Broad Agency Announcement

Systematizing Confidence in Open Research and Evidence (SCORE)

Defense Sciences Office

HR001118S0047

June 12, 2018

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PART I: OVERVIEW INFORMATION

- **Federal Agency Name:** Defense Advanced Research Projects Agency (DARPA), Defense Sciences Office (DSO)

- **Funding Opportunity Title:** Systematizing Confidence in Open Research and Evidence (SCORE)

- **Announcement Type:** Initial Announcement

- **Funding Opportunity Number:** HR001118S0047

- **Catalog of Federal Domestic Assistance (CFDA) Number(s):** 12.910 Research and Technology Development

- **Dates** (All times listed herein are Eastern Time.)
  - Posting Date: June 12, 2018
  - Proposers Day: June 8, 2018. See Section VIII.C.
  - Teaming Profiles: June 15, 2018, 4:00 p.m. EST See Section VIII.B.
  - Abstract Due Date:
    - For TA1 Abstracts: June 20, 2018, 4:00 p.m. EST
    - For TA2 Abstracts: June 20, 2018, 4:00 p.m. EST
    - For TA3 Abstracts: January 31, 2019, 4:00 p.m. EST
  - FAQ Submission Deadline TA1 and TA2: July 20, 2018, 4:00 p.m. EST See Section VIII.A.
  - FAQ Submission Deadline TA3: February 18, 2019, 4:00 p.m. EST See Section VIII.A.
  - Full Proposal Due Date:
    - For TA1 Proposals: August 1, 2018, 4:00 p.m. EST
    - For TA2 Proposals: August 1, 2018, 4:00 p.m. EST
    - For TA3 Proposals: March 12, 2019, 4:00 p.m. EST

- **Anticipated Individual Awards:** DARPA anticipates multiple awards under each Technical Area (TA)

- **Types of Instruments that May be Awarded:** Procurement contracts, cooperative agreements or other transactions

- **Agency contacts**

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- **DARPA/DSO Opportunities Website:** http://www.darpa.mil/work-with-us/opportunities

- **Teaming Information:** See Section VIII.B for information on teaming opportunities.

- **Frequently Asked Questions (FAQ):** FAQs for this solicitation may be viewed on the DARPA/DSO Opportunities Website. See Section VIII.A for further information.

PART II: FULL TEXT OF ANNOUNCEMENT

I.   Funding Opportunity Description

This Broad Agency Announcement (BAA) constitutes a public notice of a competitive funding opportunity as described in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 as well as 2 CFR § 200.203. Any resultant negotiations and/or awards will follow all laws and regulations applicable to the specific award instrument(s) available under this BAA, e.g., FAR 15.4 for procurement contracts.

A. Introduction

The Defense Sciences Office (DSO) at the Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals for the development and deployment of automated tools to assign Confidence Scores (CSs) to different kinds of Social and Behavioral Science (SBS) research results and claims. CSs are quantitative measures that should enable someone to understand the degree to which a particular claim or result is likely to be reproducible and/or replicable. These tools will assign explainable CSs with a reliability that is equal to, or better than, the best current human expert methods and will enable a consumer of SBS research to quickly calibrate the level of confidence in the Reproducibility and Replicability (R&R) of a given SBS result or claim. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

B. Background

Given the accelerating sociotechnical complexity of today's world—a world that is increasingly connected but often poorly understood—there are growing calls to more effectively leverage Social and Behavioral Sciences (SBS) to help address critical complex national security challenges in the Human Domain.[i] Current examples include the National Academies' ongoing "Decadal Survey of Social and Behavioral Sciences for Applications to National Security,"[ii] the Minerva Research Initiative,[iii] and a host of other efforts to use SBS to develop solutions for a wide range of national security challenges, including enhancing deterrence,[iv] supporting stability,[v] increasing trust and influence,[vi] reducing extremism,[vii] and enhancing "social-behavioral modeling."[viii]

*For the purposes of the SCORE Program, the Social and Behavioral Sciences (SBS) include those major SBS disciplines chiefly focused on understanding human **social** systems and behaviors, such as sociology, political science, economics, psychology, etc., as well as their respective sub-disciplines, such as computational social science, behavioral economics, social psychology, etc.*

The pressing importance of addressing national security challenges means that the Department of Defense (DoD) would like to leverage SBS research to design plans, guide investments, assess outcomes, and build models in order to make decisions in the Human Domain.

Unfortunately, a number of recent empirical studies and meta-analyses have revealed that many SBS results and claims vary dramatically in terms of their ability to be independently reproduced and/or replicated.[ix] This is worrying since the degree of R&R[x] of the SBS research upon which these decisions and models may depend can have real world implications. Research that appears confirmatory when it is in fact exploratory,[xi] suffers from other Questionable Research Practices (QRPs),[xii] or makes assertions or predictions that are unlikely given known practical or theoretical limitations,[xiii] can lead an SBS consumer to have inappropriate confidence in that research. Additionally, current approaches to estimating the R&R for SBS research are often slow, inefficient, opaque, and unreliable.[xiv,xv] Taken in the context of growing numbers of journals, articles, and preprints, this current state of affairs could result in an SBS consumer mistakenly over-relying on weak SBS research or dismissing strong SBS research entirely.

Efforts to address these concerns include new calls for, and early investments in, methods for identifying, promoting, and rewarding best research practices and new incentive structures among different communities in the hope that these changes may increase the R&R of future SBS research.[xvi] However, there is generally widespread recognition that substantive improvement, if possible, will take significant time and resources to achieve.[xvii]

Given the lack of widely agreed upon definitions of R&R, the SCORE Program will define Reproducibility as "the degree to which a particular research claim or result can be independently computationally reproduced by reanalyzing the study using the original data." Likewise, the SCORE Program will define Replicability as "the degree to which a particular research claim or result can be independently replicated by rerunning the study as similarly as possible with a new sample."

DARPA hypothesizes that an effective automated tool for helping an SBS consumer rapidly, accurately, and repeatedly calibrate the confidence they should have in research R&R would have significant positive impacts for increasing the effective use of the SBS literature to address Human Domain challenges. By identifying, aggregating, and analyzing a wide variety of signals, such a tool could provide expert-like "Confidence Scores" (CSs), or quantitative measures, that enable a user to understand the degree to which a particular claim or result is likely to be Reproducible and/or Replicable. DARPA anticipates that CSs may be derived from signals that may include (but not be limited to): evidence of one or many QRPs, retractions, evidence of publication bias or file drawer problems in a topic or field, (un)successful efforts at reproducing or replicating similar claims, (un)declared conflicts of interest, public criticism or [xviii] popular press coverage, sentiment analysis and social media/blog posts, post-publication review and crowd-sourcing,[xix] social networks of reviewers or co-authors, incentive structures, journal transparency[xx], ratio of exploratory to confirmatory studies in a topic or area, and/or the use of pre-registration or Registered Reports.

Further, such a tool should enable an SBS consumer to rapidly update CSs based on changes in those signals. Finally, such a tool should also explain why it has assigned the CSs that it has, including which signals it may have used and how it used them, allowing an SBS consumer to understand the results and appropriately leverage the SBS claim for use in the Human Domain.[xxi]

C. Program Description/Scope

The vision of the SCORE program therefore is to test, validate, and demonstrate the feasibility and utility of one or more automated tools for assigning CSs to a wide range of SBS claims. SCORE seeks to realize this vision through a two-phase program. The first Phase will focus on developing the initial Common Task Framework (CTF) for SCORE, with a curated dataset of SBS research claims using methods for rapidly but accurately labeling those data with human expert CSs. Early algorithm development will also occur in Phase 1 as proof of principle. In Phase 2, performers will use those labeled data to train and test algorithms that will assign quantitative CSs. These algorithm-based CSs will be compared to CSs assigned by the best performing human expert methods to see how they overlap. If successful, this program will enable SBS consumers within the DoD and the U.S. Government to use SCORE algorithms to quickly, accurately, and iteratively calibrate the confidence they should have in a particular SBS claim's R&R. SCORE deliverables should have significant positive impact on DoD and USG's abilities to leverage SBS for modeling, planning for, and operating in, the Human Domain.

D. Program Structure

SCORE is a 36-month program, comprising two phases with durations of 18 months each.

Figure 1: SCORE Program Structure
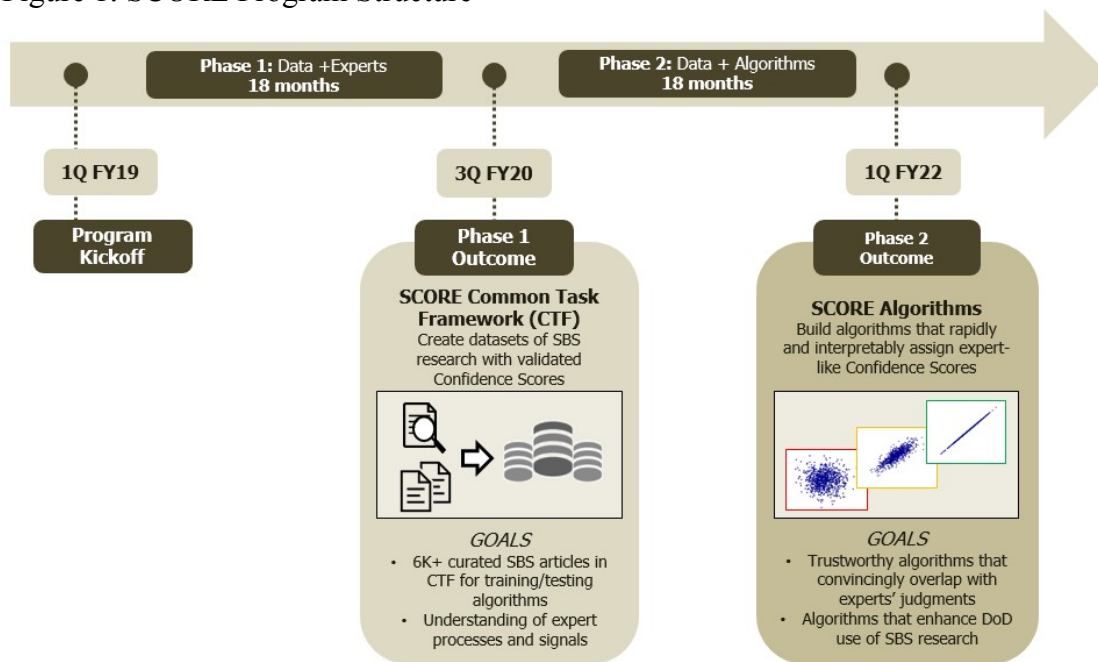
To achieve its vision, the SCORE program will fund research in three Technical Areas (TAs), with an independent Test and Evaluation (T&E) team providing oversight. The three TAs are:

- TA1: Data
- TA2: Experts
- TA3: Algorithms

As outlined in Figure 1 above, SCORE will kick off by having its TA1 and TA2 community of performers and relevant subject matter experts agree upon common CSs criteria, scales, and metrics for the program. These will be determined in Month 1 of the program at the SCORE kickoff meeting. The kickoff meeting for TA3 performers will occur in Month 10 of the program.

