

Disruption Opportunity
DARPA-PA-25-07-04 Amendment 1
Resilient

I. Opportunity Description

The Defense Advanced Research Projects Agency (DARPA) Defense Sciences Office (DSO) is issuing a Disruption Opportunity (DO), inviting submissions of innovative basic or applied research concepts in the technical domain of accelerated materials testing and prediction for concrete. This DO is issued under the Program Announcement for Disruptioneering, DARPA-PA-25-07 Amendment 1. All awards will be made in the form of an “Disruptioneering – Other Transaction for Prototype Agreement SAMPLE” (DO OT Sample) project. The total award value for the combined Phase 1 (base, not to exceed \$1,000,000) and Phase 2 (option, not to exceed \$1,000,000) is limited to \$2,000,000. This total award value includes Government funding and performer cost share if required or proposed.

To view the DARPA Program Announcement (PA) for Disruptioneering, visit SAM.gov under solicitation number DARPA-PA-25-07 Amendment 1:

<https://sam.gov/opp/af580f92ade44eb997a3c47ba74888f5/view>.

Important Dates (All Times are Eastern Time Zone (ET)):

- **DO Initial Posting Date:** August 20, 2026
- **DO Amendment Date:** September 4, 2026
- **DO Information Session (DARPA-SN-26-106):** August 24, 2026
- **Abstract Due Date:** September 9, 2026, at 4:00 p.m.
- **Question Submittal Closed:** October 12, 2026, at 4:00 p.m.
- **Proposal Due Date:** October 19, 2026, at 4:00 p.m.
- **Planned Program Start Date:** December 18, 2026

A. Introduction

The nation’s critical military and civilian infrastructure is dominated by concrete structures that are aging, degrading, and failing at an unpredictable rate. Current concrete testing methods force a choice between rapid, low-fidelity laboratory proxies and slow, high-fidelity field observations. Crucially, both traditional branches of testing fail to capture the synergistic complexity of real-world environments: traditional laboratory testing isolates single variables to achieve speed, while traditional field testing relies on passive, unaccelerated exposure over decades in relevant environments. Neither traditional approach can subject a material to the coupled, simultaneous effects of dynamic loads, chemical ingress, and diurnal/seasonal thermal cycling. This fundamental predictive gap leaves engineers without the tools to accurately forecast long-term performance or validate novel materials at the time of construction. Translating these isolated, reductionist, and controlled lab results to highly variable, complex field conditions is the DARPA-hard core of this challenge.

To overcome this barrier, the Resilient program targets the creation of a new class of Material Accelerator. This sophisticated experimental platform will shift testing away from reductionist methods by subjecting multiple material coupons simultaneously to the precise, coupled, and accelerated stressors that drive real-world degradation. The goal is to accurately recreate and accelerate the slow, complex process of environmental aging in a fraction of the time. This

platform exists to rapidly generate the high-fidelity data needed to develop and validate a new generation of physics-informed scalability models capable of predicting long-term structural performance.

To ensure these predictive models are robust and broadly applicable, the Material Accelerator cannot be an exquisite, massive, single-environment system. It must be a versatile platform designed with ease of transport as a core consideration, enabling the system to support testing at multiple operational sites across the country. Specifically, the entire system must be transportable using standard Light-Duty vehicles, defined as U.S. truck weight Classes 1 and 2 (Gross Vehicle Weight Rating of 10,000 pounds or less) such as standard commercial pickup trucks. Concrete in the corrosive marine environment of Key West, the severe freeze-thaw cycling of Maine, and the seasonal variations of Ohio will all age differently, and the accelerator must be capable of evaluating materials within these diverse environmental regimes. Requiring a transportable approach inherently drives the efficiency and scalability of the hardware, ensuring the platform remains a practical, deployable tool rather than a highly restricted laboratory asset. Ultimately, success in the Resilient program hinges on overcoming the DARPA-hard challenge of multi-scale translation: proving that data generated by this portable accelerator can accurately forecast long-term, macroscopic structural vulnerabilities across diverse climates, thereby avoiding catastrophic failures in critical infrastructure nationwide.

B. Objective/Technical Scope

The goal of the Resilient program is to develop and demonstrate an integrated system capable of achieving $>1,000\times$ acceleration of concrete aging, with results that are mechanistically consistent with real-world degradation data. This will enable accurate, risk-based service-life prediction for critical infrastructure. This system is comprised of two core, co-developed components with the objective to deliver a validated, physics-informed predictive framework capable of forecasting long-term concrete performance:

1. A Scalability Model: This is an advanced, physics-informed, multi-scale modeling framework. Its purpose is to understand the fundamental mechanics of degradation and predict how micro-scale damage will evolve into macro-scale structural failure over time.
2. A Material Accelerator: This is the physical, scalable, testing platform. Guided by the Scalability Model, it subjects concrete coupons to the precise, synergistic, and accelerated stressors required to rapidly generate high-fidelity data.

