Broad Agency Announcement

HIGH-EFFICIENCY NITROGEN OXIDATION (HNO3)

DEFENSE SCIENCES OFFICE

HR001126S0005

Amendment 1

January 5, 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
- **Funding Opportunity Title** – High-efficiency Nitrogen Oxidation (HNO3)
- **Announcement Type** – Amendment
- **Funding Opportunity Number –** HR001126S0005
- **Assistance Listing Number:** 12.910 Research and Technology Development
- **Dates/Time - All Times are Eastern Time Zone (ET)**
    - Posting Dates:
        - Initial Announcement: December 1, 2025
        - Amendment 1: January 5, 2026
    - Proposers Day: December 12, 2025
    - Proposal Abstract Due Date: December 18, at 4:00 p.m.
    - Question Submittal Closed: January 26, 2026, at 4:00 p.m.
    - Proposal Due Date: February 5, 2026, at 4:00 p.m.
- **Anticipated individual awards** - Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Procurement contract, cooperative agreements, and Other Transaction Agreements for Prototype
- **NAICS Code**: 541715
- **Agency contact**

  Points of Contact
    - The BAA Coordinator for this effort may be reached at: HNO3@darpa.mil
    - DARPA/DSO
ATTN: HR001126S0005
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Arlington, VA 22203-2114

SECTION I: FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative proposals in the foundational technologies to enable high-rate, energy efficient, decentralized nitric acid manufacturing to protect critical supply chains in the defense industrial base and redefine energetics manufacturing in contested logistics environments. Proposed research 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.

A. Background

Nitric acid (HNO_3) is a common industrial chemical central to defense and civilian life. Global annual production of nitric acid is between 60 and 70 million tons. The vast majority (~80%) is used for fertilizer synthesis, and between 40-60% of the global crop yield relies on synthetic nitrate fertilizer. Additionally, nitric acid is used in synthesizing explosives and propellants that are relevant not only for defense, but mining, construction, and large-scale civil engineering. Nitric acid is also a critical reagent used in producing polymers and other chemicals, including nylon, polyurethane, and nitrocellulose.

Current commercial nitric acid synthesis uses the Haber-Bosch/Ostwald (HBO) process. The HBO process starts with reducing N_2 to ammonia (Haber-Bosch), then oxidizing ammonia to nitric acid (Ostwald). The United States' reliance on imported ammonia, currently a critical precursor in the HBO process, represents a significant vulnerability. Roughly 2.5 million tons of ammonia are imported annually, contributing to a nearly $1B trade deficit.[1] A disruption or curtailment in this ammonia supply chain would have severe consequences, impacts ranging from munitions production to food supply. While current ammonia prices are kept low by economies of scale, alternative methods of nitric acid production are at such a low technology readiness level (TRL) there is little direct economic incentive to investigate them further.

The HBO process for large-scale nitric acid production requires roughly 600 kJ/mol of energy input, which is over six times the thermodynamic limit of the nitrogen oxidation reaction at room temperature. Additionally, the energy required for HBO increases sharply as the production scale decreases, as often occurs in distributed manufacturing. HBO's energy inefficiency is largely due to the significant amount of hydrogen needed for reducing N_2 to ammonia. The primary method to produce hydrogen on the industrial scale for Haber-Bosch is steam methane reforming (SMR); which involves reacting methane with steam at high temperatures to produce hydrogen and carbon monoxide—a process that consumes 5% of annual global natural gas production. In addition to being resource intensive, SMR restricts the potential locations for nitric acid production as HBO plants are often co-located near SMR facilities. Notably, reducing N_2 to ammonia is not strictly necessary to produce nitric acid, and streamlining the approach by direct nitrogen oxidation could decrease the complexity and increase the efficiency of the nitric acid production.

Direct nitrogen oxidation via plasma or arc treatment of air is being studied to decentralize nitric acid production, but the single-pass conversion efficiency is << 10%, while still being 5-10x less

[1] Mignolla and Rosa, *Nature Food* 2025, *6*, 610-621.

energy efficient than HBO.[2] There is no clear path to improving the rate and energy profile of the reaction using plasmas. Nonetheless, the plasma route is the highest TRL route compatible with distributed nitrogen oxidation.

