
# Broad Agency Announcement

# Objective Prediction of Team Effectiveness via Models of Performance Outcomes (OP TEMPO)

## BIOLOGICAL TECHNOLOGIES OFFICE

## HR001123S0055

## November 2, 2023

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- **Federal Agency Name –** Defense Advanced Research Projects Agency (DARPA), Biological Technologies Office (BTO)
- **Funding Opportunity Title –** Objective Prediction of Team Effectiveness via Models of Performance Outcomes (OP TEMPO)
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** HR001123S0055
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- **Dates**
  - Posting Date: **November 2, 2023**
  - Proposal Abstract Due Date and Time: **December 1, 2023, 4:00 PM ET**
  - Full Proposal Due Date and Time: **January 31, 2024, 4:00 PM ET**
  - BAA Closing Date: **January 31, 2024**
  - Proposers' Day: **November 7, 2023**

  https://sam.gov/opp/a6291f6feedf4914b3fa107fed6e69ab/view
- **Concise description of the funding opportunity –** Current DoD team training assessment is limited, relying on rudimentary checklists and post-hoc, subjective evaluations of performance that will not be able to scale to future team training requirements. Objective Prediction of Team Effectiveness via Models of Performance Outcomes (OP TEMPO) will explore whether bio-behavioral signals can be used as valid, objective signatures of team performance. OP TEMPO focuses directly on the fundamental research necessary to identify bio-behavioral signatures associated with team cohesion, collaboration, and performance. As such, OP TEMPO will develop the foundation for novel approaches to understand, model, and assess team dynamics during training.
- **Anticipated individual awards –** Multiple awards are anticipated.
- **Types of instruments that may be awarded –** Procurement contract, cooperative agreement, or other transaction for research.
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# PART II: FULL TEXT OF ANNOUNCEMENT

## 1. Funding Opportunity Description

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

DARPA is soliciting innovative proposals to determine whether bio-behavioral signatures (e.g., combinations of neural signals, physiological signals, and/or communication patterns) of team performance exist and are generalizable across DoD teams. The envisioned approach will involve combining individual biological or behavioral signals into multimodal bio-behavioral signatures of team performance capable of facilitating future strategies to understand, model, and assess team dynamics during training. A successful proposal will clearly address four (4) research tasks: 1) identification and 2) characterization of candidate bio-behavioral signatures of DoD team coordination dynamics; 3) validation of these signatures using predictive models of team training performance; and 4) exploration of signature generalizability within two additional DoD use cases.

Specifically excluded are proposals that involve:

1. Identification and detection of molecular biomarkers
2. Approaches that use invasive or surgically implanted sensors
3. Approaches that include animal research
4. Approaches that cannot be reasonably conducted on-site at military training locations (e.g., use of functional Magnetic Resonance Imaging systems)
5. Approaches that solely focus on performer-proposed lab-based tasks, rather than DARPA-specified use cases and data collection environments
6. Approaches that involve human-machine teaming
7. Approaches that focus extensively on individual-level performance and cannot be translated/adapted to team-level performance
8. Approaches that only incrementally improve upon the current state-of-art in teaming optimization and physiological and/or behavior signatures of team performance

**Proposals involving any of the approaches described above may be deemed non-conforming and may be rejected without further review.**

### 1.1. PROGRAM OVERVIEW

Current DoD team training assessment is limited, relying on high-level checklists and post-hoc, subjective evaluations of performance. Tracking bio-behavioral signals (e.g., neural signals, physiological signals, and communication patterns) as objective signatures of team performance provides an opportunity to enhance DoD team training assessment; however, fundamental

questions of signature validity and generalizability across diverse team training settings need to be answered.

Limitations of the current state-of-the-art in bio-behavioral assessment of team performance include the following:

- The generalizability of bio-behavioral signatures reported to date has not been sufficiently explored.
- Exploration of multi-variate signatures that include multiple biological and/or behavioral signal inputs has been limited.
- No common, ecologically-valid framework exists from which to identify and compare signatures using real world teams and task environments (i.e., much of the research to date has focused on a wide variety of lab-based "toy" tasks, primarily using convenience samples of university students).
- No coherent, theoretically-grounded framework exists for measuring and interpreting empirical results.

The OP TEMPO program will determine whether bio-behavioral signatures of team performance exist and are generalizable across DoD teams. OP TEMPO will focus on four research tasks: 1) **Identify** candidate bio-behavioral signatures that correlate to DoD team performance; 2) **Characterize** signatures to assess their reliability and variability; 3) Develop predictive models of team performance and use them to **validate** signatures; and 4) **Explore Generalizability** of the validated signatures by testing the models within alternative DoD use cases.

Using existing sensor suites, performers will search for candidate bio-behavioral signals that correlate with team performance metrics, and characterize these signals in real DoD laptop-based team training virtual environments. Candidate signals, stand-alone or in combination, will be validated as signatures of team performance by assessing the predictive potential of models that use the signatures as inputs. After signatures have been validated in a specific DoD training environment (Use Case 1), generalizability will be explored by testing the signatures in two additional DoD training environments (Use Cases 2 and 3). By successfully developing bio-behavioral signatures of team performance, OP TEMPO will enable a completely new way to understand, model, and assess team dynamics during training.

The DoD simulation-based training environments and scenarios for each of the program use cases will be provided by a government-led Test and Evaluation (T&E) team, and all performer teams will be required to collect data within these common testbed environments during designated data collection events at military training installations with DARPA-provided active-duty military personnel as participants.

The T&E team will establish objective team performance metrics for each use case based on a Critical Task Analysis (CTA), and will also establish a ground truth database using the specified metrics to stratify both individual and team performance (e.g., Low, Medium, High) across a series of carefully defined tasks and subtasks for each use case. In order to accomplish this, the T&E team will evaluate performance across novice, intermediate, and expert teams, and will also assess performance over time for teams progressing through training. The databases and detailed descriptions of the metrics (i.e., how they are computed and logged) will be provided to all

performers. The ground truth metrics will be automatically captured by the training environments for each use case and scenario, and will be provided to performers along with time synced meta-data during each data collection event. This will provide all performers with common data sets from which to identify, characterize, and validate bio-behavioral signatures, and will provide a mechanism for head-to-head comparisons between performer solutions and experimental results.

Use Case 1 will focus on 4-person U.S. Marine Corps (USMC) Fire Support Team (FiST) training. The T&E team will conduct an in-depth CTA to decompose FiST training and readiness (T&R) mission essential tasks (METs) into discrete, individual and team-focused subtasks, and will design and develop customized training scenarios that leverage a current computer-based USMC FiST training environment. The T&E team will develop a standard framework for team training performance assessment, based on objective training performance metrics (e.g., time required and accuracy to complete each subtask). The T&E team will then use this framework to assess team performance during performer data collection events and share the assessments with performers as ground truth data. This same process will be repeated for Use Cases 2 and 3, which will be selected by DARPA and presented at the Phase 1 Kickoff Meeting based on lessons learned during the T&E pre-kickoff activity *(See Section 1.2 for further details).* Notional Use Cases include U.S. Air Force air battle management (ABM) team training and U.S. Navy submarine navigation (SPAN) team training.

The OP TEMPO program will develop four primary transitionable components: 1) protocols for the identification of bio-behavior signatures (performer provided); 2) databases of raw signals captured during team training (performer provided); 3) predictive models and algorithms for validating prospective bio-behavioral signatures (performer provided); and 4) training assessment frameworks for systematic capture of team performance results for each use case (T&E team provided). *See Section 1.3 for further details.*

## 1.2. PROGRAM STRUCTURE AND TECHNICAL APPROACH

OP TEMPO is a 42-month program, composed of a 9-month Phase 0 involving T&E teams only, a 21-month Phase 1 involving both T&E and Performer teams, and a 12-month Phase 2 involving both T&E and Performer teams. A pulse check will occur mid-way through Phase 1 to assess performer progress based on summary characterizations of candidate bio-behavioral signatures identified to-date for Use Case 1. An evaluation will occur at the end of Phase 1, during which the performers' predictive models will be characterized and assessed against program metrics. DARPA reserves the right to proceed with all, some, or none of the Phase 1 performers into Phase 2. Phase 2 will explore the generalizability of Performer signatures within the context of Use Case 2 and Use Case 3, concluding with an End-of-Program Evaluation. ***Figure 1*** provides an overview of the OP TEMPO T&E activities, Performer activities, and envisioned program outputs by Phase.

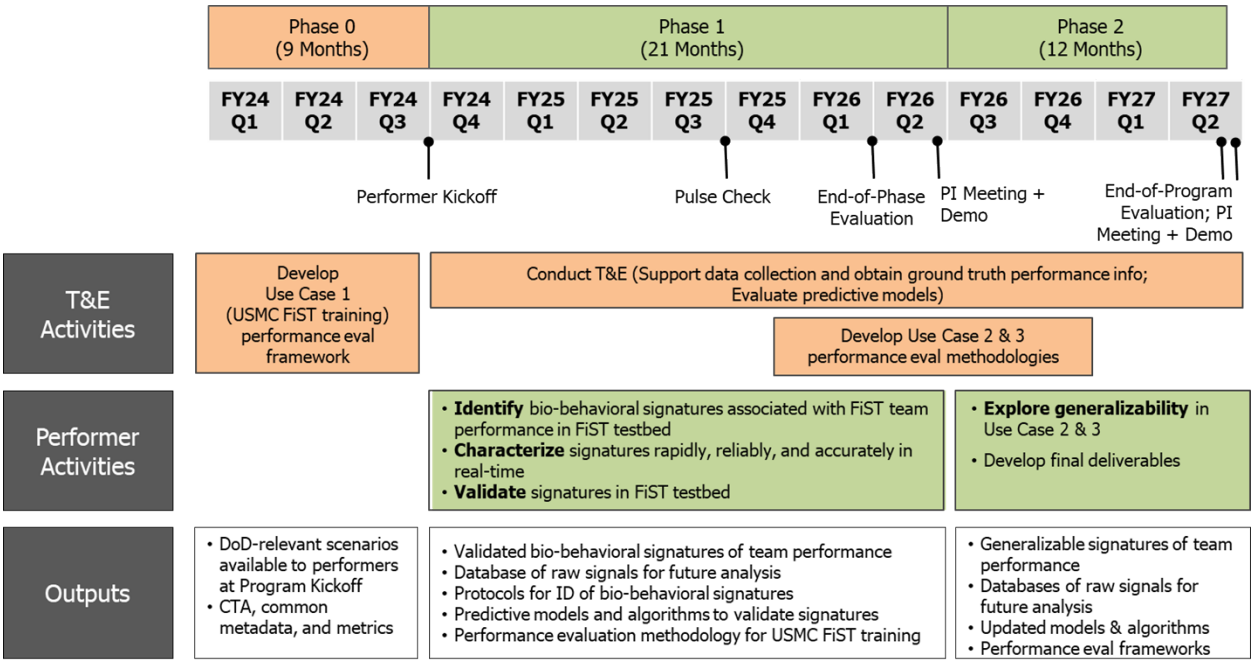


**Figure 1:** OP TEMPO Program Schedule and Phases

***Note:*** The OP TEMPO program does not include distinct Technical Areas (TAs). All proposals must include plans to address all four research tasks and both phases of the program (*See Section 1.4 for further details)*. All proposals must also include plans to address all program metrics, milestones, and deliverables *(See Section 1.3 for further details).*

**Phase 0 (9 months)** ***Not being solicited under this BAA***
The 9-month Phase 0 will focus on design and development of the customized training environment and scenarios for Use Case 1 (USMC FiST training; see https://www.29palms.marines.mil/training/magtftcsims/fst/ for more details) in order to enable performer research to start immediately after Phase 1 Kickoff. Pre-kickoff, the T&E team will complete the FiST training CTA, design and develop the customized FiST training scenarios, and build a framework capable of assessing team training performance by embedding objective performance metrics and time-synced meta-data within each scenario. The T&E team will also collect data from FiST training sessions using the evaluation framework to characterize novice, intermediate and expert performance for each of the FiST training scenarios.

