

DEPARTMENT OF THE NAVY (DON)
24.4 Small Business Innovation Research (SBIR)
Direct to Phase II (DP2) Announcement and Proposal Submission Instructions
Release 1

IMPORTANT

- **The following dates apply to Direct to Phase II (DP2) SBIR topic only N244-D04:**
 - 17 January 2024: Topic issued for pre-release
 - 1 February 2024: DON begins accepting proposals
 - 20 February 2024: Topic Q&A closes to new questions
 - 5 March 2024: Full proposals due no later than 12:00 p.m. ET

- Submitting small business concerns are encouraged to thoroughly review the DoD Program BAA and register for the DSIP Listserv to remain apprised of important programmatic changes.
 - The DoD Program BAA is located at: <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/#announcements>. Select the tab for the appropriate BAA cycle.
 - Register for the DSIP Listserv at: <https://www.dodsbirsttr.mil/submissions/login>.

- The information provided in the DON Proposal Submission Instruction document takes precedence over the DoD Instructions posted for this Broad Agency Announcement (BAA).

- A proposing small business concern is required to submit proposals via the DoD SBIR/STTR Innovation Portal (DSIP) <https://www.dodsbirsttr.mil/submissions/login>.

- Proposing small business concerns that are more than 50% owned by multiple venture capital operating companies (VCOC), hedge funds (HF), private equity firms (PEF) or any combination of these are eligible to submit proposals in response to DON topics advertised in this BAA. Information on Majority Ownership in Part and certification requirements at time of submission for these proposing small business concerns are detailed in the section titled ADDITIONAL SUBMISSION CONSIDERATIONS.

- A DP2 Phase I Feasibility proposal template (for Volume 2), unique to DP2 topics, and a Supporting Documents template (Volume 5) are available at https://www.navysbir.com/links_forms.htm.

- DON provides notice that Basic Ordering Agreements (BOAs) or Other Transaction Agreements (OTAs) may be used for Phase II awards.

- This BAA is issued under regulations set forth in Federal Acquisition Regulation (FAR) 35.016 and awards will be made under “other competitive procedures”. The policies and procedures of FAR Subpart 15.3 shall not apply to this BAA, except as specifically referenced in it. All procedures are at the sole discretion of the Government as set forth in this BAA. Submission of a proposal in response to this BAA constitutes the express acknowledgement to that effect by the proposing small business concern.

INTRODUCTION

The DON SBIR/STTR Programs are mission-oriented programs that integrate the needs and requirements of the DON’s Fleet through research and development (R&D) topics that have dual-use potential, but primarily address the needs of the DON. More information on the programs can be found on the DON SBIR/STTR website at www.navysbir.com. Additional information on DON’s mission can be found on the DON website at www.navy.mil.

The Department of Defense (DoD), including the Department of the Navy (DON), may issue an SBIR award to a small business concern under Phase II, without regard to whether the small business concern received a Phase I award for such project. Prior to such an award, the head of the agency, or their designee, must issue a written determination that the small business concern has demonstrated the scientific and technical merit and feasibility of the technology solution that appears to have commercial potential (for use by the government or in the public sector). The determination must be submitted to the Small Business Administration (SBA) prior to issuing the Phase II award. As such, DON issues this portion of the BAA in accordance with the requirements of the Direct to Phase II (DP2) authority. Only those proposing small business concerns that are capable of meeting the DP2 proposal requirements may participate in this DP2 BAA. No Phase I awards will be issued to the designated DP2 topic.

The Director of the DON SBIR/STTR Programs is Mr. Robert Smith. For questions regarding this BAA, use the information in Table 1 to determine who to contact for what types of questions.

TABLE 1: POINTS OF CONTACT FOR QUESTIONS REGARDING THIS BAA

Type of Question	When	Contact Information
Program and administrative	Always	DON SBIR/STTR Program Management Office usn.pentagon.cnr-arlington-va.mbx.navy-sbir-str@us.navy.mil or appropriate Program Manager listed in Table 2 (below)
Topic-specific technical questions	BAA Pre-release	Technical Point of Contact (TPOC) listed in each topic. Refer to the Proposal Fundamentals section of the DoD SBIR/STTR Program BAA for details.
	BAA Open	DoD SBIR/STTR Topic Q&A platform (https://www.dodsbrsttr.mil/submissions) Refer to the Proposal Fundamentals section of the DoD SBIR/STTR Program BAA for details.
Electronic submission to the DoD SBIR/STTR Innovation Portal (DSIP)	Always	DSIP Support via email at dodsbrsupport@reisystems.com
Navy-specific BAA instructions and forms	Always	DON SBIR/STTR Program Management Office usn.pentagon.cnr-arlington-va.mbx.navy-sbir-str@us.navy.mil

TABLE 2: DON SYSTEMS COMMAND (SYSCOM) SBIR PROGRAM MANAGERS

Topic Numbers	Point of Contact	SYSCOM	Email
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N241-D04	Ms. Lore-Anne Ponirakis	Office of Naval Research (ONR)	usn.pentagon.cnr-arlington- va.mbx.onr-sbir- sttr@us.navy.mil
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Each DON SBIR DP2 topic requires documentation to determine that Phase I feasibility, described in the Phase I section of the topic, has been met.