The thermodynamic minimum energy required for direct oxidation of nitrogen with oxygen and water to nitric acid is

$$N_2 + \frac{5}{2}O_2 + H_2O \rightarrow 2HNO_3$$

at standard temperature and pressure is ΔG^o_{rxn} = +87 kJ/mol. Recently, electrochemical approaches to nitrogen oxidation (NOR) have shown promise for efficiently producing nitric acid. Currently, however, these approaches are plagued by low production rates stemming from a dearth of understanding of catalytic mechanisms, and poor Faradaic efficiency because of competition with the oxygen evolution reaction (OER), which occurs at a similar potential to nitrogen oxidation to nitrate.[3,4]

Fundamental scientific work needs to be carried out to overcome significant barriers to improving rate, energy efficiency, and favorability of nitrogen oxidation over unwanted side reactions. For instance, it is known that a wide range of catalysts for NOR are also effective OER catalysts, due to similarities between rate determining steps in both reactions. Suppressing the OER reaction requires designing a NOR catalyst that will compete favorably with OER or avoid a mechanism conducive to OER. Evidence in the literature suggests this is possible, but various general strategies need to be modeled, tested, and developed.[5,6]

It was found that employing dynamic (non-steady-state) catalysis for electrochemical NOR can dramatically improve both Faradaic efficiencies and rates—up to 45x the rate of typical static catalysis.[7] Dynamic catalysis can generally boost rate and specificity by several orders of magnitude and is expected to be critically important to meeting the rates specified in this program.[8]

Reactor and electrolyte design is critical for success in the HNO3 program. Recent advances in electrolytes for electrochemical ammonia synthesis have shown remarkably high N_2 solubility, and novel reactor geometries and designs can dramatically affect mass transport to improve production rates and efficiencies.[9]

It is anticipated multiple advances in chemistry and engineering—possibly including those mentioned above—will need to be integrated to deliver a system that can produce large amounts of nitric acid in a decentralized fashion, using only air and water as precursor chemicals. Success in this program would help to secure the supply of defense- and civilian-critical chemicals, thereby making the US defense industrial base more resilient.

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[2] Rouwenhorst, et al., *React. Chem. Eng.*, **2024**, *9*, 528-531.
[3] Prajapati et al. *Chem Catalysis,* **2025**, *5*, 101220.
[4] Belotti et al., *Joule,* **2025**, *9*, 101924.
[5] Xu et al. *Inorg. Chem. Front.*, **2024**, *11*, 1117–1122.
[6] Singh et al. *Small*, **2024,** *20*, 2406718.
[7] Guo et al., *Angew. Chem. Int. Ed.* **2023**, *62*, e202217635.
[8] Ardagh et al. ACS Catal. **2019**, *9*, 6929−6937.
[9] Li et al. *J. Am. Chem. Soc.* **2024**, *146*, 37, 25569-25577.

B. Program Description/Scope and Program Metrics

The HNO3 program aims to demonstrate nitric acid production at high rates and high energy efficiency from air and water as readily available precursors. The program will entail design and development of catalysts, a reactor, and an overall integrated system to derisk the science, initial integration, and early-stage scale-up activities of a self-sufficient nitric acid generator from air, water, and energy.

Phase 1 will focus on catalyst development, and the design and lab testing of a small-scale prototype to produce 1L/day of ≥68% nitric acid using only air and water as input reagents. Phase 2 will culminate in a field demonstration of a full-scale prototype (50L/day) in a relevant environment: using air from the atmosphere and municipal water.

To meet the goals of the HNO3 program, performers will need to meet the stated metrics below at each of the checkpoints of the program.

Table 1: HNO3 Program Metrics

Metric	**Phase 1a (12 mo)**	**Phase 1b (12 mo)**	**Phase 2 (18 mo)**
Reaction Rate†	> 10 nmol s^{-1} cm^{-2} Or > 10 nmol s^{-1} mg_{cat}^{-1}	> 100 nmol s^{-1} cm^{-2} Or > 100 nmol s^{-1} mg_{cat}^{-1}	N/A
Energy	< 600 kJ/mol_{HNO3} (reaction only)*	< 300 kJ/mol_{HNO3} (reaction only)*	N/A
Minimize side products‡	N/A	$Yield_{NOR} > 5 \times Yield_{side\ rxns}$	$Yield_{NOR} > 7 \times Yield_{side\ rxns}$
Production Rate	N/A	1 L/day lab grade ≥68% HNO_3 from air and water	50 L/day lab grade ≥68% HNO_3 from air and water
Size and Power	N/A	< 1 kW**	< 4 kW** < 4 m^2 footprint

