Broad Agency Announcement

Mechanisms for Amplification of fusion Reaction Rates in Solids (MARRS)

DEFENSE SCIENCES OFFICE

HR001126S0007

December 30, 2025

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** – Mechanisms for Amplification of fusion Reaction Rates in Solids (MARRS)
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** HR001126S0007
- **Assistance Listing Number:** 12.910 Research and Technology Development
- **Dates/Time - All Times are Eastern Time Zone (ET)**
    - Posting Date: December 30, 2025
    - Proposers Day: January 20, 2026
    - Proposal Abstract Due Date: January 26, 2026, at 4:00 p.m.
    - Question Submittal Closed: February 23, 2026, at 4:00 p.m.
    - Proposal Due Date: March 12, 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 Research.
- **NAICS Code**: 541715
- **Agency contact**

    Points of Contact
    - The BAA Coordinator for this effort may be reached at: MARRS@darpa.mil
    - DARPA/ DSO
ATTN: HR001126S0007
675 North Randolph Street
Arlington, VA 22203-2114

SECTION I: FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative proposals in exploring and implementing mechanisms that amplify and increase the rates of nuclear fusion reactions in solids at and near Room Temperature (RT).[1] Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research primarily resulting in evolutionary improvements to the existing state of practice.

Introduction

Based on new theoretical predictions and new data suggesting high fusion reaction rates may be possible at relatively low reaction temperatures in solids (< ~2,000 degrees Kelvin or < ~0.2 eV), the MARRS program will explore how much we can scale solid-state fusion for new applications.

Since 2023, multiple independent research groups have shared evidence—both theoretical and experimental data—showing low-temperature fusion rates radically higher (~10^{18}) than predicted by earlier models, together with advances in the control of fusion reactions in solids.2 Rates are still very low in absolute terms but these results point to promising areas of exploration for significant increases.

A central goal of MARRS is to gain a predictive and quantitative understanding of the limits of fusion rate amplification in solids at or near RT to determine if rates can scale to levels necessary for various applications. To achieve this, MARRS performers will use theoretical analysis and Modeling and Simulations (M&S) in combination with experiments to elucidate the role of specific mechanisms that contribute to solid state fusion rate amplification. These mechanisms include the role of electron screening potentials, the density and mobility of deuterium (or other fusion fuel species), and the role of momentum and energy transfer from external sources (such as beams of photons and particles).

Theoretical understanding, models, and simulation will guide performers' experimental approaches to implement efficient mechanisms for fusion rate amplification. By looking at both single mechanisms and combined effects, MARRS aims to rapidly determine whether scaling to levels relevant for applications is possible.

Background

There are two distinct classes of fusion research, each with distinct value propositions for power generation:

- Plasma fusion or "hot" fusion (>5 keV, >10 million K)
- Fusion in solids at low temperatures (< ~0.2 eV, <2,000 K), also known as "cold fusion," solid state fusion, or as a form of Low Energy Nuclear Reactions (LENR)

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[1] "At or near room temperature" refers to the temperature of a solid sample in which fusion reactions take place, and is limited by the melting temperature of that material.

[2] C. Gotzmer, et al., APL Energy 1, 036107 (2023); K. Czerski, et al., arxiv:2409.02112v1 (2024); K. Czerski, Phys. Rev. C 106, L011601 (2022); K.-Y. Chen, et al. Nature 644, 640 (2025); M. Karahadian, et al., arxiv:2512.06212 (2025); F. Metzler, et al., New J. Phys. 26, 101202 (2024); ARPA-E LENR program (2023).

Research and Development (R&D) in the field of plasma fusion is making promising strides and has received significant investment from venture capital firms to develop large, utility-scale power generation. Plasma fusion works by creating and confining a hot and dense hydrogen isotope fuel mixture that can ignite and then burn for efficient power generation, (e.g., using the deuterium-tritium fusion reaction[3]). While this is attractive for generating power from large facilities, it is less likely it will enable power for smaller distributed solutions needed for expeditionary defense needs.

Since the 1920s[4] researchers have also investigated an alternative; whether nuclear fusion processes can be efficiently controlled at low reaction temperatures (i.e., much lower than those found in stars)[5]. Today, solid state fusion remains a less-developed, higher risk approach than plasma fusion. However, if low-temperature fusion is successful, it could enable small-scale (kilowatt- or megawatt-scale), small footprint, distributed and mobile power generation applications, while plasma fusion will likely make sense only for large (gigawatt-scale), centralized power stations.