The DON SBIR DP2 is a two-step process:

STEP ONE: Prepare and Submit a Phase I Feasibility Proposal (instructions and link to template provided below). The purpose of the Phase I Feasibility Proposal is for the proposing small business concern to provide documentation to substantiate that both Phase I feasibility and the scientific and technical merit described in the topic have been met. The Phase I Feasibility Proposal must: demonstrate that the proposing small business concern performed Phase I-type research and development (R&D) and provide a concise summary of Phase II objectives, work plan, related research, key personnel, transition/commercialization plan, and estimated costs. Feasibility documentation **MUST NOT** be solely based on work performed under prior or ongoing federally funded SBIR/STTR work. The government will evaluate Phase I Feasibility Proposals and select small business concerns to submit a Full DP2 Proposal. Demonstrating proof of feasibility is a requirement for a DP2 award. The small business concern must submit a Phase I Feasibility Proposal to be considered for selection to submit a Full DP2 Proposal.

STEP TWO: If selected, the cognizant SYSCOM Program Office will contact the small business concern directly to provide instructions on how to submit a Full DP2 Proposal.

Small business concerns that are selected to submit a Full DP2 Proposal will be invited to present their capabilities with leadership and attendees during the Navy Sea Air Space Exposition Small Business Showcase (SBS). As Sea Air Space occurs after the selections for consideration of award for Full DP2 Proposals, no information presented by the small business concerns at Sea Air Space will be considered evaluative. Small business concerns that submit a proposal to topic N244-D04 will be invited to attend the Small Business Showcase. Information on registration for the Small Business Showcase will be sent via email to the contacts listed on the proposal coversheet after the close of this BAA. Sea Air Space will be held April 8-10, 2024 in the Washington, DC area. The Small Business Showcase will be held April 9, 2024. Though there is no registration fee to participate in the Small Business Showcase activity at Sea Air Space, all travel, lodging, and other related costs for Sea Air Space are the responsibility of the small business concern.

DON SBIR reserves the right to make no awards under this DP2 BAA. All awards are subject to availability of funds and successful negotiations. Proposing small business concerns must read the topic requirements carefully. The Government is not responsible for expenditures by the proposing small business concern prior to award of a contract. For 24.4 topics designated as DP2, DON will accept only Phase I Feasibility Proposals (described below).

DP2 PROPOSAL SUBMISSION REQUIREMENTS

The following section details requirements for submitting a compliant DON SBIR DP2 Proposal to the DoD SBIR/STTR Programs.

(NOTE: Proposing small business concerns are advised that support contract personnel will be used to carry out administrative functions and may have access to proposals, contract award documents, contract

deliverables, and reports. All support contract personnel are bound by appropriate non-disclosure agreements.)

DoD SBIR/STTR Innovation Portal (DSIP). Proposing small business concerns are required to submit proposals via the DoD SBIR/STTR Innovation Portal (DSIP); follow proposal submission instructions in the DoD SBIR/STTR Program BAA on the DSIP at <https://www.dodsbirsttr.mil/submissions>. Proposals submitted by any other means will be disregarded. Proposing small business concerns submitting through DSIP for the first time will be asked to register. It is recommended that proposing small business concerns register as soon as possible upon identification of a proposal opportunity to avoid delays in the proposal submission process. Proposals that are not successfully certified electronically in DSIP by the Corporate Official prior to BAA Close will NOT be considered submitted and will not be evaluated by DON. Proposals that are encrypted, password protected, or otherwise locked in any portion of the submission will be REJECTED unless specifically directed within the text of the topic to which you are submitting. Please refer to the DoD SBIR/STTR Program BAA for further information.

Eligibility. Each proposing small business concern must:

- Have demonstrated feasibility of Phase I-type R&D work
- Have submitted a Phase I Feasibility Proposal for evaluation
- Meet Offeror Eligibility and Performance Requirements as defined in the Proposal Fundamentals section of the DoD SBIR/STTR Program BAA
- Comply with primary employment requirements of the principal investigator (PI) during the Phase II award including, employment with the small business concern at the time of award and during the conduct of the proposed project. Primary employment means that more than one-half of the PI's time is spent in the employ of the small business concern
- Register in the System for Award Management (SAM) as defined in the Proposal Fundamentals section of the DoD SBIR/STTR Program BAA. To register, visit <https://sam.gov/>

Proposal Volumes. The following six volumes are required.