†For a catalytic surface, the rate is normalized to area in cm^2; for a homogeneous catalyst, the rate is normalized to mass in mg.
‡For an electrochemical process, Faradaic Efficiency can be used as this yield metric.
*Excludes secondary processing for reagent purification, product concentration, etc.
**Includes all balance of plant energy costs for generating lab grade ≥68% HNO_3.

HNO3 is focused on developing a direct nitrogen oxidation route towards nitric acid and does not solicit approaches that proceed through an ammonia intermediate or use precursor chemicals other than air and water. Although electrochemical approaches to direct nitrogen oxidation appear to be the most promising, the HNO3 program remains open to any processes capable of achieving the program metrics. However, regardless of the proposed method, **the proposal must**

include a clear and technically rigorous justification with supporting data showing how the proposed route will achieve the metrics of HNO3.

C. Program Structure

HNO3 is a 42-month program aimed at transitioning direct nitrogen oxidation from lab scale to a field demonstration. Proposals shall include a 12-month Base Phase 1a, a 12-month Phase 1b Option, and an 18-month Phase 2 Option. In the initial 24-months (Phase 1a and 1b) there will be a focus on developing and constructing a small-scale prototype capable of producing 1 L/day of lab grade HNO_3. In the 18-month Phase 2 Option period, the performers will construct a larger-scale prototype device capable of achieving 50 L/day of HNO_3 production from locally available air and water.

Since HNO3 will focus on transitioning capabilities from lab-scale to a field demonstration, the program will include a mid-phase evaluation during Phase 1 to prove the feasibility of achieving high reaction rate at low energy for nitric acid generation. Towards the end of Phase 1b there will be an assessment of the sub-scale reactor in a laboratory environment, and at the end of Phase 2 the full-scale device will be assessed in an operationally relevant environment. As a result, DARPA expects down selects at each of the assessment points to ensure efforts successfully transition to deployable capabilities. Further details of the program assessments are provided in the Testing and Validation Section.

HNO3 performers will need to develop two key components to achieve success in the program:

- Catalyst development: Develop catalysts to boost the electrochemical nitrogen oxidation reaction while suppressing the oxygen evolution reaction and scale the catalyst synthesis to relevant amounts for a full-scale reactor.
- Reactor design and mass transport control: Design a reactor and electrolyte to improve nitrogen solubility and diffusivity and achieve the size, weight, and power to be operationally relevant.

The Government IV&V team will assist with HNO3 to verify the results of direct nitrogen oxidation. The HNO3 performers are encouraged to work with the Government independent verification and validation (IV&V) team to collaboratively iterate on their reactor design and catalyst development throughout the program to achieve the program metrics.

a. Catalyst Development

The performer will develop a catalyst capable of achieving the metrics outlined in Table 1. Each performer will be responsible for delivering their catalysts on a support material to the IV&V team on a quarterly basis in Phase 1. By the end of Phase 1a, performers will need to send at least 5 g of catalyst. By the end of Phase 1b, 50 g of catalyst will need to be submitted. Scale-up efforts must be implemented throughout the program to achieve the required amount of catalyst for the reactor. The IV&V team will fabricate electrodes using each performer’s catalyst to ensure consistent and comparable evaluation.

IV&V testing and characterization of the catalyst includes electrochemical characterization of the catalyst surface area to normalize and compare across performers, electrochemical performance at a range of potentials in a given environment, and characterization of both gas and liquid productions that are formed to evaluate productivity and selectivity towards nitric acid. Specifically, for the Phase 1a evaluation there will be isotope labeled and energy efficiency measurements to confirm the catalyst's performance.

b. Reactor Design

The performer will design and fabricate a sub-scale and full-scale reactor to achieve the metrics outlined in Table 1. The IV&V team has expertise in reactor design and can advise on the design and fabrication of the reactor.

During Phase 1, the performer will iterate on their sub-scale reactor design. Phase 1a will culminate in a preliminary design review (PDR) to the Government in month 11 to determine which teams will proceed to Phase 1b. If selected to proceed to phase 1b, the PDR will serve as the base design for a sub-scale reactor.

