Broad Agency Announcement

Precision Inertial Navigation & Positioning On an Integrated Tesseract (PINPOINT)

Defense Sciences Office

HR001126S0016

August 6, 2026

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and 2 CFR § 200.203. Any resultant award negotiations will follow all pertinent law and regulation, and any negotiations and/or awards for procurement contracts will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA.

OVERVIEW INFORMATION:

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Defense Sciences Office (DSO)
- **Funding Opportunity Title** – Precision Inertial Navigation & Positioning On an Integrated Tesseract (PINPOINT)
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** HR001126S0016
- **Assistance Listing Number:** 12.910 Research and Technology Development
- **Dates/Time - All Times are Eastern Time Zone (ET)**
    - Proposers Day: July 27, 2026
    - Posting Date: August 6, 2026
    - Proposal Abstract Due Date: August 27, 2026, at 4:00 p.m.
    - Question Submittal Closed: September 15, 2026, at 4:00 p.m.
    - Proposal Due Date: September 25, 2026, at 4:00 p.m.
- **Anticipated individual awards** - Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Procurement contracts, cooperative agreements, or Other Transaction Agreements for Prototype.
- **NAICS Code**: 541715
- **Agency contact**

    Points of Contact
    - The BAA Coordinator for this effort may be reached at: PINPOINT@darpa.mil
    - DARPA/DSO
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      Arlington, VA 22203-2114

SECTION I: FUNDING OPPORTUNITY DESCRIPTION

A. Introduction

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative proposals in the following technical area: physics and nonlinear control of inertial measurement units (IMUs) appropriate for tactical and unmanned missions. The Precision Inertial Navigation & Positioning On an Integrated Tesseract (PINPOINT) program will challenge the research community to overcome the decade-long performance plateau of micro-electro-mechanical systems (MEMS) IMUs by exploring revolutionary sensor architectures that operate in highly nonlinear regimes. DARPA is soliciting proposals for the research and development of novel inertial sensors based on physics such as, but not limited to, electromagnetically levitated proof masses, non-linear resonators, and high-velocity tethered microsystems. A central theme of this program is the tight co-design of the physical sensor package with advanced, real-time adaptive control systems necessary to stabilize and harness these complex dynamics. Performers should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

B. Background

The United States military's operational effectiveness is deeply reliant on the Global Positioning System (GPS) for precise positioning, navigation, and timing (PNT). This dependency limits the ability to reliably navigate in contested environments where the GPS signal can be denied or degraded by terrain, climate, or deliberate jamming and spoofing by adversaries. In such scenarios, warfighters depend on Inertial Navigation Systems (INS) to maintain operational capability. However, the current landscape of inertial navigation technology is defined by a difficult compromise between performance and size, weight, power, and cost (SWaP-C). At one end of the spectrum, strategic-grade systems like ring-laser gyroscopes offer high precision but are too large, power-hungry, and expensive for integration into the majority of modern tactical and unmanned platforms. On the other end, MEMS IMUs are compact and inexpensive, but their performance has plateaued over the last decade. These sensors suffer from excessive noise and drift, rendering them unreliable for navigation beyond a few seconds. While alternative technologies like visual navigation exist, they are not a panacea; they still depend on a baseline IMU for some level of tracking, have significant SWaP requirements of their own, and fail to provide accurate estimates in the presence of fog, during rapid motion blurs, or when navigating over featureless environments such as large bodies of water, clouds, or desertic areas.

The PINPOINT program will bridge the gap between large and costly high-performance IMUs and the SWaP-C constraints of modern tactical systems. This will pave the way to deliver navigation and pointing performance approaching that of navigation-grade systems in GPS-contested environments.

Recent developments in non-linear resonators and levitated systems such as the ones developed in DARPA's Highly Accelerated Learning of Vibratory Systems (HALOVS) program[1], enable new opportunities in the implementation of novel rotation and acceleration sensors, which serve as the building blocks of inertial navigation systems. In particular, devices resonating at velocities close

[1] For more information about the HALOVS portfolio see: https://www.darpa.mil/research/programs/halovs

to the fundamental material fracture limit can offer more than two orders of magnitude improvement in performance compared to state-of-the-art devices with velocities only in the order of a few meters per second. Similarly, levitated structures can effectively isolate the sensing mass from its substrate, fundamentally eliminating the anchor losses and environmental coupling that traditionally limit the quality factor (Q) of micro-scale devices. Together, extreme isolation and amplified signal transduction provide a compelling pathway to achieve navigation-grade bias stability and ultra-low noise profiles within a low-SWaP footprint.