During Phase 0, DARPA will also select Use Cases 2 and 3 based on lessons learned by the T&E team. These additional use cases will be presented at the Phase 1 Kickoff Meeting along with all results from the Use Case 1 pre-kickoff activities. For proposal development purposes, offerors can expect Use Cases 2 and 3 to involve 2-6 person teams completing computer/monitor station-based training scenarios involving collaborative subtasks and individual role subtasks, similar to the FiST training scenarios.

**Phase 1 (21 months)**
Phase 1 T&E efforts will begin at the OP TEMPO Phase 1 Kickoff Meeting by providing the selected Performer teams with a detailed overview of all Phase 0 activities. This will include

deep dives into the CTA process and results, the design and development of the customized FiST simulation-based training environment and scenarios, the Use Case 1 established performance metrics and metadata, and initial results from the team performance evaluation framework. At the Phase 1 Kickoff Meeting, the T&E team will also provide performers with details regarding the planned Phase 1 data collection events and a detailed overview of planned methods for assessing performer results against the established program metrics at the Pulse Check and the End-of-Phase Evaluation *(See Section 1.3 for further details)*.

Following the kickoff, Phase 1 T&E efforts will focus initially on finalizing the FiST training assessment framework by Month 4. T&E efforts for the remainder of Phase 1 will be focused primarily on supporting Performer data collection efforts and using the training assessment framework to generate ground truth data for each training session. Throughout each Phase, the T&E team will support DARPA in evaluating performer solutions, technical results, and progress toward achieving all program Metrics, and particularly at the Pulse Check and the End-of-Phase Evaluation. The T&E team will also conduct Independent Validation and Verification (IV&V) efforts by performing additional analyses on performer predictive models and collected datasets.

Additionally, during Phase 1, the T&E team will initiate CTAs for Use Case 2 and Use Case 3, and will begin designing and developing the customized training environments and scenarios for both Use Cases and the associated training assessment frameworks. T&E efforts to build out these additional Use Case scenarios will ensure timely scenario availability at the start of Phase 2.

Phase 1 Performer efforts will focus on the first three OP TEMPO research tasks within the context of Use Case 1 (USMC FiST training): 1) **Identify** candidate bio-behavioral signatures that correlate to DoD team performance; 2) **Characterize** signatures to assess their reliability, stability, and variability; 3) Develop predictive models of team performance to **validate** prospective bio-behavioral signatures.

All performer teams will be required to participate in formal data collection events at USMC FiST training installations in accordance with DoD human subjects research (HSR) policies (see Section 4.2.3 for additional details). DARPA estimates 3 data collection events will occur during Phase 1, providing performers with the ability to collect data from approximately 30+ team training sessions. For planning purposes related to data availability, scale, and complexity, performers should assume each training session is approximately 1 hour and will be comprised of multiple individual and team collaboration subtasks. During these events, performer teams will be required to collect data using the T&E-provided customized FiST training environment and scenarios with DARPA-provided active-duty military personnel as participants. All performer teams will be provided with the automatically generated objective individual- and team- performance metrics and time-synced metadata for each of the experimental scenarios run throughout these events, as well as ground truth data on training performance.

Proposers are not discouraged from conducting their own data collection events in other test beds in addition to the DARPA-provided Use Cases and training scenarios; however, proposals must include a clear rationale on applicability and relevance to the goals of OP TEMPO. All program metric evaluations will be conducted in the DARPA-provided Use Cases.

In the first research task (**Identify**), performers will identify candidate bio-behavioral signatures that correlate with team performance, using team performance ground truth data provided by the T&E team. It is anticipated that performers will search for multiple candidate bio-behavioral signatures such as neural activity (electrical and/or imaging), eye tracking, heart rate variability, breathing rate, and voice communications. Performers will need to develop approaches and leverage technologies that enable efficient, high-quality capture of the candidate signatures without disrupting the training. Proposals should address challenges associated with finding signatures having sufficient correlation to performance and working in noisy/high-background environments, and should provide mitigation strategies for addressing these challenges. Strong proposals will also consider approaches that make efficient use of sparse datasets to identify candidate signatures.

In the second research task (**Characterize**), performers will seek to understand the dynamics of the candidate bio-behavioral signatures. These approaches will likely require careful selection and use of denoising algorithms to enable real-world data capture and associated removal of motion and other background artifacts. Performers will need to characterize the signals with respect to stability, as well as inter- and intra-individual variability. Proposals should address challenges associated with 1) signature latency and persistence across dynamic tasks, 2) inter- and intra-individual variation, 3) balancing rigorous signature measurement approaches with ease-of-use, and 4) development of approaches capable of rapidly capturing signatures. Proposals should also provide mitigation strategies for addressing these challenges. Strong proposals will include characterization methods and approaches capable of adapting to real-world data capture dynamics and contingencies.

In the third research task (**Validate**), performers will validate candidate bio-behavioral signatures in predictive models of team performance that use the signatures as inputs. Modeling approaches will likely involve combinatorial use of signatures to bolster predictive power, and performers will demonstrate which signature combinations are most effective. A validation dataset of ground truth data (captured during the Use Case data collection events) will be reserved by the T&E team to evaluate model performance at the end of the Phase. Proposals should address challenges associated with maximizing utility from sparse datasets and imbalanced ground truth datasets, fusion of diverse data types, maximizing parsimony of model types, and should provide mitigation strategies for addressing these challenges.

As shown in Figure 1, anticipated outputs from performer efforts in Phase 1 will include 1) Validated bio-behavioral signatures of team performance, 2) Database of raw signals for future analysis, 3) Protocols for the identification of bio-behavioral signatures, 4) Predictive models and algorithms to validate signatures, and 5) Draft plan to research the extensibility of and generalizability of performer's approach *(See Section 1.3 for further details)*.

**Phase 2 (12 months)**

Phase 2 T&E efforts will begin at the OP TEMPO Phase 2 Kickoff Meeting by providing the performer team(s) with deep dives into the Use Case 2 and Use Case 3 CTA processes and results, the design and development of the customized Phase 2 simulation-based training environments and scenarios, the established performance metrics and metadata, and the

performance assessment frameworks for generating ground truth data for Use Cases 2 and 3. At the Phase 2 Kickoff Meeting, the T&E team will also provide performers with details regarding each of the planned Phase 2 data collection events and a detailed overview of planned methods for assessing performer results against the established program metrics at the End-of-Program Evaluation *(See Section 1.3 for further details)*.

Additional T&E efforts for the remainder of Phase 2 will be focused on finalizing frameworks capable of assessing team training performance, supporting performer data collection efforts, and conducting ground truth assessments of team training performance. The T&E team will also support DARPA by evaluating performer solutions, assessing technical results (e.g., generalizability of predictive models), and reviewing progress toward achieving all program Metrics throughout the Phase, and particularly at the End-of-Phase Evaluation for Use Cases 2 and 3.

Phase 2 Performer efforts will focus on the fourth research task (**Explore Generalizability**). Performers will assess the predictive potential of their validated Phase 1 FiST signatures within the context of Use Case 2 and 3 teams. Similar to Phase 1, the team(s) will assess the predictive potential of models that use the bio-behavioral signatures as inputs.

All Phase 2 performer teams will be required to participate in formal data collection events at DoD training installations. During these events, performer teams will be required to collect data using the T&E-provided customized Use Case 2 and Use Case 3 training environments and scenarios with DARPA-provided active-duty military personnel as participants. All performer teams will be provided with the automatically generated objective individual- and team-performance metrics and time-synced metadata for each of the experimental scenarios run throughout these events, as well as ground truth data on training performance. Proposals should address challenges associated with signature generalizability to novel use cases, tasks, and types of teams, including potentially scaling to larger teams, and should provide mitigation strategies for addressing these challenges.

Proposals should include Phase 2 as a priced option.
As shown in Figure 1, anticipated outputs from performer efforts in Phase 2 will include 1) Generalizable bio-behavioral signatures of team performance in Use Case 2 and Use Case 3, 2) Databases of raw signals for future analysis, and 3) Updated predictive models & algorithms *(See Section 1.3 for further details)*.

### 1.3. PROGRAM METRICS, MILESTONES AND DELIVERABLES

OP TEMPO will measure performer progress by assessing the quality of the models developed to use bio-behavioral signature input data to predict team performance. This includes measuring and reporting the accuracy and the F1 score (harmonic mean between recall and precision measures) of the classification models for subtask performance assessments and also the overall performance assessment for each training session. The T&E team will withhold a portion of the ground truth performance assessments obtained during the Use Case data collection events for end-of-phase evaluation activities and calculation of program metrics. Overall team training performance will be defined by T&E as novice, intermediate or expert performance. The Pulse Check in Phase 1 is a self-assessment activity conducted by each performer. ***Table 1*** provides a

summary of the OP TEMPO program metrics. ***Metric thresholds will be the same across all three use cases. Performers are expected to achieve these metrics for Use Case 1 by the conclusion of Phase 1, and are expected to achieve these metrics for Use Cases 2 and 3 by the conclusion of Phase 2***.

**Table 1.** OP TEMPO Program Metrics

| Program Component | Criteria | Metric(s) |
|---|---|---|
| **Validate** Signatures with Predictive Models | Model ***accuracy*** for ***overall*** team performance | >0.8 |
| | Model ***F1 Score*** for ***overall*** team performance | >0.85 |
| | Model ***accuracy*** for ***subtask*** team performance | >0.8 |
| | Model ***F1 Score*** for ***subtask*** team performance | >0.85 |

Performers must propose specific deliverables (reports, data, demonstrations, etc.) that demonstrate progress towards, or completion of, program metrics for each Phase of the program. The format and content of each deliverable will vary from task to task, but must be designed such that the Government can evaluate performer progress towards the metrics and end goals of the program. Refer to *Section 1.4* and *Section 6.3* for additional deliverables-based reporting requirements.

Progress toward the stated goals will be assessed throughout the program, with critical assessments and milestones occurring at 12 months (Phase 1 Pulse Check), 18 months (End-of-Phase Evaluation), and 32 months (End-of-Program Evaluation) after Phase 1 Kickoff. ***Table 2*** provides the anticipated schedule for OP TEMPO milestones for Phase 1 and Phase 2. Locations for Meetings and Reviews are for planning purposes only and subject to change.

**Table 2.** OP TEMPO Program Milestones

| **Phase 1 Program Milestones** | **Anticipated Date: Months After Contract Award (MAC)** |
|---|---|
| **Milestone 1:** Phase 1 Kickoff Meeting (West Coast) | Month 1 |
| **Milestone 2:** Performers obtain local IRB approval for Phase 1 Human Subjects Research (HSR) | Month 2 |
| **Milestone 3:** Performers obtain HRPO approval for Phase 1 HSR | Month 3 |
| **Milestone 4:** Use Case 1 Data Collection Event 1 | Month 4 |
| **Milestone 5:** Technical Review Meeting (East Coast) | Month 6 |
| **Milestone 6:** Use Case 1 Data Collection Event 2 | Month 9 |
| **Milestone 7:** Pulse Check Technical Review (West Coast) | Month 12 |
| **Milestone 8:** Use Case 1 Data Collection Event 3 | Month 15 |

| | |
|---|---|
| **Milestone 9:** End-of-Phase Evaluation | Month 18 |
| **Milestone 10:** Performers obtain local IRB approval for Phase 2 HSR | Month 20 |
| **Milestone 11:** PI Meeting and Stakeholder Capability Demonstration (East Coast) | Month 21 |

| **Phase 2 Program Milestones** | **Anticipated Date: Months After Contract Award (MAC)** |
|---|---|
| **Milestone 12:** Phase 2 Kickoff Meeting (West Coast) | Month 22 |
| **Milestone 13:** Performers obtain HRPO approval for Phase 2 HSR | Month 22 |
| **Milestone 14:** Use Case 2 Data Collection Event | Month 24 |
| **Milestone 15:** Technical Review Meeting (East Coast) | Month 27 |
| **Milestone 16:** Use Case 3 Data Collection | Month 29 |
| **Milestone 17:** Technical Review Meeting (West Coast) | Month 32 |
| **Milestone 18:** End-of-Program Evaluation and Stakeholder Capability Demonstration (East Coast) | Month 33 |

Stakeholder Capability Demonstrations will be held at the end of each Phase in support of program technology transition efforts. These demonstrations will include summary results from recent data analyses and potentially opportunities for end users to interact with the OP TEMPO systems and will be separate from the data collection and assessment events associated with metrics evaluations.