Phase 1 of the SCORE program will then focus on TA1 teams developing the CTF with a curated SBS research dataset, while TA2 teams will focus on the implementation of methods for rapidly assigning expert CSs to articles. TA1 teams will also empirically evaluate the accuracy of each TA2 team's expert-assigned CSs by independently reproducing/replicating a representative subsample of the CTF dataset and comparing outcomes with TA2 predictions. TA3 teams will use some TA1-supplied data (plus any proposed supplementary data) to conduct early algorithm development to provide proof of principle by Month 18.

If Phase 1 is successful in developing the initial CTF with validated CSs, Phase 2 will see TA3 teams develop out algorithms that are capable of efficiently and accurately assigning CSs with convincing overlap with the best performing TA2 method(s). These algorithms should allow SBS consumers in DoD to assign and update a claim's CSs and understand how the algorithm(s) came to the specific quantitative assessment(s).

Figure 2: SCORE Technical Area Interactions
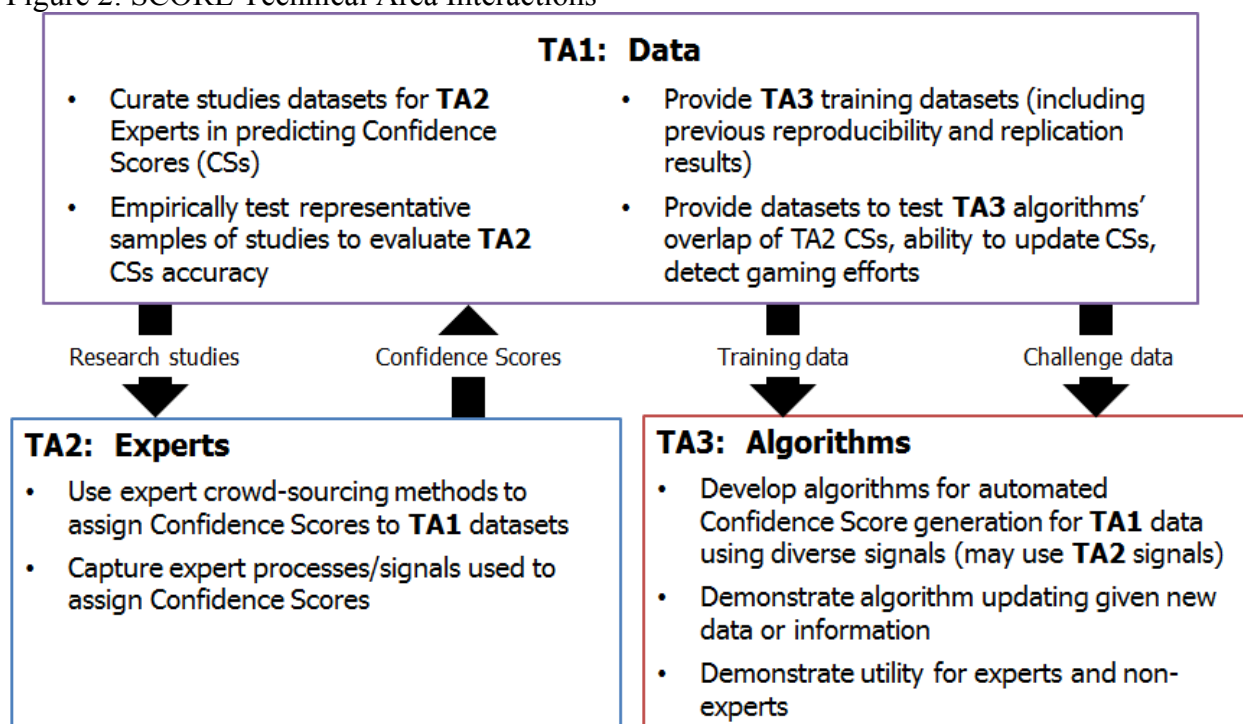
DARPA is soliciting proposals for TA1, TA2, or TA3 but is not soliciting proposals for participation on the T&E team. Proposals to any of the TAs must address the full program timeline. As stated in Part II, **please note that TA1 and TA2 will have an earlier proposal due**

date and kickoff date than TA3. As discussed further in Section E, TA3 proposals should be submitted in accordance with the TA3 proposal deadline listed in Part I, and TA3 proposals should reflect a nine-month later start: TA1 and TA2 teams will start work in Month 1, while TA3 teams will start work in Month 10. Proposers[1] should structure their proposals with Phase 1 as the base period (18-months for TA1 and TA2; nine-months for TA3), and Phase 2 as an option for funding (18-months for all TAs).

Each proposal should only address a single TA. Please note that to avoid conflicts of interest among TAs, no person or organization may be a performer on more than one TA, either as a prime or sub-contractor. The same person or organization may be on multiple proposals if those proposals are submitted to the same TA. However, proposers should provide sufficient approaches for managing potential conflicts of interest and/or firewalls among different teams/proposals in that TA and provide evidence that they have sufficient resources to mitigate any technical, cost, and/or schedule risk should they or their team members be on multiple proposals selected for negotiation. If an offeror submitted a proposal to TA1 or TA2 and the proposal was not selected for negotiation for award, that offeror may submit to TA3 if the TA3 requirements below are met.

E. Technical Area Descriptions

1. Technical Area 1 (TA1): Data

The goal of TA1 is to provision data for the program by curating SBS research claims, including (but need not be limited to) journal articles, previous R&R studies, abstracts, and preprints, into a single CTF dataset for TA2 and TA3 teams. In doing so, TA1 teams will have prime responsibility for developing the CTF for the SCORE program by providing training/test data to TA2 and TA3 performers as well as empirically validating the R&R of a representative subsample of claims in order to evaluate the accuracy of TA2 CSs expert methods.

Proposals: TA1 proposals must include clear, credible, and (where appropriate) quantitative descriptions that include (but need not be limited to) the following tasks deemed critical for SCORE program success:
- Identification of, and justification for, SBS topics/literatures to be curated as well as non-SBS topics/literatures that might be used to assess the generalizability of TA2/TA3 methods (e.g., assigning CSs to biomedical or neuroscience research). Proposals should also identify research areas or claims that are likely to be impossible or impractical for their approach to CTF creation;
- Recommendations for what should constitute an SBS research "claim" (e.g., article synopsis, abstract, specific conclusion, discrete statistical relationship, model) along with proposed approach for efficiently and reliably capturing these "claims" from various SBS research articles for TA2/TA3 use;

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[1] As used throughout this BAA, "proposer" refers to the lead organization on a submission to this BAA. The proposer is responsible for ensuring that all information required by a BAA--from all team members--is submitted in accordance with the BAA. "Awardee" refers to anyone who might receive a prime award from the Government, including recipients of procurement contracts, cooperative agreements, or Other Transactions. "Subawardee" refers to anyone who might receive a subaward from a prime awardee (e.g., subawardee, consultant, etc.).

- Proposed criteria for operationalizing CSs for R&R, such as:
  - Factors that should be used for scoring R&R;
  - Relative weights assigned to R&R in order to come up with an aggregated CSs;
  - Type and format of a CSs scale (e.g., range of 1-10 versus 1-100);
  - Proposed visualizations (e.g., possible colors, chart types).
- Complete and feasible description of the curation process, including anticipated level of manual versus automated processes in each Phase;
- Proposed approach for representative sampling of CTF claims to be empirically validated for evaluating TA2 accuracy in Phases 1 and 2;
- Identification of literature or data repositories to be leveraged and a detailed data management plan (see Section I.I.3), with credible mechanisms to curate, store, and release data for TA2 CSs assignment and train/test data for TA3;
- Proposed schedule (or approach to developing a schedule) for data transfer and/or making data accessible to TA2 and TA3 teams during Phase 1 and Phase 2 efforts (e.g., daily, weekly, bi-weekly)
- Principled plan for the empirical evaluation of SBS research studies in each phase, including the anticipated relative number of replications, number of reproductions (where, for example, replication may be infeasible), and number of joint replication/reproductions;
- Approaches for Phase 2 testing of TA3 algorithms' updating capability and ability to detect efforts to game the algorithms (including what kind and how much real or synthetic data would be injected/ablated and proposed metrics for evaluating TA3 updating/gaming detection success);
- Identification of any anticipated Human Subjects Research (HSR) and Human Research Protection Office (HRPO) requirements and plans to expeditiously receive necessary approvals that enable reaching the milestones on, or before, schedule (see Section VI.B.6 for more information on HSR requirements);
- Anticipated/recommended data output formats;
- Identification of specific risks to the proposed approach(es) and credible mitigation plans;
- Additional information necessary to understand and evaluate the feasibility and innovation of the approach(es) being proposed, which may include evidence of prior work or research in TA1 relevant areas in order to increase confidence in the specific proposed approach(es).

