DEPARTMENT OF THE NAVY (DON)
Small Business Technology Transfer (STTR)
DoW 2026 STTR BAA Release 2
Proposal Submission Instructions

IMPORTANT

- **The following instructions apply to STTR topics only:**
  - **DON26TZ02-NV020 through DON26TZ02-NV021**
- Submitting small business concerns (SBCs) are encouraged to thoroughly review the DoW SBIR/STTR Program Broad Agency Announcement (BAA) and register for the DSIP Listserv to remain apprised of important programmatic changes.
  - The DoW 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 Instructions takes precedence over the DoW Instructions posted for this BAA.
- **DON Phase I Technical Volume (Volume 2) page limit is not to exceed 10 pages.**
- Phase I Technical Volume (Volume 2) and Supporting Documents (Volume 5) templates, specific to DON topics, are available at https://www.navysbir.com/links_forms.htm.
- The DON may consider the following FAR and Non-FAR contract strategies when issuing Phase I awards: Firm Fixed Price (FFP), Basic Ordering Agreement (BOA), or Prototype Other Transaction (OT). The DON may consider the following FAR and Non-FAR contracting strategies when issuing Phase II awards: Cost Plus Fixed Fee (CPFF), FFP, BOA, or Prototype OT.
- 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 SBC.

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.

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	Navy SBIR/STTR Program Management Office usn.pentagon.cnr-arlington-va.mbx.navy-sbir-sttr@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 on the DoW SBIR/STTR Innovation Portal (DSIP). Refer to the Proposal Submission section of the DoW SBIR/STTR Program BAA for details.
	BAA Open	DoW SBIR/STTR Topic Q&A platform (https://www.dodsbirsttr.mil/submissions) Refer to the Proposal Submission section of the DoW SBIR/STTR Program BAA for details.
Electronic submission to the DoW SBIR/STTR Innovation Portal (DSIP)	Always	DSIP Support via email at dodsbirsupport@reisystems.com
Navy-specific BAA instructions and forms	Always	DON SBIR/STTR Program Management Office usn.pentagon.cnr-arlington-va.mbx.navy-sbir-sttr@us.navy.mil

TABLE 2: DON SYSTEMS COMMANDS (SYSCOM) STTR PROGRAM MANAGERS

Topic Numbers	Point of Contact	SYSCOM	Email
DON26TZ02-NV020 to DON26TZ02-NV021	Mr. Jason Schroepfer	Naval Sea Systems Command (NAVSEA)	NSSC_SBIR.fct@navy.mil

PHASE I SUBMISSION INSTRUCTIONS

The following section details requirements for submitting a compliant Phase I Proposal to the DoW SBIR/STTR Programs.

(NOTE: Proposing SBCs 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.)

DoW SBIR/STTR Innovation Portal (DSIP). Proposing SBCs are required to submit proposals via the DoW SBIR/STTR Innovation Portal (DSIP); and follow proposal submission instructions in the DoW SBIR/STTR Program BAA on the DSIP at https://www.dodsbirsttr.mil/submissions. Proposals submitted

by any other means will be disregarded. Proposing SBCs submitting through DSIP for the first time will be asked to register. It is recommended that SBCs 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 DoW SBIR/STTR Program BAA for further information.

Proposal Volumes. The following seven volumes are required.

- **Proposal Cover Sheet (Volume 1).** As specified in DoW SBIR/STTR Program BAA.

- **Technical Proposal (Volume 2)**
  - Technical Proposal (Volume 2) must meet the following requirements or the proposal will be REJECTED:
    - Not to exceed 10 pages, regardless of page content
    - 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
    - Include, within the 10-page limit of Volume 2, an Option that furthers the effort in preparation for Phase II and will bridge the funding gap between the end of Phase I and the start of Phase II. Tasks for both the Phase I Base and the Phase I Option must be clearly identified. Phase I Options are exercised upon selection for Phase II.
    - Work proposed for the Phase I Base must be exactly six (6) months.
    - Work proposed for the Phase I Option must be exactly six (6) months.

