Broad Agency Announcement
Office Wide
Microsystems Technology Office
DARPA-BAA-14-42
September 10, 2014
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Part I: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Microsystems Technology Office (MTO)
- **Funding Opportunity Title** – Office-Wide Broad Agency Announcement
- **Announcement Type** – Initial Announcement.
- **Funding Opportunity Number** – DARPA-BAA-14-42
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – 12.910
- **Dates**
  - Posting Date: September 10, 2014
  - Abstract/White Papers and Proposals will be submitted on a rolling basis until 4:00pm EST, on September 9, 2016
- **Concise description of the funding opportunity**: This announcement seeks revolutionary research ideas for topics not being addressed by ongoing MTO programs or other published BAA solicitations.
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Anticipated funding type** - 6.1, 6.2, and/or 6.3
- **Types of instruments that may be awarded** – Procurement contract, grant, cooperative agreement or other transaction.
- **Any cost sharing requirements** – None.
- **Agency contact**
  - Dr. William Chappell, Ph.D., Director, DARPA/MTO
  - BAA Coordinator: DARPA-BAA14-42@darpa.mil
  - DARPA/MTO
  - ATTN: DARPA-BAA-14-42
  - 675 North Randolph Street
  - Arlington, VA 22203-2114

PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF PROPOSAL PREPARATION (PROPOSAL FORMAT, CONTENT, ETC.) AND/OR SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

THOSE INTENDING TO SUBMIT A PROPOSAL FOR AN ASSISTANCE INSTRUMENT (GRANT OR COOPERATIVE AGREEMENT) ARE STRONGLY ENCOURAGED TO READ THE INSTRUCTIONS PROVIDED AT SECTION IV(B)(4) REGARDING THE TIME REQUIRED TO RECEIVE VALIDATION OF SUBMISSIONS MADE THROUGH GRANTS.GOV. PROPOSALS THAT ARE VALIDATED AFTER THE PROPOSAL DUE DATE/TIME WILL BE CONSIDERED LATE AND, AS SUCH, WILL NOT BE REVIEWED.
Part II: Full Text of Announcement

Sec. I: FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency (DARPA) often selects its research efforts through the Broad Agency Announcement (BAA) process. This BAA is being issued, and any resultant selection will be made, using procedures under Federal Acquisition Regulation (FAR) 35.016 and the Department of Defense Grant and Agreement Regulatory System (DoDGARS) Part 22 for Grants and Cooperative Agreements. Any negotiations and/or awards will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA (including DoDGARS Part 22 for Grants and Cooperative Agreements). Proposals received as a result of this BAA shall be evaluated in accordance with evaluation criteria specified herein through a scientific review process.

DARPA BAAs are posted on the Federal Business Opportunities (FedBizOpps) website, http://www.fbo.gov/, and, as applicable, the Grants.gov website at http://www.grants.gov/. The following information is for those wishing to respond to the BAA.

Since its inception in 1992, DARPA’s Microsystems Technology Office (MTO) has helped create and prevent strategic surprise through investments in compact microelectronic components such as microprocessors, microelectromechanical systems (MEMS), and photonic devices. MTO’s revolutionary work applying advanced capabilities in areas such as wide-band gap materials, phased array radars, high-energy lasers and infrared imaging have helped the United States establish and maintain technological superiority for more than two decades. As MTO evolves to address future challenges in microsystems, the office has identified four target problem areas: (1) our critical reliance on the electromagnetic spectrum, (2) the decentralization of effects within the battlefield, (3) the impending end of Moore’s law, and (4) embracing and thriving in the internationalized technology base. There is inherent overlap between these spaces which is rife with opportunity to explore solutions.

- Electromagnetic Spectrum - The electromagnetic spectrum is the heart of current and future warfare, but it remains highly contested and congested. The future of info-centric warfare will require electromagnetic access for collecting and distributing information.
- Decentralization - The ability to update underlying capabilities in large and massively complex systems inexpensively and quickly is crucial to avoid outdated and inferior electronics. The increasing complexity of our major military systems precludes rapid change so it is essential that we move towards a new model that allows for quick adoption of new and modern electronics.
- Information Microsystems - The need to process significantly more and complex data than ever before continues to increase even as the end of Moore’s Law quickly approaches (or is already here). Our computing systems must have the capabilities to handle this ever increasing demand in new ways, exploring new architectures, algorithms/signal processing, and hardware.
- Globalization - As our world becomes more globalized, fabrication must be on a grounded component base that we trust and believe will work when we need it.
manufacturing of components abroad increases, we must embrace the global capabilities that will lead to affordable systems, while maintaining trust.

MTO seeks to develop high-risk, high-reward technologies to create and prevent strategic surprise to secure the DoD’s technological superiority and address the complex threats facing U.S. national security.

Research areas of current interest in MTO include, but are not limited to, the following topics:

- Advanced Imaging Architectures and Systems
- Chip Scale Sensors
- Electro-Optical Infrared (EO/IR) Technologies
- Emerging MEMS Technologies
- Enabling component technology for cold-atom microsystems
- Energy-Efficient Computing
- Hardware Assurance, Reliability & Validation
- Hardware for Advanced Signal Processing
- Heterogeneous Integration
- Low Power Electronics
- Low Volume Microsystems Manufacturing
- Microsystem Design & CAD
- Microsystems for Directed Energy
- Microsystems for Precision Navigation & Timing
- Microsystems for RF/Optical Transceivers
- Non-Silicon Electronics
- Novel Photonic Devices
- Photonic & Electronic Interconnects
- Processing Techniques for Imaging and Spectral Recognition
- Quantum Devices
- Signal Processing to Reduce Hardware Requirements
- Thermal Management
- Other Microsystems Technology Topic Areas

MTO regularly publishes Broad Agency Announcements requesting responses to specific program topics. This announcement seeks revolutionary research ideas for topics not being addressed by ongoing MTO programs or other published BAA solicitations. This BAA is primarily, but not solely, intended for early stage research (studies) that may lead to larger, focused, MTO programs in the future. Studies are defined as single phase efforts of short duration (< 12 months) costing less than $1,000,000. Whereas proposers are strongly encouraged to submit studies to this BAA, multi-phase efforts will also be considered. Multi-phase efforts are defined as efforts with more than one phase that may span longer than 12 months and that may cost more than $1,000,000. Multi-phase efforts must also cover clearly identifiable research topic areas with quantitative technical metrics. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice, or that commercial industry is likely to develop on its own.
Potential bidders are highly encouraged to review the current MTO programs listed on the MTO website at: http://www.darpa.mil/our_work/MTO/ and other MTO solicitations listed at: http://www.darpa.mil/Opportunities/Solicitations/MTO_Solicitations.aspx to avoid proposing efforts to this BAA that duplicate existing activities or that are responsive to other published MTO BAAs. Contacting MTO program managers to discuss research interests is also encouraged. A current list is available at: http://www.darpa.mil/Our_Work/MTO/Personnel/

Sec. II. 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.

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 at the end of one or more of the phases.

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below (see section labeled “Application Review Information”, Sec. V.), 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. The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions and cost/price within a reasonable time or the proposer fails to timely provide requested additional information. 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.

In all cases, the Government contracting officer shall have sole discretion to select award instrument type and to negotiate all instrument terms and conditions with selectees. Proposers are advised that if they propose grants or cooperative agreements, DARPA may select other award instruments, as it deems appropriate. 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.
**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 established the national policy for controlling the flow of scientific, technical, and engineering information produced in federally funded fundamental research at colleges, universities, and laboratories. The Directive 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.

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 select award instrument type and to negotiate all instrument terms and conditions with selectees. Appropriate clauses will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate.

For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting contracted fundamental research. In those cases, it is the prime contractor’s responsibility to explain in their proposal why its subcontractor’s effort is contracted fundamental research.

The following statement or similar provision will be incorporated into any resultant non-fundamental research procurement contract or other transaction:

There shall be no dissemination or publication, except within and between the contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of DARPA’s Public Release Center (DARPA/PRC). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the contractor. With regard to subcontractor proposals for Contracted Fundamental Research, papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

When submitting material for written approval for open publication, the contractor/awardee must submit a request for public release to the PRC and include the following information: (1) Document Information: document title, document author, short plain-language description of
technology discussed in the material (approx. 30 words), number of pages (or minutes of video) and document type (e.g., briefing, report, abstract, article, or paper); (2) Event Information: event type (conference, principal investigator meeting, article or paper), event date, desired date for DARPA’s approval; (3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and (4) Contractor/Awardee's Information: POC name, e-mail and phone. Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests may be sent either by-mail to prc@darpa.mil or via 675 North Randolph Street, Arlington VA 22203-2114, telephone (571) 218-4235. Refer to the following for link for information about DARPA’s public release process: http://www.darpa.mil/NewsEvents/Public_Release_Center/Public_Release_Center.aspx.

Sec. III: ELIGIBILITY INFORMATION

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA.

A. Eligible Applicants

1. Federally Funded Research and Development Centers (FFRDCs) and Government entities (e.g., Government/National laboratories, military educational institutions, etc.) 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 and terms and conditions. This information is required for FFRDCs proposing to be prime contractors or subcontractors. 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. 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 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 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.
B. Procurement Integrity, Standards of Conduct, Ethical Considerations, and Organizational Conflicts of Interest

Current federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 U.S.C. §§ 203, 205, and 208). Once the proposals have been received, and prior to the start of proposal evaluations, the Government will assess potential conflicts of interest and will promptly notify the proposer if any appear to exist. The Government assessment does NOT affect, offset, or mitigate the proposer’s responsibility to give full notice and planned mitigation for all potential organizational conflicts, as discussed below.

Without prior approval or a waiver from the DARPA Director, in accordance with FAR 9.503, a contractor cannot simultaneously provide scientific, engineering, technical assistance (SETA) or similar support and also be a technical performer. As part of the proposal submission, all members of the proposed team (prime proposers, proposed subcontractors, and consultants) must affirm whether they (their organizations and individual team members) are providing SETA or similar support to any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the proposer, subcontractor, consultant, or individual supports and identify the prime contract number(s). All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure must include a description of the action the proposer has taken or proposes has taken to avoid, neutralize, or mitigate such conflict. If in the sole opinion of the Government after full consideration of the circumstances, a proposal fails to fully disclose potential conflicts of interest and/or any identified conflict situation cannot be effectively mitigated, the proposal will be rejected without technical evaluation and withdrawn from further consideration for award.

If a prospective proposer believes a conflict of interest exists or may exist (whether organizational or otherwise) or has questions on what constitutes a conflict of interest, the proposer should send his/her contact information and a summary of the potential conflict to the (DARPA-BAA-14-42@darpa.mil) before time and effort are expended in preparing a proposal and mitigation plan.

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., for any Other Transactions under the authority of 10 U.S.C. § 2371). Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

D. Other Eligibility Criteria

Collaborative Efforts

Collaborative efforts/teaming are encouraged. Specific content, communications, networking, and team formation are the sole responsibility of the participants.
Sec. IV: APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Package

This solicitation contains all information required to submit a proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total BAA solicitation. No additional information is available, except as provided at FBO.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.

B. Content and Form of Application Submission

1. Security Information

Classified submissions shall be transmitted in accordance with the following guidance. Additional information on the subjects discussed in this section may be found at http://www.dss.mil/.

If a submission contains Classified National Security Information as defined by Executive Order 13526, the information must be appropriately and conspicuously marked with the proposed classification level and declassification date. Similarly, when the classification of a submission is in question, the submission 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.

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).

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.

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/MTO Program Security Officer (PSO).

Security classification guidance and direction via a Security Classification Guide (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.

2. 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.

3. Abstract Submission Information

Proposers who choose to use abstracts are strongly encouraged to submit an abstract in advance of a full proposal. This procedure is intended to minimize unnecessary effort in proposal preparation and review. The time and date for submission of abstracts is specified in Section IV.B.6 (Submission Dates and Times) below. DARPA will acknowledge receipt of the submission and assign a control number that should be used in all further correspondence regarding the abstract.

Abstracts sent in response to DARPA-BAA-14-42 may be submitted via DARPA's BAA Website (https://baa.darpa.mil). Visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters may then create an account for the DARPA BAA website (via the "Register your Organization" link along the left side of the homepage), view submission instructions, and upload/finalize the abstract. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that submission process be started as early as possible.

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

ABSTRACTS MAY NOT BE SUBMITTED BY FAX, E-MAIL OR VIA GRANTS.GOV; ANY SO SENT WILL BE DISREGARDED.
4. Abstract Format

Abstracts are encouraged in advance of full proposals in order to provide potential proposers with a rapid response to minimize unnecessary effort. Abstracts should follow the format described below in this section. The cover sheet should be clearly marked “ABSTRACT” and the total length of Section II should not exceed 6 pages. All pages shall be formatted to print on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for abstracts includes all figures, tables, and charts. No formal transmittal letter is required. All abstracts must be written in English.

DARPA will respond to abstracts with a statement as to whether DARPA is interested in the idea. DARPA will attempt to reply to abstracts via letter within thirty (30) calendar days of receipt. If DARPA does not recommend the proposer submit a full proposal, DARPA will provide detailed 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 full proposals submitted using the published evaluation criteria and without regard to any comments resulting from the review of an abstract.

Section I. Administrative

A. Cover sheet to include:
   (1) BAA number (DARPA-BAA-14-42);
   (2) Technical area(s);
   (3) Lead Organization submitting proposal;
   (4) Type of organization, selected among the following categories: “LARGE ORGANIZATION”, “SMALL DISADVANTAGED ORGANIZATION”, “OTHER SMALL ORGANIZATION”, “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;
   (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail;
   (10) Total funds requested from DARPA, and the amount of cost share (if any); and
   (11) Date proposal was submitted.

(Note: An official transmittal letter is not required when submitting an Abstract.)

Section II. Abstract Details

A. Summary of innovative claims for the proposed research. This section is the centerpiece of the proposal abstract and should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art alternate approaches.

B. Technical rationale, technical approach, and constructive plan/schedule for accomplishment of technical goals in support of innovative claims and deliverable production.
C. Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization. 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.

D. General discussion of other research in this area.

E. Summary of the teaming/management approach to include (1) identification of all team members and the roles and responsibilities of each, (2) a general discussion of the teaming strategy chosen, and (3) identification of all key personnel.

5. Proposal Submission Information

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.

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.

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, provided the formal request is received at this office within 5 days after unsuccessful notification.

For All:

All administrative correspondence and questions on this solicitation, including requests for information on how to submit an abstract or full proposal to this BAA should be directed to DARPA-BAA-14-42@darpa.mil. DARPA intends to use electronic mail for correspondence regarding DARPA-BAA-14-42. Proposals and abstracts may not be submitted by fax or e-mail; any so sent will be disregarded. DARPA encourages use of the Internet for retrieving the BAA and any other related information that may subsequently be provided.

For Proposers Requesting Grants or Cooperative Agreements:

Proposers requesting grants or cooperative agreements may submit proposals through one of the following methods: (1) hard copy mailed directly to DARPA; or (2) electronic upload per the instructions at http://www.grants.gov/applicants/apply-for-grants.html. Grant or cooperative agreement proposals may not be submitted through any other means. 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 the Grants.gov APPLY do not submit paper proposals in addition to the Grants.gov APPLY electronic submission.
Grants.gov requires proposers to complete a one-time registration process before a proposal can be electronically submitted. If proposers have not previously registered, this process can take between three business days and four weeks. See the Grants.gov registration checklist at http://www.grants.gov/documents/19/18243/OrganizationRegChecklist.pdf for registration requirements and instructions.

Once Grants.gov has received a proposal submission, Grants.gov will send two email messages to advise proposers as to whether or not their proposals have been validated or rejected by the system; IT MAY TAKE UP TO TWO DAYS TO RECEIVE THESE EMAILS. The first email will confirm receipt of the proposal by the Grants.gov system; this email only confirms receipt, not acceptance, of the proposal. The second will indicate that the application has been successfully validated by the system prior to transmission to the grantor agency or has been rejected due to errors. If the proposal is validated, then the proposer has successfully submitted their proposal. If the proposal is rejected, the proposed must be corrected and resubmitted 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, the proposer will receive a third email from Grants.gov. To avoid missing deadlines, proposers should submit their proposals in advance of the final proposal due date with sufficient time to receive confirmations and correct any errors in the submission process through Grants.gov. For more information on submitting proposals to Grants.gov, visit the Grants.gov submissions page at: http://www.grants.gov/web/grants/applicants/apply-for-grants.html.

Proposers electing to submit grant or cooperative agreement proposals as hard copies must complete the SF 424 R&R form (Application for Federal Assistance, Research and Related) available on the Grants.gov website http://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf. Please use the Attachments Form and upload as two separate documents, Volume I, Technical and Management Proposal and Volume II, Cost Proposal, as well as any other documents required by the BAA (i.e., subcontract proposals). No other Grants.gov forms are required. Please note that Grants.gov does not accept zipped or encrypted documents uploaded as attachments. Please follow the document made available on Grants.gov as part of the solicitation entitled “Instructions for Using Grants.gov to Apply for a Grant or Agreement from DARPA (Short Form),” dated 20 October 2011, for more information.

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

If submitting the full proposal in hard-copy, an original and two (2) copies and two (2) electronic copies on a CD-ROM shall be submitted to the address delineated at Section VII “Agency Contacts.” Each copy must be clearly labeled with DARPA-BAA-14-42, proposer organization, proposal title (short title recommended), and Copy _ of 2.

For Proposers Requesting a Contract or Other Transaction Agreement (OTA):

Full (unclassified) proposals sent in response to DARPA-BAA-14-42 must be submitted via DARPA’s BAA Website (https://baa.darpa.mil). 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; it is highly advised that submission process be started as early as possible. Classified submissions and proposals requesting assistance instruments (grants or cooperative agreements) CANNOT be submitted through DARPA's BAA Website (https://baa.darpa.mil), though proposers will likely still need to visit https://baa.darpa.mil to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission.

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

6. Full Proposal Format

All full proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals shall consist of two volumes. All pages shall be formatted to print on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for full proposals includes all figures, tables, and charts. Volume I, Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers may be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. Section II of Volume I, Technical and Management Proposal, shall not exceed 26 pages. All full proposals must be written in English.

a. Volume I, Technical and Management Proposal

Section I. Administrative

A. Cover sheet to include:
(1) BAA number (DARPA-BAA-14-42);
(2) Technical area(s);
(3) Lead Organization submitting proposal;
(4) Type of organization, selected among the following categories: “LARGE ORGANIZATION”, “SMALL DISADVANTAGED ORGANIZATION”, “OTHER SMALL ORGANIZATION”, “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;
(9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail; AND
(10) Date proposal was submitted.

B. Official transmittal letter.

C. Proposal Summary Chart. PowerPoint-type slide(s) (i.e., landscape formatted for presentation) that succinctly highlights the major aspects of the proposal, including all program metrics (including proposer defined metrics, if applicable), in a manner suitable for presentation to DARPA management. The summary chart should indicate the proposal’s main objective, key innovations, expected impact, and other unique aspects of the proposal (Proposal Summary Chart Template provided in Appendix A).

Section II. Detailed Proposal Information

This 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.

A. Innovative Claims, Technical Rationale and Approach - This section is the centerpiece of the proposal and should succinctly describe clearly what you propose to do without using any jargon, and thoroughly and quantitatively describe the uniqueness and benefits of the proposed approach relative to the current state-of-art and alternate approaches; enhancing that of Section II.D. This section should demonstrate that the proposer has a clear understanding of the state-of-the-art and should provide sufficient technical details so as to permit complete evaluation of the feasibility of the idea. The feasibility of the proposed approach(es) should be justified. All program metrics must be associated with demonstrable, quantitative measures of performance and should be summarized in a single table (values for the metrics should be given that are anticipated at the program’s conclusion and at intermediate milestones).

B. 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. The SOW must not include proprietary information. For each task/subtask, provide:

1. A general description of the objective (for each defined task/activity);
2. A detailed description of the approach to be taken to accomplish each defined task/activity);
3. Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
4. The completion criteria for each task/activity - a product, event or milestone that defines its completion.
5. Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.
6. Clearly identify any tasks/subtasks (prime or subcontracted) that will be accomplished on-campus at a university.
Note: It is recommended, if applicable, that the SOW should be developed so that each Phase of the program is separately defined. However, as previously stated, this BAA is primarily intended for early stage research consisting of short duration, single phase efforts.

C. **Program Plan & Risk Assessment** – Clearly describe a detailed plan for accomplishing the proposed research effort using the innovative approach(es) described in Section III(A). The program plan should: (1) provide a detailed description of performance metrics and assessment parameters and how performance of each will be accurately demonstrated and measured (2) include a comprehensive timeline, (3) identify expected intermediate progress time points and values for all quantitative metrics and assessment parameters, and (4) identify all milestones. In addition, this section must include a thoughtful and thorough risk-assessment, in which the major risks associated with the proposed work are articulated. All risk assessments should: (1) identify all major technical risks specific to the proposed approaches, (2) estimate the relative magnitude of the risks, (3) identify which milestones are subject to each risk, and (4) describe specific plans to mitigate each risk.

D. **Teaming and Management Plan.** Present a coherent organization chart and integrated management strategy for the program team enhancing that of Section II.F. For each person, indicate: (1) name, (2) affiliation, (3) abbreviated listing of all technical area tasks they will work on with roles, responsibilities, and percent time indicated, (4) keywords identifying relevant expertise and/or unique capabilities. Additionally, describe the programmatic relationship between investigators and the rationale for choosing this teaming strategy.

E. **Description of the results, products, transferable technology, and expected technology transfer path** – This description should enhance that of Section II.B. This should also address mitigation of life-cycle and sustainment risks associated with transitioning intellectual property for U.S. military applications, if applicable. See also Section VIII. “Intellectual Property.”

F. **Capabilities** - Identify the facilities and equipment required to achieve the proposed goals. Clearly identify which tools and facilities are presently available to the team. For each, if it is presently available to the team, identify its location, which investigator or facility is providing it, and describe its specifications and/or qualifications. If the tool or facility is not available to the team, justify why this is the case and provide the expected cost of acquisition, enhancing the discussion of research noted in Section II.E.

**Section III. Additional Information**

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas upon which the proposal is based. Copies of not more than three (3) relevant papers can be included in the submission.


Cover sheet to include:
(1) BAA number (DARPA-BAA-14-42);
(2) Lead Organization submitting proposal;
(3) Type of organization, selected among the following categories: “LARGE ORGANIZATION”, “SMALL DISADVANTAGED ORGANIZATION”, “OTHER SMALL ORGANIZATION”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
(4) Proposer’s reference number (if any);
(5) Other team members (if applicable) and type of organization for each;
(6) Proposal title;
(7) 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);
(8) 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);
(9) 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;
(10) Place(s) and period(s) of performance;
(11) Total proposed cost separated by basic award and option(s) (if any) broken down by calendar year and by government fiscal year;
(12) Name, address, and telephone number of the proposer’s cognizant Defense Contract Management Agency (DCMA) administration office (if known);
(13) Name, address, and telephone number of the proposer’s cognizant Defense Contract Audit Agency (DCAA) audit office (if known);
(14) Date proposal was prepared;
(15) DUNS number;
(16) TIN number;
(17) CAGE Code;
(18) Subcontractor Information;
(19) Proposal validity period; and
(20) Any Forward Pricing Rate Agreement, other such approved rate information, or such documentation that may assist in expediting negotiations (if available).

Attachment 1, the Cost Volume Proposer Checklist, must be included with the coversheet of the Cost Proposal.

For proposers without a DCAA-approved cost accounting system who are proposing negotiation of a cost-type contract, DCAA must complete an SF 1408 prior to award. To facilitate this process, complete the SF 1408 found at http://www.gsa.gov/portal/forms/download/115778 and submit the completed form with your proposal. Proposals requesting a cost-type contract without this form may be deemed non-conforming to this solicitation. The Government recognizes that this form is intended for an auditor to use when evaluating a contractor’s cost accounting system. However, your preliminary responses to the questions will expedite the DCAA accounting system review. To complete the form, check the boxes on the second page, then provide a narrative explanation of your accounting system to supplement the checklist on page one.
The proposers', to include eligible FFRDCs', cost volume shall provide cost and pricing information (See Note 1), or other than cost or pricing information if the total price is under $700,000, in sufficient detail to substantiate the program price proposed (e.g., realism and reasonableness). In doing so, the proposer shall provide a summary cost breakdown, and a detailed cost breakdown by phase (if multiple phases are proposed), technical task/sub-task, and month for each technical area proposed to. The breakdown/s shall include, at a minimum, the following major cost item along with associated backup documentation:

Total program cost broken down by major cost items:

a. Direct Labor – a breakout clearly identifying the individual labor categories with associated labor hours and direct labor rates, as well as a detailed Basis-of-Estimate (BOE) narrative description of the methods used to estimate labor costs;

b. Indirect Costs – Including Fringe Benefits, Overhead, General and Administrative Expense, Cost of Money, Fee, etc. (must show base amount and rate);

c. Travel – Provide the purpose of the trip, number of trips, number of days per trip, departure and arrival destinations, number of people, etc.;

d. Other Direct Costs – Itemized with costs; Back-up documentation is to be submitted to support proposed costs;

e. Material/Equipment –
   (i) A priced Bill-of-Material (BOM) clearly identifying, for each item proposed, the quantity, unit price, the source of the unit price (i.e., vendor quote, engineering estimate, etc.), the type of property (i.e., material, equipment, special test equipment, information technology, etc.), and a cross-reference to the Statement of Work (SOW) task/s that require the item/s. At time of proposal submission, any item that exceeds $1,000 must be supported with basis-of-estimate (BOE) documentation such as a copy of catalog price lists, vendor quotes or a written engineering estimate (additional documentation may be required during negotiations, if selected).
   (ii) If seeking a procurement contract and items of Contractor Acquired Property are proposed, exclusive of material, the proposer shall clearly demonstrate that the inclusion of such items as Government Property is in keeping with the requirements of FAR Part 45.102. In accordance with FAR 35.014, “Government property and title,” it is the Government’s intent that title to all equipment purchased with funds available for research under any resulting contract will vest in the acquiring nonprofit institution (e.g., Nonprofit Institutions of Higher Education and Nonprofit Organizations whose primary purpose is the conduct of scientific research) upon acquisition without further obligation to the Government. Any such equipment shall be used for the conduct of basic and applied scientific research. The above transfer of title to all equipment purchased with funds available for research under any resulting contract is not allowable when the acquiring entity is a for-profit organization; however, such organizations can, in accordance with FAR 52.245-1(j), be given priority to acquire such property at its full acquisition cost.

f. Consultants – If consultants are to be used, proposer must provide a copy of the consultant’s proposed SOW as well as a signed consultant agreement or other
document which verifies the proposed loaded daily / hourly rate and any other proposed consultant costs (e.g. travel);
g. Subcontracts – Itemization of all subcontracts. Additionally, the prime contractor is responsible for compiling and providing, as part of its proposal submission to the Government, subcontractor proposals prepared at the same level of detail as that required by the prime. Subcontractor proposals include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. If seeking a procurement contract, the prime contractor shall provide a cost reasonableness analysis of all proposed subcontractor costs/prices. Such analysis shall indicate the extent to which the prime contractor has negotiated subcontract costs/prices and whether any such subcontracts are to be placed on a sole-source basis. All proprietary subcontractor proposal documentation which cannot be uploaded to DARPA’s BAA submission website (https://baa.darpa.mil) or Grants.gov as part of the proposer’s submission, shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic/email, etc.), either by the proposer or by the subcontractor organization – this does not relieve the proposer from the requirement to include, as part of their submission (via DARPA BAA submission website, Grants.gov or Hardcopy, as applicable), subcontract proposals that do not include proprietary pricing information (rates, factors, etc.);
h. The source, nature, and amount of any industry cost-sharing;
i. Written justification required per Part II, Section II(A), “Fundamental Research,” pertaining to prime and/or subcontracted effort being considered Contracted Fundamental Research; and
j. Small Business Subcontracting Plan, if applicable. See Section VI(B)(6) “Subcontracting” below.

Proposers are required to provide the aforementioned cost breakdown as an editable MS Excel spreadsheet, inclusive of calculations formulae, with tabs (material, travel, ODC’s) provided as necessary. The Government also requests and recommends that the Cost Proposal include MS Excel file(s) that provide traceability between the Bases of Estimate (BOEs) and the proposed costs across all elements and phases. This includes the calculations and adjustments that are utilized to generate the Summary Costs from the source labor hours, labor costs, material costs, etc. input data. It is requested that the costs and Subcontractor proposals be readily traceable to the Prime Cost Proposal in the provided MS Excel file(s) – although this is not a requirement, providing information in this manner will assist the Government in understanding what is being proposed both technically and in terms of cost realism.

Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates. For IT and equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding.

The cost proposal should include identification of pricing assumptions of which may require incorporation into the resulting award instrument (i.e., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Experts, etc.).
Supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates in B. above. Include a description of the method used to estimate costs and supporting documentation.

Note 1:
(a) “Cost or Pricing Data” as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of $700,000 or greater unless the proposer requests an exception from the requirement to submit cost or pricing data. Per DFARS 215.408(5), DFARS 252.215-7009. Proposal Adequacy Checklist, applies to all proposers/proposals seeking a FAR-based award (contract).

(b) In accordance with DFARS 15.403-1(4)(D), DoD has waived cost or pricing data requirements for nonprofit organizations (including educational institutions) on cost-reimbursement-no-fee contracts. In such instances where the waiver stipulated at DFARs 15.403-1(4)(D) applies, proposers shall submit information other than cost or pricing data to the extent necessary for the Government to determine price reasonableness and cost realism; and cost or pricing data from subcontractors that are not nonprofit organizations when the subcontractor’s proposal exceeds the cost and pricing data threshold at FAR 15.403-4(a)(1).
(c) “Cost or pricing data” are not required if the proposer proposes an award instrument other than a procurement contract (i.e., cooperative agreement, grant, or other transaction agreement).

PLEASE NOTE, PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF PROPOSAL PREPARATION (PROPOSAL FORMAT, CONTENT, ETC.) AND/OR SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

7. Submission Dates and Times
   a. Abstract Date

   The abstract must be submitted to DARPA/MTO on or before 4:00 PM., Eastern Time, September 9, 2016. Abstracts received after this time and date will not be reviewed.

   b. Full Proposal Date

   The full proposal must be submitted to DARPA/MTO on or before 4:00 PM., Eastern Time, September 9, 2016, in order to be considered during the single round of selections. Proposals received after this deadline will not be reviewed.

   DARPA will post on a regular basis a consolidated question and answer document (FAQ) at http://www.darpa.mil/Opportunities/Solicitations/MTO_Solicitations.aspx. All questions must be submitted by e-mail to DARPA-BAA-14-42@darpa.mil by no later than August 9, 2016.

   DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

8. Funding Restrictions
Not applicable.
9. Other Submission Requirements

Not applicable.

Sec. V: APPLICATION REVIEW INFORMATION

A. Evaluation Criteria

Proposals will be evaluated using the following criteria, listed in descending order of importance: (a) Overall Scientific and Technical Merit; (b) Potential Contribution and Relevance to the DARPA Mission; (c) Cost Realism; and (d) Plans and Capabilities to Accomplish Technology Transition.

(a) Overall Scientific and Technical Merit

The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that 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.

(b) 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 maintain the technological superiority of the U.S. military and prevent technological surprise from harming national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their application.

(c) Cost Realism

The proposed costs are realistic for the technical and management approaches offered and demonstrates the proposer’s practical understanding of the effort. The costs proposed are based on realistic assumptions, reflect a sufficient understanding of the technical goals and objectives of the BAA, and are consistent with the proposer’s technical approach (to include the proposed Statement of Work). At a minimum, the prime proposer and proposed subawardees substantiate the proposed costs with the type and number of labor hours proposed per task as well as the types and kinds of materials, equipment and fabrication costs proposed. 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.

(d) Plans and Capability to Accomplish Technology Transition

The proposer clearly demonstrates its 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, the 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.

**B. Review and Selection Process**

DARPA will conduct a scientific/technical review of each conforming proposal. 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, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort.

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. Pursuant to FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

For evaluation purposes, a proposal is the document described in “Proposal Information”, Section IV.B.. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements.

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.

**Sec. VI: AWARD ADMINISTRATION INFORMATION**

**A. Selection Notices**

As soon as the evaluation of a proposal is complete, the proposer will be notified that (1) the proposal has been selected for funding pending contract negotiations, or (2) the proposal has not been selected. These official notifications will be sent via email to the Technical 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. Human Subjects Research

All research selected for funding involving human subjects, to include use of human biological specimens and human data, must comply with the federal regulations for human subject protection. Further, research involving human subjects that is conducted or supported by the DoD must comply with 32 CFR 219, Protection of Human Subjects (and DoD Directive 3216.02, Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research) (http://www.dtic.mil/whs/directives/corres/pdf/321602p.pdf).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, such as a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (http://www.hhs.gov/ohrp). All institutions engaged in human subject research, to include subcontractors, must also hold a valid Assurance. In addition, all personnel involved in human subjects research must provide documentation of completion of human subjects research training.

For all proposed research that will involve human subjects in the first year or phase of the project, the institution must provide evidence of or a plan for review by an Institutional Review Board (IRB) upon final proposal submission to DARPA as part of their proposal, prior to being selected for funding. The IRB conducting the review must be the IRB identified on the institution’s Assurance of Compliance with human subjects protection regulations. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. It is recommended that you consult the designated IRB for guidance on writing the protocol. The informed consent document must comply with federal regulations (32 CFR 219.116). A valid Assurance of Compliance with human subjects protection regulations along with evidence of completion of appropriate human subjects research training all investigators should all accompany the protocol for review by the IRB.

In addition to a local IRB approval, a headquarters-level human subjects administrative review and approval is required for all research conducted or supported by the DoD. The Army, Navy, or Air Force office responsible for managing the award can provide guidance and information about their component’s headquarters-level review process. Note that confirmation of a current Assurance of Compliance with human subjects protection regulations and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The time required to complete the IRB review/approval process varies depending on the complexity of the research and the level of risk involved with the study. The IRB approval process can last between one to three months, followed by a DoD review that could last between three and six months. Ample time should be allotted to complete the approval process.
DoD/DARPA funding cannot be used towards human subjects research until ALL approvals are granted.

3. Animal Use
Award recipients performing research, experimentation, or testing involving the use of animals shall comply with the rules on animal acquisition, transport, care, handling, and use as outlined in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Animal Welfare Act of 1966, as amended, (7 U.S.C. 2131-2159); (ii) National Institutes of Health Publication No. 86-23, "Guide for the Care and Use of Laboratory Animals"; (iii) DoD Instructions 3216.01, “Use of Animals in DoD Programs.”

For projects anticipating animal use, proposals should briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. Animal studies in the program will be expected to comply with the Public Health Service PHS Policy on Humane Care and Use of Laboratory Animals, available at http://grants.nih.gov/grants/olaw/olaw.htm.

All award recipients must receive approval by a DoD certified veterinarian, in addition to an IACUC approval. No animal studies may be conducted using DoD/DARPA funding until the United States Army Medical Research and Materiel Command (USAMRMC) Animal Care and Use Review Office (ACURO) or other appropriate DoD veterinary office(s) grant approval. As a part of this secondary review process, the award recipient will be required to complete and submit an ACURO Animal Use Appendix, which may be found at https://mrmc-www.army.mil/index.cfm?pageid=Research_Protections.acuro&rn=1.

4. Export Control
Per DFARS 204.7304, all procurement contracts, other transactions and other awards, as deemed appropriate, resultant from this solicitation will include the DFARS Export Control clause (252.204-7008).

5. Subcontracting
Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan in accordance with FAR 19.702(a)(1) should do so with their proposal. The plan format is outlined in FAR 19.704.

6. Electronic and Information Technology
All electronic and information technology acquired through this solicitation must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. § 794d) and FAR 39.2. Each proposer who submits a proposal involving the creation or inclusion of electronic and information technology must ensure that federal employees with disabilities will have access to and use of information that is comparable to the access and use by Federal employees who are not individuals with disabilities and members of the public with disabilities seeking information
or services from DARPA will have access to and use of information and data that is comparable to the access and use of information and data by members of the public who are not individuals with disabilities.

7. Employment Eligibility Verification
As per FAR 22.1802, recipients of FAR-based procurement contracts must enroll as federal contractors in E-verify and use the system to verify employment eligibility of all employees assigned to the award. All resultant contracts from this solicitation will include FAR 52.222-54, “Employment Eligibility Verification.” This clause will not be included in grants, cooperative agreements, or Other Transactions.

8. System for Award Management (SAM) Registration and Universal Identifier Requirements
Unless the proposer is exempt from this requirement, as per FAR 4.1102 or 2 CFR 25.110 as applicable, all proposers must be registered in the System for Award Management (SAM) and have a valid Data Universal Numbering System (DUNS) number prior to submitting a proposal. All proposers must maintain an active registration in SAM with current information at all times during which they have an active Federal award or proposal under consideration by DARPA. All proposers must provide the DUNS number in each proposal they submit.

Information on SAM registration is available at [www.sam.gov](http://www.sam.gov).

9. Reporting Executive Compensation and First-Tier Subcontract Awards
FAR clause 52.204-10, “Reporting Executive Compensation and First-Tier Subcontract Awards,” will be used in all procurement contracts valued at $25,000 or more. A similar award term will be used in all grants and cooperative agreements.

10. Updates of Information Regarding Responsibility Matters
Per FAR 9.104-7(c), FAR clause 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matters, will be included in all contracts valued at $500,000 or more where the contractor has current active Federal contracts and grants with total value greater than $10,000,000.

11. Representation by Corporations Regarding an Unpaid Delinquent Tax Liability or a Felony Conviction under any Federal Law—Fiscal Year 2014 Appropriations (Deviation 2014-OO00009)
(a) In accordance with sections 8113 and 8114 of the Department of Defense Appropriations Act, 2014, and sections 414 and 415 of the Military Construction and Veterans Affairs and Related Agencies Appropriations Act, 2014 (Public Law 113-76, Divisions C and J), none of the funds made available by those divisions (including Military Construction funds) may be used to enter into a contract with any corporation that --
(1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless the agency has considered suspension or debarment of the corporation and made a determination that this further action is not necessary to protect the interests of the Government; or

(2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless the agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

(b) The Offeror represents that –

(1) It is [ ] is not [ ] a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability,

(2) It is [ ] is not [ ] a corporation that was convicted of a felony criminal violation under a Federal law within the preceding 24 months.

12. Cost Accounting Standards (CAS) Notices and Certification

As per FAR 52.230-2, any procurement contract in excess of $700,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR 99), except those contracts which are exempt as specified in 48 CFR 9903.201-1. Any proposer submitting a proposal which, if accepted, will result in CAS compliant contract, must submit representations and a Disclosure Statement as required by 48 CFR 9903.202 detailed in FAR 52.230-2. The disclosure forms may be found at http://www.whitehouse.gov/omb/procurement_casb.

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

Controlled Unclassified Information (CUI) refers to unclassified information that does not meet the standards for National Security Classification but is pertinent to the national interests of the United States or to the important interests of entities outside the Federal Government and under law or policy requires protection from unauthorized disclosure, special handling safeguards, or prescribed limits on exchange or dissemination. All non-DoD entities doing business with DARPA are expected to adhere to the following procedural safeguards, in addition to any other relevant Federal or DoD specific procedures, for submission of any proposals to DARPA and any potential business with DARPA:

Do not process DARPA CUI on publicly available computers or post DARPA CUI to publicly available webpages or websites that have access limited only by domain or Internet protocol restriction.
Ensure that all DARPA CUI is protected by a physical or electronic barrier when not under direct individual control of an authorized user and limit the transfer or DARPA CUI to subcontractors or teaming partners with a need to know and commitment to this level of protection.

Ensure that DARPA CUI on mobile computing devices is identified and encrypted and all communications on mobile devices or through wireless connections are protected and encrypted.

Overwrite media that has been used to process DARPA CUI before external release or disposal.

14. Safeguarding of Unclassified Controlled Technical Information

Per DFARS 204.7303, DFARS 252.204-7012, Safeguarding of Unclassified Controlled Technical Information, applies to this solicitation and all FAR-based awards resulting from this solicitation.

C. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum monthly 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.

D. Electronic Systems

1. Representations and Certifications

In accordance with FAR 4.1201, prospective proposers shall complete electronic annual representations and certifications at https://www.sam.gov.

2. Wide Area Work Flow (WAWF)

Unless using another means of invoicing, performers will be required to submit invoices for payment directly via to http://wawf.eb.mil. Registration in WAWF will be required prior to any award under this BAA.

3. i-Edison

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

Sec. VII: AGENCY CONTACTS

Administrative, technical or contractual questions should be sent via e-mail to DARPA-BAA-14-42@darpa.mil. All requests must include the name, email address, and phone number of a point of contact.
The technical POC for this effort is:
Dr. William Chappell
DARPA/MTO
ATTN: DARPA-BAA-14-42
675 North Randolph Street
Arlington, VA 22203-2114
Email: DARPA-BAA-14-42@darpa.mil

Sec. VIII: OTHER INFORMATION

A. Intellectual Property Procurement Contract Proposers

1. Noncommercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all noncommercial technical data and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has “unlimited rights” to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (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 five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire “unlimited rights” unless the parties agree otherwise. Proposers are advised that the Government will 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. If no restrictions are intended, then the proposer should state “NONE.” It is noted an assertion of “NONE” indicates that the Government has “unlimited rights” to all noncommercial technical data and noncommercial computer software delivered under the award instrument, in accordance with the DFARS provisions cited above. Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

A sample list for complying with this request is as follows:
2. Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all commercial technical data and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit the list, the Government will assume that 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, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.” Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

A sample list for complying with this request is as follows:

<table>
<thead>
<tr>
<th>Technical Data Computer Software To be Furnished With Restrictions</th>
<th>Summary of Intended Use in the Conduct of the Research</th>
<th>Basis for Assertion</th>
<th>Asserted Rights Category</th>
<th>Name of Person Asserting Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LIST)</td>
<td>(NARRATIVE)</td>
<td>(LIST)</td>
<td>(LIST)</td>
<td>(LIST)</td>
</tr>
</tbody>
</table>

B. Non-Procurement Contract Proposers – Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototype 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 those award instruments in question. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 1.a and 1.b above. 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. If no restrictions are intended, then the proposer should state “NONE.” Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.
C. All Proposers – Patents

Include documentation proving your ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under your proposal for the DARPA program. If a patent application has been filed for an invention that your proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, you may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: (1) a representation that you own the invention, or (2) proof of possession of appropriate licensing rights in the invention.

D. All Proposers – Intellectual Property Representations

Provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the DARPA program. Additionally, proposers shall 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.

E. Other Transactions (OTs):

DARPA is able to obtain its research support through a variety of legal instruments and flexible arrangements, to include use of Other Transaction Agreements (OTAs). OTAs are potentially applicable to a wide variety of DARPA programs. They are likely to be particularly applicable to support dual-use technologies (those with commercial nonmilitary potential as well as potential military applications), consortia or multi-party agreements, and work supported by multiple funding sources. Because OTAs are not traditional procurement contracts, DARPA is not required to include the traditional FAR and DFARS clauses in these agreements, but is free to negotiate provisions that are mutually agreeable to both the Government and the consortium of companies entering into the agreement. Proposals may, but need not, state that an OTA rather than a contract or grant is desired. Furthermore, DARPA does not enter into OTAs when a contract or grant is feasible or appropriate. See FAR 35.003 for Government-wide policy on use of contracts for research and development. Potential proposers are encouraged to visit the DARPA Contracts Management page (http://www.darpa.mil/Opportunities/Contract_Management/Contract_Management.aspx) for more information regarding the use of OTAs.

Transactions for Research and Other Transactions for Prototype Projects (a.k.a “845s”). Of these two types of OTAs, the one most pertinent to this BAA is referred to as a Technology Investment Agreement (TIA) and is issued in accordance with Part 37 of the Department of Defense Grant and Agreement Regulations (DODGARs)(http://www.gpo.gov/fdsys/granule/CFR-2008-title32-vol1/CFR-2008-title32-vol1-part21/content-detail.html). TIAs are assistance instruments used to stimulate or support research designed to: (a) reduce barriers to commercial firm’s participation in defense research, to give the Department of Defense (DoD) access to the broadest possible technology and industrial base; (b) promote new relationships among performers in both the defense and commercial sectors of that technology and industrial base; and (c) stimulate performers to develop, use, and disseminate improved practices. As a matter of DoD policy, a TIA may be awarded only when one or more for-profit firms are to be involved either in the (1)
performance of the research project; or (2) the commercial application of the research results (e.g. commercial transition partner). Also of importance is the requirement that, to the maximum extent practicable, the non-Federal parties carrying out a research project under a TIA are to provide at least half of the costs of the project – this being a statutory condition for any TIA, or Other Transaction Agreement in general, issued under the authority of 10 U.S.C. 2371. Such instruments can involve a single performer or multiple performers participating as a consortium (which are not required to operate as a separate legal entity) and the Generally Accepted Accounting Principle (GAAP) applies rather than the FAR or DFARS cost principles.

For information on 845 Other Transaction Authority for Prototypes (OTA) agreements, refer to http://www.darpa.mil/Opportunities/Contract_Management/Contract_Management.aspx. All proposers requesting an 845 Other Transaction Authority for Prototypes (OTA) agreement must include a detailed list of milestones. Each such milestone must include the following: milestone description, completion criteria, due date, payment/funding schedule (to include, if cost share is proposed, contractor and Government share amounts). It is noted that, at a minimum, such milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer’s proposal. Agreement type, fixed price or expenditure based, will be subject to negotiation by the Agreements Officer; however, it is noted that the Government prefers use of fixed price milestones with a payment/funding schedule to the maximum extent possible. Do not include proprietary data. If the proposer requests award of an 845 OTA agreement as a nontraditional defense contractor, as so defined in the OSD guide entitled “Other Transactions (OT) Guide For Prototype Projects” dated January 2001 (as amended) (http://www.acq.osd.mil/dpap/Docs/otguide.doc), information must be included in the cost proposal to support the claim. Additionally, if the proposer plans requests award of an 845 OTA agreement, without the required one-third (1/3) cost share, information must be included in the cost proposal supporting that there is at least one non-traditional defense contractor participating to a significant extent in the proposed prototype project.