The OP TEMPO program will develop four primary transitionable components: 1) protocols for the identification of bio-behavior signatures (performer provided); 2) databases of raw signals captured during team training (performer provided); 3) predictive models and algorithms for validating prospective bio-behavioral signatures (performer provided); and 4) training assessment frameworks for systematic capture of team performance results for each use case (T&E team provided).

It is envisioned that the customized training environments and scenarios developed by the T&E for use throughout the program may be transitionable to end users in the targeted DoD training communities for each Use Case; however, it is also possible that performer-developed tools may be appropriate for transition with those testbeds. The databases of raw signals captured by the performers during formal data collection events also have transition potential as future analysis by DoD T&E organizations may yield additional signatures with predictive value. Finally, the predictive models and algorithms themselves have potential to be transitioned to DoD training centers for further analysis and validation of newly discovered signatures.

Proposals should include detailed plans to support transition of these components, as well as any asserted data and intellectual property rights associated with delivered hardware, software, and data sets.

Successful transition of these components will be facilitated by early, regular engagement with critical stakeholders throughout program progress, including direct involvement by transition partners on the T&E team and via the End-of-Phase Stakeholder Capability Demonstrations. Performers may be encouraged to pursue additional, transition-focused funding from DARPA via the Commercial Strategies Team (CST). See *Section 6.5* for more details.

## 1.4. GENERAL REQUIREMENTS

**Proposing Teams**
The OP TEMPO program does not include distinct Technical Areas (TAs). All proposals must include plans to address all four research tasks and both phases of the program. Furthermore, it is expected that proposals will involve diverse, multidisciplinary expertise to support the scientific aims relevant to each critical research task. Proposer teams must submit a single, integrated proposal led by a Principal Investigator (PI), under a single prime contractor that addresses all program phases.

DARPA will hold a Proposers' Day (see Section 8.1) to facilitate the formation of proposer teams and enable sharing of information among interested proposers through the DARPA Opportunities Page. Attendance is voluntary and is not required to propose to solicitations associated with this program. DARPA will not provide reimbursement for any costs incurred to participate in Proposers' Day.

**Government Test and Evaluation (T&E)**
The Government is not soliciting T&E proposals under HR001123S0055. To avoid potential conflicts of interest, performers for HR001123S0055 will not be allowed to compete for the T&E contract. Throughout the program, the performers will work with a government-led T&E team. This partnership will be facilitated by the Government. The T&E team will consist of subject matter experts from the Government, Federally Funded Research and Development Centers (FFRDCs), and/or other relevant domains capable of meeting the desired T&E goals of the program as established by DARPA. The T&E team will objectively evaluate the performance of each performer's capabilities and/or components against OP TEMPO program requirements and specifications after pulse checks, end-of-phase evaluations, stakeholder demonstrations, and other milestones.

**Data Management and Sharing**
All raw data, metadata, and informatics analyses, and tools specific to each experiment must be curated and made available. All data (raw data, highly-detailed metadata, and key analysis files) from data collection events will be uploaded to an appropriate server and be made available to DARPA, T&E team and Government Stakeholders. Software design and analyses must be systematically documented with coding tools (e.g., Jupyter Notebook, R Notebook, Spark) for evaluation and reproducibility.

**Ethical, Legal, and Societal Implication (ELSI)**
DARPA assures that all of its sponsored research activities related to neurotechnology and human subjects will be guided by the ethical principles. Research and Development in human performance optimization, warfighter readiness, human machine teaming, and brain-inspired artificial intelligence all have ethical, legal, and social implications. Proposals are required to

integrate ethical considerations and implications of their research including: research integrity, diversity of the research team, and societal impacts. This could include consideration of issues such as: transparency, inclusivity, social responsibility, public perceptions, impartiality, reliability, security and privacy. Related issues are openness and fairness of societal access to new technologies, post-trial access, responsible development of safe, secure, and robust operations in expected or foreseeable social and/or engineering contexts. Investigators are encouraged to consider the ethical implications of both intended and possible unintended consequences of new technologies (i.e., countermetrics) and how best to mitigate risk to society. It is strongly recommended that the research team includes appropriate expertise from the social, behavioral, ethics and educational sciences to address these issues.

**Deliverables**
All products – material and otherwise – to be provided to the Government as outcomes from conducted research should be defined in the proposal. Performers need to allot time and budget to fulfill obligations for travel to review meetings and the preparation and presentation of status reports.

Monthly Technical Status Reports: Each month during program execution, performers are required to present to DARPA a status report briefing, in the form of a Microsoft (MS) PowerPoint™ file, of all research activities, technical progress, cost/schedule issues and performance, metrics satisfied, risk mitigations, and intended actions for the next reporting period.

Monthly Financial Status Reports: Each month during program execution, performers are required to provide financial status updates. The prime Performer shall include information for itself and all subawardees/subcontractors. These reports shall be in the form of an editable MS Excel™ file and shall provide financial data including, but not limited to:

- Program spend plan by Phase and task
- Incurred program expenditures to date by Phase and task
- Invoiced program expenditures to date by Phase and task

Quarterly Status Reports: Each quarter during program execution, performers are required to submit a written report (MS Word™ file) summarizing the technical progress and financial status of the effort, including cost/schedule issues and performance, metrics satisfied, risk mitigations.

Technical Review Meetings and Reports: Leadership from each performer team (with additional key personnel at the discretion of the PI) will be required to present research progress in person or virtually at program review meetings. The purpose of these reviews is to ensure adequate engagement with the DARPA team to discuss details that might otherwise fall outside the scope of a routine technical brief; progress towards milestones and scientific goals; and any ongoing technical or programmatic challenges that must be overcome to achieve the overarching program goals. Performers must submit to DARPA their briefing materials (MS PowerPoint).

Phase I Final Report: At the end of Phase I, performer teams must provide a summary report on all research activities and outcomes during the Phase. The report should also list publications,

research presentations, and patent applications that result from the research pursued, and any additional deliverables specified in the award document.

Final Program Report: Performer teams must provide a final report summarizing all research activities and outcomes during the program; publications, research presentations, patent applications that result from the research pursued; and any additional deliverables specified in the award document.

# 2. Award Information

## 2.1. GENERAL AWARD INFORMATION

Multiple awards are possible. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if it is later determined to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, DARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that DARPA desires to award only portions of a proposal, negotiations may be opened with that proposer. The Government reserves the right to fund proposals in phases with options for continued work, as applicable.

The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications (see Section VI.B.2., "Representations and Certifications"). The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions, and/or cost/price within a reasonable time, and the proposer fails to timely provide requested additional information. Proposals identified for negotiation may result in a procurement contract, cooperative agreement, or other transaction, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, and other factors.

Proposers looking for innovative, commercial-like contractual arrangements are encouraged to consider requesting Other Transactions. To understand the flexibility and options associated with Other Transactions, consult http://www.darpa.mil/work-with-us/contract-management#OtherTransactions.

In accordance with 10 U.S.C. § 4022(f), the Government may award a follow-on production contract or Other Transaction (OT) for any OT awarded under this solicitation if: (1) that participant in the OT, or a recognized successor in interest to the OT, successfully completed the entire prototype project provided for in the OT, as modified; and (2) the OT provides for the award of a follow-on production contract or OT to the participant, or a recognized successor in interest to the OT.

In all cases, the Government contracting officer shall have sole discretion to select award instrument type, regardless of instrument type proposed, and to negotiate all instrument terms and conditions with selectees. DARPA will apply publication or other restrictions, as necessary, if it determines that the research resulting from the proposed effort will present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Any award resulting from such a determination will include a requirement for DARPA permission before publishing any information or results on the program. For more information on publication restrictions, see the section below on Fundamental Research

## 2.2. FUNDAMENTAL RESEARCH

It is DoD policy that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. National Security Decision Directive (NSDD) 189 defines fundamental research as follows:

> 'Fundamental research' means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

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

University or non-profit research institution performance under this solicitation will include effort categorized as fundamental research. In addition to Government support for free and open scientific exchanges and dissemination of research results in a broad and unrestricted manner, the academic or non-profit research performer or recipient, regardless of tier, acknowledges that such research may have implications that are important to U.S. national interests and must be protected against foreign influence and exploitation. As such, the academic or non-profit research performer or recipient agrees to comply with the following requirements:

(a) The University or non-profit research institution performer or recipient must establish and maintain an internal process or procedure to address foreign talent programs, conflicts of commitment, conflicts of interest, and research integrity. The academic or non-profit research performer or recipient must also utilize due diligence to identify Foreign Components or participation by Senior/Key Personnel in Foreign Government

Talent Recruitment Programs and agree to share such information with the Government upon request.

i. The above described information will be provided to the Government as part of the proposal response to the solicitation and will be reviewed and assessed prior to award. Generally, this information will be included in the Research and Related Senior/Key Personnel Profile (Expanded) form (SF-424) required as part the proposer's submission through Grants.gov.

    1. Instructions regarding how to fill out the SF-424 and its biographical sketch can be found through Grants.gov.

ii. In accordance with USD(R&E) direction to mitigate undue foreign influence in DoD-funded science and technology, DARPA will assess all Senior/Key Personnel proposed to support DARPA grants and cooperative agreements for potential undue foreign influence risk factors relating to professional and financial activities. This will be done by evaluating information provided via the SF-424, and any accompanying or referenced documents, in order to identify and assess any associations or affiliations the Senior/Key Personnel may have with foreign strategic competitors or countries that have a history of intellectual property theft, research misconduct, or history of targeting U.S. technology for unauthorized transfer. DARPA's evaluation takes into consideration the entirety of the Senior/Key Personnel's SF-424, current and pending support, and biographical sketch, placing the most weight on the Senior/Key Person's professional and financial activities over the last 4 years. The majority of foreign entities lists used to make these determinations are publicly available. The DARPA Countering Foreign Influence Program (CFIP) "Senior/Key Personnel Foreign Influence Risk Rubric" details the various risk ratings and factors. The rubric can be seen at the following link:
https://www.darpa.mil/attachments/092021DARPACFIPRubric.pdf

iii. Examples of lists that DARPA leverages to assess potential undue foreign influence factors include, but are not limited to:

    1. Executive Order 13959 "Addressing the Threat From Securities Investments That Finance Communist Chinese Military Companies": https://www.govinfo.gov/content/pkg/FR-2020-11-17/pdf/2020-25459.pdf
    2. The U.S. Department of Education's College Foreign Gift and Contract Report: College Foreign Gift Reporting (ed.gov)
    3. The U.S. Department of Commerce, Bureau of Industry and Security, List of Parties of Concern: https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern
    4. Georgetown University's Center for Security and Emerging Technology (CSET) Chinese Talent Program Tracker: https://chinatalenttracker.cset.tech
    5. Director of National Intelligence (DNI) "World Wide Threat Assessment of the US Intelligence Community": 2021 Annual Threat Assessment of the U.S. Intelligence Community (dni.gov)

6. Various Defense Counterintelligence and Security Agency (DCSA) products regarding targeting of US technologies, adversary targeting of academia, and the exploitation of academic experts: https://www.dcsa.mil/

(b) DARPA's analysis and assessment of affiliations and associations of Senior/Key Personnel is compliant with Title VI of the Civil Rights Act of 1964. Information regarding race, color, or national origin is not collected and does not have bearing in DARPA's assessment.

