Program Solicitation

Cyber Physical Systems Executing in Real Time

(CyPhER) Forge

Defense Advanced Research Projects Agency (DARPA)

Tactical Technology Office (TTO)

DARPA-PS-26-04-01

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PROGRAM SOLICITATION OVERVIEW INFORMATION

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Tactical Technology Office (TTO)
- **Funding Opportunity Title** – Cyber Physical Systems Executing in Real Time (CyPhER) Forge
- **Announcement Type** – Initial Announcement
- **Funding Opportunity Number** – DARPA-PS-26-04
- **Eligibility** – Participation in the CyPhER Forge Program is restricted to U.S. Citizens and U.S. Permanent Residents (Green Card holders) representing U.S. companies only.
- **Product Service Code (PSC)**: (Amendment 01) AC12, National Defense Research and Development Services; Department of Defense - Military; Applied Research
- **North American Industry Classification System (NAICS) Code:** (Amendment 01) 541715 - Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)
- **Dates/Times**

Event	Date / Due Date and Time*
Release Date	February 25, 2026
Amendment 01 Release Date	March 27, 2026
Industry Day	January 22, 2026
Abstract Questions	March 12, 2026, by 4:00 p.m. ET
Amendment 01 Abstracts	April 15, 2026, by 4:00 p.m. ET
Amendment 01 Oral Proposal Package (OPP) Questions	May 27, 2026, by 4:00 p.m. ET
Amendment 01 OPP	June 15, 2026, by 1:00 p.m. ET
Oral Presentations	June 2026
Estimated Period of Performance (PoP) Start	First Quarter Fiscal Year (FY) 2027

*The dates and times are subject to change.

- **Concise Description of the Funding Opportunity** – Cyber Physical Systems Executing in Real Time (CyPhER) Forge aims to revolutionize defense Test & Evaluation (T&E) by breaking the direct link between physical system complexity and test duration. DARPA intends to use a phased acquisition approach for the CyPhER Forge program. The planned 30-month, three (3) phase program seeks to reduce required test points by order of magnitude for developmental systems through two (2) core innovations, using flight testing as a primary demonstration and validation environment.
    - **Phase 0 Backbone** (planned for 6 months): DARPA builds the program's Integration, Validation, and Verification (IV&V) infrastructure.

- **Phase 1 Base** (planned for 12 months): Proposers will develop prototype CyPhERs and demonstrate performance gains relative to the state-of-the-art as measured by program metrics.
- **Phase 2 Option** (planned for 18 months): Proposers will mature the CyPhERs for live flight and demonstrate performance gains as measured by program metrics.

  The first innovation is a Government-owned Digital Twin (DT) with three (3) technical pillars:

  - Physics-informed surrogate models
  - Uncertainty quantification
  - Continuous data assimilation

  The resulting self-learning DT will encapsulate both high-fidelity physics modeling and instrumented flight test data.

  The second innovation is an Artificial Intelligence (AI) test agent with three (3) technical pillars:

  - Statistical safety assurances
  - Information-maximizing maneuvers
  - Machine precision autonomy

There are six (6) technical pillars and DARPA requires the proposed team to have recognized experts in their fields (reference Section 4.2, paragraph 2) with the technical acumen required to achieve the goals of CyPhER Forge across **all** six (6) technical pillars in a flight sciences test context. DARPA understands that one (1) individual may be a recognized expert in multiple pillars, but the entirety of the proposed team must possess the technical acumen in **all** six (6) technical pillars and flight sciences test.

The integrated DT and AI test agent, called a CyPhER, will be an automated, adaptive, end-to-end planning, execution, and analysis solution operating in real time that directly addresses major drivers of modern T&E timelines. CyPhER Forge will culminate in the demonstration of an accelerated flight sciences test campaign using an instrumented, experimental aircraft as the primary validation platform. Proposed research should investigate innovative approaches that enable revolutionary advances. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. Proposers are required to submit a price proposal for Phase 1 Base and Phase 2 Option.

- **Multiple awards are anticipated**.
- **Types of instruments that may be awarded** – Other Transaction (OT) for Prototype Project Agreement
- **Cost Share** – DARPA strongly encourages the use of cost share when an applicable statutory condition exists in accordance with 10 U.S.C. § 4022(d). The Agreement Officer (AO) will make the determination to use cost share after receipt of proposals.
- **Proposer Requirements** – Proposers are required to comply with regulations applicable to receiving and storing Controlled Unclassified Information (CUI) material in accordance with:

- Department of Defense Instruction (DoDI) 5200.48, "Controlled Unclassified Information (CUI)"
- National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, "Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations"

DARPA will utilize DoD Secure Access File Exchange (SAFE) located at https://safe.apps.mil/security.php or use encrypted email to send documents.

- All Proposers are required to comply with export control laws and International Traffic in Arms Regulations (ITAR) and be capable of protecting sensitive and controlled data, including critical technologies. The Department of State (DoS) is responsible for the export and temporary import of defense articles and services governed by 22 U.S.C. 2778 of the Arms Export Control Act (AECA) and Executive Order (EO) 13637, Classified National Security Information. That section of the AECA is implemented by the ITAR (22 Code of Federal Regulations (CFR) parts 120-130).
- **Additional Information** – The following attachments are included with this Program Solicitation:
  - Attachment A – Abstract Summary Slide Template
  - Attachment B – Abstract Instructions and Template
  - Attachment C – Oral Proposal Package Instructions and Templates
  - Attachment D – Task Description Document Instructions and Template
  - Attachment E – Schedule of Milestones and Payments
  - Attachment F – Cost Spreadsheet
  - Attachment G – Amendment 01 - (Informational) Description of Program Metrics
  - Attachment H – Intellectual Property/Data Rights Assertions
  - Attachment I – Model OTs for Prototype Project Agreement
- **Agency Contact** – The Program Solicitation Coordinator for CyPhER Forge can be reached at:

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DARPA-PS-26-04-01

PROGRAM SOLICITATION
Cyber Physical Systems Executing in Real Time
(CyPhER) Forge

1. PROGRAM SOLICITATION AUTHORITY

This Program Solicitation (PS) may result in a single or multiple awards of Other Transaction (OT) for Prototype Projects, which can include not only commercially available technologies fueled by commercial or strategic investment, but also concept demonstrations, pilots, and agile development activities that can incrementally improve commercial technologies, existing Government-owned capabilities, and/or concepts for broad defense and/or public application(s). DARPA reserves the right to award an OT for Prototype Project under 10 U.S.C. § 4022(b), make multiple awards, or make no award at all. Follow-on production contracts or transactions may also be awarded pursuant to 10 U.S.C. § 4022(f). Use of the authority at 10 U.S.C. § 4022(b) to award an OT for Prototype Projects requires one (1) of four (4) conditions to be met pursuant to § 4022(d). The DARPA AO has sole discretion to negotiate all OT for Prototype Project Agreement terms and conditions with selected Proposers.

2. PROGRAM INFORMATION

This PS encourages solutions from all responsible sources capable of satisfying DARPA's requirements, including large and small businesses, and nontraditional defense contractors as defined in 10 U.S.C. § 3014.

2.1. PROGRAM BACKGROUND

The complexity of modern combat systems has created a strategic national disadvantage in defense acquisition. Major defense programs currently take an average of 12 years to deliver capability. This crisis is most visibly and expensively demonstrated in flight tests, which routinely consume up to one-fourth of an aircraft's total development cost and more than half of its time in development[1]. Despite a revolution in computational power, machine learning algorithms, and ubiquitous data, the overarching approach to testing complex cyber-physical systems – including air, ground, and maritime platforms – has remained substantially unchanged for decades. Limitations in test tools force teams to rely on slow, manual, and error-prone techniques that exploit less than 5% of the data collected. The core activity remains a laborious "spot-checking" of High-Fidelity Models (HFMs) at thousands of discrete, hand-flown, and often-repeated conditions.

This combination of inadequate tools and growing system complexity drives longer and more expensive test timelines. The current test paradigm is hindered by six (6) core inefficient attributes which CyPhER Forge aims to address:

1. Computationally expensive models
2. Deterministic (non-stochastic) predictions
3. Underutilized data (up to 95%)

[1] Fox, Bernard, Michael Boito, John C. Graser, and Obaid Younossi, Test and Evaluation Trends and Costs for Aircraft and Guided Weapons. Santa Monica, CA: RAND Corporation, 2004. https://www.rand.org/pubs/monographs/MG109.html.

4. Incremental and heuristic-driven test plans
5. Coarse safety margins
6. Manual execution

The net effect is a prolonged, high-risk process that fails to provide authorities with timely decision-quality knowledge of system performance.

To overcome this strategic disadvantage, the U.S. requires a new paradigm that leverages high performance compute, data, machine learning, and physics-informed computational models to accelerate test and manage risk with quantifiable certainty.

2.2. PROGRAM DESCRIPTION/SCOPE

CyPhER Forge aims to create real-time, physics-informed, uncertainty-aware, data-assimilating DTs and AI agents (together forming a cyber-physical system called a CyPhER that successfully integrates with a developmental combat system to accelerate testing and fielding by an order of magnitude (10X or more). While the program uses flight testing as a primary demonstration and validation environment, the core technologies are fundamentally platform- and domain-agnostic, ensuring applicability to aircraft, ground, maritime, and other combat systems.

The CyPhER Forge program involves iterative interaction of three (3) core elements as illustrated in *Figure 1*:

Digital Twin (DT) (Green Text): Makes stochastic predictions based on assimilated data and high-fidelity physics models.

AI Test Agent (Purple Text): Reasons over the DT's stochastic predictions to identify safe, information-maximizing maneuvers for the system under test to execute.

System Under Test (SUT) (Orange Text): The physical system that executes maneuvers and generates data.

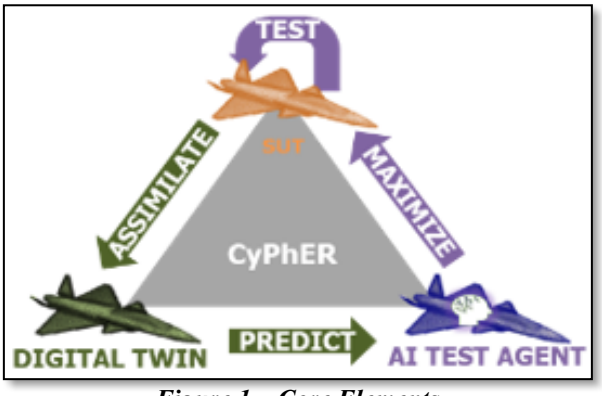

Figure 1 – Core Elements

The combination of the DT and AI Test Agent will be an automated, adaptive, end-to-end planning, execution, and analysis solution operating in real time that directly addresses the major drivers of modern T&E timelines. **Phase 0 Backbone** will focus on building the program's integration, validation, and verification infrastructure. **Phase 1 Base** will focus on developing prototype CyPhERs (DT + AI Test Agent) to reduce risk on the program's core technological challenges. **Phase 2 Option** will focus on developing flight-ready CyPhERs and executing a test campaign for an experimental aircraft.

The CyPhER Forge program has two (2) Focus Areas (FA) spanning Phase 1 Base and Phase 2 Option. These FAs systematically address the six (6) core attributes identified in Sections 2.2.1. and 2.2.2. that adversely drives traditional test timelines.