  - Additional information:
    - A Phase I proposal template specific to DON to meet Phase I requirements is available at https://navysbir.com/links_forms.htm.
    - A font size smaller than 10-point is allowable for headers, footers, imbedded tables, figures, images, or graphics that include text. However, proposing SBCs are cautioned that if the text is too small to be legible it will not be evaluated.

- **Cost Volume (Volume 3).**
  - Cost Volume (Volume 3) must meet the following requirements or the proposal will be REJECTED:
    - The Phase I Base amount must not exceed $140,000.
    - Phase I Option amount must not exceed $100,000.
    - Costs for the Base and Option must be separated and clearly identified in Volume 3.
    - For Phase I a minimum of 40% of the work is performed by the proposing SBC, and a minimum of 30% of the work is performed by the single research institution. 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 effort for the proposing SBC the sum of all direct and indirect costs attributable to the proposing SBC represent the numerator and the total cost of the proposal (i.e., Total Cost before Profit Rate is applied) is the denominator. The single research institution percentage is calculated by taking the sum of all costs attributable to the single research

institution (identified as Total Subcontractor Costs (TSC) 1 in DSIP Cost Volume) as the numerator and the total cost of the proposal (i.e., Total Cost before Profit Rate is applied) as the denominator.

- Proposing SBC Costs (included in numerator for calculation of the SBC):
  - Total Direct Labor (TDL)
  - Total Direct Material Costs (TDM)
  - Total Direct Supplies Costs (TDS)
  - Total Direct Equipment Costs (TDE)
  - Total Direct Travel Costs (TDT)
  - Total Other Direct Costs (TODC)
  - General & Administrative Cost (G&A)

  NOTE: G&A, if proposed, will only be attributed to the proposing SBC.
- Research Institution (numerator for Research Institution calculation):
  - Total Subcontractor Costs (TSC) 1
- Total Cost (i.e., Total Cost before Profit Rate is applied, denominator for either calculation)

— **Cost Sharing: Cost sharing is not accepted on DON Phase I proposals. A value above or below $0.00 entered in the Cost Sharing field will not be considered in the Phase I contract award.**

- Additional information:
  - 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. When a proposal is selected for award, be prepared to submit further documentation to the SYSCOM Contracting Officer to substantiate costs (e.g., an explanation of cost estimates for equipment, materials, and consultants or subcontractors).

- **Company Commercialization Report (Volume 4)**. DoW collects and uses Volume 4 and DSIP requires Volume 4 for proposal submission. Please refer to the Proposal Preparation Instructions and Requirements section of the DoW 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 SBCs must review and submit the following items, as applicable:

  — **Allocation of Rights.** Required for all SBCs proposing to STTR. In accordance with the SBIR and STTR Policy Directive section 8(b) and DFARS 252.227-7040, the proposing SBC must submit this agreement as an upload as a separate PDF file in Volume 5, Supporting Documents. The STTR Allocation of Rights template must be used and is available on https://navysbir.com/links_forms.htm. Please refer to the Proposal Preparation Instructions and Requirements section of the DoW STTR Program BAA for information on this requirement.

- Proposing SBCs 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 SBC 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
    - Disclosure of Information (DFARS 252.204-7000)
    - Prior, Current, or Pending Support of Similar Proposals or Awards
    - Foreign Citizens
- Details of Request for Discretionary Technical and Business Assistance (TABA), if proposed, is to be included under the Additional Cost Information section if using the DON Supporting Documents template.
- 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 SBCs are cautioned that the text may be unreadable.

- **Fraud, Waste and Abuse Training Certification (Volume 6)**. DoW requires Volume 6 for submission. Please refer to the Proposal Preparation Instructions and Requirements section of the DoW SBIR/STTR Program BAA for details.