(c) University or non-profit research institutions with proposals selected for negotiation that have been assessed as having high or very high undue foreign influence risk, will be given an opportunity during the negotiation process to mitigate the risk. DARPA reserves the right to request any follow-up information needed to assess risk or mitigation strategies.

i. Upon conclusion of the negotiations, if DARPA determines, despite any proposed mitigation terms (e.g. mitigation plan, alternative research personnel), the participation of any Senior/Key Research Personnel still represents high risk to the program, or proposed mitigation affects the Government's confidence in proposer's capability to successfully complete the research (e.g., less qualified Senior/Key Research Personnel) the Government may determine not to award the proposed effort. Any decision not to award will be predicated upon reasonable disclosure of the pertinent facts and reasonable discussion of any possible alternatives while balancing program award timeline requirements.

(d) Failure of the academic or non-profit research performer or recipient to reasonably exercise due diligence to discover or ensure that neither it nor any of its Senior/Key Research Personnel involved in the subject award are participating in a Foreign Government Talent Program or have a Foreign Component with an a strategic competitor or country with a history of targeting U.S. technology for unauthorized transfer may result in the Government exercising remedies in accordance with federal law and regulation.

i. If, at any time, during performance of this research award, the academic or non-profit research performer or recipient should learn that it, its Senior/Key Research Personnel, or applicable team members or subtier performers on this award are or are believed to be participants in a Foreign Government Talent Program or have Foreign Components with a strategic competitor or country with a history of targeting U.S. technology for unauthorized transfer , the performer or recipient will notify the Government Contracting Officer or Agreements Officer within 5 business days.

1. This disclosure must include specific information as to the personnel involved and the nature of the situation and relationship. The Government will have 30 business days to review this information and conduct any necessary fact-finding or discussion with the performer or recipient.

2. The Government's timely determination and response to this disclosure may range anywhere from acceptance, to mitigation, to termination of this award at the Government's discretion.

3. If the University receives no response from the Government to its disclosure within 30 business days, it may presume that the Government has determined the disclosure does not represent a threat.

ii. The performer or recipient must flow down this provision to any subtier contracts or agreements involving direct participation in the performance of the research.

(e) Definitions

i. Senior/Key Research Personnel

1. This definition would include the Principal Investigator or Program/Project Director and other individuals who contribute to the scientific development or execution of a project in a substantive, measurable way, whether or not they receive salaries or compensation under the award. These include individuals whose absence from the project would be expected to impact the approved scope of the project.

2. Most often, these individuals will have a doctorate or other professional degrees, although other individuals may be included within this definition on occasion.

ii. Foreign Associations/Affiliations

1. Association is defined as collaboration, coordination or interrelation, professionally or personally, with a foreign government-connected entity where no direct monetary or non-monetary reward is involved.

2. Affiliation is defined as collaboration, coordination, or interrelation, professionally or personally, with a foreign government-connected entity where direct monetary or non-monetary reward is involved.

iii. Foreign Government Talent Recruitment Programs

1. In general, these programs will include any foreign-state-sponsored attempt to acquire U.S. scientific-funded research or technology through foreign government-run or funded recruitment programs that target scientists, engineers, academics, researchers, and entrepreneurs of all nationalities working and educated in the U.S.

2. Distinguishing features of a Foreign Government Talent Recruitment Program may include:

a. Compensation, either monetary or in-kind, provided by the foreign state to the targeted individual in exchange for the individual transferring their knowledge and expertise to the foreign country.

b. In-kind compensation may include honorific titles, career advancement opportunities, promised future compensation or other types of remuneration or compensation.

c. Recruitment, in this context, refers to the foreign-state-sponsor's active engagement in attracting the targeted individual to join the foreign-sponsored program and transfer their knowledge and

expertise to the foreign state. The targeted individual may be employed and located in the U.S. or in the foreign state.

d. Contracts for participation in some programs that create conflicts of commitment and/or conflicts of interest for researchers. These contracts include, but are not limited to, requirements to attribute awards, patents, and projects to the foreign institution, even if conducted under U.S. funding, to recruit or train other talent recruitment plan members, circumventing merit-based processes, and to replicate or transfer U.S.-funded work in another country.

e. Many, but not all, of these programs aim to incentivize the targeted individual to physically relocate to the foreign state. Of particular concern are those programs that allow for continued employment at U.S. research facilities or receipt of U.S. Government research funding while concurrently receiving compensation from the foreign state.

3. Foreign Government Talent Recruitment Programs DO NOT include:

a. Research agreements between the University and a foreign entity, unless that agreement includes provisions that create situations of concern addressed elsewhere in this section,

b. Agreements for the provision of goods or services by commercial vendors, or

c. Invitations to attend or present at conferences.

iv. Conflict of Interest

1. A situation in which an individual, or the individual's spouse or dependent children, has a financial interest or financial relationship that could directly and significantly affect the design, conduct, reporting, or funding of research.

v. Conflict of Commitment

1. A situation in which an individual accepts or incurs conflicting obligations between or among multiple employers or other entities.

2. Common conflicts of commitment involve conflicting commitments of time and effort, including obligations to dedicate time in excess of institutional or funding agency policies or commitments. Other types of conflicting obligations, including obligations to improperly share information with, or withhold information from, an employer or funding agency, can also threaten research security and integrity and are an element of a broader concept of conflicts of commitment.

vi. Foreign Component

1. Performance of any significant scientific element or segment of a program or project outside of the U.S., either by the University or by a researcher

employed by a foreign organization, whether or not U.S. government funds are expended.

2. Activities that would meet this definition include, but are not limited to:
    a. Involvement of human subjects or animals;
    b. Extensive foreign travel by University research program or project staff for the purpose of data collection, surveying, sampling, and similar activities;
    c. Collaborations with investigators at a foreign site anticipated to result in co-authorship;
    d. Use of facilities or instrumentation at a foreign site;
    e. Receipt of financial support or resources from a foreign entity; or
    f. Any activity of the University that may have an impact on U.S. foreign policy through involvement in the affairs or environment of a foreign country.
3. Foreign travel is not considered a Foreign Component.

vii. Strategic Competitor

1. A nation, or nation-state, that engages in diplomatic, economic or technological rivalry with the United States where the fundamental strategic interests of the U.S are under threat.

Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at http://www.darpa.mil/work-with-us/additional-baa.
For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, its proposed subawardee's effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed subawardee's effort may be non-fundamental research. In all cases, it is the potential awardee's responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

## 3. Eligibility Information

### 3.1. ELIGIBLE APPLICANTS

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities, Small Businesses, Small Disadvantaged Businesses and Minority Institutions are encouraged to submit proposals

and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

### 3.1.1. Federally Funded Research and Development Centers (FFRDCs) and Government Entities

FFRDCs and Government entities interested in participating in the OP TEMPO program or proposing to this BAA should first contact the Technical Point of Contact (POC) and Contracting Officer listed in Part I prior to the Abstract or Full Proposal due dates listed in Part I to discuss eligibility.

**FFRDCs**

FFRDCs are subject to applicable direct competition limitations and cannot propose to this solicitation in any capacity unless they meet the following conditions. (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. These conditions are a requirement for FFRDCs proposing to be awardees or subawardees.

**Government Entities**

Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. Government Entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees.

**Authority and Eligibility**

At the present time, DARPA does not consider 15 U.S.C. § 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C.§ 4892 may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility. DARPA will consider FFRDC and Government Entity eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer.

### 3.1.2. Non-U.S. Organizations

Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

## 3.2. ORGANIZATIONAL CONFLICTS OF INTEREST

FAR 9.5 Requirements

In accordance with FAR 9.5, proposers are required to identify and disclose all facts relevant to potential OCIs involving the proposer's organization and *any* proposed team member (subawardee, consultant). Under this Section, the proposer is responsible for providing this disclosure with each proposal submitted to the solicitation. The disclosure must include the proposer's, and as applicable, proposed team member's OCI mitigation plan. The OCI mitigation plan must include a description of the actions the proposer has taken, or intends to take, to prevent the existence of conflicting roles that might bias the proposer's judgment and to prevent the proposer from having unfair competitive advantage. The OCI mitigation plan will specifically discuss the disclosed OCI in the context of each of the OCI limitations outlined in FAR 9.505-1 through FAR 9.505-4.

Agency Supplemental OCI Policy

In addition, DARPA has a supplemental OCI policy that prohibits contractors/performers from concurrently providing Scientific Engineering Technical Assistance (SETA), Advisory and Assistance Services (A&AS) or similar support services and being a technical performer. Therefore, as part of the FAR 9.5 disclosure requirement above, a proposer must affirm whether the proposer or *any* proposed team member (subawardee, consultant) is providing SETA, A&AS, or similar support to any DARPA office(s) under: (a) a current award or subaward; or (b) a past award or subaward that ended within one calendar year prior to the proposal's submission date. If SETA, A&AS, or similar support is being or was provided to any DARPA office(s), the proposal must include:

- The name of the DARPA office receiving the support;
- The prime contract number;
- Identification of proposed team member (subawardee, consultant) providing the support; and
- An OCI mitigation plan in accordance with FAR 9.5.

Government Procedures

In accordance with FAR 9.503, 9.504 and 9.506, the Government will evaluate OCI mitigation plans to avoid, neutralize or mitigate potential OCI issues before award and to determine whether it is in the Government's interest to grant a waiver. The Government will only evaluate OCI mitigation plans for proposals that are determined selectable under the solicitation evaluation criteria and funding availability.

The Government may require proposers to provide additional information to assist the Government in evaluating the proposer's OCI mitigation plan.

If the Government determines that a proposer failed to fully disclose an OCI; or failed to provide the affirmation of DARPA support as described above; or failed to reasonably provide additional information requested by the Government to assist in evaluating the proposer's OCI mitigation plan, the Government may reject the proposal and withdraw it from consideration for award.

## 3.3. COST SHARING/MATCHING

Cost sharing is not required; however, it will be carefully considered where there is an applicable statutory condition relating to the selected funding instrument. Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

# 4. Application and Submission Information

## 4.1. ADDRESS TO REQUEST APPLICATION PACKAGE

This announcement, any attachments, and any references to external websites herein constitute the total solicitation. If proposers cannot access the referenced material posted in the announcement found at http://www.darpa.mil, contact the administrative contact listed herein.

## 4.2. CONTENT AND FORM OF APPLICATION SUBMISSION

All submissions, including abstracts and proposals, must be written in English with type no smaller than 12-point font. Smaller font may be used for figures, tables, and charts. The page limitation includes all figures, tables, and charts. All pages shall be formatted for printing on 8-1/2 by 11-inch paper. Margins must be 1-inch on all sides. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title/proposal short title.

### 4.2.1. Proposal Abstract Format

Proposers are strongly encouraged to submit an abstract in advance of a proposal to minimize effort and reduce the potential expense of preparing an out-of-scope proposal. DARPA will respond to abstracts providing feedback and indicating whether, after preliminary review, there is interest within BTO for the proposed work. DARPA will attempt to reply within **21** calendar days of receipt. Proposals may be submitted irrespective of comments or feedback received in response to the abstract. Proposals are reviewed without regard to feedback given as a result of abstract review. Proposers should note that a favorable response to an abstract is not a guarantee that a proposal based on the abstract will ultimately be selected for award negotiation. The time and date for submission of proposal abstracts are specified in Part I above.

The abstract is a concise version of the proposal comprising a maximum of **[5]** pages, including all figures, tables, and charts. All submissions must be written in English with type no smaller than 12-point font. Smaller font may be used for figures, tables, and charts. All pages shall be formatted for printing on 8-1/2 by 11-inch paper. Margins must be 1-inch on all sides. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal abstract title.