- **Proposal Cover Sheet (Volume 1).** As specified in DoD SBIR/STTR Program BAA.
- **Technical Volume (Volume 2).**
 - Technical Proposal (Volume 2) must meet the following requirements or the proposal will be REJECTED:
 - Not to exceed 30 pages, regardless of page content; Phase I Proof of Feasibility portion not to exceed 20 pages, Snapshot of Proposed Phase II Effort portion not to exceed 10 pages
 - Single column format, single-spaced typed lines
 - Standard 8 ½" x 11" paper
 - Page margins one inch on all sides. A header and footer may be included in the one-inch margin.
 - No font size smaller than 10-point
 - Additional information:
 - It is highly recommended that proposing small business concerns use the DP2 Phase I Feasibility proposal template at https://navysbir.com/links_forms.htm to meet DP2 Technical Volume (Volume 2) requirements.
 - A font size smaller than 10-point is allowable for headers, footers, imbedded tables, figures, images, or graphics that include text. However, proposing small business concerns are cautioned that if the text is too small to be legible it will not be evaluated.

- Cost Volume (Volume 3).** The text fields related to costs for the proposed effort must be answered in the Cost Volume of the DoD Submission system (at <https://www.dodsbirsttr.mil/submissions/>), however, proposing small business concerns DO NOT need to download and complete the separate cost volume template when submitting the DON SBIR Phase I Feasibility Proposal. Proposing small business concerns are to include a cost estimate in the Order of Magnitude Cost Estimate Table (example below) within the Snapshot of Proposed Phase II Effort portion of the Technical Volume (Volume 2). Please refer to Table 3 below for guidance on cost and period of performance. Costs for the Base and Option are to be separate and identified on the Proposal Cover Sheet and in the Order of Magnitude Cost Estimate Table in the Technical Volume (Volume 2).

Order of Magnitude Cost Estimate Table			
Line Item – Details	Estimated Base Amount	Estimated Option Amount	Total Estimated Amount Base + Option
Direct Labor (fully burdened) – Prime			
Subcontractors/Consultants			
Material			
Travel & ODC			
G&A			
FCCM			
Fee/Profit			
TABA (NTE \$25K, included in total amount)			
Total Estimated Costs			

TABLE 3: COST & PERIOD OF PERFORMANCE

Topic Number	Base		Option		Total (NTE)
	Cost (NTE)	POP (NTE)	Cost (NTE)	POP (NTE)	
N244-D04	\$1,000,000	24 mos.	\$1,000,000	24 mos.	\$2,000,000

- Additional information:
 - For Phase II a minimum of 50% of the work is performed by the proposing small business concern. The percentage of work requirement must be met in the Base costs as well as in the Option costs. The percentage of work is measured by both direct and indirect costs. To calculate the minimum percentage of work for the proposing small business concern the sum of all direct and indirect costs attributable to the proposing small business concern represent the numerator and the total cost of the proposal (i.e., Total Cost before Profit Rate is applied) is the denominator. The subcontractor percentage is calculated by taking the sum of all costs attributable to the subcontractor as the numerator and the total cost of the proposal (i.e., Total Cost before Profit Rate is applied) as the denominator. **NOTE:** G&A, if proposed, will only be attributed to the proposing small business concern.
 - Provide sufficient detail for subcontractor, material, and travel costs. Subcontractor costs must be detailed to the same level as the prime contractor. Material costs must include a

listing of items and cost per item. Travel costs must include the purpose of the trip, number of trips, location, length of trip, and number of personnel.

- Inclusion of cost estimates for travel to the sponsoring SYSCOM’s facility for one day of meetings is recommended for all proposals.
 - The “Additional Cost Information” of Supporting Documents (Volume 5) may be used to provide supporting cost details for Volume 3.
- **Company Commercialization Report (Volume 4).** DoD collects and uses Volume 4 and DSIP requires Volume 4 for proposal submission. Please refer to the Phase I Proposal section of the DoD SBIR/STTR Program BAA for details to ensure compliance with DSIP Volume 4 requirements.
 - **Supporting Documents (Volume 5).** Volume 5 is for the submission of administrative material that DON may or will require to process a proposal, if selected, for contract award.

All proposing small business concerns must review and submit the following items, as applicable:

- **Telecommunications Equipment Certification.** Required for all proposing small business concerns. The DoD must comply with Section 889(a)(1)(B) of the FY2019 National Defense Authorization Act (NDAA) and is working to reduce or eliminate contracts, or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As such, all proposing small business concerns must include as a part of their submission a written certification in response to the clauses (DFAR clauses 252.204-7016, 252.204-7018, and subpart 204.21). The written certification can be found in Attachment 1 of the DoD SBIR/STTR Program BAA. This certification must be signed by the authorized company representative and is to be uploaded as a separate PDF file in Volume 5. Failure to submit the required certification as a part of the proposal submission process will be cause for rejection of the proposal submission without evaluation. Please refer to the instructions provided in the Phase I Proposal section of the DoD SBIR/STTR Program BAA.
- **Disclosures of Foreign Affiliations or Relationships to Foreign Countries.** Each proposing small business concern is required to complete Attachment 2 of this BAA, “Disclosures of Foreign Affiliations or Relationships to Foreign Countries” and upload the form to Volume 5, Supporting Documents. Please refer to the following sections of the DoD SBIR/STTR Program BAA for details:
 - Program Description
 - Proposal Fundamentals
 - Phase I Proposal
 - Attachment 2
- **Certification Regarding Disclosure of Funding Sources.** Each proposing small business concern must comply with Section 223(a) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021. The disclosure and certification must be made by completing Attachment 4, Disclosure of Funding Sources, and uploading to Volume 5, Supporting Documents. Please refer to the following sections of the DoD SBIR/STTR Program BAA for details:
 - Phase I Proposal
 - Attachment 4
- **Majority Ownership in Part.** Proposing small business concerns which are more than 50% owned by multiple venture capital operating companies (VCOC), hedge funds (HF),

private equity firms (PEF), or any combination of these as set forth in 13 C.F.R. § 121.702, are eligible to submit proposals in response to DON topics advertised within this BAA. Complete certification as detailed under ADDITIONAL SUBMISSION CONSIDERATIONS.

