



**Broad Agency Announcement**  
**Panoptic Analysis of Chemical Traces (PACT)**  
**STRATEGIC TECHNOLOGY OFFICE**  
**DARPA-BAA 08-62**  
**August 19, 2008**

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## Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Strategic Technology Office (STO)
- **Funding Opportunity Title** – Panoptic Analysis of Chemical Traces (PACT)
- **Announcement Type** – Initial announcement.
- **Funding Opportunity Number** – Broad Agency Announcement (BAA) 08 - 62
- **Catalog of Federal Domestic Assistance Numbers (CFDA)**– 12.910 Research and Technology Development
- **Dates**
  - Proposers' Day: September 3, 2008 (See DARPA-SN-08-49)
  - Last day for question submissions: September 26, 2008
  - DARPA consolidated Questions and Answers posted: October 3, 2008
  - Proposal Due Date: October 14, 2008
  - BAA Closing Date: August 18, 2009
  
- The Panoptic Analysis of Chemical Traces (PACT) program will develop technology capable of analyzing complex gas mixtures without reliance on preconceived libraries of anticipated analytes. PACT will provide automated, high-throughput analysis of atmospheric sampling efforts aimed at producing exhaustive chemical maps of urban and military environments.
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** -- Procurement contract, grant, cooperative agreement or other transaction.
- **Agency Point of Contact**
  - The BAA Coordinator for this effort may be reached at: Fax (703)807-4986, or electronic mail: DARPA-[BAA-08-62@darpa.mil](mailto:DARPA-BAA-08-62@darpa.mil).  
DARPA/STO  
ATTN: BAA08-62  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
(703) 248-1517

## Part Two: Full Text of Announcement

### 1. FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will appear first on the FedBizOpps website, <http://www.fedbizopps.gov/>, and/or Grants.gov website at <http://www.grants.gov/>. The following information is for those wishing to respond to the BAA.

DARPA is soliciting innovative research proposals in the area of high-throughput chemical analysis of trace gases. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Research that primarily results in evolutionary improvements to the existing state of practice is specifically excluded.

#### 1.1. PROGRAM OVERVIEW

The Panoptic Analysis of Chemical Traces (PACT) program will develop high-throughput analysis methods that quantitatively and exhaustively catalog the constituents of complex gas mixtures obtained from strategically important sampling locations. The system will accurately identify and rank the amounts of all components from an established library of materials and quantify the extent to which materials not in the library are present. The system will accept gas mixtures whose individual analytes range in quantity from  $5 * 10^{-11}$  moles to  $5 * 10^{-5}$  moles, and it will be able to resolve mixtures with up to the full number of analytes in the reference library.

The ultimate objective of the program is to develop a capability for comprehensive analysis of up to one hundred thousand samples per eight-hour shift at a total cost of \$0.10 per sample. Total costs will include amortization of capital equipment cost over ten years at 5% interest, electrical power, and all consumable supplies necessary for operation of the system (excluding labor). This capability would revolutionize our understanding of the chemical environment and enable routine chemical mapping of strategically and tactically important regions. Current approaches to trace analysis take hours or days and cost hundreds of dollars per constituent, primarily because expert human labor is required and standardization is poor. The PACT program will overcome these limitations.

The program is articulated into three phases. During the first phase, methods and subsystems for analysis of gas mixtures that can scale in principle to examine 12,500 samples per hour at a total cost of \$0.10 per sample will be developed. The feasibility of scaling to these levels will be demonstrated by experimental validation of subsystems to quantify the sample processing rates and by an integrated prototype that will be subjected to independent testing. A library of one hundred gases will be defined by the Government, and the prototype system will analyze samples with fidelity and accuracy of greater than 85%. For the purposes of this BAA, *fidelity* is defined as the fraction of analytes identified that were actually present without regard to their concentration. *Accuracy* is defined as the fraction of identified materials that are correctly ordered by concentration. For example, if a mixture contained twenty analytes and seventeen were detected, the fidelity would be  $17/20=85\%$ . If removal of one of these seventeen from the list ordered by concentration yielded the correct ranking by quantity, then the accuracy would be  $16/17=94\%$ . Materials that are not in the library will be aggregated into an 'unknown' category

and tabulated as a single combined contribution to the composition for the purpose of computing fidelity and accuracy.

A complete system that will process a total of 125 samples per hour (1/100<sup>th</sup> scale) will be built during the second phase of the program. Performance will demonstrate a sensitivity of 50 picomoles, fidelity and accuracy of more than 95%, an expanded library of 300 target gases., and a total cost of \$0.10 per sample. A complete engineering design for a full scale system with process flow and economic analyses to support a cost of less than \$0.10 per sample at 300,000 samples per day will also be generated and critically reviewed.

The third phase of the program, which may run concurrently with Phase 2, will identify the chemical composition of materials *not* in the library with a confidence exceeding 90%. This forensic phase will provide methods for systematically expanding the library and for determining the chemical structure of samples of unknown materials.