The page limit does NOT include:

- Official transmittal letter (optional);
- Cover sheet;
- Executive summary slide;
- Resumes (optional); and
- Bibliography (optional).

Abstracts must include the following components:

**A. Cover Sheet (does not count towards page limit):** Include the administrative and technical points of contact (name, address, phone, fax, e-mail, lead organization). Also include the BAA number, title of the proposed project, primary subcontractors, estimated cost, duration of the project, and the label "ABSTRACT."

**B. Goals and Impact:** Clearly describe what is being proposed and what difference it will make (qualitatively and quantitatively), including brief answers to the following questions:

1. What is the proposed work attempting to accomplish or do?
2. How is it done today? And what are the limitations?
3. What is innovative in your approach, and how does it compare to the current state-of-the-art (SOA)?
4. What are the key technical challenges in your approach, and how do you plan to overcome these?
5. Who will care, and what will the impact be if you are successful?
6. How much will it cost, and how long will it take?

**C. Executive Summary Slides:** The slide template is provided as **Attachment 1** to the BAA posted at https://SAM.gov. Use of this template is required.

**D. Technical Plan:** Outline and address all technical areas and challenges inherent in the approach and possible solutions for overcoming potential problems. This section should provide specific objectives, metrics, and milestones at intermediate stages of the project to demonstrate a plan for accomplishment of the program goals. Propose additional appropriate qualitative and quantitative metrics specific to the approach, as needed. Outline of intermediary milestones should occur at no greater than 6-month increments.

**E. Management and Capabilities:** Provide a brief summary of expertise of the team, including subcontractors and key personnel.

A Principal Investigator for the project must be identified, and a description of the team's organization. All teams are strongly encouraged to identify a Project Manager/Integrator to serve as the primary point of contact to communicate with the DARPA Program Manager, T&E team, and Contracting Officer's Representative, coordinate the effort across co-performer, vendor, and subcontractor teams, organize regular performer meetings or discussions, facilitate data sharing, and ensure timely completion of milestones and deliverables.

Include a description of the team's organization including roles and responsibilities. Team member descriptions should address the Technical Plan, describe the time and percent effort divisions for members participating across multiple TAs, and delineate individuals to avoid duplication of efforts.

Describe the organizational experience in this area, existing intellectual property required to complete the project, and any specialized facilities to be used as part of the project. List Government-furnished materials or data assumed to be available. Describe any specialized facilities to be used as part of the project, the extent of access to these facilities, and any certification requirements. Describe the team's plan to obtain and maintain the necessary the Institutional Review Board (IRB) and secondary Human Research Protection Office (HRPO) approvals to conduct human subjects research (HSR) during the course of the project. No Government-sponsored HSR can begin prior to HRPO approval.

**F. Cost and Schedule:** Provide a cost estimate for resources over the proposed timeline of the project, broken down by phase and major cost items (e.g., labor, materials, etc.). Include cost estimates for each potential subcontractor (may be a rough order of magnitude).

### 4.2.2. Proposal Format

As soon as the evaluation of all proposals is complete, the proposer will be notified that (1) the proposal has been selected for funding pending award negotiations, in whole or in part, or (2) the proposal has not been selected. These official notifications will be sent via e-mail to the Technical POC and Administrative POC identified on the proposal coversheet.

All full proposals must be in the format given below. Proposals shall consist of two volumes: 1) **Volume I, Technical and Management Proposal**, and 2) **Volume II, Cost Proposal.** All submissions must be written in English with type no smaller than 12-point font. A smaller font may be used for figures, tables, and charts. The page limitation includes all figures, tables, and charts. All pages shall be formatted for printing on 8-1/2 by 11- inch paper. Margins must be 1-inch on all sides. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title/proposal short title. Volume I, Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers may be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. **The maximum page count for Volume 1 is 20 pages.** The official transmittal letter is not included in the page count. Volume I should include the following components:

#### a. Volume I, Technical and Management Proposal

Section I. Administrative

**A. Cover Sheet (LABELED "PROPOSAL: VOLUME I"):**

1. BAA number (HR001123S0055);
2. Lead organization submitting proposal (prime contractor);

3. Type of organization, selected from among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
4. Proposer's reference number (if any);
5. Other team members (if applicable) and type of business for each;
6. Proposal title;
7. Technical point of contact (Program Manager or Principal Investigator) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax, e-mail;
8. Administrative point of contact (Contracting Officer or Award Officer) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax, e-mail;
9. Award instrument requested: cost-plus-fixed-free (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), cooperative agreement, or other transaction for research;
10. Place(s) of performance, including all subcontractors and consultants;
11. Period of performance;
12. Total funds requested from DARPA, total funds requested per phase and the amount of any cost share (if any);
13. Proposal validity period; AND
14. Date proposal was submitted.

Information on award instruments is available at http://www.darpa.mil/work-with-us/contract-management.

**B. Official Transmittal Letter.**

**C. Executive Summary Slides:** The slide template is provided as **Attachment 1** to the BAA posted at https://SAM.gov. Use of this template is required.

Section II. Detailed Proposal Information

**A. Executive Summary:** Provide a synopsis of the proposed project, including answers to the following questions:

- What is the proposed work attempting to accomplish or do?
- How is it done today, and what are the limitations?
- What is innovative in your approach?
- What are the key technical challenges in your approach, and how do you plan to overcome these?
- Who or what will be affected, and what will be the impact if the work is successful?

- How much will it cost, and how long will it take?

**B. Goals and Impact:** Clearly describe what the team is trying to achieve and the difference it will make (qualitatively and quantitatively) if successful. Describe the innovative aspects of the project in the context of existing capabilities and approaches, clearly delineating the uniqueness and benefits of this project in the context of the state of the art, alternative approaches, and other projects from the past and present. Describe how the proposed project is revolutionary and how it significantly rises above the current state-of-the-art. Describe the deliverables associated with the proposed project and any plans to commercialize the technology, transition it to a customer, or further the work.

**C. Technical Plan:** Outline and address technical challenges inherent in the approach and possible solutions for overcoming potential problems. This section should provide appropriate measurable milestones (quantitative if possible) at intermediate stages of the program to demonstrate progress, plan for achieving the milestones, and must include a simple process flow diagram of their final system concept. The technical plan should demonstrate a deep understanding of the technical challenges and present a credible (even if risky) plan to achieve the program goal. Discuss mitigation of technical risk. Describe the team's plan to obtain and maintain the necessary IRB and HRPO approvals to conduct human subjects research during the course of the project.

**D. Management Plan:** Provide a summary of expertise of the team, including any subcontractors, and key personnel who will be doing the work. A Principal Investigator (PI) for the project must be identified, along with a description of the team's organization, including the breakdown by Technical Area. All teams are strongly encouraged to identify a Project Manager/Integrator to serve as the primary point of contact to communicate with the DARPA Program Manager, IV & V partner, and Contracting Officer's Representative, coordinate the effort across co-performer, vendor, and subcontractor teams, organize regular performer meetings or discussions, facilitate data sharing, and ensure timely completion of milestones and deliverables.

Provide a clear description of the team's organization including an organization chart that includes, as applicable: the programmatic relationship of team members; the unique capabilities of team members; the task responsibilities of team members, the teaming strategy among the team members; and key personnel with the amount of effort to be expended by each person during each year. Provide a detailed plan for coordination including explicit guidelines for interaction among collaborators/subcontractors of the proposed effort. Include risk management approaches. Describe any formal teaming agreements that are required to execute this program.

**E. Capabilities:** Describe organizational experience in relevant subject area(s), existing intellectual property, specialized facilities, and any Government-furnished materials or information. Describe any specialized facilities to be used as part of the project, the extent of access to these facilities, and any and certification requirements. Discuss any work in closely related research areas and previous accomplishments.

**F. Statement of Work (SOW) NOT INCLUDED IN PAGE COUNT:** The SOW should provide a detailed task breakdown, citing specific tasks for each Technical Area, and their connection to the milestones and program metrics. Each phase of the program should be separately defined. The SOW must not include proprietary information. It is encouraged, though not required, to use the SOW template provided as **Attachment 2**. SOW is not included in the Volume 1 page count.

For each task/subtask, provide:

- A detailed description of the approach to be taken to accomplish each defined task/subtask.
- Identification of the primary organization responsible for task execution (prime contractor, subcontractor(s), consultant(s), by name).
- A measurable milestone, i.e., a deliverable, demonstration, or other event/activity that marks task completion. Include completion dates for all milestones. Include quantitative metrics.
- A definition of all deliverables (e.g., data, reports, software) to be provided to the Government in support of the proposed tasks/subtasks.

It is recommended that the SOW be developed so that each Phase of the program is separately defined.

**G. Schedule and Milestones:** Provide a detailed schedule showing tasks (task name, duration, work breakdown structure element as applicable, performing organization), milestones, and the interrelationships among tasks. The task structure must be consistent with that in the SOW. Measurable milestones should be clearly articulated and defined in time relative to the start of the project.

**H. Technology Transfer Plan:** Provide information regarding the types of partners (e.g., government, private industry) that will be pursued and submit a timeline with incremental milestones toward successful engagement. The plan should include a description of how DARPA will be included in the development of potential technology transfer relationships. If the Technology Transfer Plan includes the formation of a start-up company, a business development strategy must also be provided.

I. **Draft Institutional Review Board (IRB) Protocol, Consent Forms, and Questionnaires** (does not count towards page limit)**:** Proposals must include a draft IRB protocol package in order to conduct Humans Subjects Research (HSR), including draft consent form and drafts of questionnaires to be completed by participants. These draft IRB protocols, consent forms, and questionnaires will not count toward page limits.

### a. Volume II, Cost Management Proposal

**Cover Sheet (LABELED "PROPOSAL: VOLUME II"):**

1. BAA Number (HR001123S0055);
2. Lead Organization Submitting proposal;
3. Type of organization, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT";
4. Proposer's reference number (if any);
5. Other team members (if applicable) and type of business for each;
6. Proposal title;
7. Technical point of contact (Program Manager or Principal Investigator) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
8. Administrative point of contact (Contracting Officer or Award Officer) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
9. Award instrument requested: cost-plus-fixed-free (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), cooperative agreement, or other transaction for research;
10. Place(s) of performance, including all subcontractors and consultants;
11. Period of performance;
12. Total funds requested from DARPA, total funds requested per phase (as defined in Table 1), and the amount of any cost share (if any);
13. Name, address, and telephone number of the proposer's cognizant Defense Contract Management Agency (DCMA) administration office (*if known)*;
14. Name, address, and telephone number of the proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);
15. Date proposal was prepared;
16. Unique Entity ID (https://sam.gov/content/duns-uei);
17. Taxpayer ID number (https://www.irs.gov/Individuals/International-Taxpayers/Taxpayer-Identification-Numbers-TIN);

18. Commercial and Government Entity (CAGE) code (https://cage.dla.mil/Home/UsageAgree);
19. Proposal validity period

The Government requires that proposers* use the provided MS Excel™ DARPA Standard Cost Proposal Spreadsheet in the development of their cost proposals. A customized cost proposal spreadsheet may be an attachment to this solicitation. If not, the spreadsheet can be found on the DARPA website at http://www.darpa.mil/work-with-us/contract-management (under "Resources" on the right-hand side of the webpage). All tabs and tables in the cost proposal spreadsheet should be developed in an editable format with calculation formulas intact to allow traceability of the cost proposal. This cost proposal spreadsheet should be used by the prime organization and all subcontractors. In addition to using the cost proposal spreadsheet, the cost proposal still must include all other items required in this announcement that are not covered by the editable spreadsheet. Subcontractor cost proposal spreadsheets may be submitted directly to the Government by the proposed subcontractor via e-mail to the address in Part I of this solicitation. **Using the provided cost proposal spreadsheet will assist the Government in a rapid analysis of your proposed costs and, if your proposal is selected for a potential award, speed up the negotiation and award execution process**.
*University proposers requesting a grant, cooperative agreement, or Other Transaction for Research do not need to use the MS Excel™ DARPA Standard Cost Proposal Spreadsheet. Instead, a proposed budget and justification may be provided using the SF-424 Research & Related Budget forms provided via https://www.grants.gov.