At month 20 in Phase 1b, the sub-scale reactor will be delivered to the IV&V team for evaluation against the program metrics. The outcomes of the sub-scale demonstration will guide the full-scale reactor design in Phase 2. The full-scale reactor PDR will occur at month 22 in Phase 1b, and its evaluation will support the decisions for which teams proceed to Phase 2.

In Phase 2 there will be a delivery of the full-scale reactor to the IV&V team at month 36 for IV&V team evaluation. Test results from this evaluation will be provided to the performers to aid in refining and optimizing their device. The device will be optimized post IV&V review for an end-of-phase demonstration in the field to demonstrate nitric acid generation from air and water.

c. Testing and Validation

HNO3 will follow a structured timeline of testing and validation activities to ensure the development and scalability of nitric acid generation technology. Proposers are expected to provide a detailed schedule of testing and validation steps consistent with the overall program objectives.

At the beginning of the program, performers will be expected to outline their approach to developing a sub-scale reactor. At month 11 in Phase 1a, performers will complete validation of the sub-scale reactor design during a PDR, providing all necessary technical specifications and supporting documentation to demonstrate readiness for fabrication. In month 20, performers will deliver and validate a fully operational sub-scale device capable of producing 1 L/day of nitric acid. In month 22 in Phase 1b, performers will finalize and validate the full-scale reactor design during a PDR, including technical specifications and documentation demonstrating scalability of the sub-scale reactor to a full-scale reactor.

In Phase 2, performers will deliver and validate a fully operational reactor capable of producing 50 L/day of nitric acid. At the program's conclusion there will be a capability demonstration for defense and industrial stakeholders, showcasing the validated technology and its readiness for transition to operational use.

Numerous results related to NOR have been reported in the literature, but the experimental protocols used are often insufficiently robust to reliably determine energy efficiency or production rates. HNO3 will leverage the IV&V team to confirm the production rates and energy efficiency of developed NOR catalysts. The IV&V team will also serve as advisors to performers for reactor design, catalyst integration, and scale-up, and will perform test and evaluation of the reactors in each phase.

Subject matter experts at U.S. Government laboratories, Federally Funded Research Development Centers (FFRDC), and University Affiliated Research Centers (UARC) will serve as technical advisors and IV&V partners throughout the program, providing DARPA an assessment of performer capabilities and validating regularly with DARPA and designed Government IV&V teams throughout the program. Proposals must include a task to reflect interaction with DARPA and IV&V teams and delivery of requested information, data, hardware, software, and materials. This BAA does not solicit IV&V participation. U.S. Government, FFRDC, or UARC personnel interested in learning more about HNO3 or potentially participating in program activities should contact DARPA at HNO3@darpa.mil.

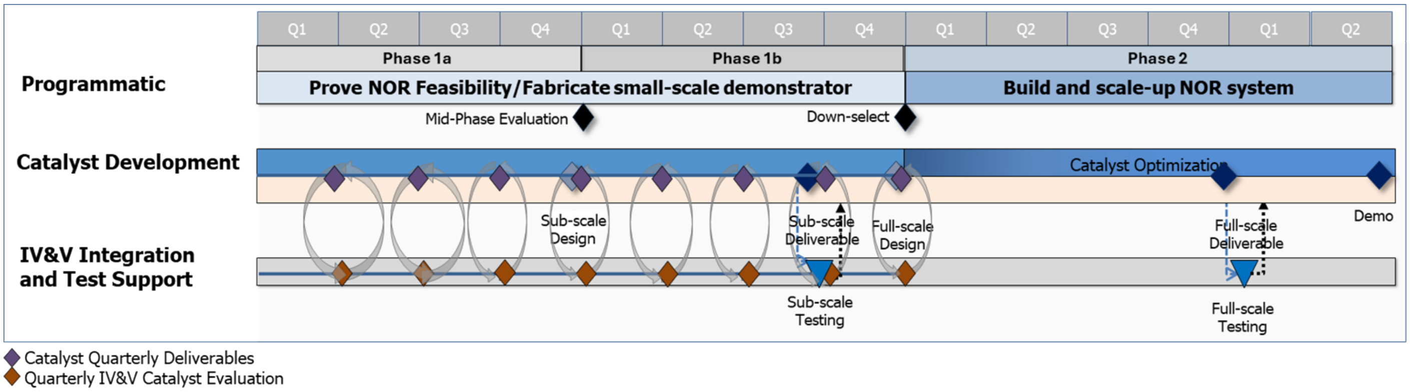
Proposal Outline

Proposals must include, at a minimum, the following information:

- A detailed technical rationale of how the proposed method can achieve the program goals and metrics, including supporting empirical data, relevant literature citations, and calculations. Any quantitative performance figures must be supported by discussion or mathematical theory.
- An initial selection of a catalyst material for direct nitrogen oxidation along with a detailed justification for its selection.
- An initial concept design of the reactor for direct nitrogen oxidation and a detailed justification for the design.
- A comprehensive plan for designing a sub-scale reactor, including detailed strategy for scaling up to a full-scale reactor capable of achieving the metrics for nitric acid generation. The plan must include a discussion of the scalability of reactor design, addressing potential challenges and considerations associated with scaling from sub-scale to full-scale.
- An analysis plan detailing how experimental data will inform catalyst development and guide iterative improvements in reactor design.
- A description of the proposer's technical capabilities for fabricating the reactor.
- Identify risks associated with Phase 1a (Base), Phase 1b (Option) and Phase 2 (Option) and a risk mitigation plan with clearly defined risk metrics and success criteria.
- A staffing plan with relevant expertise to support Phase 1a (Base), Phase 1b (Option) and Phase 2 (Option) tasks in catalyst development and reactor design.
- Outline of the management approach to ensure the successful execution of the proposed effort.

D. Schedule

The following is the schedule of the program:



- Proposers should provide a technical and programmatic strategy conforming to the entire program schedule and present an aggressive plan to fully address all program goals, metrics, milestones, and deliverables.
- The task structure must be consistent across the proposed schedule, statement of work, and cost volume.
- A target start date of August 2026 may be assumed for planning purposes. Schedules will be synchronized across performers, as required, and monitored/revised as necessary throughout the program.
- All proposals must include the following meetings and travel in the proposed schedule and costs:
    - To continue foster collaboration between teams and disseminate program developments, a two-day Principal Investigator (PI) meeting will be held approximately every six months with locations split between the east and west coast of the U.S. For budgeting purpose, plan for four two-day meetings over the course of 42 months: two meetings in the Washington D.C. area and two meetings in the San Francisco, CA area.
    - Two one-week trips to Lawrence Livermore National Laboratory (LLNL) in Livermore, CA. One in Phase 1b and the second in Phase 2 for IV&V testing.
    - Travel to LLNL to support a device demonstration to relevant defense and commercial transition partners at the end of Phase 2.
    - Regular teleconference meetings will be scheduled with the Government team for progress reporting, and problem identification and mitigation. Proposers should anticipate at least one site visit per year by the DARPA Program Manager, during which they will have the opportunity to demonstrate progress towards agreed-upon milestones.
    - Note: Travel costs to support conferences and publications costs are out of scope and will not be authorized.

E. Contract Deliverables

Awardees will be expected to provide, at a minimum, the following deliverables:

- Comprehensive quarterly technical reports are due within ten days of the end of the given quarter, describing the progress made on the specific milestones as required in the statement of work.
- As part of the month 11 Phase 1a design review, performers are expected to include detailed, quantitative end-of Phase 1b projections with respect to metrics listed in this HNO3 BAA, supported by data collected during the program, and all necessary technical specifications and supporting documentation to demonstrate readiness for fabrication.
- As part of the month 22 Phase 1b design review, performers are expected to include:
    - Detailed, quantitative end-of-Phase 2 projections with respect to metrics listed in this HNO3 BAA, supported by data collected during the program,
    - All necessary technical specifications and documentation that demonstrate scalability of the sub-scale reactor to a full-scale reactor. This design review should include chemical process modeling and a basic technoeconomic analysis for the anticipated capability at the end of the program.
- Sub-scale reactor prototype delivery for Government evaluation in month 20 of Phase 1b.
- Final full-scale reactor prototype delivery for Government evaluation in month 36.
- A program completion report submitted within 30 calendar days of the end of the program, summarizing the research done.
- Samples for the IV&V team should be provided for evaluation at the end of each quarter.
    - The details for sample delivery are outlined in the Catalyst Development Section.
- Other negotiated deliverables specific to the objective of the individual efforts. These may include registered reports; experimental protocols; publications; data management plan; intermediate and final version of software libraries, code, and APIs, including documentation and user manuals; and/or comprehensive assemblage of design documents, models, modeling data and results, and model validation data.