C. Program Objective

The objective of PINPOINT is to develop new physics and nonlinear control methodologies to deliver proof-of-concept six-degree-of-freedom (6-DOF) IMUs meeting the requirements of DoW-relevant missions. Additionally, in order to enable a new generation of low SWaP gyroscopes and accelerometers to meet pressing current and future defense needs, PINPOINT performers will be required to report validated physical simulation models, design rules, and explored parameter spaces compiled in the form of a comprehensive Design Guide and a Prototype Design Kit (PDK). The PDK will specify the simulated, usable design space and projected performance of the selected technology platform, such that the delivered sensors can be redesigned as IMU use-case scenarios evolve over time.

PINPOINT is soliciting proposals in advanced micro-scale inertial technologies specific to DoW-related applications. While this solicitation provides two illustrative sets of key performance metrics beneficial for either long-range munition missions or unmanned aerial vehicles, other defense-relevant inertial-sensor use cases will be considered within scope. If proposing an alternate use case, proposers must include appropriate performance metrics that are *at least as* challenging as those in the examples provided. Alternative use cases may include applications such as space operations, radiation-hard environments, navigation missions with intermediate time-scales, 10-year lifetime operation for ultra-low-power sensor networks, hypersonic trajectories. Each proposal must focus on a single target application and clearly specify its corresponding system-level performance objectives (e.g., circular error probably (CEP) for a given mission duration). Proposers selecting one of the illustrative examples below are still required to provide a detailed list of specifications; deviations from these metrics are permissible, provided they are accompanied by a rigorous justification. The chosen target application must also be supported by solid technical validation through modeling, simulation, and any available experimental data of the sensor-level performance and robustness metrics needed to meet the system-level specifications. Furthermore, proposals must outline quantitative, measurable end-of-phase milestones including an estimated SWaP, and a clear plan on how to accomplish these goals, including, but not limited to, a description of the fabrication process to be used. Proposers may submit multiple proposals in response to this solicitation provided that each individual submission strictly addresses only one specific use case.

Table 1 shows an example of suggested metrics for precision strike munitions, where high dynamic range and robust shock and vibration immunity are indispensable. Low noise, specified as velocity and angle random walk (VRW and ARW) for accelerometers and gyroscopes, respectively, is also necessary to guarantee better than tactical grade performance during the mission duration.

Table 1. Illustrative metrics for precision strike munitions

Precision Munitions	Suggested Metrics	
Precision Strike	High-G Resilience	
	Phase I	Phase II*
Accel: Range	±1,000 g	±10,000 g
Gyro: Range	±5,000 °/s	±10,000 °/s
Vibrations survivability	20 gRMS	50 gRMS
Shock survivability	1,000 g	10,000 g
Accelerometer Noise (VRW)	10 (mm/s)/√hr	< 1 (mm/s)/√hr
Gyroscope Noise (ARW)	1e-4 °/√hr	1e-5 °/√hr
SWaP	Report in Design Guide	

*Phase II metrics are rough order-of-magnitude estimates. Final specifications will be shared at a later time as specified in section D of this document.

Alternatively, Table 2 summarizes recommended specifications for unmanned aerial vehicle (UAV) systems, where long-term stability of inertial navigation systems must be prioritized to enable dead reckoning in GPS-denied environments.

Table 2. Illustrative metrics for unmanned aerial vehicle systems

Unmanned Systems	Suggested Metrics	
Persistent Autonomy	Long-Term Stability	
	Phase I	Phase II*
Vibrations survivability	10 gRMS	20 gRMS
Accelerometer Bias Instability, (ADEV†, μg @ τ=1000s)	1	0.1
Gyroscope Bias Instability, (ADEV, °/hr @ τ=1000s)	1e-3	2.5e-5
SWaP	Report in Design Guide	

*Phase II metrics are rough order-of-magnitude estimates. Final specifications will be shared at a later time as specified in section D of this document.
†ADEV: Allan Deviation

With PINPOINT, DARPA seeks next-generation inertial sensing approaches that maintain the favorable SWaP characteristics of state-of-the-art MEMS-based sensors while overcoming their fundamental performance constraints. To achieve this, PINPOINT challenges the research community to shatter these limitations by proposing unorthodox solutions that break away from the design paradigms of today's traditional sensors. While prior participation in DARPA programs is not required, proposers are encouraged to leverage the public scientific discoveries and physical

limits documented under the Highly Accelerated Learning of Vibratory Systems (HALOVS) portfolio[2]. Proposals may incorporate concepts such as levitated systems, high-velocity resonators, and non-linear mechanical structures as a potential springboard for sensor design. It is anticipated that making use of such non-linear behaviors will require novel approaches to control those non-linear systems. However, this solicitation remains open to alternative approaches, provided there is compelling evidence showing the proposed solution can satisfy the program metrics in the timeline of the program.