- Additional information:
 - Proposing small business concerns may include the following administrative materials in Supporting Documents (Volume 5); a template is available at https://navysbir.com/links_forms.htm to provide guidance on optional material the proposing small business concern may want to include in Volume 5:
 - Additional Cost Information to support the Cost Volume (Volume 3)
 - SBIR/STTR Funding Agreement Certification
 - Data Rights Assertion
 - Allocation of Rights between Prime and Subcontractor
 - Disclosure of Information (DFARS 252.204-7000)
 - Prior, Current, or Pending Support of Similar Proposals or Awards
 - Foreign Citizens
 - Do not include documents or information to substantiate the Technical Volume (Volume 2) (e.g., resumes, test data, technical reports, or publications). Such documents or information will not be considered.
 - A font size smaller than 10-point is allowable for documents in Volume 5; however, proposing small business concerns are cautioned that the text may be unreadable.
- **Fraud, Waste and Abuse Training Certification (Volume 6).** DoD requires Volume 6 for submission. Please refer to the Phase I Proposal section of the DoD SBIR/STTR Program BAA for details.

DP2 EVALUATION AND SELECTION

The following section details how the DON SBIR/STTR Programs will evaluate Phase I Feasibility proposals.

Proposals meeting DSIP submission requirements will be forwarded to the DON SBIR/STTR Programs. Prior to evaluation, all proposals will undergo a compliance review to verify compliance with DoD and DON SBIR/STTR proposal eligibility requirements. Proposals not meeting submission requirements will be REJECTED and not evaluated.

- **Proposal Cover Sheet (Volume 1).** The Proposal Cover Sheet (Volume 1) will undergo a compliance review to verify the proposing small business concern has met eligibility requirements and followed the instructions for Proposal Cover Sheet as specified in the DoD SBIR/STTR Program BAA.
- **Technical Volume (Volume 2).** The DON will evaluate and select Phase I Feasibility proposals using the evaluation criteria specified in the Phase I Proposal Evaluation Criteria section of the DoD SBIR/STTR Program BAA, with technical merit being most important, followed by qualifications of key personnel and commercialization potential of equal importance. The information considered for this decision will come from Volume 2. This is not a FAR Part 15 evaluation and proposals will not be compared to one another. Cost is not an evaluation criteria and will not be considered during the evaluation process; the DON will only do a compliance review

of Volume 3. Due to limited funding, the DON reserves the right to limit the number of awards under any topic.

The Technical Volume (Volume 2) will undergo a compliance review (prior to evaluation) to verify the proposing small business concern has met the following requirements or the proposal will be REJECTED:

- Not to exceed 30 pages, regardless of page content; Phase I Proof of Feasibility portion not to exceed 20 pages, Snapshot of Proposed Phase II Effort portion not to exceed 10 pages
 - Single column format, single-spaced typed lines
 - Standard 8 ½” x 11” paper
 - Page margins one inch on all sides. A header and footer may be included in the one-inch margin.
 - No font size smaller than 10-point, except as permitted in the instructions above.
- **Cost Volume (Volume 3).** The Cost Volume (Volume 3) will not be considered in the selection process and will undergo a compliance review to verify the proposing small business concern has met the following requirements or the proposal will be REJECTED:
 - Must not exceed values for the Base and Option (refer to Table 3).
 - Must meet minimum percentage of work; a minimum of 50% of the work is performed by the proposing small business concern. The percentage of work requirement must be met in the Base costs as well as in the Option costs.
 - **Company Commercialization Report (Volume 4).** The CCR (Volume 4) will not be evaluated by the Navy nor will it be considered in the Navy’s award decision. However, all proposing small business concerns must refer to the DoD SBIR/STTR Program BAA to ensure compliance with DSIP Volume 4 requirements.
 - **Supporting Documents (Volume 5).** Supporting Documents (Volume 5) will not be considered in the selection process and will only undergo a compliance review to ensure the proposing small business concern has included items in accordance with the DP2 SUBMISSION INSTRUCTIONS section above.
 - **Fraud, Waste, and Abuse Training Certificate (Volume 6).** Not evaluated.

ADDITIONAL SUBMISSION CONSIDERATIONS

This section details additional items for proposing small business concerns to consider during proposal preparation and submission process.