Unfortunately, solid state fusion research has been marred by bold claims that could not be replicated.[6] Many controversial studies relied on calorimetry to measure heat from nuclear reactions. Yet calorimetry measurements of heat from fusion reactions can only detect very high fusion rates (e.g., for the deuterium-deuterium fusion reaction with ~3.65 MeV energy release, a fusion power of 1 W requires ~1.7×10^{12} reactions/s). The lack of more precise measurement techniques stymied the field and progress on evidence for rate scaling.

Several recent developments have overcome earlier limitations and have for the first time definitively demonstrated fusion at low temperatures, including:

- Improved and more sensitive metrologies capable of unambiguously quantifying fusion rates. Particle detection can measure fusion rates as low as ~0.1 count/hour which greatly improves the ability to study mechanisms that can amplify fusion rates.
- New theoretical predictions of potential mechanisms for controllably scaling fusion reaction rates.
- Initial experiments enabled by particle detection that demonstrated increased rates and confirmed model predictions of large electron screening effects. These results were reproduced independently in several laboratories.

In addition to new metrologies, recent reports show that deuterium-deuterium fusion (dd-fusion) rates in metal hydrides reach a plateau at reaction energies below a few keV (center of mass), which is in stark contrast to the exponential decay of fusion rates for decreasing reaction energies observed in gas-phase and plasma experiments. The observed rates correspond to cross sections approximately in the picobarn range (10^{-12} cm^2). Although currently still too low for any applications, these rates are roughly 10^{18} times higher than extrapolations of known dd-fusion rates in the multi-keV reaction energy range.[7] New theory points to a series of mechanisms for

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[3] https://www.fusionindustryassociation.org/; https://www.energy.gov/fusion-energy
[4] https://en.wikipedia.org/wiki/Cold_fusion
[5] At or near RT refers to the temperature of a solid sample in which fusion reactions take place, limited by the melting temperature of that material. Local transient temperatures inside solids can be higher.
[6] Pons and Fleischmann, 1989.
[7] H. S. Bosch and G. M. Hale, Nucl. Fusion 32, 611 (1992).

fusion rate amplificatiton that could lead towards levels required for potential future applications. Such applications include non-destructive analysis with novel radiation sources ($\geq 10^6$ neutrons/s), and small-scale power generation (at rates of ~1 W/g, or $1.7\text{x}10^{12}$ dd-fusion reactions/s/g).

With these new foundations in place, there are now a number of strategies for scaling fusion rates; each alone is unlikely to reach rates necessary for useful applications, however combinations of these methods may reinforce each other.

The fusion reaction rate (R) in a plasma with thermal distribution of reactants can be expressed as the products of the fuel density (N^2 for dd fusion), the cross section ($\sigma(v)$), and the velocity distribution (v) of reacting nuclei: $R = N^2 \langle \sigma v \rangle$ (with reactivity $\langle \sigma v \rangle$). While this same rate equation may be considered as a good starting point for MARRS, determining how solid state fusion rates scale will be a large part of the program. Electron screening potentials are a correction to the reaction energy, as measured in beam-driven fusion experiments with metal targets. The electron screening potential (U_e) provides an exponential lever for fusion cross-section increases if experiments can reliably implement conditions for high U_e (including with the choice of fusion host material[8]). A series of fuel loading techniques (e.g., gas, liquid, solid phase, plasma, or electro-chemically driven loading) control the availability of mobile fuel nuclei. External or internal triggers can transfer momentum and energy to fuel nuclei and affect local electron screening potentials. Optimized triggers may amplify reaction rates efficiently. In MARRS, performers will examine multiple mechanisms and their potential interactions to determine how far it's possible to scale those fusion rates.

Program Description and Scope

With fusion in solids at low temperatures now reliably demonstrated (at very low rates), and with new theories elucidating numerous potential mechanisms for scaling fusion rates, MARRS will assess fundamental mechanisms that underpin solid state fusion reactions to determine the best way to predictively and reproducibly amplify fusion rates. The program emphasizes advancing our fundamental understanding with predictive models and experimental demonstrations of significant fusion rate increases on the path to rates required for future applications. This goal includes, if possible, the determination or prediction of fundamental physical limits of rate amplification.

MARRS performers will analyze and optimize factors for fusion rate amplification including, but not limited to, materials, fuel loading techniques, and methods for the efficient excitation of fusion reactions (triggers). Performers must implement State-of-the-Art (SOA) particle detection technologies and data acquisition systems to accurately and reliably detect fusion reaction products such as protons, neutrons, and gammas. Detection of heat (calorimetry) and other signatures of nuclear processes can complement particle detection; calorimetry alone is not sufficient.

DARPA expects a wide range of approaches and combinations across proposers. Regardless of the methods, proposers must describe a series of well-defined hypotheses with quantitative estimates of rates they expect their approach will achieve. Proposers should include a clear plan

[8] Including methods such as defect engineering, alloying, doping and use of external control fields.

for rate measurement experiments, in close connection with theory development and M&S of fusion reaction rate amplification processes in solids.

Teams will demonstrate multidisciplinary capabilities and expertise across all required science and technology areas from materials science to fuel loading technologies, implementing efficient trigger mechanisms, nuclear instrumentation, particle detection, and diagnostics to conduct well-controlled and reproducible experiments with support from theory and M&S. Additional information for each of these areas appears below.

Host Materials: These may include metal hydrides based on palladium, titanium, zirconium, or nickel, as well as other metals and/or metal alloys that can support high concentrations of fusion fuel, such as deuterium, e.g., MeD_x, $x>0.5$, and where deuterium atoms (or other fuel species) are highly mobile. Teams many propose other materials if clearly stated hypotheses support their expected performance. Alloying, doping, and engineering the structure and concentration of (nano-) particles and crystal lattice defects can be factors to explore for fusion rate amplification experimentally when supported by theoretical analysis.

Fuel Loading: Methods can include gas phase, plasma, beam-driven, liquid phase, and electro-chemical loading. Engineered loading approaches such as gas pressure differentials or innovative thermodynamic cycling could increase deuterium loading in the crystal lattice. Other engineered and innovative means that can aid a substantial increase of the density of deuterium atoms in a fusion host matrix are also of interest.

Triggers: Fusion reactions can occur spontaneously, or reactions in host materials can be excited with internal and external stimuli, including beams of photons or particles or other forms of electromagnetic radiation. Specifically excluded are experiments with deuterium ion beams (or other ions from species participating in fusion reactions) as the main fusion reaction trigger; however, control experiments can use these beams. The efficiency of a triggering method is the number of fusion reactions induced per amount of energy in a triggering event. Quantifying the actual and potential trigger efficiencies is an essential requirement and component in understanding and implementing efficient mechanisms for amplifying fusion reaction rates in solids at and near RT. Local, transient temperatures resulting from excitation and triggering events can exceed this temperature limit for brief periods of time.

Theoretical analysis and M&S: Predictions will generate a specific, testable, disprovable model to characterize the role and nature of mechanisms leading to significant fusion rate amplification. These include the role of electron screening potentials, the density and mobility of deuterium (or other fusion fuel species), and the role of momentum and energy transfer from external sources (such as beams of photons, particles, or electromagnetic fields). A central goal of MARRS is to gain a predictive and quantitative understanding of the potential and limits of fusion rate amplification in solids at or near RT.

Metrics

Table 1 shows the performance metrics for the two phases of the MARRS program.

Metric	Units	SOA	Phase 1	Phase 2
Fusion rate	Reactions/s/g	~10^{-1}	10^3: Quantify cumulative amplification effects	10^6 : Reliable, reproducible
Quantitative understanding		Nascent	Develop quantitative, predictive models for fusion rate amplification	Refine predictive models for rate amplification to power production

Table 1: MARRS metrics. The metric of a fusion rate in reactions/s/g refers to the number of fusion reactions in a sample per unit of time and normalized to the mass of the sample in which fusion reactions take place.

Performers will first show they can control fusion processes at or near RT by measuring nuclear reaction products such as MeV particles. The metric of a fusion rate in reactions/s/g refers to the number of fusion reactions in a sample per unit of time and is normalized to the mass of the sample in which fusion reactions take place. Performers will guide their experiments with theory and modeling predictions on materials properties such as hydrogen mobility, electron screening potentials, and nuclear reaction physics.

During Phase 1, performers will examine individual mechanisms and start exploring combinations of mechanisms to begin assessing interactive effects. Each performer will determine when to begin experiments combining several amplification mechanisms, but all performers must advance beyond single-mechanism experiments by month 12. By month 12, performers must demonstrate a rate of 100 reactions/s/g, and provide first results from predictive theory and M&S to show a path to end-of-phase and program metrics.

During Phase 2, if awarded, performers will focus on amplifying rates using models that quantify the combined impact of amplification factors and the optimization of experiments to reach target rates of 10^6 reactions/s/g or higher.

Proposers are encouraged to outline their strategy for achieving program metrics, including those for improving fusion rates, estimated projections of the impact of rate amplification factors individually, and why those strategies will scale successfully when they combine amplification factors. Proposers must specify their plans for achieving a fusion rate of 10^3 reactions/s/g by month 16 near the end of Phase 1 and 10^6 reactions/s/g by month 34 near the end of Phase 2. This will include the amplification mechanisms they plan to test in Phase 1, how they are likely to interact if combined, and why they believe those mechanisms are the most likely to scale to meet program metrics.

Near the end of Phase 1 (month 16), DARPA will review performer progress against the metrics to determine which teams may proceed to Phase 2. We encourage teams to collaborate and share findings on their unique strategies and boost factors; collaborating will increase the likelihood that any performer will meet the Phase 1 metrics by the end of 18 months. Phase 2 decisions will be based on performance against the metrics, likelihood the methods will continue to scale, and availability of funds.

Program Schedule

MARRS will have two 18-month phases with an initial review after 12 months (milestone: 100 reactions/s/g) and a review near the end of Phase 1 (month 16) with assessment of progress towards Phase 1 metrics from Table 1.

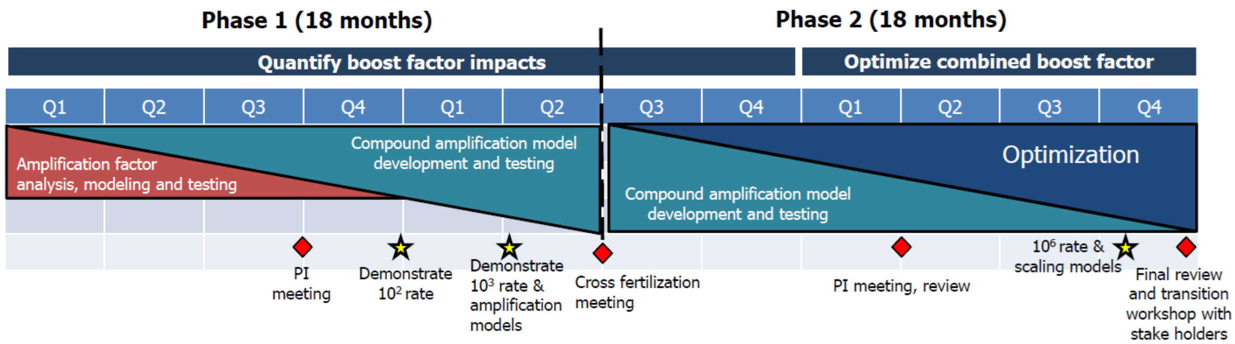

Figure 1: MARRS program structure

Proposals must identify all **major risks** involved and clearly describe how proposers will mitigate those risks early in the proposed effort. Specifically, proposals must address risks associated with optimizing mechanisms for progressively higher fusion rates and the interplay of amplification factors, e.g., material properties, fuel loading conditions, and fusion excitation (triggering) methods. Risk analysis must also include programmatic risks such as the timelines needed for obtaining long-lead items or logistics imposed by teaming arrangements. Proposers must analyze the efficiency of triggering methods. To mitigate these risks, performers should employ rapid, iterative cycles of experiment design, implementation, and testing guided by theoretical analysis and modeling of fusion rates.

Detailed proposals must address theory and M&S together with experimental studies in the 36-month period of performance. Proposers must describe their approaches to all three of these elements—theory, modeling, and experimentation. **Proposers can assume a target start date of September 1, 2026** for planning and budgeting purposes, and plan for a one-day kick-off meeting near this date.

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

- An in-person kick-off meeting will take place at the start of the program (dates and location TBD, but for planning purposes assume a location in the San Francisco Bay Area).
- Monthly teleconference meetings with the government team to report progress, identify problems, and mitigation.
- Proposers should anticipate at least one site visit by the DARPA program manager, usually in association with major milestones during which they will have the opportunity to demonstrate progress towards agreed-upon milestones.
- Annual in-person principal investigator meetings (dates and locations TBD).
- Specify the need for additional proposed travel that exceeds critical activities in the proposal.

Nominal Milestones and Deliverables

Phase 1:

- **Program Kickoff**
  Deliverable: Slide deck summarizing approach to meet overall goals, risks, and risk mitigations as well as schedule and budget review.

- **Quarterly Reviews**
  Deliverables: Comprehensive quarterly technical reports due within 15 days of the end of the given quarter describing progress made on the specific milestones as required in the Statement of Work (SOW).
- **Performance Demonstration (10^2)**
  Deliverable: Slide deck documenting experimental setup and results demonstrating 100 reactions/s/g at the end of month 12.
- **Preliminary Scalability Study**
  Deliverable: A preliminary report synthesizing theoretical and experimental results into a quantitative, predictive reaction rate scaling model. The report must apply this model to define performance limits, characterize the technical trade space, and isolate specific opportunities for amplification optimization at the end of the month 16.
- **Performance Demonstration (10^3)**
  Deliverable: Slide deck documenting experimental setup and results demonstrating 1,000 reactions/s/g at the end of the month 16.

Phase 2:

- **Quarterly Reviews**
  Deliverables: Comprehensive quarterly technical reports due within 15 days of the end of the given quarter describing progress made on the specific miles
  tones as required in the SOW.
- **Performance Demonstration (10^6)**
  Deliverable: Slide deck documenting experimental setup and results demonstrating 1,000,000 reactions/s/g at the end of month 34.
- **Final Scalability Study**
  Deliverable: A final report refining the quantitative, predictive reaction rate scaling model at the end of month 34. The report must project scaling to energy-relevant regimes and rigorously evaluate the feasibility of energy generation. This evaluation must explicitly detail the combination of amplification factors required to achieve fusion rates of ~10^{12} reactions/s/g or specify physical limits that preclude achieving this rate.
- **Final report**
  Deliverable: A written report summarizing the entire 36-month effort. Teams may use materials from prior deliverables.

MARRS performers will participate in monthly teleconferences and present a succinct slide deck discussing technical accomplishments, potential issues, overall progress, key next steps, and budget status. Additionally, performers should anticipate participating in coordination meetings with the government team.

Other negotiated milestones and deliverables are specific to the objectives of the individual efforts. These may include registered reports; experimental protocols; publications; data management plans; intermediate and final versions of software, including documentation and user manuals; and/or a 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, 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.

- **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 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.

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 Research. 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 MARRS@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 January 26, 2026, at 4:00 p.m. as stated in the Overview section. Additional instructions for abstract submission are contained within Attachments A and B.

- Full proposals are due: March 12, 2026, at 4:00 pm 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 Agreement.

- **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 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 Agreement) Attachment E**: Proposal Instructions and Volume II Template (Cost)
    - **(required) Attachment F**: DARPA Cost Proposal Spreadsheet
    - **(required for proposers requesting Other Transaction Agreement) Attachment G**: Model Other Transaction for Research Agreement
    - **(reference) Attachment H**: Model Cooperative Agreement
    - **(reference) Attachment I**: Associate Contractor Agreement (ACA)

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.
- This program is subject to Attachment I: Associate Contractor Agreement.
- **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 typically 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.

- 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.

- As of the date of publication of this solicitation, the Government expects that program goals as described herein may be met by proposers intending to perform fundamental research and does not anticipate applying publication restrictions of any kind to individual awards for fundamental research that may result from this solicitation. Notwithstanding this statement of expectation, the Government is not prohibited from considering and selecting research proposals that, while perhaps not qualifying as fundamental research under the foregoing definition, still meet the solicitation criteria for submissions. If proposals are selected for award that offer other than a fundamental research solution, the Government will either work with the proposer to modify the proposed statement of work to bring the research back into line with fundamental research or else the proposer will agree to restrictions in order to receive an award. 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.

- **It is anticipated that Procurement Contracts resulting from this BAA will require CMMC Level 1 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 Offeror 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. 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 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.

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

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"), Pitch Days, 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