- **Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Volume 7)**. In accordance with Section 4 of the SBIR and STTR Extension Act of 2022 and the SBA SBIR/STTR Policy Directive, the DoW will review all proposals submitted in response to this BAA to assess security risks presented by SBCs seeking a Federally funded award. SBCs must complete the Disclosures of Foreign Affiliations or Relationships to Foreign Countries webform in Volume 7 of the DSIP proposal submission. Please refer to the Proposal Preparation Instructions and Requirements section of the DoW SBIR/STTR Program BAA for details.

PHASE I EVALUATION AND SELECTION

The following section details how the DON SBIR/STTR Programs will evaluate Phase I 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 DoW 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 SBC has met eligibility requirements and followed the instructions for the Proposal Cover Sheet as specified in the DoW SBIR/STTR Program BAA.

- **Technical Volume (Volume 2).** The DON will evaluate and select Phase I proposals using the evaluation criteria specified in the Method of Selection and Evaluation Criteria section of the DoW 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 criterion 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 SBC has met the following requirements or the proposal will be REJECTED:

- Not to exceed 10 pages, regardless of page content
- 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.
- Include, within the 10-page limit of Volume 2, an Option that furthers the effort in preparation for Phase II and will bridge the funding gap between the end of Phase I and the start of Phase II. Tasks for both the Phase I Base and the Phase I Option must be clearly identified.
- Work proposed for the Phase I Base must be exactly six (6) months.
- Work proposed for the Phase I Option must be exactly six (6) months.

- **Cost Volume (Volume 3).** The Cost Volume (Volume 3) will not be considered in the selection process and will only undergo a compliance review to verify the proposing SBC has met the following requirements or the proposal will be REJECTED:
  - Must not exceed values for the Base ($140,000) and Option ($100,000).
  - Must meet minimum percentage of work; 40% of the work is performed by the proposing SBC, and a minimum of 30% of the work is performed by the single research institution. The percentage of work requirement must be met in the Base costs as well as in the Option costs.
  - **Cost Sharing: Cost sharing is not accepted on DON Phase I proposals. A value above or below $0.00 is entered in the Cost Sharing field will not be considered in the Phase I contract award.**

- **Company Commercialization Report (Volume 4).** The CCR (Volume 4) will not be evaluated by the DON nor will it be considered in the award decision. However, all proposing SBCs must refer to the DoW 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 SBC has included items in accordance with the PHASE I SUBMISSION INSTRUCTIONS section above.

- **Fraud, Waste, and Abuse Training Certificate (Volume 6).** Not evaluated.

- **Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Volume 7)**. Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Volume 7) will be assessed as part of the Due Diligence Program to Assess Security Risks. Refer to the DoW SBIR/STTR Program BAA to ensure compliance with Volume 7 requirements.

ADDITIONAL SUBMISSION CONSIDERATIONS

This section details additional items for proposing SBCs 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 War, in coordination with the Small Business Administration, to establish and implement a due diligence program to assess security risks presented by SBCs seeking a Federally funded award. Please review the Certifications and Registrations section of the DoW SBIR/STTR Program BAA for details on how DoW will assess security risks presented by SBCs. The Due Diligence Program to Assess Security Risks will be implemented for all Phases.

Discretionary Technical and Business Assistance (TABA). The SBIR and STTR Policy Directive section 9(b) allows the DON to provide TABA (formerly referred to as DTA) to its awardees. The purpose of TABA 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 SBCs may request, in their Phase I Cost Volume (Volume 3) and Phase II Cost Volume, to contract these services themselves through one or more TABA providers in an amount not to exceed the values specified below. The Phase I TABA amount is up to $6,500 and is in addition to the award amount. The Phase II TABA amount is up to $25,000 per award, 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 $2,000,000 or lower limit specified by the SYSCOM). As with Phase I, the amount proposed for TABA cannot include any profit/fee by the proposing SBC 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 STTR proposing SBC. 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. An SBC receiving TABA will be required to submit a report detailing the results and benefits of the service received. This TABA report will be due at the time of submission of the final report.