DARPA seeks innovative proposals in the following **Areas of Interest**:

**Technical Area One: Gas Identification**

A central goal of the program is to exhaustively identify all of a gas mixture's components that are present in quantities ranging over six orders of magnitude, from fifty picomoles to fifty micromoles. The technical challenge is to identify, given a finite library of reference materials, which materials are present and at what relative concentrations. Identification of the amount of the mixture that is not comprised of library materials (in other words the relative size of the 'unknown' fraction) is also required and will be included when calculating the accuracy and fidelity metrics described in Section 1.1 above.

**Technical Area Two: High-Throughput**

The PACT Program will be provided Government Furnished Information from the Hyperadsorptive Atmospheric Sampling Technology (HAST DARPA BAA 07-64) program, to configure and enable chemical mapping of the environment. The intelligence value of a chemical map is enhanced by high spatial and temporal precision, and this in turn requires large numbers of samples to be swiftly, economically, and reproducibly analyzed. Successful approaches will harness process design and automation to have high throughput and be ultimately capable of evaluating three hundred thousand samples per day.

**Technical Area Three: Forensics**

The number of unique substances identified in the Chemical Abstracts Service (CAS) Registry is over thirty-six million and is increasing by approximately 17,000 substances per day. Clearly, it is not possible to build a spectral library for every known substance, and were it possible it is likely that resolution of materials from such a library would be ambiguous. The objective of the forensics aspect of PACT is to develop methods that identify the chemical composition of minute samples of gas without library reference spectra. One way of approaching this objective is to harness high resolution spectroscopies (e.g. rotational, vibrational, mass, fluorescence, photoelectron, etc.) and *ab initio* electronic structure calculations to develop self-consistent constraints on molecular identity.

### **1.1.1. Phase 1 (Base) High-Throughput Processing**

Phase 1 will demonstrate subsystems that analyze gas mixtures at rates and costs that can be scaled to meet the program objectives of 12,500 samples per hour and a total cost of \$0.10 per sample, respectively. The subsystems will be integrated into a proof-of-concept prototype whose analytical performance will be tested against calibrated gas mixtures. The mixtures will be comprised of one or more gases from a library of one hundred materials selected by the Government and, optionally, one or more gases not found in the library. The quantity of each library analyte will range from five hundred picomoles to fifty micromoles. The samples may be analyzed as complete mixtures or separated into components for subsequent identification. The fidelity and accuracy (as defined in Section 1.1 above) must exceed 85%. An engineering design for subsystem integration and process flow will be evaluated against the program objectives for throughput (100,000 samples/8 hour shift) and cost (\$0.10 per sample).

### **1.1.2. Phase 2 (Option 1): Integration and Prototype Scaling**

The second phase of the program will integrate and automate the analytical techniques proven in the first phase to analyze 125 samples per hour, identifying all components present in quantities greater than fifty picomoles from a library of three hundred reference materials selected by the Government. The system will ingest, queue, and automatically track each sample through the analytical process. The samples will be preconcentrated and injected from one or more HAST configurations. Fidelity and accuracy, as defined in Section 1.1 above, will exceed 95%, and total cost will not exceed \$0.10 per sample. A quantitative system design for analysis of 12,500 samples per hour and \$0.10 per sample will be generated based on the measured performance of the 1/100<sup>th</sup> scale prototype.

### **1.1.3. Phase 3 (Option 2): Forensics**

The third phase of the program will develop systems and methods to identify pure gases and mixtures whose spectral properties are not contained in libraries. The system will identify the chemical composition of micromole samples of pure gas with 90% confidence at a rate of five samples every 2 hours and resolve mixtures of up to five unknown components present in quantities of between one nanomole and one micromole at in less than 2 hours.

### **1.1.4. Acquisition Strategy**

Proposer's are required to propose all technical areas of interest and all Program Phases. The Government recognizes that cost proposals for Phases 2 and 3 (Options 1 and 2) must be approximate because the core technologies that are to be scaled to high throughput and library-free analysis will remain uncertain until the end of Phase 1. Although a comprehensive cost proposal for the first (base) phase is required, cost proposals for the two options may be rough order of magnitude (ROM) estimates. The Government will provide technical information about the configuration of HAST sampling technology during Phase 1 to assist in the preparation of Phase 2 technical and cost proposals. These ROM estimates will be refined into detailed technical and cost proposals thirty days prior to completion of the base effort to facilitate a smooth transition into the second and third phases.

## **1.2 PROGRAM METRICS**

In order for the Government to evaluate the effectiveness of a proposed solution in achieving the program objectives, the Government hereby promulgates the following program metrics that may

serve as the basis for determining whether satisfactory progress is being made to warrant continued funding of the program. Although the following program metrics are specified, proposers should note that the government has identified these goals with the intention of bounding the scope of effort, while affording the maximum flexibility, creativity, and innovation in proposing solutions to the stated problem.

Proposals should cite the quantitative and qualitative success criteria that the proposed effort will achieve by the time of each Phase's program metric measurement.

A list of one hundred chemical compounds will be provided by the Government at the beginning of Phase 1. Calibrated samples containing one or more of these gases in quantities of between 500 picomoles and 50 micromoles will be analyzed by PACT prototype systems. The metrics for Phase 1 are to obtain accuracy and fidelity as defined in Section 1.1 above exceeding 85% and to process one hundred mixtures in less than 24 hours.