Performance Metrics: To assess TA1 performers' progress towards realizing SCORE's vision, TA1 teams will be assessed according to the following metrics:
- *Curation Rate* – Ability to curate SBS research articles efficiently and accurately. Proposers should offer credible approaches to achieve a curation rate of at least 3,000 SBS articles and claims per 12 months by Month 12, or if this is not possible, proposers should provide a reasonable justification and mitigation strategy that can still realize SCORE's vision. In addition, proposers should offer credible plans for an increased curation rate in Phase 2, in order to exceed 3,000 articles and claims per 12 months. Credible approaches that make a compelling argument that these metrics will be exceeded may be more favorably reviewed.

- *Empirical Evaluation* – Capabilities supporting the empirical evaluation of the R&R of at least 200 representative research claims in each phase. Credible approaches that make a compelling argument that these metrics will be exceeded may be more favorably reviewed.
- *Platform/Methodology Efficacy* – Ability to maintain and continually grow a CTF of curated SBS research datasets that are useful for SCORE TA2/TA3 performers. Capabilities should also include rapid (preferably semi-automated) processes for cleaning and aligning articles as well as developing representative samples. Credible approaches that make a compelling argument that this CTF platform/method may be useful beyond the SCORE program may be more favorably reviewed.

Nominate TA1 Metrics: Proposers should nominate additional metrics for evaluating their specific capabilities and performance in terms of the TA1 goals. Examples might include metrics for evaluating TA1 R&R empirical validation methods and outcomes, metrics for evaluating TA2 R&R accuracy against TA1 empirical validations, and/or metrics for evaluating TA2 and TA3 CSs overlap using TA1 data. Final TA1 metrics will be decided in coordination with DARPA and the T&E team after selection for award.

Publication of Research: Note DARPA anticipates that all research conducted for SCORE will be fundamental, unclassified research and, therefore, encourages performers to publish and/or distribute deliverables and results. However, given SCORE goals, TA1 teams may be expected to maintain some control during the program period over database contents, platforms, curation processes, etc.

Out of Scope: Use of proprietary data or datasets may significantly impede SCORE program goals, including (but not limited to): limiting TA1 deliverables or teaming capabilities, reducing the Government's ability to independently evaluate those data, limiting the capabilities of TA2/TA3 teams to conduct their research, and/or restricting the capabilities and evaluation of TA2/TA3 deliverables. Given these concerns, use of proprietary data or datasets may be out of scope for the SCORE program. However, if use of some proprietary datasets is deemed appropriate, licenses should be negotiated that do not prevent SCORE performers, the T&E team, or DARPA from being able to use those datasets to accomplish their respective and collective technical and programmatic goals. SCORE will not fund efforts that propose the use of data or datasets that violate copyright protections or other legal restrictions.

2. **Technical Area 2 (TA2): Experts**

The goal of TA2 teams is to assist in the creation of the SCORE CTF by using or developing scalable methods and/or platforms for eliciting expert Confidence Scores for the R&R of SBS claims in the TA1 datasets. The focus of TA2 is on assigning human expert CSs to TA1's data (claims, studies, abstracts) at a rate that is sufficient to enable TA1 to build up the SCORE CTF datasets required for Phase 2. TA2 teams may use innovative mechanisms that enable rapid but accurate TA2 CSs assignments, where accuracy is measured as the ability of TA2 teams to predict the outcomes of TA1's empirical evaluations of the R&R of a subsample of studies and claims.

Proposals: TA2 proposals must include clear, credible, and (where appropriate) quantitative descriptions that include (but need not be limited to) the following tasks deemed critical for

SCORE program success:

- Identification of an approach for acquiring expert assessments via prediction markets, expert surveys, online games, and/or other innovative and technically compelling approach(es);
- Proposed approaches to capturing and conveying CSs "forecasts" for TA1 testing (e.g., summed averages, market value, rank order; judgmental reasoning to derive probabilities or CSs), including any approach(es) for capturing expert scoring processes/signals and potentially sharing identified signals and/or expert processes with TA3 teams;
- Recommendations for what should constitute an SBS research "claim" for CSs assignment (e.g., article synopsis, abstract, specific conclusion, discrete statistical relationship, model), along with
- Proposed criteria for operationalizing expert CSs for R&R, such as:
  - Factors that might be used for scoring R&R;
  - Relative weights assigned to R&R in order to come up with an aggregated CSs;
  - Type and format of CSs scale (e.g., range of 1-10 versus 1-100);
  - Proposed visualizations (e.g., possible colors, chart types).
- Proposed approach(es) for capturing/comparing the impact of different variables (numbers or kinds of experts, skillsets, infrastructure, etc.) on the performance/accuracy of TA2 methods;
- Proposed suggestions for SBS topics or literatures best suited for approach, including identifying potential datasets and/or literature repositories for TA1 to leverage and identifying extensions to other topics/literatures, including non-SBS research;
- Identification of any anticipated HSR/HRPO requirements and plans to expeditiously receive necessary approvals that enable reaching the milestones on, or before, schedule;
- Proposed flexible mechanisms and/or platforms for receiving/storing TA1 data and returning CSs to TA1 such that TA2 CSs can be easily and persistently associated with specific claims;
- Identification of anticipated requirements of/for data sets, structure, formats, and data management plan per Section I.I.3;
- Identification of specific risks to the proposed approach(es) and credible mitigation plans;
- Additional information necessary to understand and evaluate the feasibility and innovation of the approach(es) being proposed, which may include evidence of prior work or research in relevant areas in order to increase confidence in the specific proposed approach(es).

Performance Metrics: To assess TA2 performers' progress towards realizing SCORE's vision, TA2 teams will be assessed according to the following metrics:

- *Evaluation Rate* – Ability to assign CSs to SBS research articles efficiently. Proposers should offer credible approaches to achieve an evaluation rate of 3,000 articles per 12 months by Month 12, or if this is not possible, proposers should provide a reasonable justification and mitigation strategy that can still realize SCORE's vision. In addition, proposers should offer credible plans to allow for an increased evaluation rate in Phase 2, exceeding 3,000 articles per 12 months. Credible approaches that make a compelling argument that these metrics will be exceeded may be more favorably reviewed.

- *Accuracy* – Ability to assign CSs to SBS claims that are at least 80% accurate in Phase 1 when tested against TA1 R&R empirical evaluations in Month 15. Proposers should also offer credible plans for an improved accuracy rate in Phase 2, ideally exceeding 80% by Month 30. Credible approaches that make a compelling argument that these metrics will be exceeded may be more favorably reviewed.

Nominate TA2 Metrics: Proposers should nominate additional metrics for evaluating their capabilities and performance in terms of the TA2 goals. Examples might include metrics for estimating cost per CSs assignment per claim and/or metrics for "expert agreement" and interrater reliability. Final TA2 metrics will be decided in coordination with DARPA and the T&E team after selection for award.

Publication of Research: Note DARPA anticipates that all research conducted for SCORE will be fundamental, unclassified research and, therefore, encourages performers to publish and/or distribute deliverables and results. However, given SCORE goals, TA2 teams may be expected to maintain some control during the program period over expert assessments, processes, platforms, etc.

Out of Scope: SCORE will not fund performers that use platforms in a way that may violate or otherwise disregard acknowledged and in good standing IP claims, restrictions, or legal statutes in applicable states or countries.

3. Technical Area 3 (TA3): Algorithms

Successful TA3 teams will develop SCORE algorithms using training data provided by TA1 (as well as other training data they may propose) to automatically assign CSs to held-out TA1 test sets. TA3 team(s) will be responsible for all aspects of algorithm development. This responsibility extends to all essential feature identification, extraction, and engineering steps, whether carried out over TA1-curated data or over TA3-provided data. TA3 algorithms will be evaluated in terms of their CSs overlap with the best performing TA2 CSs, ultimately seeking to achieve 95% confidence in an algorithm's overlap with those TA2 CSs. Towards the end of Phase 2, successful TA3 teams will also demonstrate the utility of their algorithms/systems for DoD users and applications.

Proposals: TA3 proposals should include clear, credible, and (where appropriate) quantitative descriptions that address (but need not be limited to) the following elements:
- Credible plan for achieving Phase 1 "proof of principle" capabilities by Month 18 and for regularly documenting and demonstrating incremental progress toward that goal. Quantitative milestones should be proposed for Months 12, 15, and 18;
- As relevant, identification of additional training/test data, whether in the SBS or otherwise, that the proposer intends to use to complement data provided by TA1;
- As relevant, identification of minimum essential data features and elements that the proposer requires in the TA1-provided CTF data set (to include requirements associated with data content, structure, format, or data interchange standards), in order for the proposed technical approach(es) to be feasible;
- Identification of data features and elements that the proposer plans to create and/or assemble, including (as relevant) details of which specific data sources will be leveraged to generate those features, which feature extraction processes will be employed, and what

licensing and reuse restrictions, if any, govern their distribution to and use by other research teams, the government, and government transition partners;

- Identification of non-essential, but potentially useful, ancillary data features and elements that the proposer may wish to leverage, including (as relevant) details of candidate data sources and associated terms of use;

- Identification of the specific algorithms (or, as appropriate, algorithm classes or algorithmic approaches) that the proposer intends to develop and/or implement, including a description of the desirable properties of those algorithms or approaches in the SCORE context;

- Specification of a credible and complete data management plan, addressing all data products entailed by the proposal, as detailed in Section I.I.3;

- Credible plan for achieving increasing overlap with best performing TA2 expert CSs over the course of each testing and training sprint in Phase 2, reaching 75% confidence of overlap by Month 24, 85% confidence of overlap by Month 30, and 95% confidence of overlap by Month 36;

- Proposed approaches to testing TA3 updating capability (including what kind and how much real or synthetic data TA1 might provide, proposed metrics for evaluating TA3 updating success, and innovative but credible approaches to testing TA3 algorithms susceptibility to "gaming" attempts);

- Identification of any anticipated HSR/HRPO requirements and plans to expeditiously receive necessary approvals that enable reaching program milestones on, or before, schedule;

- Identification of specific computing platforms and/or software required for algorithm development and deployment;

- Additional information necessary to understand and evaluate the feasibility and innovation of the approach(es) being proposed, which may include evidence of prior work or research in relevant areas.