D. Program Structure

This BAA is soliciting **only** Phase I for PINPOINT program, and Phase I consists of a 24-month period of performance. For Phase I, performers will first demonstrate the mathematical rigor and simulation results of their advanced non-linear systems and dynamic state estimators and perform laboratory testing of foundational inertial-sensor and IMU performance using bench-top evaluations. Final designs will be validated through operational field-testing at designated DoW ranges to demonstrate mission-ready performance. It is anticipated that a 24-month Phase II will follow, in which performers will execute the packaging and environmental ruggedization of the de-risked Phase I sensors.

This BAA will use a Phased Acquisition Approach to de-risk the project by soliciting in phases. As such, proposers should provide 1) fully definitized proposals for Phase I with sufficient data for award negotiation, and only 2) a draft Statement of Work (SOW) and Rough Order of Magnitude (ROM) cost for Phase II for government planning purposes.

During Phase I, the Government will issue Phase II proposal instructions to all Phase I performers. Selection for Phase II will be based on availability of funds, performance results from Phase I and the corresponding Phase II proposal, which will be evaluated with criteria consistent with the criteria in Section II of this solicitation. DARPA anticipates releasing these instructions by month 20 of Phase I. This will allow teams to build on Phase I learnings, and potentially re-team and/or re-organize to emphasize integration, system design, and ITAR restrictions over the fundamental development of Phase I.

Phase I (24 months)

In Phase I of the program, performers must first demonstrate preliminary mathematical models and simulation results of the full control system and dynamic state estimator demonstrating the specific metrics for the selected application. The model performance evaluation will be followed by initial laboratory noise measurements of all implemented sensors, covering all 6 degrees of freedom, in the form of an Allan Deviation plot. By end of month 12, performers must showcase a laboratory demonstration of all individual sensing components (3 acceleration and 3 rotation sensors), which must include angular rate measurements for the gyroscopes, shaker table tests for the accelerometers, and Allan Deviation results up to at least 1,000 seconds for both types of sensors. By month 21, performers must demonstrate and deliver 3 IMU sensors meeting Phase I metrics with prototype devices, with a total of 5 IMU sensors to be delivered by the end of the phase. DARPA's independent verification and validation (IV&V) partner will confirm results through (IV&V) as summarized in Table 3.

[2] List of publications: https://www.darpa.mil/sites/default/files/attachment/2026-06/program-halovs-portfolio.pdf

Milestones and Deliverables

- Month 1: Program Kick-off, with presentation materials as a deliverable.
- Month 3: Demonstrate and report preliminary mathematical models and/or simulation results of system control system and dynamic state estimator.
- Month 6: Principal Investigator (PI) meeting, with presentation materials as a deliverable.
- Month 12: Perform live laboratory demonstration and report results of all individual sensing components (3 acceleration and 3 rotation sensors), including angular rate, acceleration response, and Allan Deviation measurements up to at least 1,000 seconds for each sensing axis.
- Month 21: Demonstrate sensors meeting Phase I metrics and deliver a minimum of three functional, packaged sensor prototypes for IV&V performed at a Government laboratory facility.
- Month 24: Deliver final hardware IMU samples (total of 5), PDK, and final report.

To ensure the successful development of the PDK and to bridge the gap between academic discovery and industrial manufacturing, the program will require Phase I performers to enter into an Associate Contractor Agreement (ACA). The ACA will mandate the sharing of critical, program-generated data among performer teams to accelerate cross-pollination, while establishing strict firewalls to prevent the commercial misappropriation of proprietary intellectual property (IP). (In Phase II, this broad data-sharing requirement will be relaxed, allowing industry-led teams to develop and protect proprietary IP regarding their specific hardware implementations and manufacturing processes.)