Due Diligence Program to Assess Security Risks. The SBIR and STTR Extension Act of 2022 (Pub. L. 117-183) requires the Department of Defense, in coordination with the Small Business Administration, to establish and implement a due diligence program to assess security risks presented by small business concerns seeking a Federally funded award. Please review the Program Description section of the DoD SBIR/STTR Program BAA for details on how DoD will assess security risks presented by small business concerns. The Due Diligence Program to Assess Security Risks will be implemented for all Phases.

Discretionary Technical and Business Assistance (TABAs). The SBIR and STTR Policy Directive section 9(b) allows the DON to provide TABAs (formerly referred to as DTAs) to its awardees. The purpose of TABAs is to assist awardees in making better technical decisions on SBIR/STTR projects; solving

technical problems that arise during SBIR/STTR projects; minimizing technical risks associated with SBIR/STTR projects; and commercializing the SBIR/STTR product or process, including intellectual property protections. Proposing small business concerns may request, in their Cost Volume (Volume 3), to contract these services themselves through one or more TABA providers in an amount not to exceed the values specified below. The Phase II TABA amount is up to \$25,000 per award. The TABA amount, of up to \$25,000, is to be included as part of the award amount and is limited by the established award values for Phase II by the SYSCOM (i.e. within the \$1,800,000 or lower limit specified by the SYSCOM). The amount proposed for TABA cannot include any profit/fee by the proposing small business concern and must be inclusive of all applicable indirect costs. TABA cannot be used in the calculation of general and administrative expenses (G&A) for the SBIR proposing small business concern. A Phase II project may receive up to an additional \$25,000 for TABA as part of one additional (sequential) Phase II award under the project for a total TABA award of up to \$50,000 per project. A TABA Report, detailing the results and benefits of the service received, will be required annually by October 30.

Request for TABA funding will be reviewed by the DON SBIR/STTR Program Office.

If the TABA request does not include the following items the TABA request will be denied.

- TABA provider(s) (firm name)
- TABA provider(s) point of contact, email address, and phone number
- An explanation of why the TABA provider(s) is uniquely qualified to provide the service
- Tasks the TABA provider(s) will perform (to include the purpose and objective of the assistance)
- Total TABA provider(s) cost, number of hours, and labor rates (average/blended rate is acceptable)

TABA must NOT:

- Be subject to any indirect costs, profit, or fee by the SBIR proposing small business concern
- Propose a TABA provider that is the SBIR proposing small business concern
- Propose a TABA provider that is an affiliate of the SBIR proposing small business concern
- Propose a TABA provider that is an investor of the SBIR proposing small business concern
- Propose a TABA provider that is a subcontractor or consultant of the requesting small business concern otherwise required as part of the paid portion of the research effort (e.g., research partner, consultant, tester, or administrative service provider)

TABA requests must be included in the proposal as follows:

- Phase II:
 - DON Phase II Cost Volume (provided by the DON SYSCOM) - the value of the TABA request.
 - Supporting Documents (Volume 5) – a detailed request for TABA (as specified above) specifically identified as “TABA” in the section titled Additional Cost Information when using the DON Supporting Documents template.

Proposed values for TABA must NOT exceed:

- Phase II: A total of \$25,000 per award, not to exceed \$50,000 per Phase II project

If a proposing small business concern requests and is awarded TABA in a Phase II contract, the proposing small business concern will be eliminated from participating in the DON SBIR/STTR Transition Program (STP), the DON Forum for SBIR/STTR Transition (FST), and any other Phase II assistance the DON provides directly to awardees.

All Phase II awardees not receiving funds for TABA in their awards must participate in the virtual Navy STP Kickoff during the first or second year of the Phase II contract. While there are no travel costs associated with this virtual event, Phase II awardees should budget time of up to a full day to participate.

STP information can be obtained at: <https://navystp.com>. Phase II awardees will be contacted separately regarding this program.

Disclosure of Information (DFARS 252.204-7000). In order to eliminate the requirements for prior approval of public disclosure of information (in accordance with DFARS 252.204-7000) under this award, the proposing small business concern shall identify and describe all fundamental research to be performed under its proposal, including subcontracted work, with sufficient specificity to demonstrate that the work qualifies as fundamental research. Fundamental research means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons (defined by National Security Decision Directive 189). A small business concern whose proposed work will include fundamental research and requests to eliminate the requirement for prior approval of public disclosure of information must complete the DON Fundamental Research Disclosure and upload as a separate PDF file to the Supporting Documents (Volume 5) in DSIP as part of their proposal submission. The DON Fundamental Research Disclosure is available on https://navysbir.com/links_forms.htm and includes instructions on how to complete and upload the completed Disclosure. Simply identifying fundamental research in the Disclosure does **NOT** constitute acceptance of the exclusion. All exclusions will be reviewed and, if approved by the government Contracting Officer, noted in the contract.

Majority Ownership in Part. Proposing small business concerns that are more than 50% owned by multiple venture capital operating companies (VCOC), hedge funds (HF), private equity firms (PEF), or any combination of these as set forth in 13 C.F.R. § 121.702, **are eligible** to submit proposals in response to DON topics advertised within this BAA.