Request for TABA funding will be reviewed by the DON SBIR/STTR Program Management 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 STTR proposing SBC
- propose a TABA provider that is the STTR proposing SBC
- propose a TABA provider that is an affiliate of the STTR proposing SBC
- propose a TABA provider that is an investor of the STTR proposing SBC
- propose a TABA provider that is a subcontractor or consultant of the requesting SBC 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 I:
    - Online DoW Cost Volume (Volume 3) – 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.
- 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 I: A total of $6,500
- Phase II: A total of $25,000 per award, not to exceed $50,000 per Phase II project

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 SBC 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). An SBC 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.

Partnering Research Institutions. The Naval Academy, the Naval Postgraduate School, and other military academies are Government organizations but qualify as partnering research institutions. However, DON laboratories DO NOT qualify as research partners. DON laboratories may be proposed only IN ADDITION TO the partnering research institution.

System for Award Management (SAM). It is strongly encouraged that proposing SBCs 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 SBCs should confirm that they are registered to receive contracts (not just grants) and the address in SAM matches the address on the proposal. An SBC selected for an award MUST have an active SAM registration at the time of award or they will be considered ineligible.

Cybersecurity Maturity Model Certification (CMMC) Program. DoW has established the CMMC Program to verify that awardees have implemented required security measures necessary to safeguard Federal Contract Information (FCI) and Controlled Unclassified Information (CUI). CMMC Level requirements are identified within each topic and must be met prior to award. Proposing SBCs should anticipate that a Projected CMMC Level for Phase II award may be higher than the Projected CMMC Level advertised in the Phase I topic. Proposing SBCs should carefully review and consider the CMMC requirements as compliance may impact proposed costs and technical approach. Please review the DoW SBIR/STTR Program BAA for additional information on the CMMC Program.

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

252.240-7997, in order to be considered for award, an SBC 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. Due to the short timeframe associated with Phase I of the SBIR/STTR process, the DON does **not** recommend the submission of Phase I proposals that require the use of Human Subjects, Animal Testing, or Recombinant DNA. For example, the ability to obtain Institutional Review Board (IRB) approval for proposals that involve human subjects can take 6-12 months, and that lengthy process can be at odds with the Phase I goal for time-to-award. Before the DON makes any award that involves an IRB or similar approval requirement, the proposing SBCs must demonstrate compliance with relevant regulatory approval requirements that pertain to proposals involving human, animal, or recombinant DNA protocols. It will not impact the DON's evaluation, but requiring IRB approval may delay the start time of the Phase I award and if approvals are not obtained within two months of notification of selection, the decision to award may be terminated. If the use of human, animal, and recombinant DNA is included under a Phase I or Phase II 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.

Government Furnished Equipment (GFE). Due to the typical lengthy time for approval to obtain GFE, it is recommended that GFE is not proposed as part of the Phase I proposal. If GFE is proposed, and it is determined during the proposal evaluation process to be unavailable, proposed GFE may be considered a weakness in the technical merit of the proposal.

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 SBC 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 compliance review of Volume 3, to confirm eligibility of the proposing SBC, and to take other relevant steps necessary prior to making an award.

Contract Types. A Firm Fixed Price (FFP), Basic Ordering Agreement (BOA), or Prototype Other Transaction (OT) may be used for Phase I awards.

Funding Limitations. In accordance with the SBIR and STTR Policy Directive section 4(b)(5), there is a limit of one sequential Phase II award per SBC per topic. Additionally, to adjust for inflation DON has raised Phase I and Phase II award amounts. The maximum Phase I proposal/award amount including all options (less TABA) is $240,000. The Phase I Base amount must not exceed $140,000 and the Phase I Option amount must not exceed $100,000. The maximum Phase II proposal/award amount including all options (including TABA) is $2,000,000 (unless non-SBIR/STTR funding is being added). Individual SYSCOMs may award amounts, including Base and all Options, of less than $2,000,000 based on available funding. The structure of the Phase II proposal/award, including maximum amounts as well as breakdown between Base and Option amounts will be provided to all Phase I awardees either in their Phase I award or a minimum of 30 days prior to the due date for submission of their Initial Phase II proposal.