(1) Total program, per phase (Phase 1 and Phase 2), and per task cost broken down by major cost items to include:
   i. **Direct labor** – provide an itemized breakout of all personnel, listed by name or TBD, with labor rate (or salary), labor hours (or percent effort), and labor category. All senior personnel must be identified by name.
   ii. **Materials and Supplies** – itemized list which includes description of material, quantity, unit price, and total price. If a material factor is used based on historical purchases, provide data to justify the rate.
   iii. **Equipment** – itemized list which includes description of equipment, unit price, quantity, and total price. Any equipment item with a unit price over $5,000 must include a vendor quote.
   **iv. Travel –** provide an itemized list of travel costs to include purpose of trips, departure and arrival destinations, projected airfare, rental car and per GSA approved diem, number of travelers, number of days); provide screenshots from travel website for proposed airfare and rental car, as applicable; provide screenshot or web link for conference registration fee and note if the fee includes hotel cost. Conference attendance must be justified, explain how it is in the best interest of the project. **Plan for two (2) DARPA program review meetings per year.**
   **v. Other Direct Costs (e.g., computer support) –** Should be itemized with costs or estimated costs. Backup documentation and/or a supporting cost breakdown is required to support proposed costs with a unit price over $5,000. An explanation of any estimating factors, including their

derivation and application, must be provided. Please include a brief description of the proposers' procurement method to be used.

vi. **Other Direct Costs** – Consultants: provide executed Consultant Agreement that describes work scope, rate and hours.

vii. **Indirect costs** including, as applicable, fringe benefits, overhead, General and Administrative (G&A) expense, and cost of money (see university vs. company specific requirements below).

viii. **Indirect costs specific to a University performer:** (1) **Fringe Benefit Rate** (provide current Department of Health and Human Services (DHHS) or Office of Naval Research (ONR) negotiated rate package; if calculated by other than a rate, provide University documentation identifying fringe costs by position or HR documentation if unique to each person); (2) **F&A Indirect Overhead Rate** (provide current DHHS or ONR negotiated rate package); (3) **Tuition Remission** (provide current University documentation justifying per-student amount); and (4) **Health Insurance/Fee** (provide current University documentation justifying per student amount, if priced separately from fringe benefits with calculations included in the EXCEL cost file).

**Indirect costs specific to a Company performer:** (1) **Fee/Profit** (provide rationale for proposed fee/profit percentage using criteria found in DFARS 215.404-70); and (2) **Fringe Benefit/Labor OH/Material OH/G&A Rates** (provide current Forwarding Pricing Rate Proposal (FPRP) or DCMA/DCAA Forward Pricing Rate Recommendation or Agreement (FPRR or FPRA). If these documents are not available, provide company historical data, preferably two years, minimum of one, to include both pool and expense costs used to generate the rates).

(2) A summary of total program costs by phase and task.

(3) An itemization of Subcontracts. All subcontractor cost proposal documentation must be prepared at the same level of detail as that required of the prime. Subcontractor proposals should include Interdivisional Work Transfer Agreements (IWTA) or evidence of similar arrangements (an IWTA is an agreement between multiple divisions of the same organization). The prime proposer is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). The proposal must show how subcontractor costs are applied to each phase and task. If consultants are to be used, proposer must provide consultant agreement or other document that verifies the proposed loaded daily/hourly rate.

(4) An itemization of any information technology (IT) purchase (including a letter stating why the proposer cannot provide the requested resources from its own funding), as defined in FAR Part 2.101.

(5) A summary of projected funding requirements by month for all phases of the project.

(6) A summary of tasks that have human use funding.

(7) The source, nature, and amount of any industry cost-sharing. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of

funding, these should be identified as options with separate cost estimates for each.

(8) Identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.).

(9) Any Forward Pricing Rate Agreement, DHHS rate agreement, other such approved rate information, or such documentation that may assist in expediting negotiations (if available).

(10) Proposers with a Government acceptable accounting system who are proposing a cost-type contract must submit the DCAA document approving the cost accounting system.

Per FAR 15.403-4, certified cost or pricing data shall be required if the proposer is seeking a procurement contract award per the referenced threshold, unless the proposer requests and is granted an exception from the requirement to submit cost or pricing data. Certified cost or pricing data" are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other transaction.)

**Subawardee Proposals**

The awardee is responsible for compiling and providing all subawardee proposals for the Procuring Contracting Officer (PCO)/Grants Officer (GO)/Agreements Officer (AO), as applicable. Subawardee proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

All proprietary subawardee proposal documentation, prepared at the same level of detail as that required of the awardee's proposal and which cannot be uploaded with the proposed awardee's proposal, shall be provided to the Government either by the awardee or by the subawardee organization when the proposal is submitted. Subawardee proposals submitted to the Government by the proposed subawardee should be submitted via e-mail to the address in Section I.

**Other Transaction (OT) Requests**

All proposers requesting an OT must include a detailed list of milestones for each phase of the program (1 and 2). Each milestone must include the following:

- milestone description,
- completion criteria,
- due date, and
- payment/funding schedule (to include, if cost share is proposed, awardee and Government share amounts).

It is noted that, at a minimum, milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer's proposal. Agreement type,

expenditure or fixed-price based, will be subject to negotiation by the Agreements Officer. Do not include proprietary data.

### 4.2.3. Additional Proposal Information

**Proprietary Markings**

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 as dictated in Executive Order 13526 and should not be used to identify proprietary business information.

**Unclassified Submissions**

DARPA anticipates that submissions received under this BAA will be unclassified. However, should a proposer wish to submit classified information, an *unclassified* e-mail must be sent to the BAA mailbox requesting submission instructions from the Technical Office Program Security Officer (PSO). If a determination is made that the award instrument may result in access to classified information, a Security Classification Guide (SCG) and/or DD Form 254 will be issued by DARPA and attached as part of the award.

**Disclosure of Information and Compliance with Safeguarding Covered Defense Information Controls**

The following provisions and clause apply to all solicitations and contracts; however, the definition of "controlled technical information" clearly exempts work considered fundamental research and therefore, even though included in the contract, will not apply if the work is fundamental research.
DFARS 252.204-7000, "Disclosure of Information"
DFARS 252.204-7008, "Compliance with Safeguarding Covered Defense Information Controls"
DFARS 252.204-7012, "Safeguarding Covered Defense Information and Cyber Incident Reporting"
The full text of the above solicitation provision and contract clauses can be found at http://www.darpa.mil/work-with-us/additional-baa#NPRPAC.
Compliance with the above requirements includes the mandate for proposers to implement the security requirements specified by National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, "Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations" (see https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-171r2.pdf) and DoDI 8582.01 that are in effect at the time the solicitation is issued.
For awards where the work is considered fundamental research, the contractor will not have to implement the aforementioned requirements and safeguards. However, should the nature of the work change during performance of the award, work not considered fundamental research will be subject to these requirements.

**Human Subjects Research (HSR)/Animal Use**

Proposers that anticipate involving human subjects or animals in the proposed research must comply with the approval procedures detailed at http://www.darpa.mil/work-with-us/additional-baa, to include providing the information specified therein as required for proposal submission.

Performers should plan to obtain approval from their organization's local IRB within approximately two months of contract award. Proposers must include a draft Phase 1 IRB protocol as part of their proposal submission in response to this solicitation (including proposed recruitment methods, consent forms, etc.); these documents will not count against the page limit.

The Defense Advanced Research Projects Agency (DARPA) is dedicated to ensuring the rights, safety, and well-being of volunteers participating in research. Accordingly, DARPA assures that all of its research selected for funding involving human subjects (to include use of human biological specimens and human data) complies with all local, federal and Department of Defense (DoD) regulations for human subjects protection.

All DARPA funded Human Subjects Research (HSR) must be reviewed and approved by a local Institutional Review Board (IRB) as well as a DoD Headquarters Level Office (Human Research Protection Office, HRPO). The DARPA program manager (PM) team will provide guidance and information about which DoD HRPO will be conducting the review for your effort. Note: a fully approved IRB submission is required before HRPO approval can be issued.

The time required to complete both the IRB and HRPO review/approval process varies depending on the complexity of the research and the level of study risk involved. Ample time should be allocated to complete the approval process. DARPA funding cannot be used toward HSR until all approvals are granted.

**Approved Cost Accounting System Documentation**

Proposers that do not have a Cost Accounting Standards (CAS) complaint accounting system considered adequate for determining accurate costs that are negotiating a cost-type procurement contract must complete an SF 1408. For more information on CAS compliance, see http://www.dcaa.mil/cas.html. To facilitate this process, proposers should complete the SF 1408 found at http://www.gsa.gov/portal/forms/download/115778 and submit the completed form with the proposal.

**Small Business Subcontracting Plan**

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)) and FAR 19.702(a)(1), each proposer who submits a contract proposal and includes subcontractors might be required to submit a subcontracting plan with their proposal. The plan format is outlined in FAR 19.704.

**Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2**

All electronic and information technology acquired or created through this BAA must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2.

**Intellectual Property**

All proposers must provide a good faith representation that the proposer either owns or possesses the appropriate licensing rights to all intellectual property that will be utilized under the proposed effort.

For Procurement Contracts

Proposers responding to this BAA requesting procurement contracts will need to complete the certifications at DFARS 252.227-7017. See http://www.darpa.mil/work-with-us/additional-baa for further information. If no restrictions are intended, the proposer should state "none." The table below captures the requested information:

| Technical Data Computer Software To be Furnished With Restrictions | Summary of Intended Use in the Conduct of the Research | Basis for Assertion | Asserted Rights Category | Name of Person Asserting Restrictions |
|---|---|---|---|---|
| (LIST) | (NARRATIVE) | (LIST) | (LIST) | (LIST) |

For All Non-Procurement Contracts

Proposers responding to this BAA requesting a Cooperative Agreement , or Other Transaction for Prototypes shall follow the applicable rules and regulations governing these various award instruments, but, in all cases, should appropriately identify any potential restrictions on the Government's use of any Intellectual Property contemplated under the award instrument in question. This includes both Noncommercial Items and Commercial Items. Proposers are encouraged to use a format similar to that described in the section above. If no restrictions are intended, then the proposer should state "NONE."

**System for Award Management (SAM) and Universal Identifier Requirements**

All proposers must be registered in SAM unless exempt per FAR 4.1102. FAR 52.204-7, "System for Award Management" and FAR 52.204-13, "System for Award Management Maintenance" are incorporated into this solicitation. See http://www.darpa.mil/work-with-us/additional-baa for further information.
International entities can register in SAM by following the instructions in this link: https://www.fsd.gov/sys_attachment.do?sys_id=c08b64ab1b4434109ac5ddb6bc4bcbb8.

### 4.2.4. Submission Information

DARPA will acknowledge receipt of all submissions and assign an identifying control number that should be used in all further correspondence regarding the submission. DARPA intends to use electronic mail correspondence regarding HR001123S0055. Submissions may not be sent by fax or e-mail; any so sent will be disregarded.

Submissions will not be returned. An electronic copy of each submission received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction

may be requested, provided the formal request is received by DARPA within 5 days after notification that a proposal was not selected.

For abstract and proposal submission dates, see Part I., Overview Information. Submissions received after these dates and times may not be reviewed.

**Proposal Abstract Submission**

Proposal Abstracts submitted in response to HR001123S0055 must be submitted via DARPA's BAA Website (https://baa.darpa.mil). Note: If an account has recently been created for the DARPA BAA Website, this account may be reused. Accounts are typically disabled and eventually deleted following 75-90 days of inactivity – if you are unsure when the account was last used, it is recommended that you create a new account. If no account currently exists for the DARPA BAA Website, visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters 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 abstract. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that the submission process be started as early as possible.