Performers may face technical and logistical challenges in developing, implementing, and testing TA3 algorithms. Proposals should explicitly identify and address key challenges and risks. At a minimum, proposals should address:

- Whether proposed algorithms or systems will require interactive inputs from humans. Proposers should clearly explain when and how any human inputs will be leveraged and detail what, if any, human qualifications are assumed;
- How the proposer's technical approach will remain robust in the face of topically, formally, and qualitatively diverse scientific research claims and data;
- How algorithmic models will be updated or retuned (as applicable), and what costs this might impose upon the government post-SCORE technological transition;
- How algorithmic outputs will be associated with human-interpretable evidence and descriptions (see "Out of Scope" section, below);
- Whether the proposed technical approach will require access to any proprietary or subscription-based data and, if so, the costs and terms associated with such access; a compelling argument for why such data are essential to success of the proposer's technical approach; and a concrete plan for how the proposer intends to mitigate any

negative impacts on the program's objectives. Proposers are strongly discouraged from leveraging data to which only they have access or data which are unlikely to be licensable or deliverable to the government for purposes of technology transition due to restrictive terms of use or privacy-related restrictions, or because they are not easily replicated on government systems. Additionally, if proposers plan to incorporate existing intellectual property (IP) into their algorithms or systems, they must specify what the cost to the government will be to use this IP both during the SCORE program and after the program is completed and transitioned.

Proposals should describe offeror past performance in research areas relevant to SCORE. Proposals should also clearly describe performer team-internal research efforts and pilot testing that will be undertaken in pursuit of SCORE goals. Internal research efforts and pilot testing may include other modeling or data collection activities, including but not limited to: running of novel experiments and data collection exercises; analysis or mining of extant data sets; development and testing of novel algorithms; running simulation studies; development of novel formal or analytical methods; and other possible avenues of knowledge generation.

Performance Metrics: TA3 performers will be assessed according to the following performance dimensions:

- *Overlap with TA2* – Ability to assign Confidence Scores to SBS claims that overlap with best performing TA2 methods. Proposed approach should provide a credible plan for achieving early proof of principle in Phase 1 by Month 18 and offer credible plans for achieving 75%, 85%, and 95% CS overlap over the course of each six-month sprint in Phase 2, respectively. If a proposer believes this metric is not achievable, they should provide a reasonable justification and mitigation strategy. Credible approaches that make a compelling argument that these metrics will be exceeded may be more favorably reviewed.
- *Algorithmic Efficiency* – Ability to evaluate SBS research articles efficiently and at scale. TA3 algorithms will be formally evaluated to assess their resource utilization and computational efficiency. Specific algorithmic efficiency metrics and targets will be finalized after awards are granted, but TA3 proposers should provide credible plans for achieving a claim processing throughput of not fewer than 20 new claims per 24-hour period by Month 18, with throughput doubling by Month 36, and with no attendant drop in system accuracy.
- *Algorithm/Platform Usability* – Capability for algorithms to assign and pass algorithm CSs to TA1 teams efficiently and the degree to which algorithms are transparent and their CSs assessments are interpretable/tailorable as evaluated by an above average score on a System Usability Scale[xxii] by the end of Phase 2.

Nomination and Selection of TA3 Metrics: Proposers should nominate suitable metrics for evaluating the capabilities and performance of their systems Examples may include (but need not be limited to) specific metrics and metric targets for the assessment of algorithmic efficiency, algorithm/platform usability, cost per processed claim, ease of updating, and system accuracy. Final TA3 performance metrics will be decided in coordination with DARPA and the T&E team after award determinations have been made.

Publication of Research: Note DARPA anticipates that all research conducted for SCORE will be fundamental, unclassified research and, therefore, encourages performers to publish and/or distribute deliverables and results. However, given SCORE goals, TA3 teams may be expected to maintain some control during the program period over algorithm code, assessments, processes, platforms, etc.

Out of Scope: The following technical approaches are out of scope for TA3:
- "Blackbox" algorithms, whose final functions or outcomes in assigning Confidence Scores cannot be reasonably explained to a DoD user
- Methods in which Confidence Scores are based exclusively on the weighting or transformation of human analytic judgments without meaningful incorporation of other machine/statistical data or models;
- Approaches that require substantial, ongoing engagement of subject matter experts (SMEs) to maintain and operate. Engagement of SMEs should be to a degree that is scalable and not prohibitive in the context of post-program transition.

Additionally, SCORE will not fund algorithms developed using hardware and/or software that limit TA3 deliverables to less than Government Purpose Rights, unless strongly justified.

4. Test and Evaluation (T&E)

The SCORE T&E team will assist with coordinating among the TAs, including helping to manage all communications among TAs to ensure accordance with SCORE programmatic goals. The T&E team will also be involved in adjudicating the representativeness of proposed TA1 samples for empirical evaluation, as well as TA2 accuracy as compared to TA1 empirical evaluations, and TA2/TA3 CSs overlap. Lastly, the T&E team will also assist in coordinating TA3 system usability tests and metrics for successful TA3 teams in Phase 2.

F. Schedule/Milestones

Proposals to any of the three TAs must address the full program timeline (TA3 proposals, due at the later TA3 proposal closing date stated in Part I, should address the full program timeline assuming a Month 7 kickoff). Proposers should provide a technical and programmatic strategy that conforms to the entire program schedule and presents an aggressive plan to fully address all program goals, metrics, milestones and deliverables. In addition, the task structure must be consistent across the proposed schedule, Statement of Work (SOW), and cost volume in order to enable DARPA to evaluate the technical, programmatic, and financial credibility of individual tasks as well as the overall approach. Schedules will be synchronized across performers, as required, and monitored/revised as necessary throughout the program. For TA1 and TA2 teams, a target start date of January 2019 may be assumed for planning purposes. For TA3 teams, a target start date of October 2019 may be assumed for planning purposes.

All SCORE TA1 and TA2 performers should expect to attend a kickoff meeting in the Washington, D.C. area. TA3 performers should expect the Month 10 Principal Investigator (PI) Meeting to serve as their kickoff. After Month 10, TA3 performers should plan for site visits and PI Meetings as would TA1 and TA2 teams per the program schedule outlined below in Figure 3 and Tables 1 and 2.

DARPA expects all performers to attend PI Meetings every 6 months, as shown in Figure 3. The purposes of the PI Meetings are to (i) provide the Program Manager and other SCORE performers with updates on progress towards milestones and goals; (ii) summarize outstanding technical challenges; (iii) support test and evaluation; and (iv) provide Government and potential transition partners with opportunities to provide input, comments, and suggestions for the SCORE program and its performers. For budgeting purposes, TA1 and TA2 proposers should assume a two-day kickoff meeting, while PI meetings will require three days and will alternate between Washington, D.C. and a west coast location. The Government and T&E team will schedule regular teleconference meetings for progress reporting as well as problem identification and mitigation. Proposers should anticipate at least one site visit every 6 months by the DARPA Program Manager during which they will have the opportunity to demonstrate progress towards agreed-upon milestones. Additional anticipated programmatic events are included in Tables 1 and 2, below.

For budgeting purposes, all teams should plan for six three-day PI meetings over the course of 36 months: three meetings in the Washington, D.C. area and three meetings in the San Francisco, CA area. For TA1 and TA2 teams, these meetings are in addition to a two-day kickoff meeting in the Washington, D.C. area (TA3 teams will attend a Month 10 kickoff meeting).
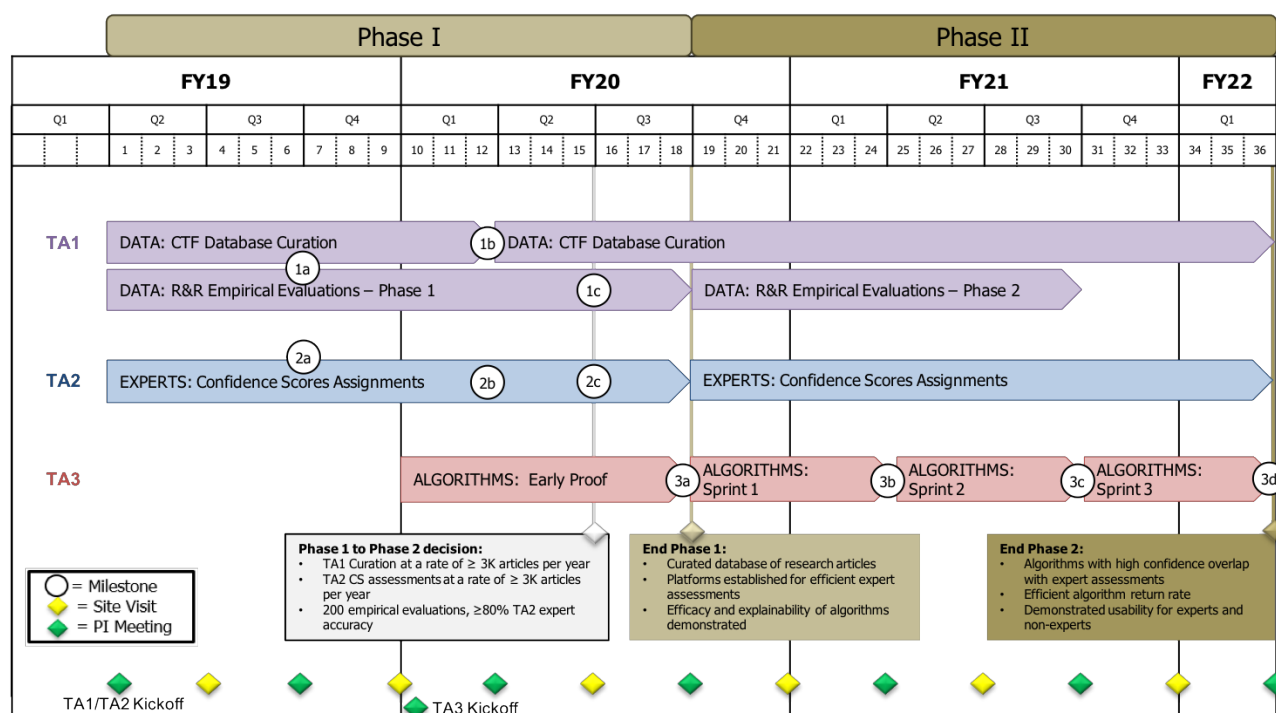
Figure 3: SCORE Program Gantt Chart

Table 1: Technical Goals by Phase

Technical Area	Phase 1	Phase 2
TA1: Data	• Curate a database of SBS research to develop a common task framework (CTF) • HSR secondary approvals (1a) • Curation at a rate of 3,000 articles or more per 12 months (1b) • Empirical evaluation of representative sample of claims at a rate of 200 or more per 15 months (1c)	• Continue curation of CTF database • Curation at a rate of 3,000 articles or more per 12 months • Empirical evaluation of at least 200 representative samples of SBS claims
TA2: Expert Assessments	• Launch methods for rapidly getting expert assessments of SBS research studies • HSR secondary approvals (2a) • Assessment at a rate of 3,000 articles or more per 12 months (2b)	• Assessment at a rate of 3,000 articles or more per 12 months • Accuracy greater than 80% as compared to TA1 empirical evaluations

	• Accuracy of at least 80% as compared to TA1 empirical evaluations ⟨2c⟩	

TA3: Algorithm Assessments	• Develop algorithms for rapid assessment of SBS research studies based on endogenous and exogenous signals
	• Assessment at a rate of 1 article per 60 minutes
	• Demonstration of algorithm's efficacy and explainability ⟨3a⟩
		• Assessment at a rate of 1 article per 30 minutes
		• Increase percentage of distribution overlap between TA2 and TA3 assessments over the course of three consecutive sprints:
		  o Sprint 1 – 75% overlap ⟨3b⟩
		  o Sprint 2 – 85% overlap ⟨3c⟩
		  o Sprint 3 – 95% overlap ⟨3d⟩
		• Demonstration of system usability for both experts and non-experts

Table 2: Program Events by Month

Months After Award	Event	Description
PHASE 1		
1	Program Kickoff	• All teams agree on SCORE R&R criteria, scales, definitions • TA1 and TA2 teams present technical approach and work plan • T&E team provides test and evaluation plan, candidate metrics
1	HSR Process	• TA1 and TA2 teams submit protocols for IRB approval
1	TA1/TA2 Start Work	• TA1 teams begin data curation and work with T&E to develop a representative sample for empirical evaluation • TA2 launches platforms for scaling up CSs assignments
3	Site Visits	• TA1 and TA2: demonstrate progress towards milestones
6	Milestones 1a and 2a	• TA1 and TA2 receive all secondary HSR approvals for Phase 1
7	PI meeting	• TA1 and TA2: review technical progress •
9	Site Visits	• All teams: demonstrate progress towards milestones •
10	TA3 Kickoff	• TA3 launches platforms for rapidly assessing SBS research articles • TA1 provides preliminary training data to TA3
12	PI meeting	• All teams: review technical progress
12	Milestones 1b and 2b	• TA1 teams demonstrate curation rate of at least 3K claims per 12 months • TA2 teams demonstrate CSs assignments at rate of 3K claims per 12 months

15	Milestone 1c	• TA1 submits results of at least 200 R&R empirical evaluations for assessing TA2 accuracy to T&E
15	Milestone 2c	• T&E team evaluates TA2 accuracy against TA1 empirical evaluations
15	Site Visits	• All teams: demonstrate progress towards milestones
18	Milestone 3a	• TA3 demonstrates algorithm efficacy and explainability
18	PI Meeting - End of Phase 1	• Phase 1 results for all TAs presented
PHASE 2		
18	Empirical Evaluations	• TA1 begins second round of R&R empirical evaluations for assessing TA2 accuracy
21	Site Visits	• All teams: demonstrate progress towards milestones
24	PI meeting	• All teams: review technical progress • T&E presents results of TA3 overlap with TA2
24	Milestone 3b	• TA3 completes Sprint 1 and achieves 75% confidence overlap with best performing TA2 CSs methods
27	Site Visits	• All teams: demonstrate progress towards milestones
30	Empirical Evaluations Complete	• TA1 submits results of at least 200 R&R empirical evaluations for assessing TA2 accuracy to T&E
30	PI meeting	• All teams: review technical progress • T&E presents results of TA3 overlap with TA2, TA2 accuracy compared with TA1 R&R empirical evaluations
30	Milestone 3c	• TA3 completes Sprint 2 and achieves 85% confidence overlap with best performing TA2 CSs methods
30	TA3 Usability	• TA1 and TA3 begin usability testing re: algorithm updating and detecting of gaming, coordinated by T&E
33	Site Visits	• All teams: demonstrate progress towards milestones
36	Milestone 3d	• TA3 completes Sprint 3 and achieves 95% confidence overlap with best performing TA2 CSs methods
36	Final PI Meeting	• All teams: review final product deliverables • T&E presents results of TA3 overlap with TA2, TA3 usability testing

G. Deliverables

DARPA expects performers to provide at a minimum the following deliverables:
- Comprehensive monthly technical reports due within ten days of the end of each given month, describing progress made on the specific milestones as laid out in the SOW.
- A phase completion report submitted within 30 days of the end of each phase, summarizing the research done.
- Other negotiated deliverables specific to the objectives of the individual efforts. These may include:
  - For TA1: CTF datasets, access to database, results of empirical evaluations, and other deliverables stemming from the research funded under SCORE

- For TA2: access to expert assessment tools/platforms and other deliverables stemming from the research funded under SCORE, including data and Confidence Scores
- For TA3: algorithms and systems, and other deliverables stemming from the research funded under SCORE, including data and Confidence Scores
- For all: publications, intermediate and final versions of software libraries, code, and APIs, including documentation and user manuals and/or a comprehensive assemblage of design documents, data, and results.

- Reporting as outlined in Section VI.C.

H. Government-furnished Property/Equipment/Information

Performers are not expected to need Government-furnished Property (GFP). Any requests for GFP must be accompanied by a credible justification and explanation of why other options would not be suitable for the proposed work.

I. Other Program Objectives and Considerations

1. Collaboration

DARPA expects all performers to work collaboratively with one another to realize the program objectives outlined herein, so proposers should carefully review the goals for the entire program in order to fully understand the context of each program objective within the overall program structure. Furthermore, throughout development of program technologies, it will be necessary for all performers to share relevant information regarding their technology development to support the larger program goals. For example, TA2 performers will need access to the CTF datasets developed by the TA1 performers. All proposals must clearly describe plans for interfacing and integrating their proposed technologies/approaches with other performers. *Proposals that fail to include interface and integration plans may be deemed non-conforming[2] and removed from consideration for award.*

DARPA expects SCORE performers to collaborate closely with the T&E team, so proposals should describe approaches for providing the T&E team with access to all necessary and relevant software, data, and domain knowledge.

2. Intellectual Property

As discussed above, there is an emphasis on creating and leveraging open source technologies and architectures, making data sharing and collaboration key aspects of this program. Therefore, intellectual property rights asserted by proposers are strongly encouraged to be aligned with open source regimes. See Section VI.B.4 for more information related to intellectual property.

3. Data Management Plan

This BAA requires a Data Management Plan (DMP) be included as part of the proposal submission. DARPA/DSO's view of what constitutes the scope of applicable data products to be covered in a DMP is quite broad, potentially encompassing all digital activity related to a project. DARPA's approach to an effective and practical DMP is predicated with two goals:

First, data are increasingly the key products of research and engineering endeavors. To ensure the reproducibility of results and the accessibility of program accomplishments to future users, we require proposers document the necessary and sufficient scope of data that may be applicable to these goals. Performers will be expected to document both the proprietary and nonproprietary products of the program, including but not limited to raw unprocessed data, software source code and executables, build scripts, process sequence, programmatic communication and   other

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[2] "Conforming" is defined as having been submitted in accordance with the requirements outlined herein.

collaboration activities; rarified, experimental, test and measurement data; design of experiments and simulations; models or simulations (computational or mathematical); recordings of various physical phenomena (including images, videos, sensor data, etc.); access to and use of institutional, organizational or scientific community repositories and archives. An important goal of the DMP is to ensure the retention and potential reusability of this information.

Second, when possible, DARPA may also share some or all of the program-generated data with the broader research community as open data (with permission to access, reuse, and redistribute under appropriate licensing terms) to the extent permitted by applicable law and regulations (e.g., privacy, security, rights in data, and export control). The complete scope of program-generated data described above may go considerably beyond the scope of data to be made public. Hence, DARPA expects that as part of a DMP proposers will delineate their specific data products that are suitable for public release and how they intend to capture and represent this information. In this way, it is DARPA's intention to enable reproducibility of results and establish (or contribute to) digital collections that can advance this and other scientific fields. Note that this provision is not meant to require disclosure of otherwise proprietary internal component or process intellectual property, but to ensure all performers can meet the overall program objectives.

Proposals submitted without a DMP may be deemed non-conforming and may not be reviewed. Note that the DMP does not count against the page-limit for Volume 1. A DMP should include enough detail to ensure that the data products delivered to DARPA (or made public) are adequate for use by an independent third party, both for further exploratory research as well as for reproducibility and verification of the scientific results. As this is an effort that is required to execute the program, DARPA does not expect the existence of a DMP to produce additional cost burden on performers for data management requirements during or after the period of performance.

II. Award Information

A. General Award Information

DARPA anticipates multiple awards.

The level of funding for individual awards made under this BAA will depend on the quality of the proposals received and the availability of funds. Awards will be made to proposers whose proposals are determined to be the most advantageous to the Government, all evaluation factors considered. See Section V for further information.

The Government reserves the right to:

- select for negotiation all, some, one, or none of the proposals received in response to this solicitation;
- make awards without discussions with proposers;
- conduct discussions with proposers if it is later determined to be necessary;
- segregate portions of resulting awards into pre-priced options;
- accept proposals in their entirety or to select only portions of proposals for award;
- fund awards in increments with options for continued work at the end of one or more

phases;

- request additional documentation once the award instrument has been determined (e.g., representations and certifications); and
- remove proposers from award consideration should the parties fail to reach agreement on award terms within a reasonable time or the proposer fails to provide requested additional information in a timely manner.

Proposals identified for negotiation may result in a procurement contract, cooperative agreement, or other transaction (OT), depending upon the nature of the work proposed, the required degree of interaction between parties, 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 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.

B. 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 BAA, 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 BAA. 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 BAA 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.

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. Appropriate clauses will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This clause can be found at 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 restricted research, their subawardee's effort may be fundamental research. In those cases, it is the awardee's responsibility to explain in their proposal why its subawardee's effort is fundamental research.

III. Eligibility Information

A. Eligible Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal DARPA's consideration.

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

a. FFRDCs

FFRDCs are subject to applicable direct competition limitations and cannot propose to this BAA 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 citing the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and their compliance with the associated FFRDC sponsor agreement's terms and conditions. This information is required for FFRDCs proposing to be awardees or subawardees.

b. 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. This information is required for Government Entities proposing to be awardees or subawardees.

c. 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.§ 2539b 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.

2. Foreign Participation

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. For classified submissions, this includes mitigating any Foreign Ownership Control and Influence (FOCI) issues prior to transmitting the submission to DARPA. Additional information on these subjects can be found at http://www.dss.mil/isp/foci/foci_faqs.html.

B. 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 BAA. 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 BAA 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.

C. 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 (e.g., OTs under the authority of 10 U.S.C. § 2371).

D. Other Eligibility Requirements

Ability to Receive Awards in Multiple Technical Areas - Conflicts of Interest

Proposers may submit or be listed on multiple proposals provided all of those proposals address only one TA. (see Section I.D). Please note that a proposer can only be selected for one Technical Area and cannot be selected for any portion of the other two Technical Areas, whether as a prime proposer, subawardee, or in any other capacity from an organizational to individual level. This is to avoid OCI situations between the Technical Areas and to ensure objective test and evaluation results.

IV. Application and Submission Information

Prior to submitting a full proposal, proposers are *strongly encouraged* to first submit an abstract as described below. This process allows a proposer to ascertain whether the proposed concept is: (1) applicable to the SCORE BAA and (2) currently of interest. For the purposes of this BAA, applicability is defined as follows:
- The proposed concept is applicable to the technical areas described herein.
- The proposed concept is important to DSO's current investment portfolio.
- The proposed concept investigates an innovative approach that enables

revolutionary advances, i.e., will not primarily result in evolutionary improvements to the existing state of practice.

- The proposed work has not already been completed (i.e., the research element is complete but manufacturing/fabrication funds are required).
- The proposer has not already received funding or a positive funding decision for the proposed concept (whether from DARPA or another Government agency).

Abstracts and full proposals that are not found to be applicable to the SCORE BAA as defined above may be deemed non-conforming and removed from consideration. All abstracts and full proposals must provide sufficient information to assess the validity/feasibility of their claims as well as comply with the requirements outlined herein for submission formatting, content and transmission to DARPA. Abstracts and full proposals that fail to do so may be deemed non-conforming and removed from consideration. Proposers will be notified of non-conforming determinations via letter.

A. Address to Request Application Package

This document contains all information required to submit a response to this solicitation. No additional forms, kits, or other materials are needed except as referenced herein. No request for proposal or additional solicitation regarding this opportunity will be issued, nor is additional information available except as provided at the Federal Business Opportunities website (http://www.fbo.gov), the Grants.gov website (http://www.grants.gov/), or referenced herein.

B. Content and Form of Application Submission

1. Abstract Information

a. Abstract Format

All proposers are required to use Attachment A: Abstract Summary Slide Template and Attachment B: Abstract Template provided to this solicitation on www.fbo.gov and hhtp://www.grants.gov. Attachment A: Abstract Summary Slide Template described herein must be in .ppt or .pptx format and should be attached as a separate file to this document.

As stated above, proposers are strongly encouraged to submit an abstract in advance of a full proposal to minimize effort and reduce the potential expense of preparing an out of scope proposal. The abstract provides a synopsis of the proposed project by briefly answering the following questions:

- What is the proposed work attempting to accomplish or do?
- How is it done today, and what are the limitations?
- Who will care and what will the impact be if the work is successful?
- How much will it cost, and how long will it take?

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.

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.

While it is DARPA policy to attempt to reply to abstracts within thirty calendar days, proposers to this solicitation may anticipate a response within approximately three weeks. These official notifications will be sent via email to the Technical POC and/or Administrative POC identified on the abstract coversheet.

Abstracts not meeting the format prescribed herein may not be reviewed.

2. Full Proposal Information

Proposals consist of Volume 1: Technical and Management Volume, Volume 2: Cost Volume, and Volume 3: Administrative and National Policy Requirements).

a. Full Proposal Format

Proposals consist of Volume 1: Technical and Management Volume, Volume 2: Cost Volume, and Volume 3: Administrative and National Policy Requirements).

All proposers are required to use the templates provided as attachments to this solicitation on www.fbo.gov and http://www.grants.gov. Formatting instructions are provided therein.

To assist in proposal development, various attachments have been provided along with the BAA posted on http://www.fbo.gov/ (Attachment C: Proposal Summary Slide Template, Attachment D: Proposal Template Volume 1 Technical & Management Volume, Attachment E: Proposal Template Volume 2 Cost Volume, Attachment F: Proposal Template Cost Summary Spreadsheet, Attachment F-2: Proposal Template Vol 2. Cost Breakdown Template, Attachment G: Proposal Template Volume 3 Administrative & National Policy Volume and Attachment H: Milestones and Deliverables Table).

Full proposals requesting a procurement contract or other transaction (OT) must use the following attachments:
- Attachment C
- Attachment D
- Attachment E

- Attachment F and F-2
- Attachment G
- Attachment H

Full proposals requesting a cooperative agreement must use the following attachments in addition to the Grants.gov application package:
- Attachment C
- Attachment D
- Attachment F and F-2
- Attachment G
- Attachment H

*Note – Budget Justification should be provided as Section L of the SF 424 Research & Related Budget form provided via Grants.gov. The Budget Justification should include the following information for the recipient and all subawardees: (1) Direct Labor: Detail the total number of persons and their level of commitment for each position listed (in sections A and B), as well as which specific tasks (as described in the SOW) they will support.(2) Equipment (section C) Provide an explanation for listed requested equipment exceeding $5,000, properly justifying their need to meet the objectives of the program. (3) Travel (section D) Provide the purpose of the trip, number of trips, number of days per trip, departure and arrival destinations, number of people, etc. (4) Other Direct Costs (section F). Provide a justification for the items requested and an explanation of how the estimates were obtained.

Proposals not meeting the format prescribed herein may not be reviewed.

DARPA reserves the right to refuse to review any and/or all proposals with a person or organization– whether as a prime or a sub-contractor – that appears on proposals submitted to more than one TA. It is the sole responsibility of a proposer to ascertain that they and any team members on a given proposal do not violate this TA requirement, whether knowingly or inadvertently.

3. Proprietary Information

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. See Section V.B.1 for additional information.

4. Security Information

DARPA anticipates that submissions received under this BAA will be unclassified. However, should a proposer wish to submit classified information, an *unclassified* email must be sent to the BAA mailbox requesting submission instructions from the DARPA/DSO Program Security

Officer (PSO).

Security classification guidance and direction via a SCG and/or DD Form 254, "DoD Contract Security Classification Specification," will not be provided at this time, since DARPA is soliciting ideas only. If a determination is made that the award instrument may result in access to classified information, a SCG and/or DD Form 254 will be issued by DARPA and attached as part of the award.

C. Submission Dates and Times

Proposers are warned that submission deadlines as outlined herein are in Eastern Time and will be strictly enforced. When planning a response to this solicitation, proposers should take into account that some parts of the submission process may take from one business day to one month to complete (e.g., registering for a DUNS number or TIN).

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

1. Abstracts

Abstracts must be submitted per the instructions outlined herein *and received by DARPA* no later than the due date and time listed in Part One: Overview Information. Abstracts received after this time and date may not be reviewed.

2. Full Proposals

Full proposal packages--full proposal (Technical and Management Volume, Cost Volume, National and Administrative Requirements) and, as applicable, proprietary subawardee cost proposals, classified appendices to unclassified proposals-- must be submitted per the instructions outlined herein *and received by DARPA* no later than the due date and time listed in Part One: Overview Information. Proposals received after this time and date may not be reviewed.

D. Funding Restrictions

Not applicable.

E. Other Submission Requirements

1. Unclassified Submission Instructions

Proposers must submit all parts of their submission package using the same method; submissions cannot be sent in part by one method and in part by another method nor should duplicate submissions be sent by multiple methods. Email submissions will not be accepted. Failure to comply with the submission procedures outlined herein may result in the submission being deemed non-conforming and withdrawn from consideration.

a. Abstracts

DARPA/DSO will employ an electronic upload submission system (https://baa.darpa.mil/) for all UNCLASSIFIED abstracts sent in response to this solicitation. *Abstracts must not be submitted via Grants.gov.*

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

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

All abstracts submitted electronically through the DARPA BAA Submission website must meet the following requirements: (1) uploaded as a zip file (.zip or .zipx extension); (2) only contain the document(s) requested herein; (3) only contain unclassified information; and (4) must not exceed 100 MB in size. Only one zip file will be accepted per abstract and abstracts not uploaded as zip files will be rejected by DARPA.

Technical support for the DARPA BAA Submission website is available during regular business hours, Monday – Friday, 9:00 a.m. – 5:00 p.m. Requests for technical support must be emailed to BAAT_Support@darpa.mil with a copy to SCORE@darpa.mil. Questions regarding submission contents, format, deadlines, etc. should be emailed to SCORE@darpa.mil. Questions/requests for support sent to any other email address may result in delayed/no response.

Since proposers may encounter heavy traffic on the web server, DARPA discourages waiting until the day abstracts are due to request an account and/or upload the submission.
Note: Proposers submitting an abstract via the DARPA BAA Submission site MUST (1) click the "Finalize" button in order for the submission to upload AND (2) do so with sufficient time for the upload to complete prior to the deadline. Failure to do so will result in a late submission.

b. Proposals Requesting a Procurement Contract or Other Transaction

Proposers requesting procurement contracts or other transactions may submit full proposals through ONE of the following methods: (1) electronic upload (DARPA-preferred); or (2) direct mail/hand-carry.

i. Electronic Upload

DARPA/DSO encourages proposers to submit UNCLASSIFIED proposals via the DARPA BAA Submission website at https://baa.darpa.mil/.

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

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

All full proposals submitted electronically through the DARPA BAA Submission website must meet the following requirements: (1) uploaded as a zip file (.zip or .zipx extension); (2) only contain the document(s) requested herein; (3) only contain unclassified information; and (4) must not exceed 100 MB in size. Only one zip file will be accepted per full proposal and full proposals not uploaded as zip files will be rejected by DARPA.

Technical support for the DARPA BAA Submission website is available during regular business hours, Monday – Friday, 9:00 a.m. – 5:00 p.m. Requests for technical support must be emailed to BAAT_Support@darpa.mil with a copy to SCORE@darpa.mil. Questions regarding submission contents, format, deadlines, etc. should be emailed to SCORE@darpa.mil. Questions/requests for support sent to any other email address may result in delayed/no response.

Since proposers may encounter heavy traffic on the web server, DARPA discourages waiting until the day proposals are due to request an account and/or upload the submission. Note: Proposers submitting a proposal via the DARPA BAA Submission site MUST (1) click the "Finalize" button in order for the submission to upload AND (2) do so with sufficient time for the upload to complete prior to the deadline. Failure to do so will result in a late submission.

ii. Direct Mail/Hand-carry

Proposers electing to submit procurement contract or other transaction proposals via direct mail or hand-carried must provide one paper copy and one electronic copy on CD or DVD of the full proposal package. All parts of the proposal package must be mailed or hand-carried in a single delivery to the address noted in Section VII below.

c. Proposals Requesting a Cooperative Agreement

Proposers requesting cooperative agreements may only submit proposals through ONE of the following methods: (1) electronic upload at Grants.gov (DARPA-preferred); or (2) direct mail/hand-carry to DARPA.

To evaluate compliance with Title IX of the Education Amendments of 1972 {20 U.S.C. A§ 1681 Et. Seq.), the Department of Defense 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 STEM disciplines. To enable this assessment, each application must include the two following forms completed as instructed: the Research and Related Senior/Key Person Profile (Expanded) form and the Research and Related Personal Data form. Both forms are provided with the application package in Grants.gov.

i. Electronic Upload

DARPA encourages cooperative agreement proposers to submit their proposals via electronic upload at http://www.grants.gov/web/grants/applicants/apply-for-grants.html. Proposers electing to use this method must complete a one-time registration process on Grants.gov before a proposal can be electronically submitted. *If proposers have not previously registered, this process can take up to four weeks so* registration should be done in sufficient time to ensure it does not impact a proposer's ability to meet required submission deadlines. Registration requirements and instructions are outlined at http://www.grants.gov/web/grants/register.html.

Carefully follow the DARPA submission instructions provided with the solicitation application package on Grants.gov. Only the required forms listed therein (e.g., SF-424 and Attachments form) should be included in the submission. *Note: Grants.gov does not accept zipped or encrypted proposals.*

Once Grants.gov has received an uploaded proposal submission, Grants.gov will send two email messages to notify proposers that: (1) the proposal has been received by Grants.gov; and (2) the proposal has been either validated or rejected by the system. *It may take up to two business days to receive these emails.* If the proposal is validated, then the proposer has successfully submitted their proposal. If the proposal is rejected, the submission must be corrected, resubmitted and revalidated before DARPA can retrieve it. If the solicitation is no longer open, the rejected proposal cannot be resubmitted. Once the proposal is retrieved by DARPA, Grants.gov will send a third email to notify the proposer. DARPA will send a final confirmation email as described in Section IV.C.

To avoid missing deadlines, Grants.gov recommends that proposers submit their proposals to Grants.gov 24-48 hours in advance of the proposal due date to provide sufficient time to complete the registration and submission process, receive email notifications and correct errors, as applicable.

Technical support for Grants.gov submissions may be reached at 1-800-518-4726 or support@grants.gov.

ii. Direct Mail/Hand-carry

Proposers electing to submit a cooperative agreement proposal via direct mail or hand-carried

must provide one paper copy and one electronic copy on CD or DVD of the full proposal package. Proposers must complete the SF 424 R&R form (Application for Federal Assistance, Research and Related) provided at Grants.gov as part of the opportunity application package for this BAA and include it in the proposal submission. All parts of the proposal package must be mailed or hand-carried to the address noted in Section VII below.

V.   Application Review Information

A. Evaluation Criteria

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

- **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 proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload.

- **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.

The proposed intellectual property restrictions (if any) will not significantly impact the Government's ability to transition the technology. The proposed restrictions – technical or otherwise – will not negatively impact the ability to share data among and between Technical Areas, include T&E.

- **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).

B. Review and Selection Process

DARPA will conduct a scientific/technical review of each conforming proposal. Conforming proposals comply with all requirements detailed in this BAA; 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.

The review process identifies proposals that meet the evaluation criteria described above and are, therefore, selectable for negotiation of awards by the Government. DARPA policy is to ensure impartial, equitable, comprehensive proposal evaluations and to select proposals that meet DARPA technical, policy, and programmatic goals. Proposals that are determined selectable will not necessarily receive awards (see Section II). Selections may be made at any time during the period of solicitation. For evaluation purposes, a proposal is defined to be the document and supporting materials as described in Section IV.

1. Handling of Source Selection Information

DARPA policy is to treat all submissions as source selection information (FAR 2.101 and 3.104), and to only disclose their contents to authorized personnel. Restrictive notices notwithstanding, 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), DARPA may also request input on technical aspects of the proposals from other non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements.

Submissions will not be returned. The original of each submission received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested via email to the BAA mailbox, provided the formal request is received within 5 days after being notified of submission status.

C. Federal Awardee Performance and Integrity Information (FAPIIS)

Following the review and selection process described above, but prior to making an award above the simplified acquisition threshold (FAR 2.101), DARPA is required[3] to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Selectees have the opportunity to comment on any information about themselves entered in the database. DARPA will consider any comments and other information in FAPIIS or other systems prior to making an award.

VI. Award Administration Information

A. Selection Notices

After proposal evaluations are complete, proposers will be notified as to whether their proposal was selected for award negotiation as a result of the review process. Notification will be sent by email to the Technical and Administrative POCs identified on the proposal cover sheet. If a proposal has been selected for award negotiation, the Government will initiate those negotiations following the notification.

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[3] Per 41 U.S.C. 2313, as implemented by FAR 9.103 and 2 CFR § 200.205.

B. Administrative and National Policy Requirements

1. Solicitation Provisions and Award Clauses, Terms and Conditions

Solicitation provisions relevant to DARPA BAAs are listed on the Additional BAA Content page on DARPA's website at www.darpa.mil/work-with-us/additional-baa. This page also lists award clauses that, depending on their applicability, may be included in the terms and conditions of awards resultant from DARPA solicitations. This list is not exhaustive and the clauses, terms and conditions included in a resultant award will depend on the nature of the research effort, the specific award instrument, the type of awardee, and any applicable security or publication restrictions.

For terms and conditions specific to cooperative agreements, see the supplemental DARPA-specific terms and conditions at www.darpa.mil/work-with-us/contract-management#GrantsCooperativeAgreements.

The above information serves to put potential proposers and awardees on notice of proposal requirements and award terms and conditions to which they may have to adhere.

2. 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 BAA. 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/fsd-gov/answer.do?sysparm_kbid=dbf8053adb119344d71272131f961946&sysparm_search=KB0013221.

NOTE: new registrations can take an average of 7-10 business days to process in SAM. SAM registration requires the following information:
- DUNS number
- TIN
- CAGE Code. If a proposer does not already have a CAGE code, one will be assigned during SAM registration.
- Electronic Funds Transfer information (e.g., proposer's bank account number, routing number, and bank phone or fax number).

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 www.sam.gov/. In addition, resultant procurement contracts will require supplementary DARPA-specific representations and certifications. See www.darpa.mil/work-with-us/additional-baa for further information.

4. Intellectual Property

Proposers should note that the Government does not own the intellectual property or technical data/computer software developed under Government contracts. The Government acquires the right to use the technical data/computer software. Regardless of the scope of the Government's rights, awardees may freely use their same data/software for their own commercial purposes (unless restricted by U.S. export control laws or security classification). Therefore, technical data and computer software developed under this solicitation will remain the property of the awardees, though DARPA will have, at a minimum, Government Purpose Rights (GPR) to technical data and computer software developed through mixed sponsorship.

If proposers desire to use proprietary computer software or technical data or both as the basis of their proposed approach, in whole or in part, they should: (1) clearly identify such software/data and its proposed particular use(s); (2) explain how the Government will be able to reach its program goals (including transition) within the proprietary model offered; and (3) provide possible nonproprietary alternatives in any area that might present transition difficulties or increased risk or cost to the Government under the proposed proprietary solution. Proposers expecting to use, but not to deliver, commercial open source tools or other materials in implementing their approach may be required to indemnify the Government against legal liability arising from such use.

All references to "Unlimited Rights" or "Government Purpose Rights" are intended to refer to the definitions of those terms as set forth in the Defense Federal Acquisition Regulation Supplement (DFARS) 227.

a. Intellectual Property Representations

All proposers must provide a good faith representation of either ownership or possession of appropriate licensing rights to all other intellectual property to be used for the proposed project. Proposers must provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.

b. Patents

All proposers must include documentation proving ownership or possession of appropriate licensing rights to all patented inventions to be used for the proposed project. If a patent application has been filed for an invention, but it includes proprietary information and is not publicly available, a proposer must provide documentation that includes: the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and summary of the patent title, with either: (1) a representation of invention ownership; or (2) proof of possession of appropriate licensing rights in the invention (i.e., an agreement from the owner of the patent granting license to the proposer)..

c. Procurement Contracts

- **Noncommercial Items (Technical Data and Computer Software):** Proposers requesting a procurement contract must list all noncommercial technical data and computer software that it plans to generate, develop, and/or deliver, in which the

Government will acquire less than unlimited rights and to assert specific restrictions on those deliverables. In the event a proposer does not submit the list, the Government will assume that it has unlimited rights to all noncommercial technical data and computer software generated, developed, and/or delivered, unless it is substantiated that development of the noncommercial technical data and computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and computer software generated, developed, and/or delivered, proposers should identify the data and software in question as subject to GPR. In accordance with DFARS 252.227-7013, "Rights in Technical Data - Noncommercial Items," and DFARS 252.227-7014, "Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation," the Government will automatically assume that any such GPR restriction is limited to a period of 5 years, at which time the Government will acquire unlimited rights unless the parties agree otherwise. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. Failure to provide full information may result in a determination that the proposal is non-conforming. A template for complying with this request is provided in Section IV.B.2.c.

- **Commercial Items (Technical Data and Computer Software):** Proposers requesting a procurement contract must list all commercial technical data and commercial computer software that may be included in any noncommercial deliverables contemplated under the research project, and assert any applicable restrictions on the Government's use of such commercial technical data and/or computer software. In the event a proposer does not submit the list, the Government will assume there are no restrictions on the Government's use of such commercial items. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer to evaluate the proposer's assertions. Failure to provide full information may result in a determination that the proposal is non-conforming. A template for complying with this request is provided in Section IV.B.2.c.

d. Other Types of Awards

Proposers requesting an award instrument other than a procurement contract shall follow the applicable rules and regulations governing those award instruments, but in all cases should appropriately identify any potential restrictions on the Government's use of any intellectual property contemplated under those award instruments. This includes both noncommercial items and commercial items. The Government may use the list as part of the evaluation process to assess the impact of any identified restrictions, and may request additional information from the proposer, to evaluate the proposer's assertions. Failure to provide full information may result in a determination that the proposal is non-conforming. A template for complying with this request is provided in Section IV.B.2.c.

5. 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 www.darpa.mil/work-with-us/additional-baa, to include providing the information specified therein as required for proposal submission.

6. Controlled Unclassified Information (CUI) on Non-DoD Information Systems

All proposers and awardees will be subject to the DARPA requirements related to Controlled Unclassified Information on Non-DoD Information Systems as detailed at www.darpa.mil/work-with-us/additional-baa.

7. Electronic Invoicing and Payments

Awardees will be required to submit invoices for payment electronically via Wide Area Work Flow (WAWF) at https://wawf.eb.mil, unless an exception applies. Registration in WAWF is required prior to any award under this BAA.

8. Electronic and Information Technology

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) and FAR 39.2.

9. 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://doi.org/10.6028/NIST.SP.800-171r1) that are in effect at the time the BAA 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.

C. Reporting

1. Technical and Financial Reports

The number and types of technical and financial reports required under the contracted project will be specified in the award document, and will include, as a minimum, monthly financial status reports and a yearly status summary. A final report that summarizes the project and tasks will be required at the conclusion of the performance period for the award. The reports shall be prepared and submitted in accordance with the procedures contained in the award document.

2. Patent Reports and Notifications

All resultant awards will contain a mandatory requirement for patent reports and notifications to be submitted electronically through i-Edison (https://public.era.nih.gov/iedison).

VII. Agency Contacts

DARPA will use email for all technical and administrative correspondence regarding this solicitation.

- **Technical POC**: Adam Russell, Program Manager, DARPA/DSO

- **BAA Email:** SCORE@darpa.mil

- **BAA Mailing Address:**
  DARPA/DSO
  ATTN: HR001118S0047
  675 North Randolph Street
  Arlington, VA 22203-2114

- **DARPA/DSO Opportunities Website:** http://www.darpa.mil/work-with-us/opportunities

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

VIII.   Other Information

A. Frequently Asked Questions (FAQs)

Administrative, technical, and contractual questions should be emailed to SCORE@darpa.mil. All questions must be in English and must include the name, email address, and the telephone number of a point of contact.

DARPA will attempt to answer questions in a timely manner; however, questions submitted within 10 days of the proposal due date may not be answered. DARPA will post an FAQ list at: http://www.darpa.mil/work-with-us/opportunities. The list will be updated on an ongoing basis until the BAA expiration date as stated in Part I.

B. Collaborative Efforts/Teaming

DARPA highly encourages teaming before proposal submission and, as such, will facilitate the formation of teams with the necessary expertise. Interested parties should submit a one-page profile including the following information:

- Contact information to include name, organization, email, telephone number, mailing address, organization website (if applicable).
- A brief description of the proposer's technical competencies.
- Desired expertise from other teams, if applicable.

All profiles must be emailed to SCORE@darpa.mil no later than 4:00 p.m. (Eastern) June 15, 2018. Following the deadline, the consolidated teaming profiles will be sent via email to the proposers who submitted a valid profile. Specific content, communications, networking, and team formation are the sole responsibility of the participants. Neither DARPA nor the DoD endorses the information and organizations contained in the consolidated teaming profile document, nor does DARPA or the DoD exercise any responsibility for improper dissemination of the teaming profiles. Teams need not be finalized at the time of abstract submission.

C. Proposers Day

The SCORE Proposers Day was held on June 8, 2018 in Arlington, VA. Please visit DARPA/DSO Opportunities Website for details: http://www.darpa.mil/work-with-us/opportunities. Attendance at the Proposers Day is not required to propose to this solicitation.

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[i] For more on DoD's definition of the Human Domain, see, e.g., http://nsiteam.com/operational-relevance-of-behavioral-social-science-to-dod/
[ii] See http://sites.nationalacademies.org/DBASSE/BBCSS/SBS_for_National_Security_Decadal_Survey/index.htm
[iii] See http://minerva.defense.gov/Research/Research-Priorities/
[iv] E.g., https://www.nap.edu/catalog/18622/us-air-force-strategic-deterrence-analytic-capabilities-an-assessment-of
[v] E.g., http://nsiteam.com/stability-model-stam-assessments/

[vi] E.g., https://community.apan.org/wg/afosr/w/researchareas/7676/trust-and-influence/

[vii] E.g, http://nsiteam.com/violent-extremism-radicalization/

[viii] See https://www.rand.org/pubs/research_reports/RR2208.html

[ix] E.g., http://www.nature.com/news/reproducibility-1.17552

[x] SCORE's definitions of R&R are derived in part from https://doi.org/10.1002/per.1919

[xi] E.g., https://en.wikipedia.org/wiki/Research_design#Confirmatory_versus_exploratory_research

[xii] https://www.timeshighereducation.com/blog/grey-zone-how-questionable-research-practices-are-blurring-boundary-between-science-and

[xiii] E.g., http://cs.stanford.edu/people/ashton/pubs/limpred.pdf

[xiv] E.g., https://arxiv.org/ftp/arxiv/papers/1205/1205.1055.pdf

[xv] http://retractionwatch.com/2017/04/20/new-record-major-publisher-retracting-100-studies-cancer-journal-fake-peer-reviews/

[xvi] E.g., http://www.nature.com/news/reproducibility-1.17552

[xvii] E.g., https://www.nap.edu/catalog/21915/statistical-challenges-in-assessing-and-fostering-the-reproducibility-of-scientific-results

[xviii] E.g., http://www.nature.com/news/publicly-questioned-papers-more-likely-to-be-retracted-1.14979

[xix] E.g. http://www.sciencemag.org/news/2017/06/great-paper-swipe-right-new-tinder-preprints-app

[xx] E.g., http://www.the-scientist.com/?articles.view/articleNo/32427/title/Bring-On-the-Transparency-Index/

[xxi] For example, a "low confidence" Replicability score for a claim may not mean the claim is unlikely to be "true," but rather that it is highly exploratory in nature and should be treated accordingly.

[xxii] E.g., https://www.usability.gov/how-to-and-tools/methods/system-usability-scale.html