Contract Deliverables. Contract deliverables for Phase I are typically a kick-off brief, progress reports, and a final report. Required contract deliverables (as stated in the contract) must be uploaded to https://www.navysbirprogram.com/navydeliverables/.

Payments. The DON makes three payments from the start of the Phase I Base period, and from the start of the Phase I Option period, if exercised. Payment amounts represent a set percentage of the Base or Option value as follows:

Days from Start of Base Award or Option	Payment Amount
15 Days	50% of Total Base or Option
90 Days	35% of Total Base or Option
180 Days	15% of Total Base or Option

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 II GUIDELINES

Evaluation and Selection. All Phase I awardees may submit an **Initial** Phase II proposal for evaluation and selection. The evaluation criteria for Phase II is the same as Phase I (as stated in the BAA). The Phase I Final Report and Initial Phase II Proposal will be used to evaluate the SBC's potential to progress to a workable prototype in Phase II and transition the technology to Phase III. Details on the due date, content, and submission requirements of the Initial Phase II Proposal will be provided by the awarding SYSCOM either in the Phase I contract or by subsequent notification.

Awards. The DON will consider the following for Phase II award: Cost Plus Fixed Fee (CPFF), Firm Fixed Price (FFP), Basic Ordering Agreement (BOA), or Prototype Other Transaction (OT). Phase II awards can be structured in a way that allows for increased funding levels based on the project's transition potential. To accelerate the transition of SBIR/STTR-funded technologies to Phase III, especially those that lead to Programs of Record and fielded systems, the Commercialization Readiness Program was authorized and created as part of section 5122 of the National Defense Authorization Act of Fiscal Year 2012. The statute set-aside is 1% of the available SBIR/STTR funding to be used for administrative support to accelerate transition of SBIR/STTR-developed technologies and provide non-financial resources for the SBCs (e.g., the Navy SBIR Transition Program, STP).

Navy SBIR Transition Program (STP). Phase II awardees have the opportunity to 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.

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 STTR DOW 2026 BAA
Topic Index
Release 2

DON26TZ02-NV020 TITLE: Submarine Top-side Anti-Slip Anti-Foulant

COMPONENT TECHNOLOGY PRIORITY AREA(S): Advanced Materials; Sustainment

PROJECTED CMMC LEVEL REQUIREMENT: Level 2 (Self)

OBJECTIVE: Develop a non-toxic, high-friction anti-fouling coating for submarine topsides that will not be damaged by alternating wet-dry cycles, solar radiation, or atmospheric exposure. The antifouling coating must also be tough enough to withstand foot and cargo traffic.

DESCRIPTION: Anti-fouling paints and coatings are applied to submarines, ship hulls, and acoustic sensors to inhibit the growth and accumulation of unwanted marine life ("biofouling"; e.g., barnacles, tube worms, algae biofilms, etc.). Biofouling increases surface drag and creates noisy flow conditions. Some anti-fouling materials contain poisons (biocides) to discourage the unwanted marine growth while others (foul release type coatings) form extremely slippery surfaces that prevent marine organisms from attaching strongly to their surfaces. Some newer coatings utilize both mechanisms in combination to discourage/prevent biofouling.