2.2.1. FOCUS AREA 1: BUILD REAL-TIME LEARNING MODELS

Focus Area 1 (FA1) concentrates on developing a **Government-owned DT** by transforming proprietary, computationally expensive HFMs into an adaptive, real-time knowledge source. This is accomplished through three (3) technical pillars as illustrated in *Figure 2*:

1. *Technical Pillar 1: Physics-Informed Surrogate Models* - Develop real-time, multi-physics Surrogate Models (SMs) from HFMs using physics-preserving machine learning. These SMs must capture the behavior of complex, highly coupled systems (e.g., aerodynamics, structures, propulsion) and generate predictions based on arbitrary inputs.
2. *Technical Pillar 2: Uncertainty Quantification (UQ)* - Implement methods to accurately identify, characterize, and attribute all-source uncertainty (both epistemic/model and aleatoric/sensor) within the DT. This is foundational for providing confidence bounds on all predictions, enabling quantified risk management.
3. *Technical Pillar 3: Continuous Data Assimilation* - Integrate methods to assimilate flight test data into the DT in real time. This continuously refines the SM and UQ, ensuring the DT becomes a living, unified, Government-owned truth source.

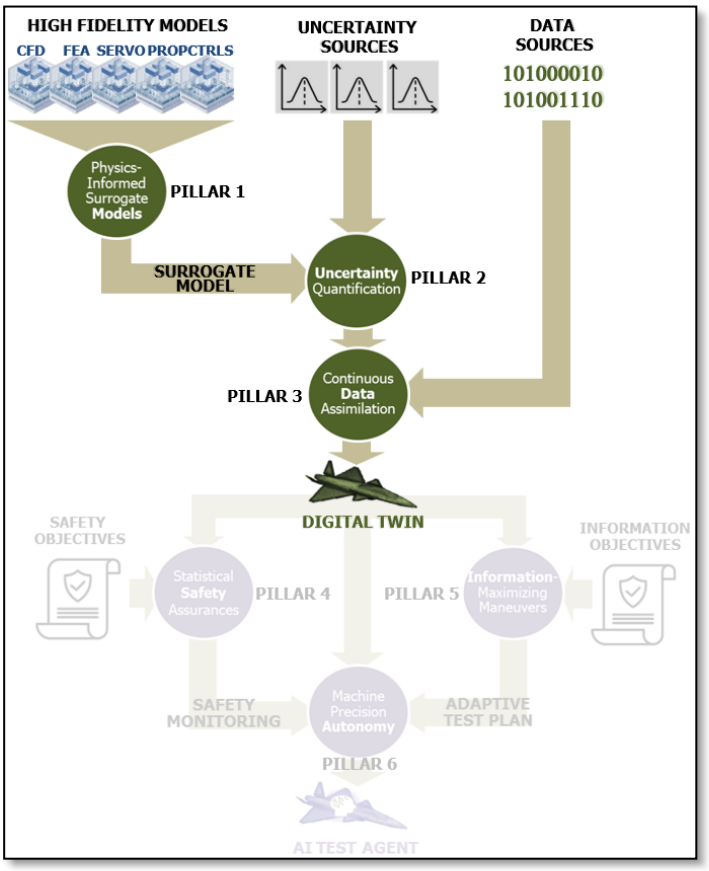

Figure 2 – Focus Area 1 Technical Pillars

2.2.2. FOCUS AREA 2: SAFELY MAXIMIZE LEARNING

Focus Area 2 (FA2) concentrates on developing the **AI Test Agent** that leverages the advanced DT from FA1 to autonomously plan and execute highly efficient and safe test programs. This is accomplished through the following three (3) technical pillars as illustrated in *Figure 3:*

a. *Technical Pillar 4: Statistical Safety Assurances* - Implement methods that use the DT's uncertainty characterization to provide statistical assurances about the safety of any planned maneuver. These methods include user-defined risks and unknown risks and involve both offline training and real-time assurance methods. This pillar replaces heuristic-based methods with quantified confidence levels that a safety violation will not occur.

b. *Technical Pillar 5: Information-Maximizing Maneuvers* - Develop methods that identify the next maneuver that maximizes information gain. This replaces heuristic- and interval-driven approaches to test planning.

c. *Technical Pillar 6: Machine Precision Autonomy* - Develop and demonstrate an AI Test Agent that leverages the DT, information maximizing methods, and statistical safety assurance methods to plan and execute an information maximizing sortie consistent with user-defined objectives and user-defined constraints (i.e., fuel, airspace, etc.), providing statistical safety assurances consistent with user-defined risk tolerance, executing the maneuver, and adapting subsequent maneuver plans based on real-time changes to the data-assimilating DT and external conditions (i.e., traffic, airspace changes, etc.). This culminates in an autonomous, in-the-loop, envelope expansion flight test campaign for the target combat system. AI Test Agents will provide a detailed technical account of their test plan, safety plan, and test cards prior to flight for approval; provide an accounting of real-time changes to their test plan, safety plan, and test cards for human on-the-loop monitoring; and provide real-time predictions and uncertainty quantification for engineering quantities of interest, safety and constraint monitoring, and expected information gain for planned maneuvers.

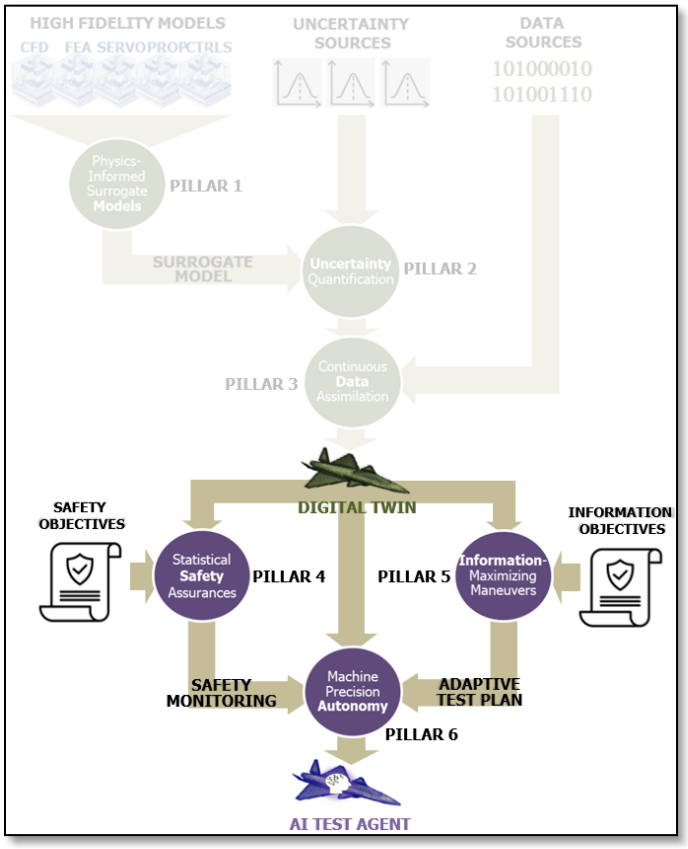

Figure 3 – Focus Area 2 Technical Pillars

Ultimately, this approach will replace heuristic-driven test completion criteria with a confidence-driven paradigm, allowing decision-makers to make objective, quantified tradeoffs between certainty gained from additional test and fielding timelines.

2.3. PROGRAM STRUCTURE

CyPhER Forge is a 30-month, three (3) phase program designed to rapidly mitigate technical risk, drive innovation through competition, and mature the core technologies across six (6) technical pillars. *Figure 4* below illustrates the planned timeline for Phase 0 Backbone, Phase 1 Base, and Phase 2 Option.

Phase 0 Backbone (planned for 6 months) builds the program's Integration, Validation, and Verification infrastructure.

Phase 1 Base (planned for 12 months) enables rapid risk reduction with challenge cycles to score performance in accuracy and speed for modeling, data assimilation, and uncertainty quantification as evaluated against HFMs and hold-out flight test data from experimental aircraft. Proposers achieving top technical performance across program metrics (reference Section 2.4 and *Attachment G – (Informational) Description of Program Metrics*), as demonstrated in Phase 1 Base challenge cycles, will be selected to continue to perform in Phase 2 Option.

Phase 2 Option (planned for 18 months) is targeted to mature and integrate the DTs and AI Test Agents. The challenge cycles in Phase 2 Option will provide quantitative evidence of the Proposers' abilities to develop a real-time, knowledge and safety maximizing AI Test Agents and will serve as the primary readiness criteria for flight tests. Phase 2 Option will culminate in a full-scale demonstration wherein the integrated CyPhERs will autonomously execute a test plan on an experimental aircraft. Direct comparisons will be drawn between the efficiency of the CyPhER-driven test plan and the conventional test plan previously executed on that aircraft.

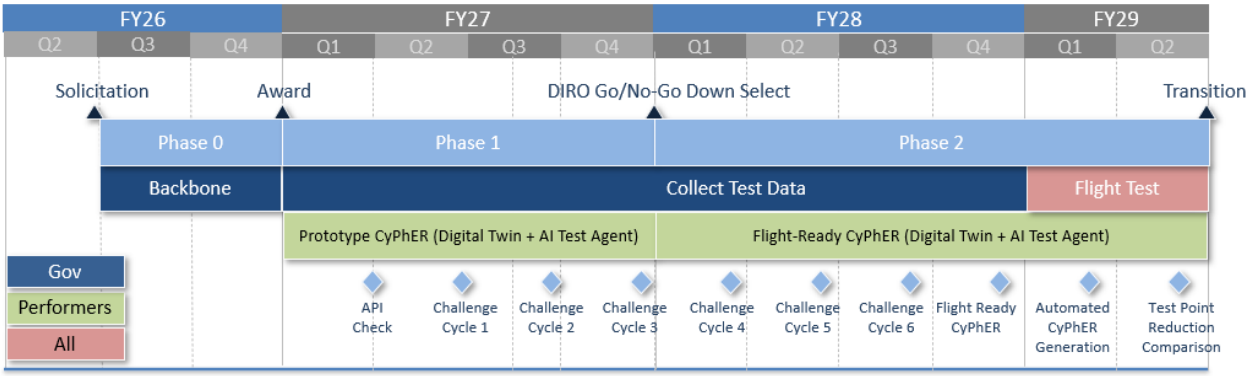

Figure 4 – CyPhER Forge Planned Timeline

2.3.1. INTEGRATION, VALIDATION, AND VERIFICATION

The Government Integration, Validation, and Verification (IV&V) Phase 0 Backbone will ensure interoperability, manage competition, and conduct rigorous testing. The scope of work to be performed by the Government IV&V team is provided to afford Proposers details on the tasks they are being asked to perform. The Proposer will take into consideration the scope of the Government's IV&V work when building their proposal. The Proposer will not propose a price that includes tasks already addressed by the Government IV&V backbone, identified in *Table 1* below.

IV&V Task Descriptions	
IV&V Task	**Description**
Compute Infrastructure	Establish infrastructure for accessing Government-furnished high-performance compute and data lake.