This closed-loop approach, where the model guides the experiment and the experimental data refines the model, will enable accurate, risk-based service-life prediction for critical infrastructure.

Scalability Model

A key objective is to demonstrate that the accelerated aging data generated from small test coupons can be used to predict the performance of complex structures. Performers will be required to develop and validate a scalability model that proves that the data collected at small scale is extensible to larger, broader, and more complex real-world environments and conditions.

Bridging this multi-scale spatial and temporal gap is the core scientific hurdle of the Resilient program. Scaling from a homogeneous, centimeter-scale test coupon to a massive, heterogeneous reinforced concrete structure is highly non-linear. Physical and chemical phenomena do not scale proportionally; chemical transport kinetics (such as moisture and chloride diffusion) are

diffusion-limited and scale quadratically with thickness, whereas mechanical stress propagation, micro-crack coalescence, and structural boundary conditions scale entirely differently. Proposers must therefore develop advanced, physics-informed, multi-scale modeling frameworks capable of reconciling these divergent scaling kinetics to predict emergent, macroscopic structural failure modes from accelerated coupon-level microstructural data.

To establish a robust baseline for this validation, the program will employ a federated data model. Rather than relying solely on Government-furnished data, proposers are required to contribute historical concrete degradation data (sourced from their prior research or public repositories) using a government-provided standardized template. Upon award, the Government will aggregate the submissions from all selected performers, alongside any available supplemental data contributed by Government partners, into a unified master database. This shared dataset will then be distributed across the performer cohort to support model validation and ensure the accelerated test results are mechanistically sound. Performers will be evaluated on their ability to accelerate aging while accurately predicting the actual time of failure and mode of failure captured in the appropriate datasets.

Material Testing Accelerator

The Material Accelerator is the prototype platform designed to generate the physical data needed to develop and validate the Scalability Model. The design of this prototype platform is a primary scientific challenge, requiring deep physical and chemical expertise to accelerate degradation pathways without altering the underlying failure mechanisms. The ultimate objective is a scalable system that can accurately replicate and accelerate the synergistic complexity of real-world environmental variables across many samples or environments in parallel. DARPA is agnostic to the specific mechanism of environmental-driven material acceleration; however, regardless of the architecture, the proposed solution must demonstrate its versatility by showing how it can subject material coupons to the distinct, coupled stressors representative of varied US climates (e.g., marine, freeze-thaw, and seasonal changes).

C. Structure

Submissions in response to this DO must be unclassified and must address two sequential project phases: a Phase 1 base and a Phase 2 option. The periods of performance for these phases are 12 months for the Phase 1 base effort and 12 months for the Phase 2 option effort. Combined Phase 1 base and Phase 2 option efforts for this DO should not exceed 24 months. The total award value for the combined Phase 1 and Phase 2 is limited to \$2,000,000 (not to exceed \$1,000,000 per phase). This total award value includes Government funding and performer cost share, if required or if proposed.

Phase 1 is a 12-month base effort focused on the design and fabrication of a benchtop Material Accelerator and the initial development of the scalability model. Performers will conduct iterative tests, primarily using concrete formulations corresponding to the historical datasets they contributed to the program's federated database and on government defined concrete formulations, demonstrating progressively accelerated aging. The primary goal of Phase 1 is to establish a clear and quantifiable correlation between the accelerated degradation mechanisms observed in the accelerator and the historical baseline data.

Phase 2 is a 12-month option period that will focus on refining the Material Accelerator to achieve higher acceleration rates, expanding the test matrix to include additional concrete formulations and environmental conditions, and validating the scalability model with increased

rigor. A key deliverable for Phase 2 will be a demonstration of the integrated system on at least two distinct concrete formulations across two simulated environments, culminating in a versatile, transportable prototype of the Material Accelerator that has demonstrated the ability to simulate diverse climatic regimes. Proposers should note that meeting the Phase 1 metrics does not guarantee a Phase 2 award. Likewise, if a performer fails to meet the Phase 1 metrics but has a highly innovative, and potentially novel approach, DARPA may decide to continue those efforts into Phase 2, subject to the availability of funds.

A Government team, including subject matter experts from the U.S. Army Corps of Engineers (USACE) and the Air Force Civil Engineering Center (AFCEC), will assist with the program. Performers will have access to this team for guidance and collaborations, and the Government team may also contribute supplemental data to the program's federated database.