Several challenges arise with respect to the topsides of submarines. Humans need to walk on the topside of submarines during certain situations. Slippery anti-fouling coatings pose a significant safety risk, as they can lead to falls overboard and potentially serious injuries. The coating must also be mechanically robust enough to not be damaged or de-bonded from protected surfaces due to normal foot traffic and equipment/cargo placement. Currently used anti-fouling paints and coating present both immediate and long-term challenges. If they contain biocides, toxic residues can be tracked inside the submarine, posing a health hazard to the crew. Additionally, the reliance on toxic components raises concerns about the future availability and cost of these materials. Finally, the topside environment is an alternating wet/dry environment, so any antifouling paint/coating/material use there would need to survive desiccation and periods of time when it would be above the waterline for days or months without experiencing a significant drop in effectiveness when it is once again underwater. During the time it is above the waterline/out of the water, the paint/coating/material would need to survive exposure to air and direct sunlight. There is no commercially available solution to this problem.

The Navy is seeking novel anti-fouling paints, coatings, or materials and application methods for the anti-fouling products for use on submarine topside surfaces. These solutions must effectively inhibit marine growth while maintaining the flow conditions associated with propulsion efficiency and noise due to turbulent boundary layers, including minimizing drag and turbulent flow at operational speeds. The solution must also allow sailors to maintain steady footing when the topside of the submarine is awash with sea water. Exact characteristics of the submarine hull surface would be considered controlled unclassified information, which will be shared with Phase I performers after they are under contract. The solution(s) will be a useable topside coating that minimizes biofouling on topside surfaces while the submarine is submerged. After it is initially applied, the solution should remain bonded to the protected surfaces and be able to discourage or prevent biofouling for up to 6-8 years without any major maintenance or routine cleaning. Standard Navy requirements for adhesion, color, performance, and durability will be invoked as the candidate materials advance.

The Navy seeks this innovation to leverage advancements in non-toxic materials, addressing the long-standing need for safer alternatives in applications currently reliant on toxic substances. Recent

advancements in marine antifouling strategies include bioactive antifoulant mechanisms, self-polishing antifouling mechanisms, surface wettability mechanisms, photocatalytic bactericidal mechanisms, and biomimetic antifouling mechanisms. Successful prototypes will be useful for unmanned, undersea vehicles that are handled/retrieved by ship's crews and stored on deck between missions, as well as the Navy's intended target of submarine topside surfaces.

PHASE I: Develop a concept for a non-slip, anti-fouling coating that demonstrates it feasibly meets the requirements of the Description. Feasibility will be demonstrated through modelling and analysis, and should include a plan for synthesis of the material(s). The Phase I Option, if exercised, will include the initial design specifications and capabilities description to build a prototype solution in Phase II.

PHASE II: Develop and deliver a prototype non-toxic, high-friction anti-fouling coating based on the results of Phase I. Demonstrate through a comprehensive test and evaluation program that the solution meets the parameters of the Description. This will encompass physical testing on representative hull sections provided by the government. Initial demonstrations may be performed on painted metal and fiberglass. Prototype effectiveness should also be demonstrated through computational modeling and analysis.

PHASE III DUAL USE APPLICATIONS: Assist the Navy in transitioning the prototype to Navy use. Collaborate with the Navy on the transition and implementation of the technology. Continue development to initially lead the company through material and application system certification for Navy use.
The Navy anticipates significant commercial opportunities for this technology in the maritime shipping and cruise industries, beyond its application on submarine topsides.

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KEYWORDS: Anti-fouling; marine growth inhibitors; health hazard to Submariners; turbulent flow; minimizing drag on Submarines; submarine topside

DON26TZ02-NV021 TITLE: Colloidal Nanocrystals for Improved Mid-Wave Infrared Imaging

OUSW (R&E) CRITICAL TECHNOLOGY AREA(S): Quantum and Battlefield Information Dominance (Q-BID)

COMPONENT TECHNOLOGY PRIORITY AREA(S): Advanced Materials; Microelectronics; Quantum Science

PROJECTED CMMC LEVEL REQUIREMENT: Level 2 (Self)

OBJECTIVE: Develop a photo-diode technology based on colloidal nanocrystal materials, suitable for direct deposition on a Silicon/Silicon Dioxide (Si/SiO2) substrate read-out integrated circuit (ROIC).