IV&V Task Descriptions	
IV&V Task	**Description**
Application Programming Interface (API) & Orchestration Engine Development	Develop and manage the core APIs, orchestration engines and data architecture for: access to telemetered/stored test data by DTs and AI Test Agents; access to environmental conditions by DTs and AI Test Agents; and transmission of maneuver commands from AI Test Agents to the SUT.
Standards Governance	Host periodic governance standards meetings between DARPA and the Proposers to collaboratively evolve APIs and GUIs.
Graphical User Interface (GUI) Development	Develop standardized GUIs and other Input/Output (I/O) tools for users to interact with the DT and AI Test Agents, integrate test data, generate test artifacts, and meet other test engineering objectives.
Validation & Verification	Conduct regular, concurrent challenge cycles for DTs, AI Test Agents, and fully integrated CyPhERs using holdout test data and simulated data to produce summary metrics and competition statistics for DARPA.
User Evaluation	Conduct regular user evaluations and facilitate feedback to Proposer teams, ensuring the final product meets transition partner needs.

Table 1 – Phase 0 Backbone IV&V Task Descriptions

2.3.2. PHASE 1 BASE PROPOSER TASKS

Proposer teams will engage in concurrent, competitive development, structured around three (3) products and judged through a series of challenge cycles designed to progressively challenge the solutions and enable down-select. Proposer Teams will produce the following three (3) types of products identified in *Table 2*.

Product	Purpose
API-Compliant DTs	Develop real-time, physics-informed, uncertainty-aware digital twins.
API-Compliant AI Test Agents	Develop AI Test Agents for information-maximizing test planning and execution with safety assurances.
Fully Integrated CyPhERs (DT + AI Test Agents)	Develop an integrated solution without the API layer, enabling maximum flexibility and performance.

Table 2 – Proposer Teams Phase 1 Products

2.3.3. PHASE 2 OPTION PROPOSER TASKS

Proposer teams will engage in concurrent, competitive development, structured around three (3) tasks and judged through a series of challenge cycles designed to progressively challenge the solutions in preparation for live flight. Proposer teams will produce the same three (3) types of products as in Phase 1 Base. In addition, at the end of the program, teams will demonstrate the ability to take the DARPA furnished models as input and autonomously generate CyPhERs with minimal human involvement.

2.3.4. DARPA FURNISHED RESOURCES

DARPA will furnish the resources and tools outlined in *Table 3*.

Deliverable	Target Deliverable Date
High Performance Compute (HPC), with billions of Central Processing Unit (CPU) hours and a reasonable amount of Graphics Processing Unit (GPU) resources reserved for the duration of the program.	Available to Proposers at start of Phase 1
A CUI data lake to store historical flight test data and Proposer-specific HFM data.	Available to Proposers at start of Phase 1
IV&V environment including APIs and GUIs outlined in *Table 1*, along with an orchestration engine for running and evaluating CyPhERs.	Developer Kits available to Proposers at start of Phase 1
Government-furnished HFMs for an experimental aircraft as described in Section 2.3.5, below, from which Proposers can generate data to develop their DTs and AI Test Agents.	Available to Proposers at start of Phase 1

Table 3 – DARPA Furnished Resources

2.3.5. HIGH-FIDELITY MODELS

Proposers will be provided with a Government-owned set of aircraft data definitions to construct coupled multi-physics HFMs for experimental aircraft to serve as the foundation for developing their real-time, physics-informed digital twins (reference *Figure 5*).

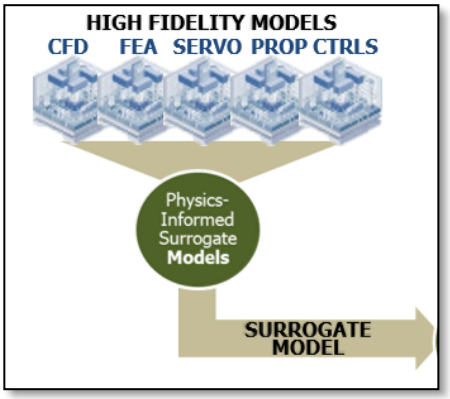

Figure 5 – High Fidelity Models

Proposers will utilize these HFMs to create faster-than-real-time surrogate models. The data provided to build these foundational HFMs cover-at-least- five (5) domains essential for coupled multi-physics simulation:

1. Airframe Outer Mold Line (OML): A three (3) dimensional Computer Aided Design (CAD) model of the Airframe OML to include individual control surfaces and hinge definitions as well as inlet/nozzle geometry compatible with the provided propulsion model, suitable for high-fidelity computational fluid dynamics (CFD) analysis.
2. Finite Element Analysis (FEA) Model: The full-airframe structural FEA model, capable of resolving structural dynamics and static loads.
3. Propulsion Model: Installed propulsion data tables across the flight envelope detailing installed thrust, fuel consumption, and needed flow properties at inlet/exit planes compatible with the provided Airframe OML geometry.
4. Flight Control System (FCS) Model: A model of SUT flight control laws that allows for arbitrary maneuvers within the constraints of the SUT, enabling the development of safety and information maximizing test plans.
5. Servo Dynamic Model: Characterization of the primary flight control surface servo dynamics describing performance under representative aerodynamic and inertial loads.

2.3.6. CHALLENGE CYCLES

Challenge cycles will occur on a periodic basis beginning with an API check where Proposers will be evaluated on their ability to create API-compliant DTs and AI Test Agents, to validate their software development capabilities.

1. **DT Challenges:** Proposers will be provided with either as-flown or simulated flight test maneuvers. The Proposers' DTs will be evaluated on the accuracy of the predictions and uncertainty quantification for pre-defined engineering quantities of interest, relative to either hold-out flight test data or simulated truth data. Given further hold-out flight test data or simulated truth data, the Proposers' DTs will be evaluated on their ability to assimilate new data and subsequently improve future predictions with reduced uncertainty for pre-defined engineering quantities of interest. In addition, the Proposers' DTs will be evaluated on the speed of their predictions, uncertainty quantification, and data assimilation.
2. **AI Test Agent Challenges:** Proposers will deliver AI Test Agents that will be integrated with a Government-supplied, uncertainty quantifying DT. The Proposer's AI Test Agents will be evaluated on their ability to generate safe, information-maximizing test maneuvers as the underlying DT learns, in real time. Specifically, the AI Test Agents will be evaluated on the degree to which they comply with user-defined constraints (fuel use, dynamically changing airspace, etc.), identify and avoid unsafe conditions consistent with user-defined risk tolerance, and the efficiency with which they achieve uncertainty reduction targets.
3. **CyPhER Challenges:** Proposers will deliver DTs and AI Test Agents for integration within the IV&V environment. The combined DT and AI Test Agents, called CyPhERs, will be evaluated on their ability to generate safe, information-maximizing test maneuvers as the underlying DT learns in real time. Specifically, CyPhERs will be evaluated to the degree to which they comply with user-defined constraints, identify and avoid unsafe conditions consistent with user-defined risk tolerance, the efficiency with which they achieve uncertainty reduction targets, and the accuracy of their predictions and uncertainty quantification regarding pre-defined engineering quantities of interest.

2.3.7. CONCEPTUAL DIAGRAMS

Figure 6 and *Figure 7* are a series of conceptual diagrams describing a Challenge Cycle and a CyPhER in-the-loop with the SUT. These diagrams are notional and are subject to change as the CyPhER Forge program matures.

A notional challenge cycle for a full CyPhER is depicted in *Figure 6*. In this conception, Proposers' DTs are tuned across a set of DARPA defined initial conditions and maneuvers to an initial global uncertainty target. The overall objective of the challenge cycle is for the CyPhER (i.e., Proposer's combined DT and AI Test Agent) to command the most efficient series of test maneuvers possible within a dynamic simulation environment to attain a final global uncertainty and accuracy target while respecting user-defined risk tolerances, test objectives, and constraints. The CyPhER will have access to a data lake, HPC, simulated dynamic environmental data, and simulated telemetry data. The CyPhER will be evaluated across all six (6) technical pillars.

A notional architecture for a CyPhER in-the-loop with a SUT is depicted in *Figure 7*. A CyPhER operates in the IV&V environment running in compute (either remote, on-premise, or some combination), with connectivity to the data lake and HPC. Prior to flight, users define risk

tolerances, objectives, and constraints via standardized GUI and other I/O tools, and the CyPhER generates technical accounting for its test and safety planning for subject matter experts to approve. During flight operations, the CyPhER has access to telemetered instrumentation data from the SUT and dynamic environmental data and generates SUT-compliant maneuver commands subject to human-on-the-loop supervision, adapting its pre-flight test and safety plans in real time as the DT learns, environmental conditions change, and/or user-defined tolerances/objectives/constraints change. The CyPhER generates several possible artifacts in support of human on-the-loop supervision, including user-defined quantities of interest, uncertainty quantification, safety risk, expected knowledge gain, and other means of accounting for its test and safety plans. Post-flight, the CyPhER has access to the full set of instrumented data (which is generally much larger than the telemetered data stream) for additional processing/learning.

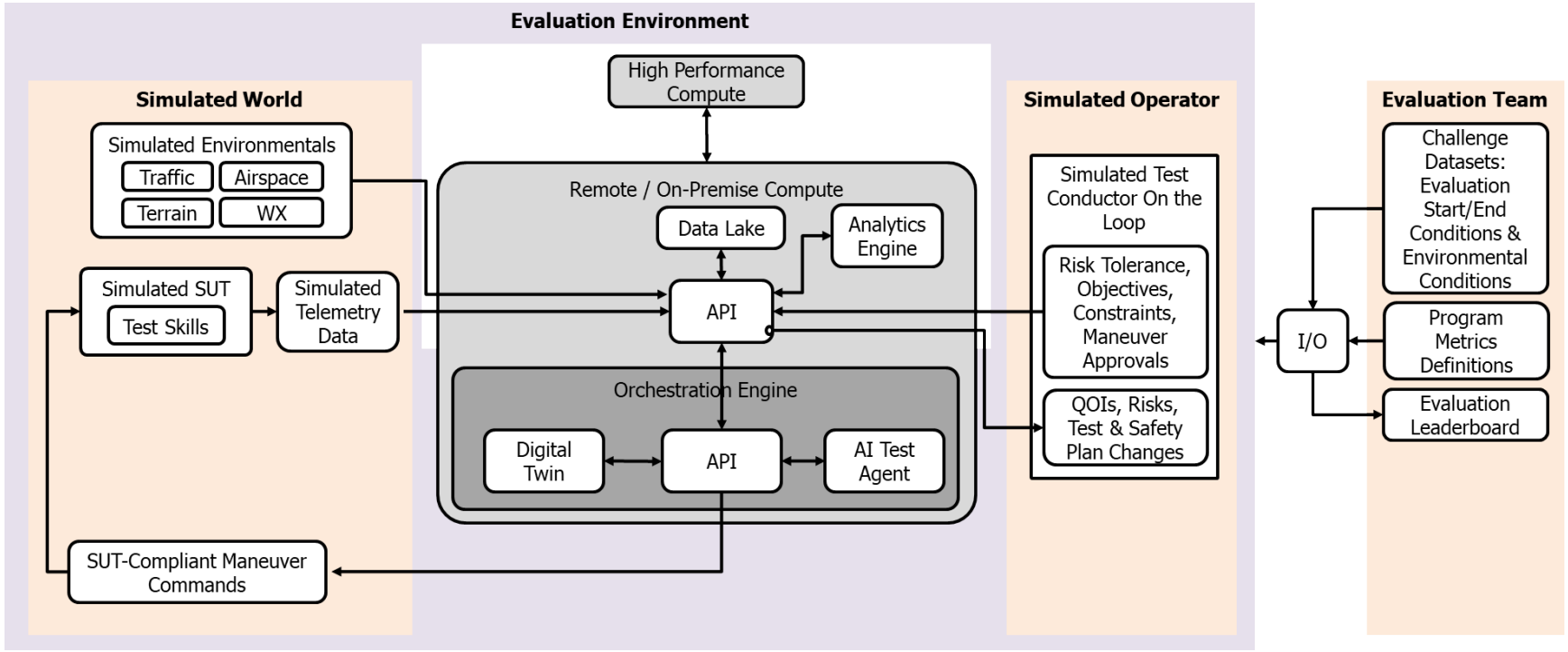

Figure 6 – Challenge Cycle (Conceptual Diagram)