For proposing small business concerns that are a member of this ownership class the following must be satisfied for proposals to be accepted and evaluated:

- a. Prior to submitting a proposal, proposing small business concerns must register with the SBA Company Registry Database.
- b. The proposing small business concern within its submission must submit the Majority-Owned VCOC, HF, and PEF Certification. A copy of the SBIR VC Certification can be found on https://navysbir.com/links_forms.htm. Include the SBIR VC Certification in the Supporting Documents (Volume 5).
- c. Should a proposing small business concern become a member of this ownership class after submitting its proposal and prior to any receipt of a funding agreement, the proposing small business concern must immediately notify the Contracting Officer, register in the appropriate SBA database, and submit the required certification which can be found on https://navysbir.com/links_forms.htm.

System for Award Management (SAM). It is strongly encouraged that proposing small business concerns register in SAM, <https://sam.gov>, by the Close date of this BAA, or verify their registrations are still active and will not expire within 60 days of BAA Close. Additionally, proposing small business concerns should confirm that they are registered to receive contracts (not just grants) and the address in SAM matches the address on the proposal. A small business concern selected for an award **MUST** have an active SAM registration at the time of award or they will be considered ineligible.

Notice of NIST SP 800-171 Assessment Database Requirement. The purpose of the National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171 is to protect Controlled Unclassified Information (CUI) in Nonfederal Systems and Organizations. As prescribed by DFARS 252.204-7019, in order to be considered for award, a small business concern is required to implement NIST SP 800-171 and

shall have a current assessment uploaded to the Supplier Performance Risk System (SPRS) which provides storage and retrieval capabilities for this assessment. The platform Procurement Integrated Enterprise Environment (PIEE) will be used for secure login and verification to access SPRS. For brief instructions on NIST SP 800-171 assessment, SPRS, and PIEE please visit <https://www.sprs.csd.disa.mil/nistsp.htm>. For in-depth tutorials on these items please visit <https://www.sprs.csd.disa.mil/webtrain.htm>.

Human Subjects, Animal Testing, and Recombinant DNA. If the use of human, animal, and recombinant DNA is included under a DP2 proposal, please carefully review the requirements at: <https://www.nre.navy.mil/work-with-us/how-to-apply/compliance-and-protections/research-protections>. This webpage provides guidance and lists approvals that may be required before contract/work can begin.

International Traffic in Arms Regulation (ITAR). For topics indicating ITAR restrictions or the potential for classified work, limitations are generally placed on disclosure of information involving topics of a classified nature or those involving export control restrictions, which may curtail or preclude the involvement of universities and certain non-profit institutions beyond the basic research level. Small businesses must structure their proposals to clearly identify the work that will be performed that is of a basic research nature and how it can be segregated from work that falls under the classification and export control restrictions. As a result, information must also be provided on how efforts can be performed in later phases if the university/research institution is the source of critical knowledge, effort, or infrastructure (facilities and equipment).

SELECTION, AWARD, AND POST-AWARD INFORMATION

Notifications. Email notifications for proposal receipt (approximately one week after the Phase I BAA Close) and selection are sent based on the information received on the proposal Cover Sheet (Volume 1). Consequently, the e-mail address on the proposal Cover Sheet must be correct.

Debriefs. Requests for a debrief must be made within 15 calendar days of select/non-select notification via email as specified in the select/non-select notification. Please note debriefs are typically provided in writing via email to the Corporate Official identified in the proposal of the proposing small business concerns within 60 days of receipt of the request. Requests for oral debriefs may not be accommodated. If contact information for the Corporate Official has changed since proposal submission, a notice of the change on company letterhead signed by the Corporate Official must accompany the debrief request.

Protests. Interested parties have the right to protest in accordance with the procedures in FAR Subpart 33.1.

Pre-award agency protests related to the terms of the BAA must be served to: osd.ncr.ousd-r-e.mbx.SBIR-STTR-Protest@mail.mil. A copy of a pre-award Government Accountability Office (GAO) protest must also be filed with the aforementioned email address within one day of filing with the GAO.

Protests related to a selection or award decision should be filed with the appropriate Contracting Officer for an Agency Level Protest or with the GAO. Contracting Officer contact information for specific DON Topics may be obtained from the DON SYSCOM Program Managers listed in Table 2 above. For protests filed with the GAO, a copy of the protest must be submitted to the appropriate DON SYSCOM Program Manager and the appropriate Contracting Officer within one day of filing with the GAO.

Awards. Due to limited funding, the DON reserves the right to limit the number of awards under any topic. Any notification received from the DON that indicates the proposal has been selected does not ultimately guarantee an award will be made. This notification indicates that the proposal has been selected in accordance with the evaluation criteria and has been sent to the Contracting Officer to conduct cost analysis,

confirm eligibility of the proposing small business concern, and to take other relevant steps necessary prior to making an award.