All proposals must include the following meetings and travel in the proposed schedule and costs:

- To foster collaboration between teams and disseminate program developments, a two-day principal investigator (PI) meeting will be held approximately every six months. For costing purposes, proposals should assume alternating between the U.S. east and west coasts for PI meetings.
- Regular quarterly teleconference meetings will be scheduled with the Government team for progress reporting, video demonstrations of experimental progress, and risk identification and mitigation. Proposers should also anticipate at least one site visit per phase by the DARPA Program Manager, during which they will have the opportunity to demonstrate progress towards agreed-upon milestones.

Phase II (24 months)

Phase II information is included for ***informational and planning purposes only***. Proposal instructions for Phase II will be solicited/issued through a separate solicitation or Request for Proposal to all Phase 1 performers, and is expected to be released by month 20 of Phase I. The exact release date and details of this document will be determined at a later date. DARPA is not obligated to solicit for Phase II; the decision to continue PINPOINT for Phase II will be determined based on the performance results demonstrated in Phase I.

The objective of Phase II is to both improve sensor performance metrics and demonstrate a packaging and ruggedization design that meets particular mission specifications. This will

include laboratory environmental testing of prototypes by the end of month 12 of Phase II, and transition-partner IV&V field testing of the final prototypes by the end of Phase II. Examples of potential validation tests are provided in Table 3. However, target performance and packaging specifications, together with a final test plan will be shared in the Phase II proposal instructions. As in Phase I, proposal should assume in-person PI meetings approximately every six months. Final deliverables include 5 packaged and tested IMU sensors.

Table 3. Illustrative IV&V testing and exit criteria

Use Case	End of Phase I (Year 2)	End of Phase II** (Year 4)
Precision Strike Munitions	The Hopkinson Bar Gauntlet: Conducted at a designated DoW test facility, a packaged sensor must survive and maintain stable operation after being subjected to repeated, tri-axial 10,000g shocks.	The SCAT Gun Live-Fire: Conducted at a designated DoW live-fire test range, the sensor, integrated into a surrogate munition, will be fired from the Army's SCAT gun. The pass/fail criterion is "operate-through": the device must provide continuous, accurate angular rate data during and immediately after the launch event.
Persistent Autonomy (unmanned vehicles)	The 24-Hour Soak: Conducted at a designated DoW test facility, the packaged sensor must demonstrate a drift rate of less than 1.0e-3 °/hr @ 1000 s in a thermally dynamic chamber that simulates a day/night operational cycle.	The Long-Endurance Sortie: Conducted at a designated DoW flight test facility, the sensor will be flown on a Group 2/3 UAV for a multi-hour mission. The final navigation solution will be compared against a truth-data trajectory, with a pass/fail criterion of achieving a CEP of < 0.1 nautical miles per hour.
Performer-defined, Government-team approved Application Scenario (e.g., Space, Hypersonics, Rad-Hard)	Proposer-Defined Lab Demonstration: Conducted at an approved test facility, the performer will execute a custom bench-top, rate-table, or environmental lab test. The test must validate the foundational sensor performance metrics required to achieve their specific proposed mission profile. Pass/fail criteria will be established during contract negotiation based on the performer’s approved statement of work.	Proposer-Defined Field Exam: Conducted at an operationally relevant DoW test facility (e.g., thermal-vacuum chamber for space, hypersonic wind tunnel, or radiation test facility). The integrated IMU must demonstrate survivability and performance against the specific environmental and navigational stresses of the proposed use-case. Final evaluation will compare IMU output against truth-data for the simulated operational trajectory.

** Phase II tests and exit criteria are provided as examples only. Final details will be shared in the instructions for Phase II proposals.

DSO Industry Immersion Program (IIP) Option

Industry proposers that include university teams as subcontractors are invited to propose an optional task for the DSO Industry Immersion Program (IIP) in their abstract. This option is designed to accelerate the transition of research to practice by funding one U.S. citizen graduate student (Master's or Ph.D. student) or postdoctoral researcher from each university partner to embed within a corporate partner's facility for a nine to twelve (9-12) month period. The purpose is to embed a scientist developing new capabilities into industry labs to accelerate transition and integration of the technology being developed on the program and to help expose graduate students to integration-level work usually executed beyond the lab. Proposers should consider timing carefully as, depending on the work plan, it might be most advantageous to embed early in the period of performance for risk reduction, or later in the effort to expose them to deeper integration. Proposed option periods near the beginning of an effort are less likely to be funded as work during that time may tend to be more focused on basic research.