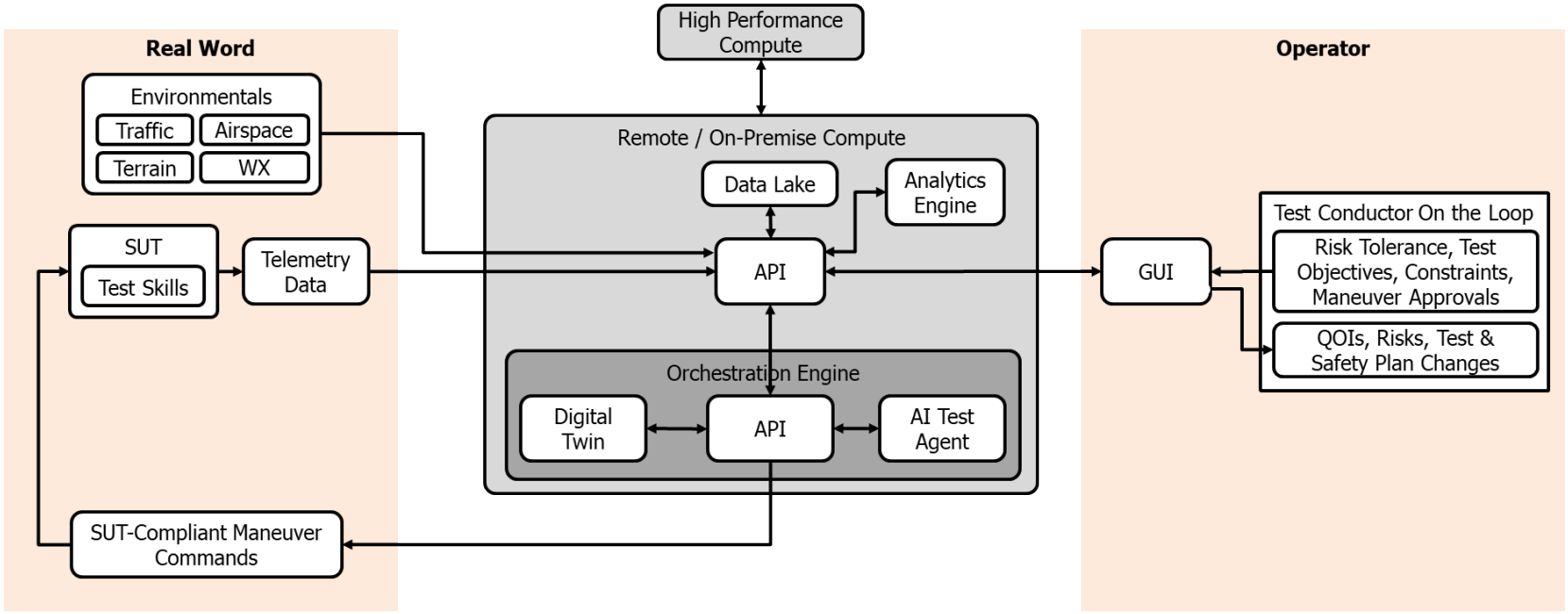

Figure 7 – CyPhER In-the-Loop with SUT (Conceptual Diagram)

2.4. PROGRAM METRICS

The CyPhER Forge program metrics will use HFMs and flight test data from an experimental aircraft as benchmarks. Each challenge cycle shown in the program schedule will evaluate the metrics identified in *Table 4*, with progressive increases in scenario complexity, model fidelity and model speed requirements. To meet the goals of the program, Proposers are required to achieve the metrics identified in *Table 4* and *Table 5*. The primary metric for program success is achieving a decrease by ten times (10X reduction) in the number of test points required to characterize key multi-physics quantities of interest to a specified global confidence interval, compared to the conventional test plan of the experimental aircraft.

Focus Area 1: Build Real-Time Learning Models			
FA1 Metric		**Phase 1**	**Phase 2**
Surrogate Model	**Normalized Root Mean Square Error (NRMSE)**	< 1 (Th) < 0.5 (Ob)	< 0.5 (Th) < 0.25 (Ob)
	Computational Dilation of Prediction (CDP)	> 1.15 (Th) > 1.1 (Ob)	> 1.1 (Th) > 1.05 (Ob)
	Time to Calculate	< 10 min (Th) < 10 s (Ob)	< 1 s (Th) < 0.1 s (Ob)
Uncertainty Quantification	**Normalized Averaged Continuous Ranked Probability Score (CRPS)**	< 1 (Th) < 0.5 (Ob)	< 0.5 (Th) < 0.25 (Ob)
	Fidelity Validation Metric for Accuracy (f_A)	> 0.15 (Th) > 0.3 (Ob)	> 0.3 (Th) > 0.6 (Ob)
	Fidelity Validation Metric for Variability (f_V) and Distribution (f_D)	(Rank order)	(Rank order)
Data Assimilation	**% Decrease in Normalized Averaged Continuous Ranked Probability Score (CRPS)**	(Rank order)	(Rank order)
	% Increase in Fidelity Validation Metrics (f_A, f_V)	(Rank order)	(Rank order)
	Absolute Increase in Fidelity Validation Metric for Distribution (f_D)	(Rank order)	(Rank order)
	Data-Assimilative Dilation of Prediction (DDP)	> 1 (Th) > 0.9 (Ob)	> 0.9 (Th) > 0.8 (Ob)
	Time to Update	< 24 hours (Th) < 12 hours (Ob)	< 10 min (Th) < 1 min (Ob)

Table 4 – Metrics for Focus Area 1: Build Real-Time Learning Models

(Th) = Threshold
(Ob) = Objective

Focus Area 2: Safely Maximize Learning			
FA2 Metric		**Phase 1**	**Phase 2**
Information Maximization (note 1)	**% Decrease in Normalized Averaged Continuous Ranked Probability Score (CRPS)**	(Rank order)	(Rank order)
	% Increase in Fidelity Validation Metrics (f_A, f_V)	(Rank order)	(Rank order)
	Absolute Increase in Fidelity Validation Metric for Distribution (f_D)	(Rank order)	(Rank order)
Safety Assurance	**Safety False Alarm Rate (SFAR)**	< 0.2 (Th) < 0.1 (Ob)	< 0.1 (Th) < 0.05 (Ob)
	Safety Missed Alarm Rate (SMAR)	< 0.1 (Th) < 0.05 (Ob)	< 0.01 (Th) < 0.005 (Ob)
	Safety Probability Error (SPE)	N/A	$-0.1 \leq SPE \leq 0.2$ (Th) $-0.05 \leq SPE \leq 0.1$ (Ob)
Machine Precision	**Ratio of Human Interventions Per Flight Test Maneuver**	N/A	< 0.1 (Th) < 0.01 (Ob)
	Envelope Exploration Efficiency Factor (E3F)	N/A	> 6 (Th) > 10 (Ob)

Table 5 – Metrics for Focus Area 2: Safely Maximize Learning

Note 1: Information maximization metrics are calculated per maneuver AND per sortie.
(Th) = Threshold
(Ob) = Objective

The metrics in *Table 4* and *Table 5* are further explained in detail in *Attachment G – (Informational) Description of Program Metrics*. If Proposers successfully achieve objective targets for DTs in Phase 1 Base, they will have generated multiphysics-informed, data-assimilating surrogate models which are orders-of magnitude-faster to run than HFMs with minimal accuracy loss, able to quantify uncertainty and assimilate data in hours at representative quantities/rates of flight test data and thereby creating a novel high-accuracy truth source combining physics and test data.

Proposers successfully achieving objective targets for DTs in Phase 2 Option will significantly increase the prediction speed, accuracy, uncertainty quantification error, and data assimilation speed relative to Phase 1 Base, far surpassing the state-of-the-art. Proposers successfully achieving objective targets for AI Test Agents in Phase 2 Option, will introduce adaptive test planning based on rigorous measures of knowledge gain subject to user constraints, and provide statistical safety guarantees including low false alarm rate per maneuver, low missed alarm rate per maneuver, and highly accurate safety violation probability characterization. This will far surpass the state-of-the-art in test safety and planning, which is driven by historical heuristics and fixed intervals.

2.5. PROGRAM MILESTONES

The required CyPhER Forge milestones are included in *Attachment E – Schedule of Milestones and Payments*. Proposers will complete *Attachment E* for Phase 1 Base and Phase 2 Option using a single *Attachment E* and include with proposal submission.

2.6. PROGRAM MANAGEMENT

2.6.1. PROGRAM EXECUTION

Program execution will include regular collaborative meetings and teleconferences to inform DARPA and the Government team of program design and development status. At substantial decision points, Proposers will conduct in-person technical reviews to solicit DARPA input regarding the balance of objectives and risks. Proposers should aggressively identify technical and programmatic risks and resource parallel risk reduction paths over the life of the program. The minimum anticipated meetings are outlined in *Table 6* below. All Proposers must include the following meetings and travel costs in the proposed schedule and proposed costs:

CyPhER Forge Meetings			
Meeting Description	**Phase(s)**	**Frequency and Purpose**	**Location (Virtual/In-Person)**
Phase Kickoff Meetings	1, 2	One all-day, in-person meeting at the start of each Phase.	Washington, D.C. area
Program Management Tag-Ups	1, 2	Bi-weekly virtual tag-ups to Proposer status progress.	Virtual
Technical Interchange Meetings (TIMs)	1, 2	Two (2), all-day, in-person events planned per Phase to address specific areas of interest or substantial decisions. Additional virtual TIMs will be added on an as-needed basis.	Once in the Washington, D.C. area and once at Edwards Air Force Base, CA, per phase.
Quarterly Program Reviews (QPRs)	1, 2	Quarterly, all-day, virtual meetings to align Proposers with DARPA team expectations.	Virtual
API/GUI Governance Meetings	1, 2	Eight (8) all-day, virtual meetings between Proposers and IV&V Team to modify APIs and GUIs for Proposer needs, approximately 1 month prior to the API Check, each Challenge Cycle, and the Flight Ready CyPhER Check.	Virtual
Flight Test Events	2	Eight (8) all-day, week-long (Monday through Friday), in-person events for CyPhER flight test.	Edwards Air Force Base, CA

Table 6 – Required Program Execution Meetings

Proposers should anticipate at minimum of one (1) site visit per phase by the DARPA Program Manager during which the Proposers will have the opportunity to demonstrate progress towards agreed-upon milestones.

