shaping in the deep fight (70–150km+). Solutions may include uncrewed systems to impact enemy maneuver in the deep battlespace, integrating remote sensing and lethal effects with human-in-the-loop, or other components that facilitate successful terrain shaping in the deep fight. Proposals will be evaluated based on the contributions they can provide to the overall terrain shaping effort and the likelihood of the technology providing an effective solution. The objective of Phase I is to establish the technical merit, feasibility, and commercial potential of the proposed effort, and to determine the quality of performance of the awarded companies prior to providing further support in Phase II. The final deliverable will be a concept design presentation, optional proof of technology demonstration, and plans for follow-on Phase II work.

Companies selected for a Phase I award may voluntarily participate in the Army Applications Laboratory (AAL) 12-week cohort program. The AAL cohort program is designed to solve specific Army modernization challenges on a compressed timeline. The cohort program matches qualified companies with Army problem owners to speed capability development, accelerate transition, and de-risk or inform requirements. This program is designed for businesses that have unique, applicable technology and are interested in growing a new line of business through the DoD.

The cohort program will enhance technology development through rapid exposure to Army stakeholders and the Army maneuver support community. Planned activities include a problem topic deep dive, in-person exposure to current breaching techniques, and stakeholder engagement with requirements writers, acquisitions managers, and end users. An example cohort program for this topic is:

Week 1 (11 Mar 2024)	Orientation and problem deep-dive (in-person: Ft. Liberty, NC)
Week 2 (18 Mar 2024)	Concept research and planning
Week 3 (25 Mar 2024)	Concept confirmation brief (virtual)
Week 4-6 (1 Apr 2024)	Concept research and planning
Week 7 (22 Apr 2024)	Mid-point concept refinement brief (in-person: Ft. Leonard Wood, MO)
Week 8-11 (29 Apr 2024)	Concept design refinement
Week 12 (27 May 2024)	Final concept design brief (in-person: Ft. Leonard Wood, MO)

Cohort programming will be provided free of charge. Proposers who plan to participate in the cohort (if awarded a Phase I) are encouraged to include travel costs for three cohort trips, within the continental US, for four days each (including travel days) for in-person programming. Details will be provided to awardees under this topic at Phase I award.

PHASE II: Develop, build, and demonstrate a prototype of the concept advanced during Phase I. Prototypes should be capable of integration with existing Army systems and/or newly-developed systems from other awardees. They should also showcase modularity and prove effective during simulated or operational demonstrations. Phase II deliverables include a demonstration and delivery of a Technology Readiness Level (TRL) 6 prototype for further Army evaluation, as well as quarterly and final reports detailing design and performance analysis of the prototype. Phase II proposals will be evaluated, in part, on cost reasonableness and speed of delivery of a TRL 6 prototype.

Awardees may also be eligible for Phase IIb award after completion of Phase II period of performance. Phase IIb can extend the period of performance with additional funding and additional matching opportunities to finish building out solutions with the stakeholders’ discretion.

PHASE III DUAL USE APPLICATIONS: The objective of Phase III, where appropriate, is for the small business to pursue commercialization objectives through the effort. Companies may develop a manufacturing-ready product design, capable of integration with the existing or future system, and demonstrate technology integration. Low-rate production will occur as required. Companies will engage in laboratory or operational testing as required. Phase III deliverables include system-level integration technical data package, installation documentation, and system-level prototype for demonstration and government-sponsored testing.

WEBINAR DATE:
A webinar will be conducted for this solicitation on Friday, December 15, at 10:00am CT. Please register at: https://us06web.zoom.us/webinar/register/WN_GMxtR8aERCCUmwVF_Em2sw

REFERENCES:

1. AUSA 2021 Warriors Corner: Next Gen Terrain Shaping: Dominating Movement and Maneuver in Multidomain Operations. (https://www.dvidshub.net/video/817483/ausa-2021-warriors-corner-next-gen-terrain-shaping-dominating-movement-and-maneuver-multi-domain-operations);
2. MAJ Cain, Nicolas. (2021). Terrain Shaping Operations. 9_Cain.pdf (army.mil)

KEYWORDS: Terrain Shaping; Deep Battlespace; Barrier; Obstacle; Remote; Autonomous; Unmanned; Uncrewed