The Government will provide funding to cover the labor, travel, and per diem costs associated with the immersion period, up to $160,000 per student. Proposals may include separate options for each university subcontractor, but each option is limited to a single student. The decision to fund IIP options is independent of the decision to fund the base proposal and will be made based on the availability of funds and an assessment of the option's merits.

The proposer should provide a plan for the nine to twelve-month immersion, including research objectives and expected outcomes, and a rationale for the timing relative to the base award work plan. The name and credentials of the proposed individual, if known. If an individual is not identified, the proposal must describe the planned selection process. A letter of support from the corporate partner confirming their willingness to host the student/researcher. A description of the mentorship plan for the student/researcher at the corporate partner facility. A detailed cost breakdown, including estimated labor, travel, lodging, and per diem expenses.

SECTION II: EVALUATION CRITERIA

Proposals will be evaluated using the following criteria listed in **descending order of importance**. Overall Scientific and Technical Merit; Potential Contribution and Relevance to the DARPA Mission; Cost and Schedule Realism; and Proposer's Capabilities or Related Experience.

- **Overall Scientific and Technical Merit**: The proposed technical approach is innovative, feasible, achievable, and complete. Detailed technical rationale is provided delineating why the proposed approach can achieve the program goals and metrics. Task descriptions and associated technical elements provided are complete and logically sequenced, with all proposed deliverables clearly defined so the final outcome of the award's work achieves the goal. The proposal identifies major technical risks, and planned mitigation efforts are clearly defined and feasible.
- **Potential Contribution and Relevance to the DARPA Mission**: The potential contributions of the proposed effort bolster the national security technology base and support DARPA's mission to make pivotal early technology investments that create or prevent technological surprise. The proposed intellectual property restrictions (if any) will not significantly impact the Government's ability to transition the technology.
- **Cost and Schedule Realism**: The proposed costs and schedule are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. All proposed labor, material, and travel costs are necessary to achieve the program metrics, are consistent with the proposer's Statement of Work, and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel, and any other applicable costs and the basis for the estimates). It is expected that the effort will leverage all available, relevant, prior research to obtain the maximum benefit from the available funding. For proposals containing cost share, the proposer has provided sufficient rationale regarding the appropriateness of the cost share arrangement, relative to the objectives of the proposed solution (e.g., high likelihood of commercial application, etc.). The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload. The proposed schedule identifies and mitigates any potential schedule risk.
- **Proposer's Capabilities or Related Experience**: The proposer's prior experience in similar efforts clearly demonstrates an ability to create and manage complex information sharing and deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

Unless otherwise specified in this announcement, for additional information on how DARPA reviews and evaluates proposals through the Scientific Review Process, please visit: Proposer Instructions: General Terms and Conditions.

SECTION III: SUBMISSION INFORMATION

- This announcement allows for multiple award instrument types to be awarded to include Procurement Contracts, Cooperative Agreements, and Other Transaction Agreements for Prototype. Some award instrument types have specific cost-sharing requirements. The following websites are incorporated by reference and contain additional information regarding overall proposer instructions, general terms and conditions, and each specific award instrument type.

  Proposers must review the following links:

  - **Proposer Instructions: General Terms and Conditions**: https://www.darpa.mil/about/offices/contracts-management/proposer-general-terms
  - **Procurement Contracts**: https://www.darpa.mil/about/offices/contracts-management/proposer-procurement
  - **Cooperative Agreements**: https://www.darpa.mil/about/offices/contracts-management/proposer-grants
  - **Other Transaction Agreements**: https://www.darpa.mil/about/offices/contracts-management/proposer-transactions

- All technical, contractual, and administrative questions regarding this notice must be emailed to PINPOINT@darpa.mil. Emails sent directly to the Program Manager, or any other address, may result in a delayed or no response. DARPA will attempt to answer all questions in a timely manner and post a "Frequently Asked Questions" document on the DARPA website. This will be updated on an ongoing basis until the closing date listed above.

- This announcement contains an abstract phase. **Proposers MUST submit a conforming abstract prior to submitting a full proposal.** DARPA will respond to abstracts with a statement as to whether DARPA is interested in the idea. If DARPA deems the abstract non-conforming, a subsequent proposal submitted for that abstract will be deemed non-conforming and will be removed from consideration. If DARPA does not recommend the proposer submit a full proposal, DARPA will provide feedback to the proposer regarding the rationale for this decision. Regardless of DARPA's response to an abstract, proposers may submit a full proposal, provided the abstract was conforming. **Please note that proposers who do not submit an abstract or submit a non-conforming abstract will not be able to submit a full proposal.**

- **Alignment and Conformity:** Alignment to this BAA is defined as follows:
  - The proposed concept aligns with the technical area described herein.
  - The proposed concept supports and aligns with DSO's current investment portfolio.
  - The proposed concept investigates an innovative approach that enables revolutionary advances, i.e., will not primarily result in evolutionary improvements to the existing state of practice.
  - The proposed work has not already been completed (i.e., the research element is complete, but manufacturing/fabrication funds are required).
  - The proposer has not already received funding or a positive funding decision for the proposed concept (whether from DARPA or another Government agency).

Abstracts and full proposals found to lack alignment with the BAA as defined above may be deemed non-conforming and removed from consideration. All abstracts and full proposals must provide sufficient information to assess the validity/feasibility of their claims as well as comply with the requirements outlined herein for submission formatting, content, and transmission to DARPA. **Abstracts and full proposals that fail to do so may be deemed non-conforming and removed from consideration.** Proposers will be notified of non-conforming determinations via letter.

- Abstracts are due no later than the date and time stated in the Overview section. Additional instructions for abstract submissions are contained within Attachments A and B.
- DARPA will review all conforming full proposals using the published evaluation criteria without regard to any comments resulting from the review of an abstract. Proposers should note that a favorable response to an abstract is not a guarantee a proposal based on the abstract will be selected for award negotiation. Regardless of instrument type desired, all abstracts must be submitted through BAAT. For instructions on how to submit to BAAT, visit the "Unclassified Submission Instructions" section at Proposer Instructions: General Terms and Conditions.
- Full proposals are due no later than the date and time stated in the Overview section.
- **Attachments C, D, E, and F** contain specific instructions and templates and constitute a full proposal submission for proposers requesting a Procurement Contract.
- **Attachments C, D, E, F, G, and I** contain specific instructions and templates and constitute a full proposal submission for proposers requesting an Other Transaction Agreement.
    - **Milestones:** Attachment I Schedule of Milestones and Payments provides instructions for proposing critical/core milestones for PINPOINT Program. Proposers requesting an OT must also complete Attachment I, to include milestones on the critical path for the proposed effort. Proposed milestones must align with the program schedule and deliverable requirement for the program. Each milestone must have a proposed payment that commensurate with the level of effort to complete and value/impact to the program.
    - In an Other Transaction (OT) for Prototype awards, milestones represent a complete event. Milestone schedule is based on key observable events on the critical path to accomplish program objectives. Payable milestones are technically, relevant, tangible events/tasks/items (a report, completion of a task, reaching an intermediate or final metric) on the critical path for which there is a deliverable and payment is rendered by DARPA. These payable milestones are considered fixed payable milestones, and they are payments based on successful completion of the payable milestones as agreed to within the milestone plan and documented within the Schedule of Milestones and Payments (Attachment I).
- **Attachments C, D, and F** contain specific instructions and templates and constitute a full proposal submission for proposers requesting a Cooperative Agreement. Proposers requesting a Cooperative Agreement must also complete the SF424 (R&R) Budget form through Grants.gov.

- Proposers requesting Procurement Contracts or Other Transaction Agreements must submit proposals through the Broad Agency Announcement Tool (visit Proposer Instructions: General Terms and Conditions for instructions). For proposers requesting a Cooperative Agreement, proposals must be submitted through Grants.gov (visit Proposer Instructions: Grants/Cooperative Agreements for instructions).

- **BAA Attachments**:
  - **(required) Attachment A**: Abstract Summary Slide Template
  - **(required) Attachment B**: Abstract Instructions and Template
  - **(required) Attachment C**: Proposal Summary Slides Template
  - **(required) Attachment D**: Proposal Instructions and Volume I Template (Technical and Management)
  - **(required for proposers requesting Procurement Contracts or Other Transaction Agreements) Attachment E**: Proposal Instructions and Volume II Template (Cost)
  - **(required) Attachment F**: DARPA Cost Proposal Spreadsheet
  - **(required for proposers requesting Other Transaction Agreements) Attachment G**: Model OT for Prototype
  - **(reference) Attachment H**: Associate Contractor Agreement (ACA)
  - **(required for proposers requesting Other Transaction Agreements) Attachment I**: Schedule of Milestones and Payments

SECTION IV: SPECIAL CONSIDERATIONS

- This announcement, stated attachments, and websites incorporated by reference constitute the entire solicitation. In the event of a discrepancy between the announcement, attachments, or websites, the announcement takes precedence.
- All responsible sources capable of satisfying the Government's needs, including both U.S. and non-U.S. sources, may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities, Small Businesses, Small Disadvantaged Businesses and Minority Institutions are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities. Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.
- As of the time of publication of this solicitation, all proposal submissions are anticipated to be unclassified.
- It is anticipated that performers would need to share information with each other for the program to succeed. **Attachment H**: Associate Contractor Agreement (ACA) is provided for reference.
- University-Affiliated Research Centers (UARCs), Federally Funded Research and Development Centers (FFRDCs), Government Entities, and National Laboratories

Due to their specialized roles and longstanding regulatory relationships with the Government, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and Government Entities to include National Laboratories present potential conflicts and advantages that would compromise fair and open competition. These entities typically may only receive funding through existing awards they hold with their sponsoring agencies. If these entities are proposed as subawardees, their costs must be clearly segregable in cost proposals. If scientifically merited, DARPA may fund work proposed by these entities with the following caveats:

- FFRDCs: (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. DARPA, under this solicitation, will not award separate contracts to FFRDCs as prime or subawardees but will instead leverage their existing sponsors' agreements.
- UARCs: While UARCs typically have statutory authority to compete with industry, internal DARPA policy views them as trusted advisors who are only eligible to act as performers in fields where they do not serve in an advisory role. Even in those situations, DARPA still considers UARCs as having organizational conflicts of interest (OCI) when

applying for a performer role. Proposals with UARCs as prime or subawardees must include an OCI mitigation plan.

For this solicitation, DARPA will not establish new contractual agreements for their participation. Accordingly, any proposal submitted directly by these entities in a prime contractor capacity may be deemed non-conforming and not evaluated. Proposals that include a UARC, FFRDC, Government entities, or National Laboratory as a subcontractor may also be deemed non-conforming unless: (1) their role is clearly defined in the technical proposal with a point of contact, and (2) a rough order of magnitude cost is provided in the technical proposal only—cost proposals must exclude their funding, as DARPA will not fund them through the prime. It is important to note that if funded, these organizations will be required to share their work and findings with other performers also supporting the same program. Additionally, DARPA may contact these entities directly to discuss proposed activities.

- As of the date of publication of this solicitation, the Government expects that program goals as described herein may be met by proposed efforts for fundamental research and non-fundamental research. Some proposed research may present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Based on the anticipated type of proposer (e.g., university or industry) and the nature of the solicited work, the Government expects that some awards will include restrictions on the resultant research that will require the awardee to seek DARPA permission before publishing any information or results relative to the program. For additional information on fundamental research, please visit Proposer Instructions: General Terms and Conditions.

- Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at Proposer Instructions: General Terms and Conditions.

- For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, its proposed sub-awardee's effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed sub-awardee's effort may be non-fundamental research. In all cases, it is the potential awardee's responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

- DARPA's Fundamental Research Risk-Based Security Review Process (FRRBS) is an adaptive risk management security program designed to help protect the critical technology and performer intellectual property associated with DARPA's research projects by identifying the possible vectors of undue foreign influence. DARPA will create risk assessments of all proposed Senior/Key Personnel selected for negotiation of fundamental research awards (to include cooperative agreements and Other Transactions). The DARPA

risk assessment process will be conducted separately from the DARPA scientific review process and adjudicated prior to final award. For additional information on this process, please visit Proposer Instructions: Grants/Cooperative Agreements and Proposer Instructions: Other Transactions.

- **Cybersecurity Maturity Model Certification (CMMC) Requirements**

  Applicable to awards under this Broad Agency Announcement that will result in procurement contracts

  1. General Applicability
     a) Awards resulting from this Broad Agency Announcement (BAA) that take the form of procurement contracts are subject to the Cybersecurity Maturity Model Certification (CMMC) requirements prescribed in 32 CFR Part 170 and DFARS 252.204-7021, Cybersecurity Maturity Model Certification Requirements.

     b) The Government will designate the required CMMC level (1, 2, or 3) in each resulting contract based on the sensitivity of the information involved—Federal Contract Information (FCI) or Controlled Unclassified Information (CUI).

     c) Offerors must demonstrate compliance with the applicable CMMC level at the time of contract award and maintain that level for the duration of contract performance.

     d) CMMC requirements must be flowed down to all subcontractors whose performance involves processing, storing, or transmitting FCI or CUI.

  It is anticipated that Procurement Contracts resulting from this BAA will require Cybersecurity Maturity Model Certification (CMMC) Level 1 or Level 2 compliance.

  CMMC Level 1

  a) Applicability:
  Applies when the contractor will handle Federal Contract Information (FCI) only.

  b) Requirement:
  Contractors shall implement the 17 basic safeguarding requirements in FAR 52.204-21, Basic Safeguarding of Covered Contractor Information Systems, and maintain practices equivalent to CMMC Level 1.

  c) Assessment:
  Prior to award, the proposer shall have a current CMMC Level 1 Self-Assessment recorded in the Supplier Performance Risk System (SPRS) in accordance with DFARS 252.204-7021.

  d) Certification Status:
  A valid and current Level 1 certification is a condition of award. Proposers that do not possess the required certification at the time of award shall be ineligible for contract award.

  e) Flow-Down:
  The Contractor shall ensure that any subcontractor processing, storing, or transmitting FCI also maintains a current Level 1 Self-Assessment in SPRS.

f) Verification:
The Contractor shall maintain its Level 1 certification for the full contract period. The Government will verify certification status in SPRS and may request access to assessment results or supporting evidence at any time.

CMMC Level 2

a) Applicability:
May apply when the contractor will handle Controlled Unclassified Information (CUI) on non-Federal systems.

b) Requirement:
If CMMC Level 2 compliance is required, contractors shall implement the 110 security requirements in NIST SP 800-171 Rev. 2 and meet the standards for CMMC Level 2.

c) Assessment:
If CMMC Level 2 compliance is required, the proposer shall have a current CMMC Level 2 Self-Assessment posted in SPRS prior to award.

d) Certification Status:
If CMMC Level 2 compliance is required, A valid and current Level 2 certification will be a condition of award. In cases where it is required, proposers that do not possess the required certification at the time of award shall be ineligible for contract award.

e) Flow-Down:
The Contractor shall flow this requirement to any subcontractor whose work involves CUI.

f) Maintenance and Verification:
In cases where CMMC Level 2 is required, the Contractor shall maintain its CMMC Level 2 certification for the full contract period. The Government will verify certification status in SPRS and may request access to assessment results or supporting evidence at any time.

- The APEX Accelerators program, formerly known as the Procurement Technical Assistance Program (PTAP), focuses on building strong, sustainable, and resilient U.S. supply chains by assisting a wide range of businesses that pursue and perform under contracts with the DoD, other federal agencies, state and local governments, and government prime contractors. See www.apexaccelerators.us/ for more information.

  APEX Accelerators helps businesses:
  o Complete registration with a wide range of databases necessary for them to participate in the government marketplace (e.g., SAM).
  o Identify which agencies and offices may need their products or services and how to connect with buying agencies and offices.
  o Determine whether they are ready for government opportunities and how to position themselves to succeed.
  o Navigate solicitations and potential funding opportunities.

- Receive notifications of government contract opportunities on a regular basis.
- Network with buying officers, prime contractors, and other businesses.
- Resolve performance issues and prepare for audit, only if the service is needed, after receiving an award.

- Project Spectrum is a nonprofit effort funded by the DoD Office of Small Business Programs to help educate the Defense Industrial Base (DIB) on compliance. Project Spectrum is vendor-neutral and available to assist businesses with their cybersecurity and compliance needs. Their mission is to improve cybersecurity readiness, resilience, and compliance for small/medium-sized businesses and the federal manufacturing supply chain. Project Spectrum events and programs will enhance awareness of cybersecurity threats within the manufacturing, research and development, and knowledge-based services sectors of the industrial base. Project Spectrum will leverage strategic partnerships within and outside of the DoD to accelerate the overall cybersecurity compliance of the DIB.

  www.projectspectrum.io is a web portal that will provide resources such as individualized dashboards, a marketplace, and Pilot Program to help accelerate cybersecurity compliance.

- DARPAConnect offers free resources to potential performers to help them navigate DARPA, including "Understanding DARPA Award Vehicles and Solicitations", "Making the Most of Proposers Days", and "Tips for DARPA Proposal Success". Join DARPAConnect at www.DARPAConnect.us to leverage on-demand learning and networking resources.

- DSO is seeking feedback regarding our proposal submission process. Please consider completing the survey at this link: https://events.sa-meetings.com/esurvey/126974