Contract Types. In addition to the negotiated contract award types listed in the section of the DoD SBIR/STTR Program BAA titled Proposal Fundamentals, for Phase II awards the DON may (under appropriate circumstances) propose the use of an Other Transaction Agreement (OTA) as specified in 10 U.S.C. 2371/10 U.S.C. 2371b and related implementing policies and regulations. The DON may choose to use a Basic Ordering Agreement (BOA) for Phase I and Phase II awards.

Contract Deliverables. Contract deliverables are typically progress reports and final reports. Required contract deliverables must be uploaded to <https://www.navysbirprogram.com/navydeliverables/>.

Transfer Between SBIR and STTR Programs. Section 4(b)(1)(i) of the SBIR and STTR Policy Directive provides that, at the agency's discretion, projects awarded a Phase I under a BAA for SBIR may transition in Phase II to STTR and vice versa.

PHASE III GUIDELINES

A Phase III SBIR/STTR award is any work that derives from, extends, or completes effort(s) performed under prior SBIR/STTR funding agreements, but is funded by sources other than the SBIR/STTR programs. This covers any contract, grant, or agreement issued as a follow-on Phase III award or any contract, grant, or agreement award issued as a result of a competitive process where the awardee was an SBIR/STTR firm that developed the technology as a result of a Phase I or Phase II award. The DON will give Phase III status to any award that falls within the above-mentioned description. Consequently, DON will assign SBIR/STTR Data Rights to any noncommercial technical data and noncommercial computer software delivered in Phase III that were developed under SBIR/STTR Phase I/II effort(s). Government prime contractors and their subcontractors must follow the same guidelines as above and ensure that companies operating on behalf of the DON protect the rights of the SBIR/STTR firm.

Navy SBIR 24.4 Topic Index

Release 1

N244-D04 Direct to Phase II: Next-generation Autonomy for Unmanned Maritime Vehicles (UMVs)

N244-D04 TITLE: Direct to Phase II: Next-generation Autonomy for Unmanned Maritime Vehicles (UMVs)

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

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 next-generation autonomy that will increase the capability and scope of utility of Unmanned Maritime Vehicles (UMVs), while decreasing the level of remote human operator involvement.

DESCRIPTION: The Navy's Intelligent Autonomous Systems Science and Technology Strategy states the key importance of smaller, more numerous, and distributed capabilities as a complement to larger, more powerful, and proven capabilities, intelligent machines that can adapt in unstructured environments at machine speed given overwhelming data and are attritable when necessary, and decision superiority achieved through ubiquitous and persistent data collection, situational understanding at the edge and support to a robust information warfare capability. This SBIR Topic is focused on increasing the capability of Unmanned Maritime Vehicle (UMV) autonomy and increasing the scope of utility of UMVs by enabling the UMV autonomy to be used in a much greater number of situations than it can be today for a much greater variety of tasks. For the purposes of this topic, the term UMV refers to both Unmanned Surface Vehicles (USVs) and Unmanned Underwater Vehicles (UUVs). UMVs are constrained by very low bandwidth and intermittent communications including extended periods of time with no communication with the remote human operator, and substantial limitations in situational awareness. This necessitates highly capable autonomous control software on these platforms that can make decisions without the involvement of a human operator, using incomplete, uncertain and sometimes inaccurate information. Today, mature autonomy software is being fielded on UMVs (for the purposes of this Topic, mature autonomy is defined as that which has been demonstrated in a relevant environment, technology readiness level (TRL) 6) [Ref 2]. Advancements are needed in autonomy's ability to handle complex tasks and dynamic, unstructured, uncertain and harsh maritime environments without the assistance of a human operator. Autonomy must be able to perform more complex tasks than currently possible, for example, to maneuver around another vessel, or multiple vessels, that are uncooperative and to counter another vessel, or multiple vessels, that are maneuvering in an adversarial manner (maneuvering to counter the UMV's maneuvers or to threaten the UMV, such as herding or blocking tactics). UMV autonomy needs to support the ability of UMVs to cooperate with each other to work as a team to perform complex tasks, such as optimizing the performance of a distributed sensor network. Technologies needed to realize these advancements are assessed currently to be TRL 1-4. This Topic seeks to raise the TRL level of these technologies.

Next-generation autonomous control for UMVs will increase the capability and scope of utility of UMVs by enabling the UMV autonomy to be used in a much greater number of situations than it can be today, with high degrees of resilience and reliability. The desired future autonomy for UMVs will have the following four capabilities:

- (1) ability to perform complex tasks with little to no human intervention,
- (2) ability to handle dynamic, unstructured, uncertain and harsh maritime environments,

- (3) can support a variety of diverse missions and tasks,
- (4) support many heterogeneous UMVs that cooperate autonomously on their perception and decision-making, with the UMVs in that group performing a variety of different tasks.

The autonomy should have the four capabilities listed above while operating with the following two constraints:

- (1) low-bandwidth and intermittent communication with a human operator including extended periods of time with no communication between the UMV and human operator, and
- (2) be robust to uncertain, inaccurate and intermittent perception information.