2.6.2 MANAGEMENT APPROACH

Proposers will provide a description of their management approach as part of the written Abstract submission and Oral Proposal Package.

The management approach will detail how the Proposer's recognized experts will drive the research agenda, describe how schedule and cost will be controlled, and describe how the technical risks will be identified and tracked and establish risk mitigation approaches early and continuously throughout the CyPhER Forge program.

The overall approach for technology maturation will be described for Phase 1 Base and Phase 2 Option. The management approach should describe the process for schedule management both for the Proposer and for any subcontractors/teaming partners.

The Oral Proposal Package will include a detailed Integrated Master Schedule (IMS) for Phase 1 Base and Phase 2 Option that (Amendment 01) shows the plan, timeline, and interdependencies for all major tasks and demonstrates the Proposer's understanding of the program scope and their approach to executing the requirements of this PS.

2.7. ACQUISITION STRATEGY

This PS encourages solutions from all responsible sources capable of satisfying the requirements as identified in the PS, including large and small businesses, nontraditional defense contractors as defined in 10 U.S.C. § 3014, and research institutions as defined in 15 U.S.C. § 638.

DARPA's acquisition strategy for the CyPhER Forge program is structured to minimize the administrative burden of entry, reduce program risk, foster competition, and enable performing teams to begin work faster.

To facilitate this objective, DARPA will use the following acquisition process:

1. **Industry Day (Optional):** An Industry Day was held on January 22, 2026, to introduce CyPhER Forge and facilitate potential teaming. Questions were solicited from attendees, and DARPA provided answers in real-time. An unclassified Question and Answer (Q&A) addendum will be posted with the Special Notice (DARPA-SN-26-13) for Industry Day on the System for Award Management (SAM) website at https://sam.gov/. Participation in Industry Day was optional and is not a requirement for Proposers seeking to submit an Abstract.
2. **Abstract (Required): The result if the Abstract is selected is an invitation from the AO to submit an OPP.** An Abstract is required under this PS (reference *Program Solicitation Overview Information* for due date and time). An Abstract Summary Slide and written Abstract is **required** (reference Section 4) that collectively addresses Phase 1 Base and Phase 2 Option. If the Government team selects the Proposer's submission, an invitation will be sent via email to the Proposer to submit an OPP. Failure by the Proposer to provide both the Abstract Summary Slide and written Abstract will deem the submission ineligible for further consideration.
3. **Abstract Q&A (Informational Only):** DARPA will accept unclassified questions via email at DARPA-PS-26-04@darpa.mil (reference *Program Solicitation Overview Information* for due date and time). An unclassified Q&A addendum will be posted on

the SAM website at https://sam.gov/. No questions will be accepted after the closing date for receipt of questions.

4. **Oral Proposal Package Q&A (Informational Only):** DARPA will accept unclassified questions via email at DARPA-PS-26-04@darpa.mil (reference *Program Solicitation Overview Information* for due date and time). An unclassified Q&A addendum will be posted on the SAM website at https://sam.gov/. No questions will be accepted after the closing date for receipt of questions.
5. **Oral Proposal Package (OPP) and Oral Presentation (Required): The result if OPP is selected is an invitation from the AO to negotiate an OT Prototype Project Agreement award.** Based on the Abstract, selected Proposers will be invited to submit an OPP and provide an Oral Presentation on-site at DARPA Headquarters (reference Sections 3 and 5). Additional instructions (including presentation date and time) will be provided with the invitation from the AO to submit an OPP. The OPP submission will not be made public nor provided to other Proposers. The Government team will evaluate all OPPs to determine which proposed technical solutions meet the evaluation criteria stated in Section 5.5. After the Government team completes evaluating the Oral Proposals, the Proposer will receive one (1) of the following notices via email from the AO:
    a. The proposed solution is selected for consideration of an OT for Prototype Project Agreement award for conceptual design.
    b. The proposed solution is not selected for consideration of an OT for Prototype Project Agreement award; therefore, the Proposer is no longer being considered for participation in the CyPhER Forge program.
6. **OT Prototype Project Agreement Award Negotiation.** After the Oral Presentations, the AO will select Proposers to enter negotiations (if held) for an OT Prototype Project Agreement award in accordance with 10 U.S.C. § 4022(d). The negotiation phase will include the technical approach, OT Prototype Project Agreement terms and conditions, and the proposed price is the most advantageous solution for both DARPA and the Proposer team.

DARPA will not reimburse Proposers responding to this PS for the costs associated with Abstract and Abstract Summary Slide submissions, OPP preparation and submission, or travel for the on-site Oral Presentation. The AO reserves the right to:

1. Select for negotiation all, some, one, or none of the proposals received in response to this PS, and to make awards without discussions with Proposers.
2. Conduct discussions if it is later determined to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options.
3. Accept proposals in their entirety or select only portions of proposals for OT award. In the event the AO determines to award only portions of a proposal, negotiations may be opened with that Proposer.

DARPA reserves the right to fund proposals in stages with options for continued work at the end of one or more of the phases, as applicable.

2.8. ELIGIBILITY

2.8.1. PROHIBITIONS

DARPA encourages technical solutions from all responsible sources capable of satisfying DARPA's requirements for the CyPhER Forge program. To ensure fair competition across the ecosystem, DARPA prohibits Proposers from concurrently providing Systems Engineering Technical Assistance (SETA), Advisory and Assistance Services (A&AS), or similar support services and award of an OT for Prototype Project Agreement as a result of this PS, unless the DARPA Deputy Director grants a written waiver. DARPA extends this prohibition to University-Affiliated Research Centers (UARCs) and Federally Funded Research and Development Centers (FFRDCs) including National Laboratories, who as a result of their specialized expertise and areas of competencies, are able to accomplish integral tasks that cannot be met by Government or Proposer resources. Therefore, these entities are highly discouraged from proposing against this PS as award of an OT for Prototype Project to a UARC or FFRDC will only be made by exception. UARCs and FFRDCs interested in this PS, either as a prime or a subcontractor/teaming partner, should contact the Agency Point of Contact (POC) listed in the *Program Solicitation Overview Information* prior to the closing date for abstract submission to discuss potential participation as part of the Government team or eligibility as a technical Proposer.

2.8.2. PERSONNEL SECURITY AND ACCESS REQUIREMENTS

The CyPhER Forge program requires Proposers, including subcontractors/teaming partners, to access Government-furnished-HPC resources. Access to this HPC environment requires a hardware authenticator in the form of a DoD Common Access Card (CAC) or a provisioned YubiKey. To be issued these hardware credentials, personnel must have a favorably adjudicated Tier 1 (T1) background investigation (formerly National Agency Check with Inquiries (NACI)) or a Security Clearance at a minimum, as indicated at https://centers.hpc.mil/users/index.html#accounts. Work on DARPA systems cannot start until this requirement is met.

The Proposer, as the prime, is responsible for initiating investigations for **all** proposed team members requiring access to HPC through the appropriate channels and all subsequent new hires after award of the OT for Prototype Project Agreement. The Proposer is responsible for managing all personnel security requirements, including use of the National Background Investigation Services (NBIS) Electronic Questionnaires for Investigations Processing (eApp) system. The NBIS eApp replaces the former Electronic Questionnaires for Investigations Processing (eQIP) system for initiating background investigations. Information regarding the NBIS eApp is available at https://www.dcsa.mil/Systems-Applications/National-Background-Investigation-Services-NBIS/NBIS-eApp-Agency/

Proposers will account for investigation timelines in staffing plans, as the timeline can exceed six (6) months for non-U.S. citizens (U.S. Permanent Residents). As such, the Proposer is encouraged to initiate investigations during the PS proposal period to prevent significant post-award delays.

2.8.2.1 Tier 1 Investigation

Tier 1 investigation is a standard verification process, like a peer review. Its purpose is to ensure individuals granted access to sensitive Government resources, such as HPC facilities, are reliable

and trustworthy. It is the most basic level of background check for Federal employees and contractors.

The goal is to protect the integrity of the research and the valuable computational resources to be utilized under the CyPhER Forge program. The YubiKey is a physical "key" to the program's digital environment, and the investigation is the standard process to issue that key.

2.8.2.2. Tier 1 Investigation Step-by-Step Process

Table 7 identifies what Proposers can expect during the Tier 1 investigation process.

Step	Action Required	What Occurs in the Background
1. The Application	You will be asked to complete a Questionnaire for Non-Sensitive Positions (Standard Form (SF) 85). This is done online. It is crucial to be thorough and honest in completing the form.	The information you provide is the foundation for the entire investigation. Inaccuracies or omissions can cause significant delays.
2. Fingerprinting	You will need to provide a set of fingerprints.	These are checked against national databases for any criminal history.
3. Automated Checks	No action is required at this stage.	The Government will perform a NACI. This involves checking your name and personal details against several Federal databases, including those of the Federal Bureau of Investigation (FBI) and other security agencies. A credit check is also typically included.
4. Inquiries and Verification	Ensure contact information for references, past employers, and educational institutions is accurate.	Investigators will send written inquiries to the schools, employers, and references listed for the past five (5) years to verify the information on the SF-85. A check with local law enforcement agencies on locations of residency.
5. Adjudication and Approval	Wait for the process to conclude.	Once all the information is gathered, a trained adjudicator reviews the case. Barring any significant issues, suitability will be confirmed, and the process to issue the YubiKey will proceed.

Table 7 – Tier 1 Investigation Step-by-Step Process

2.8.2.3. Tier 1 Key Points for Proposer Consideration

1. Tier 1 is a routine check and not an inquisition and is the lowest and most common tier of background investigation, designed for low-risk, non-sensitive positions.
2. Unless significant issues arise, there is typically no in-person interview.

3. The investigation primarily verifies the information provided on the SF-85 to include employment history, education, residence history; and criminal records (if any).
4. The Government has a responsibility to protect its assets and must secure all HPC resources to ensure they are used appropriately and by authorized individuals.
5. The information gathered during the Tier 1 process is protected and handled with strict confidentiality.

2.9. RESOURCES

DARPAConnect offers free resources to potential Proposers to help 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.

2.10. PUBLIC RELEASE OF MATERIALS

All DARPA unclassified information (such as papers, presentations, videos, images, news releases, website content, marking materials, manuscripts, research that is not designated as fundamental) must undergo a security and policy review before it is publicly released.

Proposers to include subcontractors/teaming partners are to adhere to the instructions for submitting information and materials to DARPA's Public Release Center, which are located at https://www.darpa.mil/news/public-affairs/public-release.

3. ABSTRACT, OPP, AND ORAL PRESENTATION SUBMISSION REQUIREMENTS

All proposal submissions must be written in English and conform to the formatting and content requirements detailed in the Attachments listed in the *Program Solicitation Overview Information*. DARPA will not consider slides/pages in excess of the page count and will not accept proposal documents after the closing date for receipt of proposals.