D. Detailed Technical Description

Proposals that fail to provide evidence, quantitative projections, first order calculations, or theoretical estimations of how the proposed effort can meet or approach the metrics, may be deemed non-conforming and removed from consideration. Within the allotted page limit, prioritize reasoned arguments, evidence from recent literature or collected data, and calculations to justify claims. Minimize 1) marketing language and 2) repeating the language from this solicitation.

Performers will iterate on the design of a Material Accelerator and an associated scalability model. The proposed prototype Material Accelerator must not only predict the time-to-failure of concrete infrastructure but must also accurately replicate the physical degradation mechanisms observed in real-world historical datasets. To achieve this, testing will be conducted on two sets of materials. First, performers will test formulations corresponding to the historical data they contributed to the program's federated database, creating a direct validation link. Second, to establish a common programmatic baseline, testing will also be performed on at least two government-defined concrete formulations. While the government will provide the formulation definitions for this common baseline, performers will be responsible for sourcing the raw materials and fabricating the physical test samples.

The aggressive requirement to achieve >1,000x acceleration is driven by the critical temporal mismatch between infrastructure planning and concrete lifespans. Critical concrete structures are designed for service lives of 50 to 100 years, yet project planning and material selection typically occur within a narrow window of weeks to months. Furthermore, the introduction of novel, low-carbon concrete formulations and shifting local environmental conditions introduce significant uncertainty into long-term survivability. To mitigate this risk without actionable long-term data, engineers currently default to extreme over-design (overbuilding). Recent industry surveys reveal that up to 78% of concrete mixtures are systematically overdesigned¹, with many exceeding specified compressive strengths by 1,500 to 3,000 psi for a target of 4,000 psi². This structural overdesign artificially inflates structural material demands and carbon emissions by

¹ <https://www.giatecscientific.com/education/ready-mix-concrete-overdesign-and-sustainability-moving-in-opposite-directions/>

² Snell, Luke M., Karthik H. Obla, and Nicholas J. Carino. "Excessive Overdesign of Concrete Mixtures for Strength—Causes and Solutions." *Concrete International* 46.11 (2024): 49-55.

20% to 30%³, while unnecessarily increasing material costs, lengthening construction schedules, and creating massive structures that require more extensive and disruptive foundations.

Achieving >1,000x acceleration mathematically condenses 50 years of complex environmental exposure into approximately two and a half weeks. This capability will allow structural engineers to empirically validate new concrete formulations and site-specific environmental vulnerabilities within the timeframe of a construction planning cycle. This rapid data generation will eliminate the need for costly over-design and significantly speed the repair and deployment of resilient infrastructure.

Table 1. Resilient Program Metrics

Metric	Phase 1 (12 months)	Phase 2 (12 months)
Material Acceleration Factor	>100x compared to natural degradation from real-world data	>1,000x compared to natural degradation from real-world data
Predictive Accuracy (when it fails)	+/- 25% time to failure compared with real-world data	+/- 10% time to failure compared with real-world data
Morphological Accuracy* (how it fails)	+/- 15% variance against historical benchmarks for cumulative changes of microstructure features	+/- 5% variance against historical benchmarks for cumulative changes of microstructure features

*Performers are not restricted to a single analytical technique; however, they must utilize established digital image processing (DIP), topological, or statistical methodologies applied to microstructural data (such as Scanning Electron Microscopy [SEM], X-ray Computed Tomography [Micro-CT], or Mercury Intrusion Porosimetry [MIP]). Proposers must explicitly state their selected analytical method in their proposal and provide a technical justification detailing why the chosen metric is the most appropriate proxy for the specific environmental degradation mechanism being accelerated.

Table 2. Example quantitative methodologies for morphological accuracy

Method	Target microstructural feature
Fractal Dimension (DB) Analysis	Measures crack network complexity and boundary roughness.
Earth Mover's Distance (EMD)	Compares full Pore Size Distribution (PSD) alignment.
Kolmogorov-Smirnov (K-S) Tests	Evaluates statistical similarity between pore size curves.
Gray-Level Co-occurrence Matrix (GLCM)	Captures spatial texture and phase boundary degradation.
Two-Point Spatial Correlation Functions (S2)	Assesses the clustering behavior of micro-voids and cracks.

³ Muhammad, Hazib Hafiz, et al. "Probabilistic Carbon Analysis of Pakistan's Bridges Unveils the Urgent Needs of Overdesign Optimization and Policy Transformation." Research 7 (2026): 1175.

Table 3. Resilient Scope of Work

Task	Phase 1 (12 months)	Phase 2 (12 months)
Test Matrix Combinations	At least 2 distinct combinations (e.g., 2 formulations in 1 environment, or 1 formulation in 2 environments)	At least 4 distinct combinations (a minimum of 2 formulations tested in 2 simulated environments)
Scalability (Coupon to Structure)	Extrapolate coupon data to predict the behavior/failure of an intermediate-scale structural element (e.g., a 1-meter reinforced beam).	Extrapolate coupon data to predict the behavior/failure of a full-scale structure (e.g., a bridge pier or retaining wall).
Model Validation Rigor	Model must be validated against the maximum available duration of historical baseline data compiled in the federated database for the specified combinations. See below for more information.	

DARPA is not looking for faster ways to perform existing American Society for Testing and Materials (ASTM) tests. The goal of Resilient is to develop fundamentally new methodology that uses modeling to predict macro-scale structural lifetimes in weeks rather than decades.

Federated Baseline Data Sharing Requirement

1. Overview & Program Model

To establish a validated baseline of natural concrete degradation, the Resilient program will utilize a federated, crowdsourced data model. Multiple awards are anticipated under this solicitation. As part of their proposal, proposers must describe the nature and extent of the historical concrete degradation data they have access to (from prior research, internal databases, or public sources).

2. Post-Award Data Submission

Upon award, as an early program milestone (see Section E, Schedule/Milestones), selected performers will be contractually required to populate their historical data into the Government-provided Standardized Data Template (see the “Resilient Data Submission Template”). The Government will then aggregate the templates from all selected performers into a unified master database. This master database will be distributed back to all performers to serve as a shared baseline for model validation. This dataset will be distributed only to program performers and will not be published

Submission Requirements

Proposers must include the following in their Volume 1 (Technical Proposal):

- **Data and Sourcing Narrative:** A brief narrative (not exceeding 2 pages) describing the quantity and quality (provenance, age, and exposure conditions) of their planned, shareable data, proving its suitability as a high-fidelity control baseline for the proposed acceleration models.
- **Data Sharing Agreement:** An explicit, signed statement confirming that the proposer agrees to have their submitted data aggregated and shared with other selected performers upon award.

Proposals should address the following in the technical concept:

- Describe the core scientific and engineering approach for the prototype Material Accelerator. Detail the proposed methods for applying concurrent mechanical, environmental, and chemical stresses. If the proposal chooses to utilize especially harsh or hazardous chemicals outside of laboratory settings (i.e., the fieldable prototype), provide a field safety plan and justification for how it is in compliance with local and federal EH&S and Department of Transportation requirements for hazardous materials.
- Describe the novel approaches that will be used to achieve aggressive, mechanistically sound acceleration. Provide first-order calculations or other evidence to support the feasibility of the proposed acceleration factor. Proposers must explicitly detail how their system will avoid the 'transport-blocking' paradox inherent in highly accelerated chemical exposure. For example, when artificially accelerating chloride or sulfate ingress, rapid application often creates a dense precipitation layer at the surface that prematurely halts further penetration. Proposers must describe the specific physical, chemical, or thermodynamic control mechanisms their system will use to achieve >1,000x acceleration without inducing artificial surface blocking or fundamentally altering the diffusion kinetics. Proposers must explicitly explain how their accelerated testing methods will attempt to maintain kinetic and thermodynamic similitude with real-world, real-time degradation. If utilizing in-situ non-destructive evaluation (e.g., Micro-CT) to track morphological changes, proposers must define their required voxel resolution, beam energy, and scan duration. Crucially, proposers must quantitatively address how they will mitigate thermal artifacts or radiation-induced microstructural changes in the concrete sample during continuous, high-frequency scanning required to monitor >1,000x accelerated degradation.
- Describe the proposed approach for the scalability model. Explain how the model will translate accelerated coupon data into service-life predictions for complex structures. Proposals relying on computational models to bridge the gap between accelerated testing and natural degradation must move beyond generic machine learning architectures. Proposers must identify the specific, rate-limiting kinetic equations (e.g., modified Arrhenius, Nernst-Planck) they will adapt for non-linear, multi-stressor environments. Provide a brief mathematical justification for how your model will handle the non-linear coupling of mechanical fatigue and chemical dissolution.
- Describe the proposed sensor systems, data acquisition methods, and analytical techniques that will be used to measure degradation and validate that the accelerated failure pathways are consistent with real-world aging.

- Provide a notional test and safety plan for both phases, outlining how the metrics in Table 1 and the scope in Table 3 will be achieved.

E. Schedule/Milestones

Proposers must address the following fixed payable milestones in their proposals. Proposers must complete the “Schedule of Milestones and Payments” tab of the **Resilient Streamlined Cost Buildup Workbook Amendment 1** provided with this DO to fulfill the requirements under Volume 2, Price Volume. If selected for award negotiation, the fixed payable milestones provided will be directly incorporated into Attachment 3 of the OT agreement (“Schedule of Milestones and Payments”). Proposers must use the Task Description Document template provided with the Program Announcement DARPA-PA-25-07 Amendment 1, which will be Attachment 1 of the OT agreement.

The Government will hold monthly video conference calls with performers to track technical progress, identify issues, and mitigate risks. The in-person Principal Investigator (PI) meetings at Months 6, 12, and 24 will take the place of the monthly video conference call for those respective months.

There will be 13 fixed payable milestones. To justify payment, performers must deliver substantive technical artifacts (e.g., design documents, datasets, software code, test reports, and hardware) that demonstrate credible, documented progress toward the end-of-phase and end-of-program metrics outlined in Table 1 and Table 2. While presentation slide decks are required for the milestone review meetings, they do not constitute the primary payable deliverable.

Phase 1 fixed milestones and associated deliverables for this program must include, at a minimum, the following:

- Month 1: Kickoff Meeting and Project Plan.
 - Deliverable 1: Kickoff Meeting slides.
 - Deliverable 2: Updated Project Plan including detailed schedule and material cost estimate with identification of long-lead materials and need-by dates.
 - Deliverable 3: Submission of the populated Federated Data Package in the Standardized Data Template documenting historical concrete degradation data for various concrete formulations in a range of environments sourced from prior research or public repositories.
- Month 2: System Design Review.
 - Deliverable 1: System Architecture Document detailing the initial benchtop accelerator design, Bill of Materials (BOM), safety plan, and the mathematical/computational framework for the Scalability Model.
- Month 4: Assembly and Baseline Testing Complete.
 - Deliverable 1: Verification of benchtop accelerator assembly (via photos/video).
 - Deliverable 2: Delivery of baseline test dataset from initial coupon calibration runs and documentation of progress toward Phase 1 metrics.
- Month 6: Phase 1 Mid-Term Review (PI Meeting 1 - In-Person).
 - Deliverable 1: Mid-Term presentation deck.
 - Deliverable 2: Interim Test Report providing initial data demonstrating

- progress toward the >100x acceleration metric.
 - Deliverable 3: Delivery of initial Scalability Model source code/executable, including documentation of all data sources used to inform the model.
- Month 8: Morphological Correlation Report.
 - Deliverable 1: Technical report demonstrating the morphological and mechanistic consistency between the accelerated coupons and natural environmental exposure, understanding of degradation mechanisms, and justification of approach to effectively reproduce realistic degradation in an accelerated timescale.
- Month 10: Pre-Final Phase 1 Testing.
 - Deliverable 1: Draft Phase 1 final report for government review and comment.
 - Deliverable 2: Delivery of pre-final integrated dataset showing coupled mechanical and environmental stressors and scalability model extrapolation results.
- Month 12: Phase 1 Final Review (PI Meeting 2 - In-Person).
 - Deliverable 1: Final Phase 1 presentation deck.
 - Deliverable 2: Phase 1 comprehensive written report summarizing all work performed, data collected, and results against all Phase 1 metrics (Table 1 and Table 3).
 - Deliverable 3: Live demonstration of the benchtop prototype.
 - Deliverable 4: Delivery of the v1.0 Scalability Model executable software, source code, algorithms, and application program interface (API), including documentation of model architecture and basic user manual sufficient for use and analysis of the model by the government team.
 - Deliverable 5: Delivery of the Phase 1 benchtop Material Accelerator hardware to the Government, if requested, including Technical Data Package (TDP) with system design documents and basic user manual sufficient for use of the prototype by the government team.

Phase 2 fixed milestones and associated deliverables for this program must include, at a minimum, the following:

- Month 14: Phase 2 Expansion & Prototype Design Review.
 - Deliverable 1: Detailed test plan for the expanded matrix and challenge materials.
 - Deliverable 2: Technical Design Document for the versatile, transportable Phase 2 Material Accelerator prototype.
- Month 16: Versatile Prototype Assembly & Initial 1,000x Testing.
 - Deliverable 1: Verification of transportable prototype assembly (via photos/video).
 - Deliverable 2: Interim Test Report and dataset detailing progress toward the >1,000x acceleration metric.

- Month 18: Phase 2 Mid-Term Review & Model Validation.
 - Deliverable 1: Mid-term presentation deck.
 - Deliverable 2: Model Validation Report demonstrating the refined scalability model's predictive accuracy against the complex historical datasets in the federated database.
 - Deliverable 3: Delivery of latest Scalability Model source code/executable.
- Month 20: Multi-Variable Integration Data Delivery.
 - Deliverable 1: Comprehensive dataset and analysis generated from the transportable prototype demonstrating highly accurate, synergistic combinations of mechanical and environmental stressors across diverse simulated environmental regimes.
- Month 22: Pre-Final Phase 2 Testing.
 - Deliverable 1: Draft Phase 2 final report for government review and comment.
 - Deliverable 2: Near-final acceleration test data and final challenge material test results.
 - Deliverable 3: Delivery of Data and Analysis Package including all raw and processed experimental data, analysis scripts, experimental protocols, model inputs (including historical data), and model validation results generated throughout the program.
- Month 24: Program Final Review (PI Meeting 3 - In-Person).
 - Deliverable 1: Final presentation deck.
 - Deliverable 2: Comprehensive final program report summarizing all work performed, data collected, and results against all Phase 2 metrics (Table 1 and Table 3).
 - Deliverable 3: Live demonstration of the transportable Material Accelerator.
 - Deliverable 4: Delivery of the final v2.0 Scalability Model executable software, source code, algorithms, and API, including documentation of model architecture and basic user manual sufficient for use and analysis of the model by the government team.
 - Deliverable 5: Delivery of the final versatile, transportable prototype Material Accelerator hardware to the Government, if requested. Additionally, the Technical Data Package (TDP) with system design documents and basic user manual sufficient for use are required deliverables of this prototype.

Additional negotiated deliverables specific to the objectives of the individual efforts may be included in the final OT agreement.

Draft Final Reports for Phases 1 and 2 will be submitted to the DARPA Program Manager, and Agreements Officer Representative (AOR) at least 60 days prior to the end of the period of performance, estimated to be by the end of months 10 and 22, for review and comment. Submission of draft Final Reports will not be a payable milestone but shall be incorporated into the proposers Task Description Document (TDD).

For planning and budgetary purposes, proposers should assume a program start date of

December 18, 2026. Schedules will be synchronized across performers, as required, and monitored/revised as necessary throughout the program's period of performance.

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 in-person Principal Investigator (PI) meeting will be held at the 6-month, 12-month, and 24-month mark.
- Regular teleconference meetings, including a virtual kick-off meeting will be held with the Government team for progress reporting and problem identification and mitigation. Slide decks are required for all monthly and major program reviews.
- 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.
- Conference and publication costs should not be included.

II. Award Information

Selected proposals that are successfully negotiated will result in the award of an OT for Prototype project. See Section 4 of DARPA-PA-25-07 Amendment 1 for information on awards that may result from proposals submitted in response to this announcement.

Proposers must review the DO OT Sample agreement provided as an attachment to DARPA-PA-25-07 Amendment 1 prior to submitting a proposal. DARPA has provided the DO OT Sample to expedite the negotiation and award process and ensure DARPA achieves the goal of Disruptioneering, which is to enable DARPA to initiate a new investment in less than 120 calendar days. The DO OT Sample is representative of the terms and conditions that DARPA intends to include in all DO awards. The task description document, schedule of milestones and payments, and data rights assertions requested under Volumes 1, 2, and 3 will be included as attachments to the OT agreement upon negotiation and award.

Proposers may suggest edits to the DO OT Sample for consideration by DARPA and provide a copy of the DO OT Sample with track changes as part of their proposal package. DARPA may or may not accept suggested edits. The Government reserves the right to remove a proposal from award consideration should the parties fail to reach an agreement on OT award terms and conditions. If edits to the DO OT Sample are not provided as part of the proposal package, DARPA assumes that the proposer has reviewed and accepted the award terms and conditions to which they may have to adhere and the DO OT Sample agreement provided as an attachment, indicating agreement (in principle) with the listed terms and conditions applicable to the specific award instrument.

DARPA's goal for this DO is to achieve an award within 120 calendar days from the posting date (August 20, 2026) of this announcement. To ensure that DARPA reserves the right to cease negotiations when an award is not executed by both parties (DARPA and the selected organization) on or before December 18, 2026.

Cybersecurity Maturity Model Certification Requirements

As codified in 32 CFR Part 170, the Cybersecurity Maturity Model Certification (CMMC) Program is designed to ensure Department of War (DoW) performers are properly safeguarding Federal Contract Information (FCI) and Controlled Unclassified Information (CUI) that is

processed, stored, or transmitted on performer information systems. FCI and CUI must be protected to meet evolving threats and safeguard nonpublic, unclassified information that supports and enables the warfighter. The CMMC Program provides a consistent methodology to assess a defense contractor's implementation of required cybersecurity requirements. Proposers are encouraged to visit the DoW Chief Information Officer CMMC Resources & Documentation site for more information on CMMC: <https://dodcio.defense.gov/cmmc/Resources-Documentation/>.

This provision outlines the CMMC requirements pertaining to this solicitation, to include the required CMMC level and the corresponding proposal requirements. All DARPA-awarded Procurement Contracts and Other Transactions, including those involving Fundamental Research, at a minimum require prime performers and subcontractors to demonstrate compliance with CMMC Level 1, which focuses on the protection of FCI and consists of the security requirements that correspond to the 15 basic safeguarding requirements specified in 48 CFR 52.204-21.

A. Required CMMC Level

The required CMMC level for this solicitation is: CMMC Level 1 (Self-Assessment). Level 1 focuses on the protection of FCI and consists of the security requirements that correspond to the 15 basic safeguarding requirements specified in 48 CFR 52.204-21. Additional information can be found in Section 8.2.2 of DARPA-PA-25-07 Amendment 1.

B. Eligibility for Award

To be eligible for award under this solicitation, the CMMC Unique Identifier (UID) associated with the prime proposer must reflect a current CMMC status (representing either Final or Conditional status) posted in the Supplier Performance Risk System (SPRS) indicating compliance at the required level above. Additionally, the proposer must have a current annual CMMC affirmation, submitted by an authorized Affirming Official, posted in SPRS. Further, as some entities may have multiple business segments, multiple CAGE codes, etc., DARPA must reasonably be able to relate the CMMC UID in SPRS to the proposing entity.

(Note: SPRS is housed within the Procurement Integrated Enterprise Environment <https://piee.eb.mil>; an additional resource on SPRS is located here: <https://dodcio.defense.gov/Portals/0/Documents/CMMC/CMMC-SPRS.pdf>)

C. Subcontractor Flow-Down

Prime proposers are responsible for verifying subcontractor compliance. In the proposal, the prime proposer must attest that all subcontractors who will process, store, or transmit FCI or CUI under a resultant award will meet the applicable CMMC level required by 32 CFR § 170.23. The proposal must also describe the verification method the prime proposer will use to ensure subcontractors have the required CMMC status in SPRS prior to subcontract award.

Specifically:

If the Subcontractor will process, store, or transmit...	...the Subcontractor's Minimum Required CMMC Level is:
Federal Contract Information (FCI) only	CMMC Level 1 (Self-Assessment)

III. Eligibility

Due to their specialized roles and longstanding regulatory relationships with the Government, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARC)s, 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.

See Section 7 of DARPA-PA-25-07 Amendment 1 for additional information on who may be eligible to respond to this announcement.

IV. Disruption Opportunity Responses

A. Abstract Phase

This DO contains an abstract phase. Potential proposers are required to submit a conforming abstract in order to be eligible to submit a proposal. DARPA will respond to conforming

abstracts with brief feedback regarding applicability and technical relevance to the DO and will either encourage or discourage submission of a proposal. Regardless of whether DARPA encourages or discourages a full proposal, proposers may submit a full proposal. If DARPA rejects an abstract as non-conforming, the submitter will not be eligible to submit a full proposal, and will receive a letter describing the reasons for non-conformity. DARPA will review all conforming full proposals using the published evaluation criteria and 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 that a proposal based on the abstract will ultimately be selected for award negotiation, and vice versa.

i. Abstract Content and Format

Abstracts must be submitted using the attached template (“Abstract Template”), and in accordance with the submission instruction below in SECTION IV.D. no later than the date and time listed in Section I Opportunity Description. Email submissions will not be accepted. Conforming abstracts must provide sufficient information to assess the validity/feasibility of its claims, contain all requirements detailed in this DO. Abstracts that fail to include this information may be deemed nonconforming and may be removed from consideration.

B. Proposal Content and Format

All proposals submitted in response to this announcement must comply with the content and format instructions in Section 5 of DARPA-PA-25-07 Amendment 1. All proposals must use the templates provided as Attachments to DARPA-PA-25-07 Amendment 1 and the “**Resilient Streamlined Cost Buildup Workbook Amendment 1**” Excel Attachment provided with this DO and follow the instructions therein.

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. Please see Section 4.2 of DARPA-PA-25-07 Amendment 1 for details about the Fundamental Research Risk-Based Security Review Process (FRRBS).

Information not explicitly requested in DARPA-PA-25-07 Amendment 1, its Attachments, or this announcement may not be evaluated.

C. Proposal Due Date and Time

Proposals in response to this announcement are due no later than the date and time listed in Section I Opportunity Description. As described in Section 5 of DARPA-PA-25-07 Amendment 1, full proposal packages must be submitted per the instructions outlined in this DO *and received by DARPA* no later than the above time and date. Proposals received after this time and date may not be reviewed.

Proposers are warned that the proposal deadline outlined herein is in Eastern Time and will be

strictly enforced. When planning a response to this announcement, proposers should consider that some parts of the submission process may take from one (1) business day to one (1) month to complete.

D. Submission Instructions

All abstract and proposal responses to DARPA-PA-25-07-04 shall be submitted electronically to DARPA's Broad Agency Announcement (BAA) Portal (<https://baa.darpa.mil>).

DARPA will acknowledge receipt of complete submissions via email and assign identifying numbers that should be used in all further correspondence regarding those submissions. If no confirmation is received within two (2) business days, please contact Resilient@darpa.mil to verify receipt.

When planning a response to this DO, proposers should take into account the submission time zone and that some parts of the submission process may take from one (1) business day to one month to complete (e.g., registering for a SAM Unique Entity ID (UEI) number or Tax Identification Number (TIN)).

Electronic Upload

First-time users of the DARPA BAA Portal must complete a two-step account creation process. The first step consists of registering for an extranet account by going to the URL above and selecting the "Account Request" link. Upon completion of the online form, proposers will receive two separate emails; one will contain a username, and the second will provide a temporary password. Once both emails have been received, the second step requires proposers to go back to the submission website and log in using that username and password. After accessing the extranet, proposers may then create a user account for the DARPA Submission website by selecting the "Register your Organization" link at the top of the page. Once the user account is created, proposers will be able to see a list of solicitations open for submissions, view submission instructions, and upload/finalize their submission.

Proposers who already have an account on the DARPA BAA Portal may log in at <https://baa.darpa.mil>, select this solicitation from the list of open DARPA solicitations and proceed with their submission. Note: proposers who have created a DARPA Submission website account to submit to another DARPA Technical Office's solicitations do not need to create a new account to submit to this solicitation.

All submissions provided electronically through the DARPA Submission website must meet the following requirements: (1) uploaded as a zip file (.zip or .zipx extension); (2) only contain the document(s) requested herein; (3) only contain unclassified information; and (4) must not exceed 100 MB in size. Only one zip file will be accepted per full submission. The DARPA Submission website will reject submissions not uploaded as zip files. Technical support for the DARPA Submission website is available during regular business hours, Monday – Friday, 9:00 a.m. – 5:00 p.m. ET. Requests for technical support must be emailed to BAAT_Support@darpa.mil with a copy to Resilient@darpa.mil. Questions regarding submission contents, format, deadlines, etc., should be emailed to Resilient@darpa.mil. Questions/requests for support sent to any other email address may result in delayed/no response.

Since proposers may encounter heavy traffic on the web server, DARPA discourages waiting until the day submissions are due to request an account and/or upload the submission. Note: Proposers submitting via the DARPA Submission site MUST (1) click the "Finalize" button for

the submission to upload AND (2) do so with sufficient time for the upload to complete prior to the deadline. Failure to do so will result in a late submission.

V. Proposal Evaluation and Selection

Proposals will be evaluated and selected in accordance with Section 6 of DARPA-PA-25-07 Amendment 1. Proposers will be notified of the results of this process as described in Section 8.1 of DARPA-PA-25-07 Amendment 1.

VI. Administrative and National Policy Requirements

Section 8.2 of DARPA-PA-25-07 Amendment 1 provides information on Administrative and National Policy Requirements that may be applicable for proposal submission and performance under an award.

VII. Point of Contact Information

Christine Sanders, Program Manager, DARPA/DSO, Resilient@darpa.mil

VIII. Frequently Asked Questions (FAQs)

All technical, contractual, and administrative questions regarding this announcement must be emailed to Resilient@darpa.mil. Emails sent directly to the Program Manager or any other address may result in delayed or no response.

All questions must be in English and must include the name, email address, and telephone number of a point of contact. DARPA will attempt to answer questions publicly in a timely manner; however, questions submitted within seven (7) calendar days of the proposal due date listed herein may not be answered.

DARPA will post an FAQ list under the DO on the DARPA/DSO Opportunities page at (<http://www.darpa.mil/work-with-us/opportunities>). The list will be updated on an ongoing basis until one (1) week before the proposal due date.

For those new to DARPA or national security, DARPA makes available a free, comprehensive resource via DARPACONnect on how to do business with the agency. In addition to DARPA 101 materials, relevant preparatory modules includes “Understanding DARPA Broad Agency Announcements.” Registration and access are free at www.darpaconnect.us.

DSO has been using various solicitation formats to speed award timelines. These include Pitch Days, 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>