DESCRIPTION: Imaging sensors (cameras) have widespread commercial, scientific, and military applications. In the visible band, such cameras are commonplace, easy to integrate and use, and generally produce a high-quality image. They are also relatively cheap due to the fortuitous properties of silicon-based semiconductors which allows imaging sensors in the visible band to be realized in the widely available and well proven silicon complementary metal–oxide–semiconductor (CMOS) system. Imaging sensors in the infrared (IR) lack many of these advantages as the light sensitive semiconductors are not suitable for fabrication of the circuitry necessary to capture and transmit the photo-electrical response. Consequently, IR imaging sensors are comprised of focal plane arrays (FPAs) that are fabricated in semiconductor systems such as InSb and HgCdTe and then bonded to ROICs that are fabricated in the more familiar Si/SiO2 semiconductor system. This hybrid construction is inherently more costly, not just because of the increased parts count, but also due to yield issues related to the individual components and to the bonding process itself.

An imaging sensor architecture that eliminates the FPA to ROIC bonding process would fundamentally reduce cost. One straight-forward way of accomplishing this is by the direct deposition of light sensitive colloidal quantum dot (CQD) films onto the Si/SiO2 based ROIC. In this way, the ROIC also serves as the substrate for the deposited QCD film. Therefore, the FPA and the ROIC essentially become a single device, albeit fabricated with two separate processes. Nonetheless, this architecture eliminates the FPA as a separate (and expensive) component and eliminates the traditional semiconductor to semiconductor bonding process. In addition, because the photo-sensitive CQD material is applied as a continuous film layer (with additional film layers added for electrical function and mechanical protection), etching process or discrete pixel deposition processes requiring highly accurate registration with the underlying ROIC are also eliminated.

While QCD photodetectors have been successful in the near-to short-wave infrared, they struggle to compete with traditional detectors (InSb and HgCdTe) in the mid-wave IR (MWIR) band. The main obstacle limiting the performance of these devices in the MWIR is low photoluminescence quantum yield (PLQY) – the ratio of photons emitted to photons absorbed in an ensemble of CQDs (either in solution or in a deposited film). Low PLQY in the CQDs that make up the active layer of the overall layered film structure leads to large dark currents when these films are incorporated with a substrate to form photodiodes. And it is the dark current that essentially establishes the noise floor of the device, which limits sensitivity. In particular, the PLQY of CQD films is inversely proportional to the dark current. Thus, low PLQY in the CQD film leads to low dynamic range which reduces the ability to detect dim targets. Therefore, integration times increase, potentially decreasing camera frame rates. While some of

these effects can be compensated for by novel ROIC designs, nothing can take the place of inherently low dark current, which, in the case of CQDs, is a function of the semiconductor chemistry and the associated process for CQD deposition. Currently, the PLQY of CQDs drops from about 60% in the near IR band (~1 μm) to < 1% at 5 μm, following a similar "energy gap law" as seen in organic dyes.
The Navy needs a novel quantum colloidal dot nanocrystal-based photo-detector technology with improved PLQY in the MWIR band, suitable for deposition on Si/SiO2 substrates. This technology is currently not commercially available.

Nominally, a five-fold increase in PLQY, over the current state of the art at 5 μm is desired. The technology must be suitable for large-scale and uniform deposition for the eventual formation of photo-detector arrays of size and performance comparable to current FPA-ROIC sensors produced by conventional means. While the ROIC design is not part of this effort, the CQD based technology shall be compatible with electrical readout. That is, the colloidally deposited nanocrystal active layer shall not inhibit electrical contact with circuit features of the ROIC structure. Nor shall the ROIC require non-electrical elements such as additional photonic or magnetic elements to affect the read-out function. Likewise, while the ROIC design will determine pixel pitch, suitability of the technology for an effective pixel size of no greater than 20 μm (diameter or longest linear dimension) shall be demonstrated with a feasible path to 5 μm pixels identified.