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; Proposer's Capabilities or Related Experience; and Plans and Capability to Accomplish Technology Transition.

- **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.

- **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 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.

- **Plans and Capability to Accomplish Technology Transition**: The proposer clearly demonstrates its capability to transition the technology to the research, industrial, and/or operational military communities in such a way as to enhance U.S. defense. In addition, the evaluation will take into consideration the extent to which the proposed intellectual property (IP) rights structure will potentially impact the Government's ability to transition the technology.

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 HNO3@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. Abstracts are strongly encouraged but not required. Abstracts are due December 18, 2025, at 4:00 p.m. ET as stated in the Overview section through the Broad Agency Announcement Tool (BAAT). Additional instructions for abstract submission are contained within Attachments A and B.

- Full proposals are due: February 5, 2026, at 4:00 p.m. ET as 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, and G** contain specific instructions and templates and constitute a full proposal submission for proposers requesting an Other Transaction for Prototype.

- **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 BAAT (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 if submitting an abstract) Attachment A**: Abstract Summary Slide Template
  - **(required if submitting an abstract) 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 Other Transaction for Prototype Agreement

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.
- Due to their specialized roles and longstanding relationships with the Government, Federally Funded Research and Development Centers (FFRDC), 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 subcontractors/subawardees, their costs must be clearly segregable in cost proposals. If the proposal is scientifically merited and meets the criteria below, 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 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 conflicts of interest (COI) when applying for a performer role. Proposals submitted by UARCs as either a prime or subawardees must include an OCI mitigation plan.
  - Government Entities: Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. Government Entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to

propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees.

- DARPA will not establish new contractual agreements with FFRDCs or Government entities. DARPA may choose to establish new awards with UARCs, subject to mitigation of potential COIs. Any proposal submitted directly by these entities in a prime contractor capacity without the appropriate authorizing documentation may be deemed non-conforming and not evaluated. Proposals that include a UARC, FFRDC, or Government entities, including National Laboratories, as a subcontractor/subawardee 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 contact them directly to come to an agreement rather than fund them through the prime contract. 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 CMMC Level 2 compliance (not applicable to Cooperative Agreements or Other Transactions at this time).

a. Applicability:
   Applies when the contractor will handle Controlled Unclassified Information (CUI) on non-Federal systems.
b. Requirement:
   Contractors shall implement the 110 security requirements in NIST SP 800-171 Rev. 2 and meet the standards for CMMC Level 2.
c. Assessment: **(This language will change after 10 November 2026 when a C3PAO level 2 assessment is required)**
   1. Self-Assessment: The Offeror shall have a current CMMC Level 2 Self-Assessment posted in SPRS prior to award.
   2. C3PAO Assessment: The Offeror shall hold a current CMMC Level 2 Certification issued by an authorized CMMC Third-Party Assessment Organization (C3PAO) prior to award. (add this statement 10 Nov 2026)
d. Certification Status:
   A valid and current Level 2 certification is a condition of award. Offerors 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:
The Contractor shall maintain its 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.

Other Available Resources

- 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.
  o Receive notifications of government contract opportunities on a regular basis.
  o Network with buying officers, prime contractors, and other businesses.
  o 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 has been using new solicitation formats to speed award timelines. These include Disruption Opportunities (DOs, also known as "Disruptioneering"), Advanced Research

Concepts (ARC), and the accelerated award option for the Office-wide BAA. These are focused, milestone-based contracts designed to reduce negotiations and emphasize the quality of the idea and its potential for disruption over the proposer's ability to write a proposal. The milestone structure, where payment is tied to research execution rather than meeting aggressive metrics, is intended to incentivize ideas with high potential for disruption even if they are riskier. We are seeking feedback regarding these mechanisms from our proposer community. Please consider completing the survey at this link: https://events.sa-meetings.com/esurvey/126974