3.1. ABSTRACT, OPP, AND ORAL PRESENTATION SUBMISSION GUIDELINES

1. The AO will notify the Proposer via email within 30 days from the closing date for proposal submission regarding the Abstract Summary Slide and written Abstract. This notification will be an invitation to submit an OPP and conduct an Oral Presentation on-site at DARPA ***or*** a denial not to submit an OPP or conduct an Oral Presentation.
2. The Abstract Summary Slide, written Abstract, OPP, and Oral Presentation must collectively address **both** Phase 1 Base and Phase 2 Option period. Proposers **should not** submit individual documents for each phase. Use of diagram(s) or figure(s) to depict the essence of the proposed solution is permitted.
3. Core technical concepts and proposed solutions presented in the Abstract Summary Slide, written Abstract, OPP, and Oral Presentation **must** be the original work of the Proposer, to include subcontractors/teaming partners and not generated by AI instruments. DARPA will disqualify the Proposer, to include subcontractors/teaming partners and prohibit further participation in the CyPhER Forge program if, at any time

during the acquisition process and subsequent OT award, DARPA determines the Proposer, or their subcontractors/teaming partners, used AI to generate what is claimed to be original work. The Proposer is responsible for ensuring the accuracy and originality of all submitted content to DARPA. The use of AI tools for brainstorming, editing, and other tasks is permitted as long as the Proposer retains full intellectual ownership and authorship.

4. Proposers will not rely on or include any elaborate brochures or marketing materials in response to this PS. DARPA will not consider or review those documents. Responses to this PS will include technical solutions or information relevant to the submission requirements or evaluation criteria.
5. DARPA will not consider slides/pages in excess of the page count or time limitations, where applicable.

3.2. USE OF DARPA'S BROAD AGENCY ANOUNCEMENT WEBSITE

1. Reference *Program Solicitation Overview Information* for due dates and times for Abstract and OPP submissions.
2. All documents sent in response to this PS to include the Abstract Summary Slide and written Abstract will be submitted via DARPA's Broad Agency Announcement (BAA) website at https://baa.darpa.mil. Registration is required to use the DARPA BAA website which is a two-step process. If registration was completed previously, the account may be reused. If registration was not completed and no account currently exists, complete the two-step registration process using the above website. In addition, Proposers are required to register for an Extranet account, via a form from the above website and wait for two (2) separate emails containing a username and temporary password. After accessing the Extranet, Proposers may then create an account for the DARPA BAA website (via the "Register your organization" link along the left side of the homepage), view submission instructions, and upload/finalize the submission. Proposers using the DARPA BAA website may encounter a slow response as a result of heavy Internet traffic on the due date for submissions. Proposers are strongly encouraged to complete registration, if required, and initiate the submission process early to avoid any technical challenges. DARPA assumes no liability for a Proposer's failure to complete the registration and proposal submission process.
3. All documents submitted electronically through DARPA's BAA website must be uploaded as zip files (zip or .zipx extension). The final zip file should be no greater than 100 MB in size. DARPA will accept one (1) zip file per Proposer and submissions **not** uploaded as zip files will be rejected by DARPA with no further consideration.
4. Technical support for DARPA's BAA website may be reached via email at BAAT_Support@darpa.mil, and is available during regular business hours (9:00 AM – 5:00 PM ET).
5. Submissions sent through other mediums and channels other than the DARPA BAA website, or after the closing date for receipt of proposals, will be rejected by DARPA with no further consideration.

3.3. UNCLASSIFIED AND CUI SUBMISSION INSTRUCTIONS

1. The Abstract Summary Slide, written Abstract, OPP, and Oral Presentation will be either Unclassified or CUI. Inclusion of higher classification solutions or information is not required in response to this PS and Proposers are prohibited from submitting documents higher than CUI.
2. Submissions containing CUI must be encrypted when sent over the Internet.
3. Proposers are responsible for clearly identifying proprietary information. Submissions containing proprietary information must have the cover page and each page containing such information clearly marked with a label such as "Proprietary" or "Company Proprietary." *NOTE: "Confidential" is a classification marking used to control the dissemination of U.S. Government National Security Information (NSI) as dictated in EO 13526, Classified National Security Information and should not be used to identify proprietary business information*.

4. GUIDELINES FOR ABSTRACTS

4.1. ABSTRACT CONTENT

Proposers must submit **both** an Abstract Summary Slide and a written Abstract to be considered to receive an invitation to submitt an OPP. Submissions must comply with the formatting and content requirements specified in:

- *Attachment A – Abstract Summary Slide Template*
- *Attachment B – Abstract Instructions and Template,* requires the following sections:
  - Abstract Cover Sheet
  - Executive Summary, Technical Understanding and Approach, and Technical Ability
  - Compute Approach
  - Management Approach
  - Estimated Cost
  - Resumes for Recognized Experts In the Six (6) Technical Pillars and Flight Sciences Test
  - References

Abstract submissions will address both Phase 1 Base and Phase 2 Option. **Do not** submit a separate Abstract Summary Slide or written Abstract for each phase. Use of the templates in *Attachment A* and *Attachment B* are mandatory. Information not explicitly requested will not be reviewed.

4.2. ABSTRACT BASIS OF EVALUATION

The evaluation criteria to be used by the Government team to evaluate the Abstract Summary Slide and written Abstract are described below and in order of importance. The Proposer's Abstract Summary Slide and written Abstract will not be evaluated or compared against other Proposers' Abstract Summary Slides or Abstracts submitted in response to this PS.

1. **Technical Understanding and Approach:** The proposed technical understanding and approach is accurate, and key technical challenges, (Amendment 01) risks, and assumptions underlying the proposed compute architecture and integration approach are

identified. The proposed technical approach is innovative and is likely to enable revolutionary advances and is not merely an evolutionary improvement to the existing state of practice. Task breakdown and schedule are achievable and complete. Overall, the proposer's Abstract Summary Slide and Abstract demonstrate sound engineering judgment and technical insight.

2. **Technical Ability:** The Proposer demonstrates an ability to achieve the goals of the CyPhER Forge program. The proposed team consists of recognized experts in their fields with the technical acumen required to achieve the goals of CyPhER Forge across **all six (6) technical pillars** in a flight sciences test context, with the understanding that one (1) individual may be a recognized expert in multiple pillars. Competencies of recognized expertise include, but are not limited to:
    a. Publication of peer-reviewed articles relevant to the technical pillars or flight sciences test in reputable technical journals.
    b. Presentations relevant to the technical pillars or flight sciences test at reputable technical conferences at the national or international level.
    c. Terminal degrees relevant to the technical pillars or flight sciences test from reputable graduate schools.
    d. Awards or recognitions relevant to the technical pillars or flight sciences test from reputable professional organizations.
    e. Successful completion of similar projects of comparable scope and complexity relevant to the technical pillars or flight sciences test.

    Composite teams, such as collaborations between academic and industry partners, demonstrate breadth of recognized expertise across all six (6) technical pillars and flight sciences test campaigns of comparable scope and complexity to achieve the goals of the CyPhER Forge program. Proposed team structures clearly indicate how the recognized experts in each technical pillar and flight sciences test guide the team's research agenda and how regular and direct communication with DARPA will occur.
3. **Estimated Cost:** The Proposer will detail the estimated total labor cost and estimated materials and Other Direct Costs (ODCs) (e.g., equipment, materials, travel, tuition), consistent with program execution details in Section 2.6. The estimate will include all subcontractors/teaming partners costs. The estimate may be presented as a narrative or table. The Proposer will ensure consistency with the cost estimates provided in the Abstract Summary Slide (*Attachment A – Abstract Summary Slide Template*).

As stated above, Proposers are required to submit **both** the Abstract Summary Slide and written Abstract for evaluation by the Government team and to select Proposers to receive an invitation from the AO to submit an OPP and provide an Oral Presentation on-site at DARPA.

4.3. ABSTRACT FEEDBACK

After reviewing the Abstract Summary Slide and written Abstract, the AO and Government team may elect to invite all, some, or none of the Proposers to submit an OPP and provide an Oral Proposal Presentation on-site at DARPA. Within 30 calendar days from the closing date for submission of the Abstract Summary Slide and written Abstract, the AO will notify Proposers via email of DARPA's invitation decision. This notification will be either:

a. An **invitation** to the Proposer to submit an OPP and conduct an Oral Presentation on-site at DARPA with the location, date, time, and personnel security requirements (reference Section 2.8) for the Oral Proposal Presentation; or

b. A **denial** to the Proposer not to submit an OPP or conduct an Oral Presentation on-site at DARPA. ***Proposers are eligible for the Oral Presentation on-site at DARPA if the Proposer receives an invitation via email from the AO to submit an OPP. The AO and Government team's decision is based on the review of the Proposer's Abstract Summary Slide and written Abstract collectively for Phase 1 Base and Phase 2 Option.***

5. GUIDELINES FOR ORAL PROPOSAL PACKAGES

5.1. GENERAL GUIDELINES

Selected Proposers will be invited to submit an OPP **and** provide an Oral Presentation on-site at DARPA based on the information provided in the Abstract Summary Slide and written Abstract. OPP submissions will address both Phase 1 Base and Phase 2 Option. **Do not** submit separate OPP materials for each phase.

1. OPPs will be submitted following the instructions located in Section 3.2.
2. (Amendment 01) Reference *Program Solicitation Overview Information* for due date and time for Oral Presentations on-site at DARPA. After the AO and Government team review the OPP, Proposers will be notified via email in advance in order to accommodate travel arrangements of the location, date, time, and personnel security requirements (reference Section 2.8) for the Oral Presentation.
3. All OPP materials will be marked at the appropriate classification level in accordance with the CUI Guide (CUIG). All discussions during the Oral Presentation will be no higher than CUI. Inclusion of higher classification solutions or information is not required in response to this PS and Proposers are prohibited from submitting documents higher than CUI.
4. Proposers may request a copy of the CyPhER Forge CUIG by sending an email to DARPA-PS-26-04@darpa.mil. The CUIG will be sent by encrypted email or by DoD SAFE. Request of the CUIG is confirmation the Proposer is within compliance with regulations applicable to receiving and storing CUI material in accordance with DoDI 5200.48, "Controlled Unclassified Information (CUI)," and NIST SP 800-171, "Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations," prior to submitting the request.
5. Proposers are responsible for clearly identifying proprietary information. OPPs containing proprietary information must have the cover page and each page containing such information clearly marked with a label such as "Proprietary" or "Company Proprietary." *NOTE: "Confidential" is a classification marking used to control the dissemination of U.S. Government NSI as required by EO 13526, Classified National Security Information and should not be used to identify proprietary business information.*

5.2. ORAL PROPOSAL PACKAGE

Proposers are required to complete and submit the following Attachments for the OPP:

- *Attachment C – Oral Proposal Package Instructions and Template,* provides detailed instructions for OPP materials, content, and their respective page limitations and requires the following sections:
    - Cover Sheet
    - Official Transmittal Letter
    - Table of Contents
    - Oral Proposal Package, including but not limited to the following:
        a. Executive Summary
        b. Proposed Approach
        c. Alternate Metrics Proposals
        d. CyPhER Pipeline Automation
        e. Compute and Continuous Integration/Continuous Delivery (CI/CD) Approach
        f. Recognized Experts, Qualifications, and Commitments
        g. Capabilities
        h. Management Approach
        i. Cost, Schedule, and Milestones
        j. Resumes for Recognized Experts
        k. Integrated Master Schedule (IMS)
        l. References
- *Attachment D – Task Description Document Instructions and Template*
- *Attachment E – Schedule of Milestones and Payments*
- *Attachment F – Cost Spreadsheet*
- *Attachment H – Intellectual Property/Data Rights Assertions*
- *Attachment I – Model OTs for Prototype Project Agreement*
- *Attachment J – Oral Presentation Slide Deck*
- *Attachment K – DARPA-Specific Representations and Certifications*

5.3. ON-SITE ORAL PRESENTATION

Content presented orally during the Oral Presentation will be the basis for evaluation. The Proposer will use the slide deck submitted as *Attachment J – Oral Presentation Slide Deck* for the Oral Presentation. DARPA intends to record the Oral Presentation for internal documentation purposes. Recordings will not be provided to Proposers, and Proposers are not permitted to record their presentation. Proposers can expect the following:

1. Oral Presentation will not exceed 40 minutes.
2. The Government team will hold a 15- to 30-minute discussion following the presentation.
3. A 25-minute interactive Question and Answer (Q&A) session will be held to address questions from the Government team.

The Government team may ask questions on any aspect of the Oral Presentation **and** submitted OPP. Answers to the questions posed by the Government team cannot be deferred to a later time. Proposers cannot modify their OPP submission in response to the Q&A session.

5.4. MODEL OTs FOR PROTOTYPE PROJECT AGREEMENT

Proposers will complete and submit with the OPP **one (1)** Model OT for Prototype Project Agreement. *Attachment I – Model OTs for Prototype Project Agreement* includes five (5) sample Model OTs for Prototype Projects:

1. Cost-Share – Expenditure Based
2. Expenditure Based
3. Fixed Support Nontraditional
4. Cost Share – Fixed Support Traditional
5. Fixed Support – Streamlined

Proposers will review and **select one (1)** of the five (5) Model OTs for Prototype Project Agreement that is best aligned with the Proposer's business type or position and submit the selected Model OT with the proposal package. The sample Model OTs for Prototype Project documents are in Microsoft Word format. Proposers, using tracked changes, may suggest edits to the selected Model OT for consideration by the AO. The modified version with the suggested edits to the Model OT by the Proposer will be submitted with the proposal package. The sample Model OTs are provided to expedite the negotiation and award process and are representative of the terms and conditions of the OT for Prototype Project Agreement award the AO intends to award for the CyPhER Forge program.

The AO maintains full discretion to accept all, some, or none of the suggested edits by the Proposer. The AO reserves the right to remove a Proposer from award consideration should the Proposer and the AO fail to reach a decision on the type of OT for Prototype Project Agreement award and the terms and conditions. If the Proposer's selected Model OT is submitted without suggested edits, the AO assumes the Proposer has reviewed and accepts the terms and conditions and will adhere to the Model OT submitted upon award of the OT for Prototype Project Agreement.

5.5. ORAL PROPOSAL BASIS OF EVALUATION

The Government team will evaluate Oral Proposals using the evaluation criteria described below and the content presented orally during the on-site Oral Presentation at DARPA. The Proposer's Oral Proposal and Oral Presentation will not be evaluated or compared against other Proposers' submission in response to this PS. The evaluation criteria are listed in order of importance.

1. **Technical Approach:** The proposed technical understanding is accurate, and key technical challenges, (Amendment 01) risks, and assumptions underlying the proposed compute architecture and integration approach are identified. The proposed technical approach is innovative and is likely to enable revolutionary advances and is not merely an evolutionary improvement to the existing state of practice. Task breakdown and schedule are achievable and complete. Overall, the proposer's presentation demonstrates sound engineering judgment and technical insight.
2. **Capabilities and Relevant Qualifications:** The Proposer demonstrates an ability to achieve the goals of the CyPhER Forge program. The Proposer's team will include recognized experts in their fields with the technical acumen required to achieve the goals of CyPhER Forge across all six (6) technical pillars in a flight sciences test context, with the understanding that one (1) individual may be a recognized expert in multiple pillars. Competencies of recognized experts include, but are not limited to,
    a. Publication of peer-reviewed articles relevant to the technical pillars or flight sciences

test in reputable technical journals.
b. Presentations relevant to the technical pillars or flight sciences test at reputable technical conferences at the national or international level.
c. Terminal degrees relevant to the technical pillars or flight sciences test from reputable graduate schools.
d. Awards or recognitions relevant to the technical pillars or flight sciences test from reputable professional organizations.
e. Successful completion of similar projects of comparable scope and complexity relevant to the technical pillars or flight sciences test.

Composite teams, such as collaborations between academic and industry partners, demonstrate breadth of recognized expertise across all six (6) technical pillars and flight sciences test campaigns of comparable scope and complexity to achieve the goals of the CyPhER Forge program. Proposed team structures clearly indicate how recognized experts in each technical pillar and flight sciences test will guide the team's research agenda and how regular and direct communication with DARPA will occur.

3. **Proposed Costs:** The Proposer will complete *Attachment F – Cost Spreadsheet* and submit with the OPP. The proposed price will include the costs for the Proposer as the prime and all subcontractors/teaming partners. The proposed price will be evaluated to determine reasonableness, fairness, and is realistic in terms of:

   a. How the proposed price aligns with the technical objectives of the PS.

   b. Provides a clear understanding of the technical objectives of the PS.

   c. Sufficient understanding of the level of effort and staffing required to successfully accomplish the proposed technical approach.

   d. How consistent the proposed price is aligned with *Attachment D – Task Description Document* and *Attachment E – Schedule of Milestones*.

   e. How the proposed price is substantiated by the type and labor hours proposed for each major task, the types and quantities of materials, equipment, travel, other costs the Proposer deems necessary to accomplish the technical objectives of the PS, and the basis for the estimate.

4. **Intellectual Property (IP)/Data Rights:** The proposed IP/data rights assertions reflect the extent to which DARPA can achieve the objectives and long-term progression of the CyPhER Forge program. As described in Section 6.4., the IP/data rights framework supports program flexibility, future integration, and sustained value to DARPA.

5. **Management Approach:** The management approach will be evaluated using the following criteria:

   a. The preliminary Integrated Master Plan (IMP) and a detailed Integrated Master Schedule (IMS) for Phase 1 Base and Phase 2 Option demonstrating the Proposer's understanding of the program scope and their approach to executing the requirements of this PS.

   b. Demonstrated ability to manage and balance technical performance, time constraints, costs, and the management of subcontractor/teaming staffing.

c. Organizational structure and subcontracting/teaming partner relationships.

d. Plans to implement, manage, and administer tasks appropriate to the size, complexity, and scope of the CyPhER Forge program.

e. Plan for staffing, methodology for completion of work, quality assurance procedures, and use of a dedicated Principal Investigator.

After the Government team completes evaluating the Oral Proposals, the Proposer will receive one (1) of the following notices via email from the AO:

1. The proposed solution is selected for consideration of an OT for Prototype Project Agreement award for conceptual design.
2. The proposed solution is not selected for consideration of an OT for Prototype Project Agreement award; therefore, the Proposer is no longer being considered for participation in the CyPhER Forge program.

6. OT FOR PROTOTYPE PROJECT AWARD

6.1. GENERAL GUIDELINES

The Government team will review Oral Proposals to determine which proposed solutions sufficiently meet the evaluation criteria stated in Section 5.5. Upon favorable review, and subject to the availability of funds, the AO may award an OT for Prototype Project Agreement for CyPhER Forge.

The AO reserves the right to negotiate directly with the Proposer on the terms and conditions of the resulting OT for Prototype Project Agreement prior to excution, including payment terms, and will execute the OT for Prototype Project Agreement on behalf of DARPA. The AO maintains sole authority to enter into or modify, a binding OT for Prototype Project Agreement on behalf of the United States Government. The AO does not intend to negotiate the terms and conditions of the CyPhER Forge OT for Prototype Project Agreement unless deemed necessary.

Eligibility for award of an OT for Prototype Project includes the following:

1. Proposers and subcontractors/teaming partners must register in SAM at https://sam.gov/ and must have a SAM Unique Entity ID (UEI) prior to submission of the proposal. After successful registration in SAM, the registration remains active for 365 days from the date registration was submitted. The Proposer including subcontractors/teaming partners must maintain an "active" SAM registration throughout the period of performance of the awarded OT for Prototype Project Agreement. The AO will confirm the Proposer's (to include subcontractors/teaming partners) SAM registration upon receipt of the proposal submission. If the Proposer or any subcontractor/teaming partner failed to register in SAM and/or obtain a UEI, the AO will remove the proposal submission from consideration.
2. Proposers must register in the Federal Government invoicing system, Wide Area Work Flow (WAWF) at https://wawf.eb.mil. The Proposer will be required to utilize WAWF for processing invoices and receiving reports under the awarded OT for Prototype Project Agreement. WAWF is a secure web-based system for electronic invoicing, receipts, and acceptance. The WAWF system enables electronic form submission of invoices, Government inspection, and acceptance documents in order to support DoD's goal of

moving to a paperless acquisition process. Authorized DoD users are notified of pending actions by email and are presented with a collection of documents required to process the agreement or financial action. WAWF uses Public Key Infrastructure (PKI) to electronically bind the digital signature to provide non-refutable proof that the user electronically signed the document with the contents. Benefits include online access and full spectrum view of document status, minimized re-keying and improving data accuracy, eliminating unmatched disbursements and making all documentation required for payment easily accessible.

3. Proposer and subcontractor/teaming partners must be determined to be responsible by the AO prior to awarding an OT for Prototype Project Agreement. The AO will review the performance and integrity information available in the Federal Awardee Performance and Integrity Information System (FAPIIS), now integrated with SAM, including information from the SAM Exclusions and the Contractor Performance Assessment Reporting System (CPARS). The Proposer and subcontractor/teaming partners must not be suspended or debarred from any award instrument by the Federal Government nor be prohibited by Presidential EO and/or law from receiving award. Suspension, debarment, or prohibited by Presidential EO, and/or law by the Proposer and/or subcontractors/teaming partners will be disqualified from award of an OT for Prototype Project Agreement.
4. Proposers are required to complete and submit DARPA-specific representations and certifications (2-SAMPLE OT certification forms) for OT Prototype Project Agreement awards with the OPP. Reference https://www.darpa.mil/research/opportunities/reps-certs for information on the DARPA specific representations and certifications and to access the 2-SAMPLE OT certification forms.
5. An invitation from the AO to the Proposer to submit an OPP **does <u>not</u>** guarantee an award of an OT for Prototype Project Agreement. The AO reserves the right to award an OT for Prototype Project under 10 U.S.C. § 4022(b), make multiple awards, or make no award at all.

6.2. CONTROLLED UNCLASSIFIED INFORMATION AND CONTROLLED TECHNICAL INFORMATION ON NON-DOD INFORMATION SYSTEMS

Further information on CUI identification, marking, protecting and control, to include processing on Non-DoD Information Systems, is incorporated herein and can be found at https://www.darpa.mil/about/offices/contracts-management/proposer-general-terms#cui. A program-specific CUIG has been established and can be requested to help the Proposer determine classification thresholds for relevant information and technologies developed under the CyPhER Forge program. Requests for the CyPhER Forge CUIG may be sent to DARPA-PS-26-04@darpa.mil. The CUIG will be sent by encrypted email or by DoD SAFE. Request of the CUIG is confirmation that the Proposer is within compliance with regulations applicable to receiving and storing CUI material in accordance with DoDI 5200.48, "Controlled Unclassified Information (CUI)," and NIST SP 800-171, "Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations," prior to submitting the request. Participation in the CyPhER Forge program, is restricted to U.S. Citizens and U.S. Permanent Residents (Green Card holders), representing U.S. companies only.