All unclassified concepts 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 50 MB in size. Only one zip file will be accepted per submission. Classified submissions and proposals requesting or cooperative agreements should NOT be submitted through DARPA's BAA Website (https://baa.darpa.mil), though proposers will likely still need to visit https://baa.darpa.mil to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission.

Technical support for BAA Website may be reached at BAAT_Support@darpa.mil, and is typically available during regular business hours, (9:00 AM- 5:00 PM EST Monday – Friday).

Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that the submission process be started as early as possible.

**Proposal abstracts will not be accepted if submitted via Grants.gov.**

**Full Proposal Submission**

**For Other Transactions for Research only:**

Proposers requesting an Other Transaction for Research (OT-R) awarded under 10 U.S.C.§ 4021 must include the completed form indicated below. This requirement only applies only to those who expect to receive an OT-R as their ultimate award instrument.

The National Defense Authorization Act (NDAA) for FY 2019, Section 1286, directs the Secretary of Defense to protect intellectual property, controlled information, key personnel, and

information about critical technologies relevant to national security and limit undue influence, including foreign talent programs by countries that desire to exploit United States' technology within the DoD research, science and technology, and innovation enterprise. This requirement is necessary for all research and research-related educational activities. The DoD is using the form below to collect the necessary information to satisfy these requirements.

The Research and Related Senior/Key Person Profile (Expanded) form, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_3_0-V3.0.pdf, will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD. The form includes 3 parts: the main form administrative information, including the Project Role, Degree Type and Degree Year; the biographical sketch; and the current and pending support. The biographical sketch and current and pending support are to be provided as attachments:

- Biographical Sketch: Mandatory for Project Directors (PD) and Principal Investigators (PI), optional, but desired, for all other Senior/Key Personnel. The biographical sketch should include information pertaining to the researchers:
    - Education and Training.
    - Research and Professional Experience.
    - Collaborations and Affiliations (for conflict of interest).
    - Publications and Synergistic Activities.
- Current and Pending Support: Mandatory for all Senior/Key Personnel including the PD/PI. This attachment should include the following information:
    - A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
    - Title and objectives of the other research projects.
    - The percentage per year to be devoted to the other projects.
    - The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.
    - Name and address of the agencies and/or other parties supporting the other research projects
    - Period of performance for the other research projects.

Additional senior/key persons can be added by selecting the "Next Person" button at the bottom of the form. Note that, although applications without this information completed may pass Grants.gov edit checks, if DARPA receives an application without the required information, DARPA may determine that the application is incomplete and may cause your submission to be rejected and eliminated from further review and consideration under the solicitation. DARPA reserves the right to request further details from the applicant before making a final determination on funding the effort.

OT-R submissions should be completed via DARPA's BAA Portal (https://baa.darpa.mil). See below for further instructions.

**For Cooperative Agreements only:**

Proposers requesting cooperative agreements must submit proposals through one of the following methods: (1) electronic upload per the instructions at https://www.grants.gov/applicants/apply-for-grants.html (DARPA-preferred); or (2) hard-copy mailed directly to DARPA. If proposers intend to use Grants.gov as their means of submission, then they must submit their entire proposal through Grants.gov; applications cannot be submitted in part to Grants.gov and in part as a hard-copy. Proposers using Grants.gov do not submit hard-copy proposals in addition to the Grants.gov electronic submission.

Submissions: In addition to the volumes and corresponding attachments requested elsewhere in this solicitation, proposers must also submit the three forms listed below.

Form 1: SF 424 Research and Related (R&R) Application for Federal Assistance, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf. *This form must be completed and submitted.*

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. § 1681 et.seq.), the Department of Defense (DoD) is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in science, technology, engineering or mathematics disciplines. In addition, the National Defense Authorization Act (NDAA) for FY 2019, Section 1286, directs the Secretary of Defense to protect intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security and limit undue influence, including foreign talent programs by countries that desire to exploit United States' technology within the DoD research, science and technology, and innovation enterprise. This requirement is necessary for all research and research-related educational activities. The DoD is using the two forms below to collect the necessary information to satisfy these requirements. Detailed instructions for each form are available on Grants.gov.

Form 2: The Research and Related Senior/Key Person Profile (Expanded) form, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_3_0-V3.0.pdf, will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD. The form includes 3 parts: the main form administrative information, including the Project Role, Degree Type and Degree Year; the biographical sketch; and the current and pending support. The biographical sketch and current and pending support are to be provided as attachments:

- Biographical Sketch: Mandatory for Project Directors (PD) and Principal Investigators (PI), optional, but desired, for all other Senior/Key Personnel. The biographical sketch should include information pertaining to the researchers:
    - Education and Training.
    - Research and Professional Experience.

  - Collaborations and Affiliations (for conflict of interest).
  - Publications and Synergistic Activities.
- Current and Pending Support: Mandatory for all Senior/Key Personnel including the PD/PI. This attachment should include the following information:
  - A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
  - Title and objectives of the other research projects.
  - The percentage per year to be devoted to the other projects.
  - The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.
  - Name and address of the agencies and/or other parties supporting the other research projects
  - Period of performance for the other research projects.

Additional senior/key persons can be added by selecting the "Next Person" button at the bottom of the form. Note that, although applications without this information completed may pass Grants.gov edit checks, if DARPA receives an application without the required information, DARPA may determine that the application is incomplete and may cause your submission to be rejected and eliminated from further review and consideration under the solicitation. DARPA reserves the right to request further details from the applicant before making a final determination on funding the effort.

Form 3: Research and Related Personal Data, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_PersonalData_1_2-V1.2.pdf. *Each applicant must complete the name field of this form, however, provision of the demographic information is voluntary. Regardless of whether the demographic fields are completed or not, this form must be submitted with at least the applicant's name completed.*

Grants.gov Submissions: Grants.gov requires proposers to complete a one-time registration process before a proposal can be electronically submitted. First-time registration can take between three business days and four weeks. For more information about registering for Grants.gov, see http://www.darpa.mil/work-with-us/additional-baa.

Hard copy Submissions: Proposers electing to submit cooperative agreement proposals as hard copies must complete the SF 424 R&R form (Application for Federal Assistance), available on the Grants.gov website (https://apply07.grants.gov/apply/forms/sample/SF424_2_1-V2.1.pdf).

**DARPA BAA Portal (Procurement Contract or OT-R submissions):**

Proposers requesting procurement contracts or Other Transactions must submit proposals via DARPA's BAA Website (https://baa.darpa.mil). Proposers using https://baa.darpa.mil do not submit hard-copy proposals in addition to the electronic submission.

Note: If an account has recently been created for the DARPA BAA Website, this account may be reused. Accounts are typically disabled and eventually deleted following 75-90 days of inactivity

– if you are unsure when the account was last used, it is recommended that you create a new account. If no account currently exists for the DARPA BAA Website, visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters 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 abstract. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that the submission process be started as early as possible.

All unclassified concepts 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 50 MB in size. Only one zip file will be accepted per submission. Classified submissions and proposals requesting or cooperative agreements should NOT be submitted through DARPA's BAA Website (https://baa.darpa.mil), though proposers will likely still need to visit https://baa.darpa.mil to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission.

Technical support for BAA Website may be reached at BAAT_Support@darpa.mil, and is typically available during regular business hours, (9:00 AM- 5:00 PM EST Monday – Friday).

Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that the submission process be started as early as possible.

Failure to comply with the submission procedures may result in the submission not being evaluated. DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

### 4.3. FUNDING RESTRICTIONS

Not applicable.

### 4.4. OTHER SUBMISSION INFORMATION

DARPA will post a consolidated Frequently Asked Questions (FAQ) document. To access the posting go to http://www.darpa.mil/work-with-us/opportunities. A link to the FAQ will appear under the HR001123S0055 summary. Submit your question(s) via e-mail to OPTEMPO@darpa.mil.

## 5. Application Review Information

### 5.1. EVALUATION CRITERIA

Proposals will be evaluated using the following criteria, listed in descending order of importance: 5.1.1 Overall Scientific and Technical Merit; 5.1.2 Potential Contribution and Relevance to the DARPA Mission; and 5.1.3 Cost Realism.

### 5.1.1. Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, and complete.
The proposed technical team has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award. The proposal identifies major technical risks, and planned mitigation efforts are clearly defined and feasible. The timeline for achieving major milestones is aggressive but rationally supported with a clear description of the requirements and risks. The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule.

### 5.1.2. Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort are relevant to the national technology base. Specifically, DARPA’s mission is to make pivotal early technology investments that create or prevent strategic surprise for U.S. National Security.

### 5.1.3. Cost Realism

The proposed costs are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. The proposed costs are consistent with the proposer's Statement of Work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates).

It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation. DARPA recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies.

## 5.2. REVIEW OF PROPOSALS

**Review Process**

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations based on the evaluation criteria listed in Section V.A. and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

DARPA will conduct a scientific/technical review of each conforming proposal. Conforming proposals comply with all requirements detailed in this solicitation; proposals that fail to do so may be deemed non-conforming and may be removed from consideration. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work

statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the BAA herein, and availability of funding.

**Handling of Source Selection Information**

DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104) and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA-sponsored technical research and are bound by appropriate nondisclosure agreements.

Subject to the restrictions set forth in FAR 37.203(d), 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.

**Responsibility/Qualification**

Responsibility/qualification reports in SAM.gov contain all the information formerly available from the Federal Awardee Performance and Integrity Information System (FAPIIS). There is a 14-calendar day delay in publicly posting responsibility/qualification information on SAM.gov. Awardees have the opportunity to comment on any information about themselves entered in the database, and DARPA will consider any comments, along with other information in FAPIIS or other systems, prior to making an award.

### 5.2.1. Countering Foreign Influence Program (CFIP)

DARPA's CFIP is an adaptive risk management security program designed to help protect the critical technology and performer intellectual property associated with DARPA's research projects by identifying the possible vectors of undue foreign influence. The CFIP team will create risk assessments of all proposed Senior/Key Personnel selected for negotiation of a fundamental research grant or cooperative agreement award. The CFIP risk assessment process will be conducted separately from the DARPA scientific review process and adjudicated prior to final award.

## 6. Award Administration Information

### 6.1. SUBMISSION STATUS NOTIFICATIONS

Proposal Abstracts and Full Proposals submitted in response to HR001123S0055 will be evaluated following the submission deadlines listed in Part 1. DARPA will respond as described below. These official notifications will be sent via e-mail to the Technical Point of Contact (POC) and/or Administrative POC identified on the submission coversheet.

### 6.1.1. Proposal Abstracts

DARPA will respond to abstracts with a statement as to whether DARPA is interested in the idea. If DARPA does not recommend the proposer submit a full proposal, DARPA will provide feedback to the proposer regarding the rationale for this decision. Regardless of DARPA's response to an abstract, proposers may submit a full proposal. DARPA will review all conforming full proposals using the published evaluation criteria and without regard to any comments resulting from the review of an abstract.

### 6.1.2. Full Proposals

As soon as the evaluation of a proposal is complete, the proposer will be notified that (1) the proposal has been selected for funding pending award negotiations, in whole or in part, or (2) the proposal has not been selected.

## 6.2. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

### 6.2.1. Meeting and Travel Requirements

There will be a Phase 1 Kickoff meeting in the Arlington, VA vicinity and all key participants are required to attend. Performers should also anticipate regular program-wide PI meetings and periodic site visits at the Program Manager's discretion to the Arlington, VA vicinity. Proposers shall include within the content of their proposal details and costs of any travel or meetings they deem to be necessary throughout the course of the effort, to include periodic status reviews by the Government.

### 6.2.1. Solicitation Provisions and Award Clauses, Terms and Conditions

Solicitation clauses in the FAR and DFARS relevant to procurement contracts and FAR and DFARS clauses that may be included in any resultant procurement contracts are incorporated herein and can be found at http://www.darpa.mil/work-with-us/additional-baa.