PLQY, measured at specific operating temperatures, is the key metric for this effort. Specifically, the demonstrated PLQY is assumed to be the intrinsic PLQY of the CQD active layer, when deposited as a stable film, and representative of an actual device. Means of enhancing the PLQY, such as incorporation of optical resonance cavities, though potentially of interest in some applications, are not valid in determining the true PLQY improvement. Likewise, solutions that are photo-sensitive only across extremely narrow wavelength ranges are not of interest. The prototype solution should be demonstrated across the entire MWIR sub-band of 3-5 μm. Solutions that combine increased PLQY with higher operating temperatures are highly desirable.

This effort anticipates a technical solution that combines new (or improved) material with a corresponding set of manufacturing processes that will ultimately be used to produce low cost MWIR imaging sensors. While demonstrations of the technology in affecting large FPA-like sensors are beyond the scope of this effort, demonstration that the technology is compatible with this goal is expected. Therefore, fabrication and demonstration of individual photodetectors is expected and fabrication of small-scale, multi-detector, test structures is desirable. In any case, demonstration of the technology shall be accompanied by suitable evidence that the process is scalable. Demonstration in an actual camera is not required and the choice of test structures and methods for demonstration of prototype devices is not restricted. However, it is necessary to measure and report intrinsic PLQY, photo-electrical performance, and the manufacturing quality. Therefore, innovative measurement techniques (and perhaps new instruments) may need to be developed as well. The solution that demonstrates the highest PLQY while meeting the other requirements, as defined above, is desired and this effort is anticipated to include many build-test-build cycles as both the colloidal nanocrystal chemistry and process are refined.

PHASE I: Develop a concept for a colloidal nanocrystal-based photo-detector structure with improved sensitivity, suitable for direct growth on Si/SiO2 substrates, meeting the requirements in the Description. Estimate the PLQY and show the feasibility of the technology in producing discrete photodetectors operating in the MWIR band. Show feasibility of the technology, when combined with a suitable ROIC, in eventual application to MWIR imaging sensors. Identify and assess the feasibility of associated

manufacturing process steps and any novel measurement techniques necessary to demonstrate the technology in Phase II. Feasibility will be demonstrated by analysis, modelling and simulation, the fabrication and testing of initial prototypes, or some combination of all three. The Phase I Option, if exercised, will include initial design and process specifications necessary to build and demonstrate prototype test structures in Phase II.

PHASE II: Develop and deliver prototype colloidal nanocrystal-based, small scale MWIR photo-detectors directly grown on Si/SiO2 ROICs or surrogate Si/SiO2 substrates, based on the results from Phase I. Demonstrate process and performance repeatability and device scalability. Show that the technology can produce imaging sensors comparable (in function, performance, and reliability) to conventional sensors incorporating direct FPA to ROIC bonding. Measure and report on the final PLQY achieved. At the conclusion of Phase II, one or more prototype devices, demonstrating best performance, will be tested and then delivered to the US Naval Research Laboratory.

PHASE III DUAL USE APPLICATIONS: Support the Navy in transitioning technology for Navy use. Scale the technology to produce large format prototype sensors incorporating suitably designed ROICs. Demonstrate functionality, performance, and reliability through integration of these sensor prototypes into full functioning cameras. Develop product specifications and process control drawings for specific sensor designs. Assist the Navy in integration of these sensors into Navy combat systems. Establish, either in-house or through partnering or licensing, the production facilities necessary to support Navy, other Government, and (where applicable) commercial demand.
In addition to defense applications, the demand for affordable infrared imaging is expanding rapidly in the areas of law enforcement, home and commercial security, navigation, and the many fields of scientific study that utilize advanced imaging.

REFERENCES:

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KEYWORDS: Quantum Colloidal Dot; Photoluminescence Quantum Yield; Read-Out Integrated Circuit; Focal Plane Arrays; Mid-Wave Infrared Photo-Detector; Nanocrystals