6.3. PROCUREMENT SENSITIVE INFORMATION

DARPA's policy is to manage all proposal submissions as procurement sensitive, and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by DARPA SETA and/or AS&S support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA SETA and/or AS&S support contractors performing this role are expressly prohibited from performing DARPA sponsored technical research (reference Section 2.8) and are bound by appropriate non-disclosure agreements. Input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements

6.4 CYPHER FORGE PROGRAM INTELLECTUAL PROPERTY (IP)/DATA RIGHTS

DARPA envisions a transformative approach for the CyPhER Forge program to testing, enabling accelerated development and deployment of advanced cyber physical systems. Program success hinges on the Proposer's development of innovative DTs and AI Test Agents that can be effectively integrated and transitioned to Government and industry stakeholders. A clear and well-reasoned IP and data rights strategy is critical to achieving this vision.

DARPA will consider a variety of IP strategies that support CyPhER Forge program objectives, and a preliminary IP strategy is required as part of this PS. Proposers are encouraged to consider how their IP approach impacts:

1. The development and evaluation of interoperable DTs and AI Test Agents.
2. Transition of CyPhER Forge technologies to Government and industry stakeholders.
3. Protection of the Government's investment in the program.

6.4.1. PHASE 1 BASE IP AND DATA RIGHTS

Phase 1 Base focuses on rapid development of CyPhER prototypes. To support accelerated development while Phase 2 Option terms and conditions are negotiated, DARPA requires Government Purpose Rights (GPR) to all data developed under Phase 1 Base. This includes data derived from DARPA-furnished HFMs, Proposer-generated data, and all DTs, AI Test Agents, and integrated CyPhERs.

DARPA requires, at a minimum, Limited Rights to the underlying methods used to produce DTs, AI Test Agents, and integrated CyPhERs to support technical understanding. These LRs remain in effect until Phase 2 Option IP and data rights terms are finalized.

If a Proposer is not selected to continue to Phase 2 Option, all IP developed under Phase 1 Base remains subject to GPR.

6.4.2. PHASE 2 OPTION IP AND DATA RIGHTS

Phase 2 Option focuses on the maturation, evaluation, and transition of CyPhER Forge technologies, defined as DTs, AI Test Agents, integrated CyPhERs, and related artifacts generated during performance. In this phase, DARPA requires GPRs to all DTs, AI Test Agents, and integrated CyPhERs developed during Phase 2 Option. These rights enable programmatic reviews, challenge cycles, cross-team evaluation, and potential integration with Government-owned or Government-controlled systems.

DARPA recognizes the methods used to generate DTs and AI Test Agents may be better sustained and updated when delivered as commercial software or software-as-a-service. For this reason, DARPA anticipates requiring only Limited Rights for the underlying methods used to generate DTs, AI Test Agents, and integrated CyPhERs, to facilitate technical understanding. Additionally, Proposers will demonstrate their ability to autonomously generate DTs, AI Test Agents, and integrated CyPhERs from DARPA-furnished HFMs at the end of Phase 2 Option, consistent with the program's milestone structure. Proposers may offer additional rights consistent with their business model.

Specific considerations for Phase 2 Option IP strategies include:

1. **API Interoperability:** Approaches that promote interoperability with program-defined APIs, enabling modular composition and a "marketplace" of CyPhER components.
2. **Transition to Government and Industry:** Approaches that support transition to Government users (e.g., combined test forces, acquisition programs) and commercial entities.
3. **Licensing:** Consideration of Government and commercial licensing approaches that balance Proposer-owned software with Government needs for continued access, technical understanding, and evaluation.

By the end of Phase 2 Option, DARPA intends to reach an agreement in principle with the Proposer on an IP and data rights strategy that facilitates transition. The IP and data rights agreement will account for Proposer contributions, DARPA requirements, and the overarching goal of accelerating the development and deployment of advanced aerospace systems.

6.5. PROCURMENT INTEGRITY ACT

All awards under this PS will be treated as Federal procurements for the purpose of 41 U.S.C. Chapter 21. Accordingly, the competitive PS process and awards made thereof must adhere to the ethical standards required by the Procurement Integrity Act.

6.6. FOLLOW-ON PRODUCTION

DARPA reserves the right to negotiate and award follow-on production contracts and/or OT Production Agreements to Proposers who successfully complete the OT for Prototype Project Agreement awarded under this PS, without further competition, in accordance with 10. U.S.C. § 4022(f).

6.7. INTERNATIONAL TRAFFIC IN ARMS (ITAR) COMPLIANCE

All Proposers must comply with export control laws and ITAR and have the capability to protect sensitive and controlled data, including critical technologies.

The following clause will be included in the executed OT for Prototype Project Agreement:

1. Definition.

   "Export-controlled items," as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the ITAR (22 CFR Parts 120-130). The term includes:

"Defense items" defined in the AECA (22 U.S.C. 2778(j)(4)(A)), as defense articles, defense services, and related technical data, and further defined in the ITAR (22 CFR Part 120).

"Items" defined in the EAR as "commodities," "software," and "technology," terms that are also defined in the EAR (15 CFR 772.1).

2. The Proposer will comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for Proposers to register with the DoS in accordance with the ITAR. The Proposer will consult with the DoS regarding any questions relating to compliance with the ITAR and will consult with the Department of Commerce regarding any questions relating to compliance with the EAR.
3. The Proposer's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.
4. Nothing in the terms of the awarded OT for Prototype Project Agreement adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, EOs, and regulations, including but not limited to –
   a. The Export Administration Act of 1979, as amended (50 U.S.C. App. 2401, et seq.)
   b. The Arms Export Control Act (22 U.S.C. § 2751, et seq.)
   c. The International Emergency Economic Powers Act (50 U.S.C. § 1701, et seq.)
   d. The Export Administration Regulations (15 CFR Parts 730-774)
   e. The International Traffic in Arms Regulations (22 CFR Parts 120-130)
   f. Executive Order 13222, Continuation of Export Control Regulations
5. The Proposer will include the substance of this clause, including this paragraph in all subcontractor/teaming arrangements.

7. PROGRAM SOLICITATION DEFINITIONS

Data refers to recorded information, regardless of form or method of recording, which includes but is not limited to technical data, software, mask works and trade secrets. The term does not include financial, administrative, cost, pricing or management information and does not include inventions.

Computer Data Base means a collection of data recorded in a form capable of being processed by a computer. The term does not include computer software.

Computer Program means a set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

Computer Software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer databases or computer software documentation.

Computer Software Documentation means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

Detailed Manufacturing or Process Data means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

Developed means that an item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed," the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component, or process be actually reduced to practice within the meaning of 35 U.S.C.

Government Purpose means any activity in which the U.S. Government is a party, including cooperative agreements with international or multi-national defense organizations or sales or transfers by the U.S. Government to foreign Governments or international organizations. Government purposes do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

Government Purpose Rights means the right to use, duplicate, or disclose Data, in whole or in part and in any manner, for Government Purposes only and to have or permit others to do so for Government Purposes only.

Limited Rights means the right to use, modify, reproduce, release, perform, display, or disclose data, in whole or in part, only within the Government for the limited purpose of evaluation of satisfying the requirements of the awarded OT Prototype Project Agreement. The Government may not, without the written permission of the party asserting limited rights, release or disclose the data outside these limited rights, use the data for manufacture, or authorize the data to be used by another party, except that the Government may reproduce, release, or disclose such data or authorize the use or reproduction of the data by persons outside the Government if—

(i) The reproduction, release, disclosure, or use is—
(A) Necessary for emergency repair and overhaul; or
(B) A release or disclosure to—

(1) A covered Government support Performer in performance of its covered Government support contract for use, modification, reproduction, performance, display, or release or disclosure to a person authorized to receive limited rights technical data; or

(2) A foreign Government, of technical data other than detailed manufacturing or process data, when use of such data by the foreign Government is in the interest of the Government and is required for evaluation or informational purposes:

(ii) The recipient of the data is subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and
(iii) The Performer, subcontractors/teaming partners asserting the restriction is notified of such reproduction, release, disclosure, or use.

Restricted Rights applies only to noncommercial computer software and means the Government's right to use, modify, reproduce, perform, display, release disclose or transfer computer software are restricted, except that the Government may use a computer program on a limited number of computers and make the minimum number of copies of the computer software required for safekeeping (archive), backup, or modification purposes. The Government will not transfer the software outside of the Government or for any purpose other than the CyPhER Forge program, except that the Government may allow the use of the noncommercial computer software outside of the Government under a limited set of circumstances, including use by a covered Government support Performer in performance of its covered Government support contract (management and administrative support), and after the Proposer, subcontractors/ teaming partners asserting the restriction is notified in writing as far in advance as practicable that a release or disclosure to particular Proposer, subcontractors/teaming partners is planned to be made.

Nontraditional Defense Contractor is defined in 10 U.S.C. § 3014 as an entity that is not currently performing and has not performed, for at least the one (1) year period preceding the release date of this PS of sources by the DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the Cost Accounting Standards (CAS) prescribed pursuant to 41 U.S.C. § 1502 and the regulations implementing such section. This includes all small business concerns under the criteria and size standards in 15 U.S.C. § 632 and 13 CFR Part 121. A nontraditional defense contractor (Proposer) is considered a nontraditional defense contractor (Proposer) for the duration of the OT for Prototype Project Agreement's period of performance, or for any modification under the same agreement.

Other Transaction refers to the type of OT that may be awarded as a result of this PS. Award of a Prototype Project in accordance with 10 U.S.C. § 4022(b) is directly relevant to enhancing the mission effectiveness of military personnel and the supporting platforms, systems, components, or materials proposed to be acquired or developed by the DoD, or for theimprovement of platforms, systems, components, or materials in use by the armed forces.

Prototype Project. The definition of a "prototype project" in the context of an OT is as follows: (1) a prototype project addresses a proof of concept, model; (2) reverse engineering to address obsolescence; (3) a pilot or novel application of commercial technologies for defense purposes; (4) agile development activity; (5) the creation, design, development, demonstration of technical or operational utility; or (6) combinations of the foregoing. A process, including a business process, may be the subject of a prototype project.

Small Business Concerns as defined in the Small Business Act (15 U.S.C. § 632).

Technical Data means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

Amendment 01: ***Unknown Risks*** means safety-relevant conditions not fully captured by the currently defined risk categories or not sufficiently represented within the training/assurance domain. For example, entering a region of the flight envelope which is outside the training domain, or divergence between DT predictions and test data that exceeds a user-defined safety threshold).

Amendment 01*:* ***User-Defined Objectives*** means high level goals for a test sortie, used by the AI Test Agent to plan an information-maximizing test plan. Examples are contextual goals such as achieving a specific uncertainty reduction target for a given part of the flight envelope, or prioritizing a specific subset of tests (i.e., flutter).

Amendment 01: ***User-Defined Tolerance*** means the tolerance setting established by the Government/user for a defined risk type in a given test context, which the AI Test Agent must account for when planning and executing maneuvers and when providing statistical safety assurances.