### 6.2.2. Controlled Unclassified Information (CUI) and Controlled Technical Information (CTI) on Non-DoD Information Systems

Further information on Controlled Unclassified Information identification, marking, protecting, and control, to include processing on Non-DoD Information Systems, is incorporated herein and can be found at http://www.darpa.mil/work-with-us/additional-baa.

### 6.2.3. Representations and Certifications

In accordance with FAR 4.1102 and 4.1201, proposers requesting a procurement contract must complete electronic annual representations and certifications at https://www.sam.gov/.
In addition, all proposers are required to submit for all award instrument types supplementary DARPA-specific representations and certifications at the time of proposal submission. See http://www.darpa.mil/work-with-us/reps-certs for further information on required representation and certification depending on your requested award instrument.
A small business joint venture offeror must submit, with its offer, the representation required in paragraph (c) of FAR solicitation provision 52.212-3, Offeror Representations and Certifications-Commercial Products and Commercial Services, and paragraph (c) of FAR solicitation provision 52.219-1, Small Business Program Representations, in accordance with 52.204-8(d) and 52.212-3(b) for the following categories: (A) Small business; (B) Service-

disabled veteran-owned small business; (C) Women-owned small business (WOSB) under the WOSB Program; (D) Economically disadvantaged women-owned small business under the WOSB Program; or (E) Historically underutilized business zone small business.

#### 6.2.4. Terms and Conditions

For terms and conditions specific to grants and/or cooperative agreements, see the DoD General Research Terms and Conditions (latest version) at http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions and the supplemental DARPA-specific terms and conditions at http://www.darpa.mil/work-with-us/contract-management#GrantsCooperativeAgreements.

### 6.3. REPORTING

The number and types of reports will be specified in the award document, but will include as a minimum monthly financial and technical status reports, quarterly technical status reports, and end-of-phase reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle.

### 6.4. ELECTRONIC SYSTEMS

#### 6.4.1. Wide Area Work Flow (WAWF)

Performers will be required to submit invoices for payment directly to https://wawf.eb.mil, unless an exception applies. Performers must register in WAWF prior to any award under this BAA.

#### 6.4.2. I-EDISON

The award document for each proposal selected for funding will contain a mandatory requirement for patent reports and notifications to be submitted electronically through i-Edison (http://public.era.nih.gov/iedison).

### 6.5. DARPA EMBEDDED ENTREPRENEURSHIP INITIATIVE

Awardees pursuant to this solicitation may be eligible to participate in the DARPA Embedded Entrepreneurship Initiative (EEI) during the award's period of performance. EEI is a limited scope program offered by DARPA, at DARPA's discretion, to a small subset of awardees. The goal of DARPA's EEI is to increase the likelihood that DARPA-funded technologies take root in the U.S. and provide new capabilities for national defense. EEI supports DARPA's mission "to make pivotal investments in breakthrough technologies and capabilities for national security" by accelerating the transition of innovations out of the lab and into new capabilities for the Department of Defense (DoD). EEI investment supports development of a robust and deliberate Go-to-Market strategy for selling technology product to the government and commercial markets and positions DARPA awardees to attract U.S. investment. The following is for informational and planning purposes only and does not constitute solicitation of proposals to the EEI.

There are three elements to DARPA's EEI: (1) A Senior Commercialization Advisor (SCA) from DARPA who works with the Program Manager (PM) to examine the business case for the awardee's technology and uses commercial methodologies to identify steps toward achieving a successful transition of technology to the government and commercial markets; (2) Connections to potential industry and investor partners via EEI's Investor Working Groups; and (3) Additional funding on an awardee's contract for the awardee to hire an embedded entrepreneur to achieve specific milestones in a Go-to-Market strategy for transitioning the technology to products that serve both defense and commercial markets. This embedded entrepreneur's qualifications should include business experience within the target industries of interest, experience in commercializing early stage technology, and the ability to communicate and interact with technical and non-technical stakeholders. Funding for EEI is typically no more than $250,000 per awardee over the duration of the award. An awardee may apportion EEI funding to hire more than one embedded entrepreneur, if achieving the milestones requires different expertise that can be obtained without exceeding the awardee's total EEI funding. The EEI effort is intended to be conducted concurrent with the research program without extending the period of performance.

EEI Application Process:
After receiving an award under the solicitation, awardees interested in being considered for EEI should notify their DARPA Program Manager (PM) during the period of performance. Timing of such notification should ideally allow sufficient time for DARPA and the awardee to review the awardee's initial transition plan, identify milestones to achieve under EEI, modify the award, and conduct the work required to achieve such milestones within the original award period of performance. These steps may take 18-24 months to complete, depending on the technology. If the DARPA PM determines that EEI could be of benefit to transition the technology to product(s) the Government needs, the PM will refer the performer to DARPA Commercial Strategy.

DARPA Commercial Strategy will then contact the performer, assess fitness for EEI, and in consultation with the DARPA technical office, determine whether to invite the performer to participate in the EEI. Factors that are considered in determining fitness for EEI include DoD/Government need for the technology; competitive approaches to enable a similar capability or product; risks and impact of the Government's being unable to access the technology from a sustainable source; Government and commercial markets for the technology; cost and affordability; manufacturability and scalability; supply chain requirements and barriers; regulatory requirements and timelines; Intellectual Property and Government Use Rights, and available funding.

Invitation to participate in EEI is at the sole discretion of DARPA and subject to program balance and the availability of funding. EEI participants' awards may be subsequently modified to amend the Statement of Work to add negotiated EEI tasks, provide funding, and specify a milestone schedule which will include measurable steps necessary to build, refine, and execute a Go-to-Market technology transition plan aimed at delivering new capabilities for national defense. Milestone examples are available at: https://www.darpa.mil/work-with-us/contract-management

Awardees under this solicitation are eligible to be considered for participation in EEI, but selection for award under this solicitation does not imply or guarantee participation in EEI.

## 7. Agency Contacts

Administrative, technical or contractual questions should be sent via e-mail to the mailbox listed below.

Points of Contact
The BAA Coordinator for this effort may be reached at:
OPTEMPO@darpa.mil
DARPA/BTO
ATTN: HR001123S0055
675 North Randolph Street
Arlington, VA 22203-2114

For information concerning agency level protests see http://www.darpa.mil/work-with-us/additional-baa#NPRPAC.

## 8. Other Information

### 8.1. PROPOSERS DAY

DARPA will host a Hybrid Proposers Day in support of the OP TEMPO program on **November 7, 2023**. The purpose is to provide potential proposers with information on the OP TEMPO program, promote additional discussion on this topic, address questions, provide a forum to present their capabilities, and encourage team formation.

Interested proposers are not required to attend to respond to the OP TEMPO BAA, and relevant information and materials discussed at Proposers Day will be made available to all potential proposers in the form of a FAQ posted on the DARPA Opportunities Page.

DARPA will not provide cost reimbursement for interested proposers in attendance. An online registration form and various other meeting details can be found at the registration website, https://events.sa-meetings.com/OPTEMPOProposersDay.

Participants are required to register no later than **November 3, 2023** (in-person attendance) or **November 6, 2023** (Webinar)**.** This event is not open to the Press. The Proposers Day will be open to members of the public who have registered in advance for the event; there will be no onsite registration.

Proposers Day Point of Contact:
OPTEMPO@darpa.mil

## 8.2. UNIVERSITY FUNDING

In order to ensure that U.S. scientific and engineering students will be able to continue to make strategic technological advances, DARPA is committed to supporting the work and study of Ph.D. students and post-doctoral researchers that began work under a DARPA-funded program awarded through an assistance instrument. Stable and predictable federal funding enables these students to continue their scientific and engineering careers.

To that end, should a DARPA funded program awarded through a grant or cooperative agreement with a university or a Research Other Transaction pursuant to 10 U.S.C. § 4021 where the university is a participant end (due to termination or down-select) before the planned program completion, DARPA may continue to fund, for no more than two semesters (or equivalent), the documented costs to employ or sponsor Ph.D. students and/or post-doctoral researchers. Should such a circumstance arise, the following will take place:

1) The Government will provide appropriate notification to the University participant by the Agreements Office or through the prime performer.
2) The University must make reasonable efforts to find alternative research or employment opportunities for these students and researchers.
3) Before any costs will be paid, the University must submit documentation describing their due diligence efforts in finding alternative arrangements that is certified by a University official.
4) In addition to this documentation, the affected students and researchers must submit statements of work describing what research activities they will pursue during the period of funding and the final deliverable they will submit when the funding is complete.
5) In determining these costs, DARPA will rely on information from the University's original proposal unless specific circumstances warrant requesting updated proposals. In no circumstances will this funding be provided when the program is ended because of suspected or actual fraud or negligence.

<u>DARPA Down-Select Definition:</u>

DARPA often structures programs in phases or options that include specific objectives and a designated period of performance. This may result in potentially issuing multiple awards to maximize the number of innovative approaches. This approach allows the Government to monitor progress and enables programmatic decision points based, at a minimum, against stated evaluation criteria, metrics, funding availability, and program goals and objectives. As a result, select performers may advance via award of a subsequent phase or through exercise of a planned option period.

# 9. APPENDIX 1 – Volume II checklist

**Volume II, Cost Proposal**
**Checklist and Sample Templates**

**The following checklist and sample templates are provided to assist the proposer in developing a complete and responsive cost volume. Full instructions appear in Section 4.2.2 of HR001123S0055. This worksheet must be included with the coversheet of the Cost Proposal.**

1. Are all items from Section 4.2.2 (Volume II, Cost Proposal) of **HR001123S0055** included on your Cost Proposal cover sheet?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]
   If reply is "No", please explain:

2. Does your Cost Proposal include (1) a summary cost buildup by Phase, (2) a summary cost buildup by Year, and (3) a detailed cost buildup of for each Phase that breaks out each task and shows the cost per month?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

3. Does your cost proposal (detailed cost buildup #3 above in item 2) show a breakdown of the major cost items listed below:
   Direct Labor (Labor Categories, Hours, Rates)
   **f**○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Indirect Costs/Rates (i.e., overhead charges, fringe benefits, G&A)
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Materials and/or Equipment
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Subcontracts/Consultants
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Other Direct Costs
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Travel
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

4. Have you provided documentation for proposed costs related to travel, to include purpose of trips, departure and arrival destinations and sample airfare?

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

5. Does your cost proposal include a complete itemized list of all material and equipment items to be purchased (a priced bill-of-materials (BOM))?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

6. Does your cost proposal include vendor quotes or written engineering estimates (basis of estimate) for all material and equipment with a unit price exceeding $5000?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

7. Does your cost proposal include a clear justification for the cost of labor (written labor basis-of-estimate (BOE)) providing rationale for the labor categories and hours proposed for each task?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

8. Do you have subcontractors/consultants? If YES, continue to question 9. If NO, skip to question 13.
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

9. Does your cost proposal include copies of all subcontractor/consultant technical (to include Statement of Work) and cost proposals?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

10. Do all subcontract proposals include the required summary buildup, detailed cost buildup, and supporting documentation (SOW, Bill-of-Materials, Basis-of-Estimate, Vendor Quotes, etc.)?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

11. Does your cost proposal include copies of consultant agreements, if available?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

12. If requesting a FAR-based contract, does your cost proposal include a tech/cost analysis for all proposed subcontractors?
○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

13. Have all team members (prime and subcontractors) who are considered a Federally Funded Research & Development Center (FFRDC), included documentation that clearly demonstrates work is not otherwise available from the private sector AND provided a letter on letterhead from the sponsoring organization citing the specific authority establishing their eligibility to propose to government solicitations and compete with industry, and compliance with the associated FFRDC sponsor agreement and terms and conditions.

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

14. Does your proposal include a response regarding Organizational Conflicts of Interest?

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

15. Does your proposal include a completed Data Rights Assertions table/certification?

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain: