Broad Agency Announcement

Transforming the Battlespace

Tactical Technology Office

HR001120S0053

June 12, 2020

Contents

PART I: OVERVIEW INFORMATION

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Tactical Technology Office (TTO)
- **Funding Opportunity Title** – Transforming the Battlespace
- **Announcement Type** – Initial Announcement
- **Funding Opportunity Number** – HR001120S0053
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – 12.910 Research and Technology Development
- **Dates**
  - Posting Date: 12 June 2020
  - Closing Date and Time: 4 PM Eastern Time on 11 June 2021

- **Concise description of the funding opportunity –** The Tactical Technology Office of the Defense Advanced Research Projects Agency is soliciting executive summaries, proposal abstracts, and proposals for applied research, advanced technology development, and platform demonstrations that aim to enable disruptive capabilities for future warfare.
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Procurement (FAR-based) contract, grant, cooperative agreement or other transaction.
- **Agency contact:** The BAA Coordinator for this effort can be reached via:

  HR001120S0053@darpa.mil

  - DARPA/Tactical Technology Office
    ATTN: HR001120S0053
    675 North Randolph Street
    Arlington, VA 22203-2114

  - PHONE: (703) 248-1512

PART II: FULL TEXT OF ANNOUNCEMENT

I. Funding Opportunity Description

The Defense Advanced Research Projects Agency (DARPA) often selects its research efforts through the Broad Agency Announcement (BAA) process. This publication constitutes a BAA as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and 2 CFR § 200.203. Any resultant award negotiations will follow all pertinent law and regulation, and any negotiations and/or awards for procurement contracts will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA. The following information is for those wishing to respond to the BAA.

A. Program Overview

The Tactical Technology Office (TTO) of the Defense Advanced Research Projects Agency (DARPA) is soliciting executive summaries, proposal abstracts, and proposals for applied research, advanced technology development, platform demonstrations, or systems studies that aim to transform the future of warfighting across four domains: Air, Ground, Maritime, and Space.

Current warfighting systems are largely based on Concepts of Operations involving large, expensive, legacy platforms. These platforms are costly and time-consuming to develop. Although they provide unmatched capability, the significant investment they represent means that they must stay in service for decades, much longer than the evolution of the threat environment. In a dynamic high-end competition, these platforms are difficult to update with new technologies or modify in light of responsive threats. Moreover, these high-value systems are increasingly targeted by adversaries, and require significant investment for self-protection at the expense of force application. In addition, exquisite systems designed for high-end adversaries may be unaffordable in sufficient number for defending the homeland and an expensive overmatch for stabilization efforts. TTO seeks to identify, develop, and demonstrate systems that break the warfighter's dependence on these increasingly outdated or vulnerable platforms, through approaches such as disaggregation, increased refresh opportunities, life cycle cost savings, leveraging of commercial technology, and similar approaches that provide the above benefits while retaining or increasing operational utility across a broader spectrum of strategic needs. TTO also seeks to develop technologies to inflict doubt on our adversaries, to create strategic delays and create space and time for a U.S. response. In order to transform the battlespace, TTO seeks to reimagine the order of battle via a prism of disaggregation, diversification, dispersion, disruption and doubt.

DARPA is built on a foundation of pivotal investments in high-risk technologies for national security; the Office-wide BAA represents a critical portal for innovation and initial investment towards developing the DARPA portfolio. TTO views the Office-wide BAA as an opportunity to gain knowledge or understanding necessary to determine the means by which a specific need may be met. Submissions should describe how an investment would provide the unique insight into the problem TTO is trying to solve, and quantifiably substantiate those assertions. These insights may include proof-of-concept prototypes, system analyses, or any other work product that identifies the path to a new demonstration concept. TTO encourages approaches that prove (or disprove) this unique insight as fast as possible – TTO is interested in

quickly identifying promising technologies and moving them to the next phase of development.

TTO will seek innovative ways to develop, demonstrate, and employ breakthrough technologies to generate surprise and leap-ahead military capability while adhering to the DARPA Imperatives: **defend the homeland against existential threats**, **deter and prevail against high end adversary**, and **effectively prosecute stabilization efforts**. TTO currently has a strong portfolio supporting the deter and prevail against high end adversary imperative and will continue system demonstrations in this area. Specific emphasis will be placed on effectively prosecuting stabilization efforts. TTO will continue to work novel approaches and demonstrations supporting ground, air, space and maritime domains. To defend the homeland against existential threats, TTO will investigate novel ways to counter known and emerging threats. As such, TTO is explicitly not interested in approaches or technologies that offer incremental or evolutionary advancements beyond state-of-the-art. To see what DARPA/TTO is already investing in, please visit us online at https://www.darpa.mil/.

TTO recommends submitting an executive summary prior to a proposal abstract or a full proposal submission to have your concept reviewed by TTO personnel to gauge interest. Submission instructions can be found in Section IV – concepts may not be submitted by fax or e-mail. Evaluation criteria for this solicitation can be found in Section V.A.

B. TTO Focus Areas

TTO is a systems office that develops and demonstrates platform level technologies to enable revolutionary advances in military system resilience, responsiveness, range, lethality, access, endurance, and affordability to enable new Joint Force warfighting concepts. TTO is focusing on revolutionary system architectures that are disaggregated, dispersed, diversified, disruptive, and instill doubt in our adversaries to deter and pre-empt aggression, with the ultimate goal of maintaining U.S. military superiority in the future. TTO's strategy for achieving these objectives is to conduct platform level demonstrations of high-risk, high-payoff technologies in realistic, operationally relevant conditions to support technology transition.

TTO projects usually define a reference operational system upfront, decompose critical technical risks, and define a demonstration around them. Use of off-the-shelf technology for lower risk subsystems reduces program cost and schedule, but allows critical technologies to be matured and demonstrated.

1. Air Systems

Low observability has remained a mainstay of the DoD's fighter and bomber communities since the first flight of the stealth demonstrator HAVE BLUE more than 40 years ago. The F-117, F-22, B-2, and now the F-35 have incorporated the disruptive technologies that comprise stealth, improving performance and reliability, over this long period. At the same time, our adversaries have witnessed the value of low observability and have responded with multiple generations of countermeasures during that same timeframe. It has been about half that time since the demonstration of unmanned combat air vehicles (UCAVs), which have seen widespread use in stabilization operations. Adversary response to counter this capability has rapidly degraded the effectiveness of current UAV and UCAV systems.

The proliferation of advanced integrated air defense systems (IADS), to include extremely capable surface-to-air and air-to-air missiles, has equipped not just our peer competitors, but nations across the world with capabilities that directly threaten our ability to engage and prevail in combat. The ability to make platforms stealthier is approaching physical limits, making continuance of the traditional path impractical.

TTO's interest in Air Systems includes but is not limited to:

- Technologies to enable next generation unmanned air systems providing survivability and lethality improvements over existing Unmanned Air Vehicles (UAVs).
- Technologies to advance the integration and testing of developmental hypersonic air-breathing and glide vehicles for air, ground, and sea launch.
- Emerging technologies in design and systems engineering that offer the possibility of developing and fielding systems more rapidly than previously. Explore the use of Model-Based Systems Engineering (MBSE), Multi-Dimensional Optimization (MDO), and Additive Manufacturing.
- Technologies to enable development of propulsion capabilities that have not previously been exploited, including flight demonstration of vehicles that are traceable to an operationally relevant mission.
- A **diversified** mix of weapon technologies that can achieve lethality through a combination of overwhelming performance with overwhelming numbers targeted and launched from **disaggregated** low-cost platforms.
- Technologies to enable greater levels of autonomy (collaborative and own ship) that can minimize the risk to human warfighters and make individual platforms more "attritable", all while increasing overall effectiveness and lethality.

2. Ground Systems

The distinguishing feature of land combat is its relative symmetry and overwhelming complexity. Naval, air, and space assets can rely on long-standoff weapons to engage an enemy and are often able to retreat to relative sanctuary. However, soldiers and Marines are exposed to direct fire from the adversary, often at very close range, confronting an adversary that often possesses better knowledge of the terrain, shorter supply lines, and increasing access to sophisticated technology that enables precision strike capabilities. The future ground battlefield will be one of chaos and unpredictability where stationary forces will be subject to lethal attacks.

TTO's interest in Ground Systems includes but is not limited to:

- Technologies to expand the effective ranges of surface-to-surface precision fires for a highly mobile, survivable hypersonic weapon launch platform.
- Technologies to improve the integration of unmanned ground systems with troops, to enable both groups to operate together more effectively.
- Technologies to improve the ability of multiple unmanned systems to operate in cooperation with one another, and with manned systems.

- Technologies to provide small units or even individual warfighters improved mobility and lethality to enable undeterrable presence anywhere on the globe.
- Expand the combined arms maneuver trade space to include the vertical dimension, interiors of buildings, and exploiting natural and man-made subterranean environments.
- Leverage advances in AI enabled autonomy for effective integrated manned-unmanned ground force operations.
- Technologies to enable intelligent ground robotic combat systems to operate at the speed of battle to keep up with human warfighters.

3. Maritime Systems

The maritime domain is characterized by the persistence of the carrier strike group, a suite of capabilities that, more than any other fielded by the U.S. Navy, represent the quintessential American approach to naval dominance – one that has repeatedly demonstrated its efficacy in the decades following World War II. But, like the space domain, investment in a monolithic, high-value asset (the carrier) brings with it specific deficiencies; namely, the need for a layered defense of the high-value asset against adversary countermeasures. Air-launched cruise missiles, advanced ballistic missiles, and hypersonic weapons represent serious threats to the carrier strike group and threaten to impair not only its effectiveness as a critical force projection capability, but the perception of the carrier and its attendant assets as untouchable extensions of American might.

TTO's interest in Maritime Systems includes but is not limited to:

- New maritime technologies to enable a **dispersed** system-of-system architecture that complicates an adversary's plans by reducing warfighting reliance on monolithic, high-value surface and sub-surface assets.
- Technologies for surface combatants to organically defeat raids of sea-skimming high-speed missiles.
- Technologies to counter advanced subsurface systems and defeat advanced torpedo threats.
- Architectures, advanced technologies, and concepts of operations to mature a capability to protect U.S. waterways, thus enabling unencumbered naval operations.
- Technologies to provide a persistent presence in the arctic, ensure freedom of navigation, and prevent potential adversaries from achieving dominance.
- Technologies to **disperse and disaggregate** maritime assets using small, inexpensive, networked vessels that leverage commercial private sector development in artificial intelligence and autonomy.
- Cross-domain technologies to leverage the undersea domain to impose **doubt** on our adversaries by projecting power into all other domains.

4. Space Systems

The national security space enterprise remains dominated by a culture of risk aversion and the deliberately-paced development of small numbers of exquisite, expensive spacecraft used

primarily for strategic applications, to include early warning of ballistic missile launches, intelligence, surveillance, and reconnaissance, and nuclear command and control. Upgrades occur on timescales measured in years to decades. Tactical applications comprise only a small portion of U.S. space capabilities, and they are usually after-thoughts added on to other capabilities inefficiently. Potential adversaries have recognized the U.S.'s dependency on space products – for defense, civil, and commercial applications – and have invested accordingly. Threats to our space assets and their attendant control systems have multiplied.

TTO's interest in Space Systems includes but is not limited to:

- New space architectures that complicate an adversary's counter-space plans by reducing warfighting reliance on monolithic, long lead-time, high-value space assets and instruments.
- Technologies that reduce reliance on large, expensive, and increasingly vulnerable GEO assets. Delivering capability by proliferating and disaggregating space assets at LEO with smaller, simpler satellites derived from commercial designs, and leveraging the emerging commercial private sector development of network and user segments.
- Exploit artificial intelligence and deep learning technologies to support access-denied scenarios, by enabling autonomous evaluation of data collected by multiple proliferated LEO constellations, and enabling dynamic creation of kill chains.
- Innovative ways to counter emerging threats assuming a contested space environment.
- Technologies to enhance access and freedom of operations in all orbital regimes.
- Advances in material science, manufacturing and computational imaging to reduce the size/weight, cost, and timeliness required to field game-changing capabilities.

II. Award Information

A. General Award Information

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds. Initial awards are anticipated to be for less than $1 million and less than 18 months duration, although options that follow the base effort may also be proposed.

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

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below (see Section V, "Application Review Information,") and program balance to provide overall value to the Government. The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications (see Section VI.B.4, "Representations and Certifications"). The Government reserves the right to remove proposals from award consideration, should the parties fail to reach agreement on award terms, conditions, and/or cost/price 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, grant, cooperative agreement, or other transaction, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, and other factors. Any requests for or assumptions regarding Government Furnished Equipment (GFE) or Government Furnished Information (GFI) should be clearly stated in the proposal.

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

In accordance with 10 U.S.C. § 2371b(f), the Government may award a follow-on production contract or Other Transaction (OT) for any OT awarded under this BAA if: (1) that participant in the OT, or a recognized successor in interest to the OT, successfully completed the entire prototype project provided for in the OT, as modified; and (2) the OT provides for the award of a follow-on production contract or OT to the participant, or a recognized successor in interest to the OT.

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

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 cannot identify whether the work under this BAA may be considered fundamental research and may award both fundamental and non-fundamental research.

Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at http://www.darpa.mil/work-with-us/additional-baa.

For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, its proposed subawardee's effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed subawardee's effort may be non-fundamental research. In all cases, it is the potential awardee's responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

III. Eligibility Information

A. Eligible Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA, such as all United States Enterprises to include:

- Industrial/commercial concerns including small businesses
- Accredited degree granting colleges and universities
- Non-profit and not-for-profit organizations

Additionally:

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, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations

and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. These conditions are a requirement for FFRDCs proposing to be awardees or subawardees.

All proposers are expected to address transition; transition is part of the evaluation criteria in Section V.A. However, given their special status, FFRDCs should describe how and when a proposed technology/system will transition to which Non-FFRDC organization(s).

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 and compete with industry. 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. Non-U.S. Organizations and/or Individuals

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

3. Classified Proposals

If a submission contains Classified National Security Information or the suspicion of such, as defined by Executive Order 13526, applicants will ensure all industrial, personnel, and information systems processing security requirements are in place and at the appropriate level (e.g., Facility Clearance Level (FCL), Automated Information Security (AIS), Certification and Accreditation (C&A), and any Foreign Ownership Control and Influence (FOCI) issues are mitigated prior to submission. Additional information on these subjects can be found at http://www.dcsa.mil.

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. Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

For more information on potential cost sharing requirements for Other Transactions for Prototype, see http://www.darpa.mil/work-with-us/contract-management#OtherTransactions.

IV. Application and Submission Information

A. Application Assistance

All administrative correspondence and questions on this solicitation, including requests for information on how to submit an executive summary, proposal abstract, or full proposal to this BAA, should be directed to HR001120S0053@darpa.mil.

This announcement, any attachments, and any references to external websites herein constitute the total solicitation. If proposers cannot access the referenced material posted in the announcement found at www.darpa.mil, contact the administrative contact listed above. No additional information is available, except as provided at beta.SAM.gov or Grants.gov, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for the same will be disregarded.

Technical support for DARPA's BAA Website may be reached at BAAT_Support@darpa.mil. It is recommended that you Courtesy Copy (CC) the administrative contact at HR001120S0053@darpa.mil on this correspondence, for situational awareness.

B. Content and Form of Submission

Proposers are strongly encouraged to submit an executive summary and, if encouraged, a proposal abstract in advance of a full proposal. This procedure is intended to minimize unnecessary effort and cost in proposal preparation and review.

All submissions must be written in English with type not smaller than 12-point font. A page is defined as being no larger than an electronically formatted page of 8.5” by 11.0” with type not smaller than 12 point. Smaller font may be used for figures, tables, and charts. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title/proposal short title.

For a proposal that includes both classified and unclassified information, the proposal may be separated into an unclassified portion and a classified portion. The proposal should use the unclassified portion to the maximum extent reasonable. Submissions should be made according to the instructions outlined in Section IV.C.4.

NOTE: Non-conforming submissions that do not follow the instructions herein may be rejected without further review. Submissions including profane or racially charged language will not be reviewed.

1. Executive Summary (ES) Format

Executive summaries are encouraged in advance of submitting proposal abstracts and full proposals in order to provide potential proposers with a rapid response to minimize unnecessary effort. Proposers should specifically and clearly address the innovation of their proposed system or subsystem component development, the scientific or technical basis for innovative claims, and the impact of the proposed development on military mission capabilities, efficiency, or effectiveness. DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104), and to disclose their contents only for the purpose of evaluation. The executive summary should be clearly marked "EXECUTIVE SUMMARY," and the total length shall not exceed two [2] pages. All executive summary submissions must be written in narrative form. No formal transmittal letter is required, but submissions must include the organization name, submission title, and technical POC information (e-mail and mailing address).

2. Proposal Abstract (PA) Format

Proposers are strongly encouraged to submit a proposal abstract, or white paper, in advance of a proposal. Abstracts should follow the same general format as described for proposals (see IV.B.3) but include ONLY sections I and II of Volume I, Technical and Management Proposal. The abstract must include a statement of the anticipated Rough Order of Magnitude (ROM) cost and the anticipated duration of the proposed effort. It is recommended that proposers provide sufficient information to assess the technical performance claims – DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104), and to disclose their contents only for the purpose of evaluation. The cover sheet should be clearly marked "ABSTRACT," and the total length should not exceed six [6] pages. The maximum page count excludes the cover page in Volume I, Technical and Management Proposal, section I, and official transmittal letter, but does include any figures, tables, or the requested quad chart. An official transmittal letter is not required.

3. Full Proposal (FP) Format

All proposals must be in the format given below. Non-conforming proposals may be rejected without review. The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed efforts should not be included into a single proposal. Proposals shall consist of two volumes: 1) Volume I, Technical and Management Proposal (composed of three parts), and 2) Volume II, Cost Proposal. The maximum page limit for Volume I is 30 pages (40 pages if the proposal dollar value is > $1 million). Bracketed numbers by each section denote page limits. The page limitation for full proposals includes all figures, tables, and charts.

Ensure that each section provides the detailed discussion of the proposed work necessary to enable an in-depth review of the specific technical and managerial issues. Specific attention must be given to addressing both risk and payoff of the proposed work that make it desirable to DARPA.

Volume I, Technical and Management Proposal, described below, may include an attached bibliography of relevant technical papers or research notes (published and unpublished), which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers may be included with the submission. The bibliography and attached papers are not included in the page limits. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review.

a) Volume I, Technical and Management Proposal

Section I: Administrative

(a) **Cover Sheet to include** {no page limit}:
(1) BAA number (HR001120S0053);
(2) Technical area;
(3) Lead Organization submitting proposal;
(4) Type of organization, selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
(5) Proposer's reference number (if any);
(6) Other team members (if applicable) and type of organization for each;
(7) Proposal title;
(8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
(9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
(10) Total funds requested from DARPA, including total base cost, estimates of base cost in each year of the effort, estimates of itemized options in each year of the effort, and the amount of cost share (if any);
(11) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract – no fee, cost sharing contract – no fee, or other type of procurement contract (specify), grant, cooperative agreement, or other transaction;
(12) Place(s) and period(s) of performance;
(13) Affirmation of Human Subject Research. If none, state "none";
(14) Affirmation of Animal Research. If none, state "none";
(15) Summary of the costs of the proposed research, including total base cost, estimates of base cost in each year of the effort, estimates of itemized options in each year of the effort, and cost sharing if relevant;
(16) Name, address, and telephone number of the proposer's cognizant Defense Contract Management Agency (DCMA) administration office (if known);

(17) Name, address, and telephone number of the proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (if known);
(18) DUNS number;
(19) TIN number;
(20) Cage code (lead organization);
(21) Proposal validity period (minimum 180 days);
(22) Affirmation of existing SETA support contacts (see Part III, Section B). If none, state "none";
(23) Statement of Unique Capability Provided by Government or Government- Funded Team Member {no page limit};
(24) Per Section III.A – Eligible Applicants, proposals that include Government or Government-funded entities (i.e., FFRDC's, National laboratories, etc.) as prime, subcontractor or team member, shall provide a statement that clearly demonstrates the work being provided by the Government or Government- funded entity team member is not otherwise available from the private sector. If none of the team members belongs to a Government or Government-funded entity, then the proposer should state "Not Applicable."
(25) Date proposal was submitted.

(b) **Official transmittal letter** {1}

(c) **Table of Contents** {no page limit}

Section II: Summary of Proposal {4}

Note: The Summary of Proposal should not have any unique information not contained in the Detailed Proposal Information.

(a) **Innovation:** Succinctly describe the uniqueness and benefits of the proposed research relative to the existing body of research and industry work. Provide a basic description of the scientific or technical basis for the innovative claims.
(b) **Results:** Provide a short description of the deliverables associated with the proposed research – discuss the results, products, transferable technology, and transition path.
   i. Include in this section all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are no proprietary claims, this should be stated. For forms to be completed regarding intellectual property, see Section IV.B.4.i of this BAA. There will be no page limit for the listed forms.
   ii. Proposers responding to this BAA must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. The Government will assume unlimited rights if proposers fail to identify any intellectual property restrictions in their proposals.
(c) **Technical Rationale:** Provide a short description of the impact of the proposed development on military mission capabilities, efficiency, or effectiveness.
   i. Should include general discussion of other research in this area.
   ii. The purpose of this section is to explain why the specific technical approach you chose is superior to other technical approaches. This section is not intended to expand on the

military utility of your concept.

(d) **Technical Approach:** Provide a short description of the technical approach and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable production.

(e) **Experience:** Describe the unique capabilities of project and corporate team members. Describe the proposer's previous accomplishments and work in closely related research areas.

(f) **Cost:** Cost, schedule and measurable milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the prime and major subcontractors, total cost and company cost share, if applicable. (Note: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.)

(g) **Quad Chart:** Include, in PowerPoint format, a quad chart that reflects the content and claims in the proposal. The quadrants should be as follows: (1) proposal picture in the upper left-hand quadrant; (2) proposal description in the upper right-hand quadrant; (3) proposal military impact in the lower left-hand quadrant; and (4) proposal budget and schedule. For full proposals, the quad chart will serve as the fourth page.

Section III: Detailed Proposal Information {25 or 35 if proposal is more than one million dollars}

(a) **Statement of Work (SOW)** – In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The page length for the SOW will be dependent on the amount of the effort. For each task/subtask, provide:

i. A general description of the technical objective (for each defined task/activity);
ii. A detailed description of the approach to be taken to accomplish each defined task/activity in support of the innovative claims and deliverable production;
iii. Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
iv. A top-level schedule for all major tasks and the completion criteria for each task/activity (a product, event or milestone that defines its completion). Please include where the effort could be partitioned into initial and future phases – future phases should be identified as options.
v. Define all deliverables (reporting, data, reports, hardware, software, technology, products, etc.) to be provided to the Government in support of the proposed tasks/activities; and
vi. Clearly identify any tasks/subtasks (to be performed by either an awardee or subawardee) that will be accomplished on-campus at a university, if applicable.

Note: It is recommended that the SOW should be developed so that each Phase of the program is separately defined. ***The SOW is not included as part of the Volume I page limit.***

Do not include any proprietary information in the SOW.

(b) **Technical Rationale:**

i. Provide the technical rationale for the objective requirement, including technology

advancements and value-added to DoD capabilities.

ii. Provide technical rationale, scientific basis, and any supporting analysis for the technical approach for each major task/activity.

iii. Provide a comparison of the technical objectives and technical approach with other ongoing research and existing state-of-the-art, indicating advantages and disadvantages of the proposed effort.

(c) **Risk and Risk Reduction:**

i. Provide an initial list of critical technology risk areas.

ii. Describe the formal process for identifying and tracking the risk elements that translate into critical and unique technologies, processes and system attributes associated with technology objective.

iii. For each proposed risk reduction task:

1. Provide a detailed discussion of the technical objectives of each of the proposed risk reduction tasks as well as quantifiable success metrics.
2. Describe the technical approach for each risk reduction task.
3. Describe the value of performing the risk reduction activities during the initial phase, as opposed to deferring them until future phases.

iv. Describe the process for identifying and evaluating applicable technologies available from other Government and industry R&D programs.

v. Address mitigation of life cycle and sustainment risks associated with transitioning intellectual property for U.S. military applications, if applicable.

(d) **Results:**

i. Describe the results, products, transferable technology and expected technology transfer/transition paths.

ii. Provide a description of all proprietary claims to the results, prototypes, intellectual property, or systems. If there are no proprietary claims, this should be stated. For forms to be completed regarding intellectual property, see Section IV.B.4.i – Intellectual Property. There will be no page limit for the listed forms.

(e) **Organization:**

i. Describe the programmatic relationship of corporate team members.

ii. Describe the responsibilities of corporate and project team members.

iii. Describe the teaming strategy among the team members.

iv. Identify the key personnel by name and include descriptions of their roles. DARPA requires key personnel identified in the proposal to be assigned as proposed, and the resulting contract/agreement will indicate no substitution shall be made without prior approval of the Government.

v. Describe the proposer's previous accomplishments and work in closely related research areas.

vi. Submit a clearly defined organization chart for the project team which includes, as applicable:

- The programmatic relationship of team members;
- The unique capabilities of team members;
- The task of responsibilities of team members;
- The teaming strategy among the team members; and
- The key personnel along with the amount of effort to be expended by each person during each year.

(f) **Facilities:** Provide a description of any unique facilities necessary for execution of the proposed effort that would be used for the proposed effort.

(g) **Project Management:**

i. Management Plan:
   1. Describe program management process that will be utilized to achieve the technical objective.
   2. Include a description of how the team will function and share technical and financial information among the team members and with the Government.
   3. Provide short resumes for the key personnel in key disciplines/risk areas.

ii. Schedule**:** Provide a detailed integrated schedule of all initial phase activities, including risk reduction tasks. Proposals below $1 million should provide an Integrated Master Schedule (IMS) at a minimum at WBS Level 2. Proposals that exceed $1 million (total proposed value, regardless of potential cost share) should provide an IMS at WBS Level 3.
   1. Measurable critical milestones should occur every two (2) to three (3) months after the start of the effort. Additional interim non-critical management milestones are also highly encouraged at regular intervals. Milestones must not include proprietary information.
   2. Top-level schedules are required for optional phases and should be based on the proposer's initial risk reduction strategy.
   3. Include key events and demonstrations as appropriate for the technology concept. An electronic copy of the IMS in MS Project shall be included with proposal submissions.
   4. All tasks in the IMS shall be linked and the ability to display the critical path shall be implemented.

b) Volume II, Cost Proposal

All proposers, including FFRDCs, must submit the following:

Section I: Administrative

(a) Cover sheet to include:
(1) BAA number (HR001120S0053);
(2) Technical area;
(3) Lead Organization submitting proposal;
(4) Type of organization selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
(5) Proposer's reference number (if any);
(6) Other team members (if applicable) and type of organization for each;
(7) Proposal title;
(8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);

(9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
(10) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (specify), grant, cooperative agreement, or Other Transaction;
(11) Place(s) and period(s) of performance;
(12) Total proposed cost separated by basic award and option(s) (if any);
(13) Name, address, and telephone number of the proposer's cognizant Defense Contract Management Agency (DCMA) administration office (if known);
(14) Name, address, and telephone number of the proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (if known);
(15) Date proposal was prepared;
(16) DUNS number;
(17) TIN number;
(18) CAGE Code;
(19) Subawardee Information; and
(20) Proposal validity period.

Section II: Detailed Cost Proposal

Note: Nonconforming proposals may be rejected without review.

(a) **Supporting Cost and Pricing Data:**

i. The proposer should include supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates and should include a description of the method used to estimate costs and supporting documentation. The Government strongly encourages that tables included in the cost proposal also be provided in an editable (e.g., MS Excel) format with calculation formulas intact to allow traceability of the cost proposal numbers across the prime and subcontractors.
ii. The awardee is responsible for compiling and providing all subawardee proposals for the Procuring Contracting Officer (PCO).
iii. Subawardee proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements.
iv. All proprietary subawardee proposal documentation, prepared at the same level of detail as that required of the awardee's proposal and that cannot be uploaded with the proposed awardee's proposal, shall be provided to the Government either by the awardee or by the subawardee organization by e-mail (HR001120S0053@darpa.mil) when the proposal is submitted.
v. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.
vi. For IT and equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding.
vii. Each copy must be clearly labeled with the DARPA BAA number, proposer

organization, and proposal title (short title recommended).

(b) **Cost Breakdown Information and Format:**

The cost proposal must include the attached cost detail spreadsheet, completed by the prime proposer and each proposed subcontractor, in an editable format with calculation formulas intact.

Detailed cost breakdown to include the following.

i. Provide the total cost and costs broken down by initial phase and options.

ii. Provide costs broken down by task for the initial phase, including at a minimum:
   1. Major tasks by fiscal year
   2. A summary of projected funding requirements by month
   3. Direct labor, including labor categories and man-hours, and labor rates;
   4. Cost by the prime and major subcontractors;
   5. Cost by major risk/activity;
   6. Materials;
   7. Other Direct Costs (ODCs) (e.g., travel, equipment, etc.);
   8. Overhead/Indirect charges, and rates used to calculate overhead/indirect costs; provide the source, nature, and amount of any industry cost-sharing.

iii. An itemization of major subcontracts and equipment purchases, including:
   1. Documentation supporting the reasonableness of the proposed equipment costs (vendor quotes, past purchase orders/purchase history, detailed engineering estimates, etc.) and a description of the method used to estimate costs and supporting documentation.
   2. Identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Experts, etc.)
   3. Any information technology (IT) purchase, as defined by FAR 2.101 – Documentation supporting the reasonableness of the proposed equipment costs (vendor quotes, past purchase orders/purchase history, detailed engineering estimates, etc.) shall be provided, including a letter stating why the proposer cannot provide the requested resources from its own funding for prime and all sub-awardees.

(c) **Cost Note**

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

i. Subawardee Proposals

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

All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime and which cannot be uploaded with the proposed prime contractor's proposal, shall be provided to the Government either by the prime contractor or by the subcontractor organization by e-mail (HR001120S0053@darpa.mil) when the proposal is submitted. The subject line of the e- mail shall contain the lead organization's proposal title, lead organization name, lead organization proposal submission date, and subcontractor name. The subawardee must provide the same number of copies to the PCO/GO/AO as is required of the awardee. See Section IV.C of this BAA for proposal submission information.

ii. Other Transaction Requests

The Government may award either a Federal Acquisition Regulation (FAR) based contract or an Other Transaction for Prototype (OT) agreement for prototype system development.

All proposers requesting an OT must include a detailed list of milestones. Each milestone must include the following:

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

It is noted that, at a minimum, milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer's proposal. Agreement type, expenditure or fixed-price based, will be subject to negotiation by the Agreements Officer. Do not include proprietary data. If a proposer requests award of an OT for Prototype, information must be provided in the cost proposal to verify the proposer's eligibility in accordance with 10 U.S.C. § 2371b.

4. Additional Proposal Information

a) Proprietary Markings

Proposers are responsible for clearly identifying proprietary information. Submissions containing proprietary information must have the cover page and each page containing such information clearly marked with a label such as "Proprietary." 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.

b) Marking Classified Submissions

DARPA anticipates that submissions received under this BAA will be unclassified. However, submission instructions can be found in Section IV.C.3. should a proposer wish to submit classified information. 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.

Classified submissions shall be transmitted and marked in accordance with the following guidance. Security classification guidance via a Security Classification Guide (SCG) and/or DARPA DD Form 254, "DoD Contract Security Classification Specification," may be provided at a later date.

If a submission contains Classified National Security Information or the suspicion of such, as defined by Executive Order 13526, the information must be appropriately and conspicuously marked with the proposed classification level and declassification date. Submissions requiring DARPA to make a final classification determination shall be marked as follows:

"CLASSIFICATION DETERMINATION PENDING. Protect as though classified_____(insert the recommended classification level, e.g., Top Secret, Secret or Confidential)"

NOTE: Classified submissions must indicate the classification level of not only the submitted materials, but also the classification level of the anticipated award.

c) 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.

d) Human Subjects Research (HSR)/Animal Use

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

e) Approved Cost Accounting System Documentation

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

f) Small Business Subcontracting Plan

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

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

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

h) Grant Abstract

Per Section 8123 of the Department of Defense Appropriations Act, 2015 (Pub. L. 113-235), all grant awards must be posted on a public website in a searchable format. To comply with this requirement, proposers requesting grant awards must submit a maximum one (1) page abstract that may be publicly posted and explains the program or project to the public. The proposer should sign the bottom of the abstract confirming the information in the abstract is approved for public release. Proposers are advised to provide both a signed PDF copy, as well as an editable (e.g., Microsoft word) copy. Abstracts contained in grant proposals that are not selected for award will not be publicly posted.

i) Intellectual Property

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

(1) For Procurement Contracts

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

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

(2) For All Non-Procurement Contracts

Proposers responding to this BAA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototypes shall follow the applicable rules and regulations governing these various award instruments, but, in all cases, should appropriately identify any potential restrictions on the Government's use of any Intellectual Property contemplated under the award instrument in question. This includes both Noncommercial Items and Commercial Items. Proposers are encouraged use a format similar to that described in Paragraph (1) above. If no restrictions are intended, then the proposer should state "NONE."

j) 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.

C. Submission Instructions

DARPA will acknowledge receipt of all submissions and assign an identifying control number that should be used in all further correspondence regarding the submission. DARPA intends to use electronic mail correspondence regarding HR001120S0053. Submissions may not be made by fax or e-mail; any so sent will be disregarded.

The typical submission should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed or separate efforts should not be included into a single submission. All classified concepts mailed via appropriate U.S. Postal Service (USPS) methods (e.g., USPS Registered Mail or USPS Express Mail) are to be submitted separately.

Submissions will not be returned. An electronic copy of each submission received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided the formal request is received by DARPA within 5 days after notification that a proposal was not selected.

Executive summaries, proposal abstracts, and full proposals must be submitted on or before 4:00 PM Eastern Time, 11 June 2021. Submissions received to HR001120S0053 after this time and date may not be evaluated. The ability to review and select proposals submitted after the initial deadline specified in the BAA, or due date otherwise specified by DARPA, will be contingent on availability of funds.

1. Unclassified Submission Instructions (Proposers Not Requesting Grants or Cooperative Agreements)

Unclassified concepts sent in response to this BAA may be submitted via DARPA's BAA Website (https://baa.darpa.mil). Classified submissions and proposals requesting grants or cooperative agreements should NOT be submitted through DARPA's BAA Website (https://baa.darpa.mil). Instructions for a proposal that includes both classified and unclassified information can be found below under "Submission Instructions for both Classified and Unclassified Submissions."

All concepts submitted electronically through DARPA's BAA Website must be uploaded as zip files (.zip or .zipx extension). The final zip file should be no greater than 50 MB in size. Only one zip file will be accepted per submission, and submissions not uploaded as zip files will

be rejected by DARPA. Submissions should be made separately – multiple submissions submitted in the same package (or zip file) shall not be reviewed.

Technical support for DARPA's BAA Website may be reached at BAAT_Support@darpa.mil. You are encouraged to courtesy copy the TTO BAA Coordinator (HR001120S0053@darpa.mil) for situational awareness.

Note: If an account has already been created for the DARPA BAA Website, this account may be reused. If no account currently exists for the DARPA BAA Website, visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters may then create an account for the DARPA BAA website (via the "Register your Organization" link along the left side of the homepage), view submission instructions, and upload/finalize the proposal. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date.

2. Submission Instructions for Proposers Requesting Grants or Cooperative Agreements

Proposers requesting grants or cooperative agreements should NOT submit a full proposal through DARPA's BAA Website (https://baa.darpa.mil).

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

Submissions: Proposers must submit the three forms listed below.

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

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

below to collect the necessary information to satisfy these requirements. Detailed instructions for each form are available on Grants.gov.

The Research and Related Senior/Key Person Profile (Expanded) form will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD:

- Degree Type and Degree Year.
- Current and Pending Support, including:
    - A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
    - Title and objectives of the other research projects.
    - The percentage per year to be devoted to the other projects.
    - The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.
    - Name and address of the agencies and/or other parties supporting the other research projects
    - Period of performance for the other research projects.

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

Form 2: Research and Related Senior/Key Person Profile (Expanded), available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_2_0-V2.0.pdf. *This form must be completed and submitted.*

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

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

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

Hard-copy Submissions: Proposers electing to submit grant or cooperative agreement proposals as hard copies must complete the same forms as indicated above.

3. Classified Submission Instructions, Requirements, and Procedures

Classified submissions should NOT be submitted through DARPA's BAA Website (https://baa.darpa.mil). Proposers will likely still need to visit https://baa.darpa.mil to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission – instructions for this process can be obtained by inquiry via the BAA Coordinator inbox (HR001120S0053@darpa.mil).

Proposers submitting classified information must have, or be able to obtain prior to contract award, cognizant security agency approved facilities, information systems, and appropriately cleared/eligible personnel to perform at the classification level proposed. All proposer personnel performing Information Assurance (IA)/Cybersecurity related duties on classified Information Systems shall meet the requirements set forth in DoD Manual 8570.01-M (Information Assurance Workforce Improvement Program). Additional information on the subjects discussed in this section may be found at http://www.dcsa.mil.

Proposers choosing to submit classified information from other collateral classified sources (i.e., sources other than DARPA) must ensure (1) they have permission from an authorized individual at the cognizant Government agency (e.g., Contracting Officer, Program Manager); (2) the proposal is marked in accordance with the source Security Classification Guide (SCG) from which the material is derived; and (3) the source SCG is submitted along with the proposal.

When submitting a hard copy of the classified portion according to the instructions outlined below, proposers should submit three (3) hard copies of the classified portion of their proposal and two (2) CD-ROMs containing the classified portion of the proposal as a single searchable Adobe PDF file. Please ensure that all CDs are well-marked. Each copy of the classified portion must be clearly labeled with HR001120S0053, proposer organization, proposal title (short title recommended), and "Copy _ of _."

Confidential, Secret, and Top Secret Information

Use transmission, classification, handling, and marking guidance provided by previously issued SCGs, the DoD Information Security Manual (DoDM 5200.01, Volumes 1 - 4), and the National Industrial Security Program Operating Manual, including the Supplement Revision 1 (DoD 5220.22-M and DoD 5200.22-M Sup. 1), when submitting Confidential, Secret, and/or Top Secret classified information.

Confidential and Secret

Confidential and Secret classified information may be submitted via ONE of the two following methods to the mailing address listed in the contact information in Part I of this BAA:

- Hand-carried by an appropriately cleared and authorized courier to the DARPA Classified Document Registry (CDR). Prior to traveling, the courier shall contact the DARPA CDR at 703-526-4052 to coordinate arrival and delivery.

OR

- Mailed via U.S. Postal Service (USPS) Registered Mail or USPS Express Mail. All classified information will be enclosed in opaque inner and outer covers and double-wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. Senders should mail to the mailing address listed in the contact information herein.

  The inner envelope shall be addressed to:

  Defense Advanced Research Projects Agency
  ATTN: DARPA/TTO
  Reference: HR001120S0053
  675 North Randolph Street Arlington, VA 22203-2114

  The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

  Defense Advanced Research Projects Agency Security & Intelligence Directorate
  ATTN: CDR
  675 North Randolph Street
  Arlington, VA 22203-2114

Top Secret Information

Top Secret information must be hand-carried by an appropriately cleared and authorized courier to the DARPA CDR. Prior to traveling, the courier shall contact the DARPA CDR at 703-526-4052 to coordinate arrival and delivery.

Sensitive Compartmented Information (SCI)

SCI must be marked, managed and transmitted in accordance with DoDM 5105.21 Volumes 1 - 3. Questions regarding the transmission of SCI may be sent to the DARPA Technical Office Program Security Officer (PSO) via the BAA mailbox or by contacting the DARPA Special Security Officer (SSO) at 703-812-1970.

Successful proposers may be sponsored by DARPA for access to SCI. Sponsorship must be aligned to an existing DD Form 254 where SCI has been authorized. Questions regarding SCI sponsorship should be directed to the DARPA Personnel Security Office at 703-526-4543.

Special Access Program (SAP) Information

SAP information must be marked in accordance with DoDM 5205.07 Volume 4 and transmitted by specifically approved methods which will be provided by the Technical Office PSO or their staff.

Proposers choosing to submit SAP information from an agency other than DARPA are required to provide the DARPA Technical Office PSO written permission from the source material's cognizant Special Access Program Control Officer (SAPCO) or designated representative. For clarification regarding this process, contact the DARPA Technical Office PSO via the BAA mailbox or the DARPA SAPCO at 703-526-4102.

Additional SAP security requirements regarding facility accreditations, information security, personnel security, physical security, operations security, test security, classified transportation plans, and program protection planning may be specified in the DD Form 254.

NOTE: All proposals containing Special Access Program (SAP) information must be processed on a SAP information technology (SAP IT) system that has received an Approval-to-Operate (ATO) from the DARPA Technology Office PSO or other applicable DARPA SAP IT Authorizing Official. The SAP IT system ATO will be based upon the Risk Management Framework (RMF) process outlined in the Joint Special Access Program Implementation Guide (JSIG), current version (or successor document). (Note: A SAP IT system is any SAP IT system that requires an ATO. It can range from a single laptop/tablet up to a local and wide area networks.)

The Department of Defense mandates the use of a component's SAP enterprise system unless a compelling reason exists to use a non-enterprise system. The DARPA Chief Information Officer (CIO) must approve any performer proposal to acquire, build, and operate a non-enterprise SAP IT system during the awarded period of performance. Use of the DARPA SAP enterprise system, SAVANNAH, does not require CIO approval.

SAP IT disposition procedures must be approved by the DARPA Senior Authorizing Official, or SAPCO, IAW the OSD SAPCO Memorandum, "Disposition of DoD Special Access Program Information Technology Devices," July 27, 2017.

4. Submission Instructions for both Classified and Unclassified Submissions

For a proposal that includes both classified and unclassified information, the proposal may be separated into an unclassified portion and a classified portion. When a proposal includes a classified portion, and when able according to security guidelines, we ask that proposers send an e-mail to HR001120S0053@darpa.mil as notification that there is a classified portion to the proposal.

The proposal should include as much information as possible in the unclassified portion and use the classified portion ONLY for classified information. The unclassified portion can be submitted through the DARPA BAA Website, per the instructions in "Unclassified Submission Instructions (Proposers Not Requesting Grants or Cooperative Agreements)" above. The

classified portion must be provided separately, according to the instructions outlined in the 'Classified Submission Instructions, Requirements, and Procedures' section above.

D. Funding Restrictions

Not applicable.

E. Other Submission Requirements

Not applicable.

V. Application Review Information

A. Evaluation Criteria

Submissions that are deemed technically identical, or nearly identical, to previous submissions may be rejected without further review.

Conforming proposals will be evaluated using the following criteria, listed in descending order of importance:

1. Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, and complete.

Concepts should specifically and clearly address the innovation proposed and the scientific or technical basis of the claims.

The proposed technical team should reflect 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. Sufficient information demonstrating an executable course of research should be provided for reviewers to determine whether it would enable capabilities beyond state-of-the-art. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible. Barriers to implementation should be discussed and addressed.

2. Potential Contribution and Relevance to the DARPA Mission

Proposals will also be assessed against the TTO mission and the office's focus on platform development efforts. TTO is not interested in approaches or technologies that are comparable to the current state of practice, or duplicative of on-going efforts.

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 proposer will be evaluated on their capability to transition the technology to the research, industrial, and/or operational military communities in such a way as to enhance U.S. defense. In addition, this evaluation will take into consideration the extent to which the proposed intellectual property (IP) rights will potentially impact the Government's ability to transition the technology to the research, industrial, and operational military communities.

3. Cost Realism

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

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

4. Realism of Proposed Schedule

The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload. The proposed schedule identifies and mitigates any potential schedule risk.

5. Proposer's Capabilities and/or Related Experience

The proposer's prior experience in similar efforts clearly demonstrates an ability to deliver the product proposed, meeting the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

B. Review of Submissions

1. Review Process

It is the policy of DARPA to ensure impartial, equitable, comprehensive evaluations based on the criteria listed in Section V.A and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

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.

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

2. Handling of Source Selection Information

DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104), and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA-sponsored technical research and are bound by appropriate nondisclosure agreements. Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements.

3. Federal Awardee Performance and Integrity Information (FAPIIS)

Per 41 U.S.C. 2313, as implemented by FAR 9.103 and 2 CFR § 200.205, prior to making an award above the simplified acquisition threshold, DARPA is required to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Awardees have the opportunity to comment on any information about themselves entered in the database, and DARPA will consider any comments, along with other information in FAPIIS or other systems prior to making an award.

VI. Award Administration Information

A. Selection Notices and Notifications

All official notifications will be sent via email to the Technical and/or Administrative

POC identified within the submission. DARPA will attempt to reply to executive summaries in writing within forty-five (45) calendar days. DARPA will attempt to reply to proposal abstracts and full proposals via the same method within sixty (60) days.

1. Executive Summaries

DARPA will respond to executive summaries with a statement as to whether DARPA is interested in the idea. A letter of interest will encourage the submission of a proposal abstract. Regardless of DARPA's response to an executive summary, proposers may submit a proposal abstract or a full proposal. DARPA will review all conforming full proposals submitted using the published evaluation criteria and without regard to any comments resulting from the review of an executive summary.

2. Proposal Abstracts

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

A favorable response to a proposal abstract is not an assurance that a full proposal on the proposal abstract's topic will ultimately be selected for award.

3. Full Proposals

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

B. Administrative and National Policy Requirements

1. Meeting and Travel Requirements

There will be a program kickoff meeting and all key participants are required to attend. Performers should also anticipate regular program-wide PI Meetings and periodic site visits at the Program Manager's discretion.

2. FAR and DFARS Clauses

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

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

Further information on Controlled Unclassified Information on Non-DoD Information Systems is incorporated herein can be found at http://www.darpa.mil/work-with-us/additional-baa.

4. Representations and Certifications

In accordance with FAR 4.1102 and 4.1201, proposers requesting a procurement contract must complete electronic annual representations and certifications at https://www.sam.gov/. In addition, resultant procurement contracts will require supplementary DARPA-specific representations and certifications. See http://www.darpa.mil/work-with-us/additional-baa for further information.

5. Terms and Conditions

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

C. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum monthly technical and financial status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle. At least one copy of each report will be delivered to DARPA and not merely placed on a SharePoint site.

D. Electronic Systems

1. Wide Area Work Flow (WAWF)

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

2. i-Edison

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

VII. Agency Contacts

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

Administrative, technical, or contractual questions should be sent via e-mail to HR001120S0053@darpa.mil. All requests must include a name, e-mail address, and phone number of an organizational point of contact.

The Technical POC for this effort is:
Dr. Thomas J. Beutner
Deputy Director, DARPA/TTO

The BAA Coordinator may be reached at:
HR001120S0053@darpa.mil
DARPA/TTO
ATTN: HR001120S0053
675 North Randolph
Street Arlington, VA
22203-2114

VIII. Other Information

N/A