Approaches to multi-UMV autonomy should require modest computing resources aboard the UMVs. For example, in biology, control and sensing in schooling fish [Ref 4] or flocking birds enables intricate maneuvers of the group. Biologically inspired approaches to multi-UMV autonomy are in scope of this Topic, but not required; there are many other approaches that can also be envisioned. Future UMVs will encounter dynamic situations in which, for example, other vessels are maneuvering in unexpected ways or conditions are changing and their autonomous control will require the capability to effectively handle the situation with no contemporaneous human operator assistance. The Government anticipates entry TRL levels of 1-4 for this project. Testing in simulation and via small-to-medium physical scale-model testing in-water will be important components of this effort, both to further develop the proposed approach to next-generation autonomy, characterize its performance and establish progress in increasing the TRL level. UMV autonomy should be portable so that it can operate on various UMVs with minimal integration effort and cost. In performing the work under this Topic, the small business concern should be aware of the Unmanned Maritime Autonomy Architecture (UMAA), comply with it where possible, but not be constrained by it if deviations are necessary to achieve the goals of this Topic [Ref 3]. Deviations from UMAA should be documented and rationale for these deviations, in the context of supporting the Topic objectives, should also be documented.

PHASE I: For a Direct to Phase II topic, the Government expects that the small business would have accomplished the following in a Phase I-type effort and developed a concept for a workable prototype or design to address, at a minimum, the basic requirements of the stated objective above. The below actions would be required in order to satisfy the requirements of Phase I:

- Proposals must show that the Offeror understands the current state of the art in UMV autonomy and explain how the proposed approach will advance the state of the art.
- Proposals must describe in detail the Offeror's concept for maritime autonomy for UMVs. The proposal should clearly explain the rationale for the selection of the proposed concept for next-generation autonomy and how it will satisfy the four capabilities of this topic within the two constraints stated in the Description section above. This rationale must be clearly supported by, for example, analysis, testing in simulation, and/or small scale-model testing. Approaches to next-generation autonomous control that are adapted from systems other than UMVs are of interest and approaches that leverage previous research in this area are also of interest.
- The proposal should describe the approach to testing of the next-generation autonomy algorithms. The proposal must provide a clear explanation of the feasibility of the proposed testing methodology.

FEASIBILITY DOCUMENTATION: Offerors interested in participating in Direct to Phase II must include in their response to this topic Phase I feasibility documentation that substantiates the scientific and technical merit and Phase I feasibility described in Phase I above has been met (i.e., the small business must have performed Phase I-type research and development related to the topic NOT solely based on work performed under prior or ongoing federally funded SBIR/STTR work) and describe the potential commercialization applications. The documentation provided must validate that the proposer has completed development of technology as stated in Phase I above. 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 the feasibility documentation must have been substantially performed by the offeror and/or the principal investigator (PI). Read and follow all of the DON SBIR 24.4 Direct to Phase II Broad Agency Announcement (BAA) Instructions. Phase I proposals will NOT be accepted for this topic.

PHASE II: Using results from the Phase I-type effort, the Phase II effort will develop, demonstrate and validate prototype Next-generation Autonomy software for UMVs that addresses the requirements and constraints stated in the Description section above. The Phase II proposal shall address, at a minimum:

- 1) Development of algorithms and software capable of addressing the four requirements provided in the Description section of this Topic, while able to operate within the two constraints provided in that section.
 - 2) The Government anticipates that testing to support development of the Next-generation Autonomy software will consist of, at a minimum, simulation-based testing and in-water testing with physical-small scale models. Testing with full scale UMVs is costly and time-consuming and is not a requirement for a successful proposal.
 - 3) Validation of Next-generation Autonomy software will also be done in simulation and with small-to-medium scale physical models in water. The validation phase of the project will consist of structured testing against metrics that the small business will develop as part of this project. The validation phase will elucidate the exit TRL of the Next-generation Autonomy software resulting from this project.
 - 4) Deliverables shall include the Next-generation Autonomy software, a report containing robust documentation of the software (including algorithms, architecture (areas of compliance and non-compliance with UMAA), interfaces, build instructions, necessary software components and environment to build the Next-generation Autonomy software and a software user manual) data acquired during this project, and test methodology and metrics and test results.
 - 5) Composition of the proposed team: teams that are structured to facilitate knowledge transfer of previous research results to this project, for example a small business-university team, while not required, are strongly encouraged.
 - 6) Describe how the software is architected to address cyber security issues and the approach for doing so.
- Approaches to perception and communications are not in scope of this Topic, although assumptions should be stated regarding perception and communications capability on the UMV.

The Phase II period of performance is anticipated to be four years; 24 month Base, 24 month Option, if exercised.

PHASE III DUAL USE APPLICATIONS: Given successful completion of the Phase II project and subject to availability of funding, the expected transition of Next-generation Autonomy software resulting from this Phase II SBIR is to the acquisition program for use within its UMAA architecture, in its USV and UUV programs. To enable successful commercialization, Phase III is expected to address integration, via interfaces defined in UMAA, of the Next-generation Autonomy software product of this Phase II SBIR into a larger software architecture, cyber security compliance of the Next-generation Autonomy software, as well as additional rigorous testing of the Next-generation Autonomy software in higher fidelity environments.

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