At the end of Phase 2, proposers will be given ninety-six hours to analyze twelve thousand samples of pre-concentrated gases on HAST adsorbents in quantities of fifty picomoles to fifty micromoles per analyte and a total cost of \$0.10 per sample. The library of reference materials will be expanded to three hundred substances, and the requirements for fidelity and accuracy (as defined in Section 1.1) will be increased to 95%.

Testing at the end of Phase 3 will include analytes that are unlikely to appear in existing libraries—identification will require first-principles analysis of the acquired data. The system will be presented with one hundred, one micromole samples of pure materials and will determine their chemical compositions in less than fifty hours with correct identification not less than 90% of the time. The system will then resolve mixtures of five compounds not found in libraries with accuracy and fidelity of more than 90% at an average analysis time of less than two hours.

Table 1: Program Metrics

| Phase        | Months After Contract Award  | Program Metrics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 (Base)     | To Be Specified by Performer | <ul style="list-style-type: none"> <li>Identify the composition of 100 mixed gas samples comprised of up to 100 components from a library of 100 reference materials in 24 hours or less. Each component will be present in quantities between 500 picomoles and 50 micromoles.</li> <li>Achieve accuracy and fidelity of more than 85%, including the relative amount of material that is not in the library.</li> <li>Demonstrate a system design and process flow that will analyze 12,500 samples per hour at a total cost of \$0.10 per sample. Total costs will include amortization of capital equipment cost over ten years at 5% interest, electrical power, and all consumable supplies necessary for operation of the system.</li> </ul> |
| 2 (Option 1) | To Be Specified by Performer | <ul style="list-style-type: none"> <li>A complete system that will process a total of 125 samples per hour (1/100<sup>th</sup> scale), demonstrate a sensitivity of 50 picomoles, fidelity and accuracy of more than 95%, and an expanded library of 300 target gases for a total cost of less than \$0.10 per sample.</li> <li>Present a design for extension of the analytical method to 300,000 samples per day with a total system volume of less than 67 cubic meters and a total cost (including amortized capital equipment, reagents, chromatographic media, cryofluids, and power) of less than \$0.10 per sample.</li> </ul>                                                                                                              |
| 3 (Option 2) | To Be Specified by Performer | <ul style="list-style-type: none"> <li>Demonstrate a system and method that will automatically deduce the chemical composition of one micromole samples of pure unknown gases, with 90% confidence, in an average of less than 30 minutes.</li> <li>Demonstrate a system and method that will resolve the identities of five unknown compounds in a mixture where each analyte is present in quantities ranging from one nanomole to one micromole and accuracy and fidelity are greater than 90% in less than two hours.</li> </ul>                                                                                                                                                                                                                |

## 2. AWARD INFORMATION

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

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation, and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if the Source Selection Authority later determines them 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. If the proposed effort is inherently divisible and nothing is gained from the

aggregation, proposers should consider submitting it as multiple independent efforts. 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 5, Application Review Information), and program balance to provide overall value to the Government. 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, and other factors.

### **3. ELIGIBILITY INFORMATION**

#### **3.1 ELIGIBLE APPLICANTS**

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities. Federally Funded Research and Development Centers (FFRDCs) and Government entities (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 can clearly demonstrate the work is not otherwise available from the private sector AND they also provide written documentation citing the specific statutory authority (as well as, where relevant, contractual authority) establishing their eligibility 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 eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the Proposer.

Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances.

#### **3.1.1 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 USC 203, 205, and 208.). The DARPA Program Manager for this BAA is Dr. Peter Haaland of DARPA/STO. As of the date of first publication of the BAA, the Government has not identified any potential conflicts of interest involving this program manager. 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. (Please note the Government assessment does NOT affect, offset, or mitigate the proposer's own duty to give full notice and planned

mitigation for all potential organizational conflicts, as discussed below.) The Program Manager is required to review and evaluate all proposals received under this BAA and to manage all selected efforts. Proposers should carefully consider the composition of their performer team before submitting a proposal to this BAA.

All Proposers and proposed subcontractors must therefore affirm whether they are providing scientific, engineering, and technical assistance (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 supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval or a waiver from the DARPA Director, a Contractor cannot simultaneously be a SETA and a Performer. Proposals that fail to fully disclose potential conflicts of interests and / or do not have plans to mitigate this conflict will be returned without technical evaluation and withdrawn from further consideration for award.

If a prospective Proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the Proposer should promptly raise the issue with DARPA by sending Proposer's contact information and a summary of the potential conflict by email to the mailbox address for this BAA at DARPA-BAA-08-62@darpa.mil, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration for the circumstances, any conflict situation cannot be effectively mitigated, the proposal may be returned without technical evaluation and withdrawn from further consideration for award under this BAA.

### **3.2 COST SHARING/MATCHING**

Cost sharing is not required for this particular program; however, cost sharing 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.

### **3.3 OTHER ELIGIBILITY REQUIREMENTS**

#### **3.3.1 Collaborative Efforts**

Collaborative efforts/teaming are encouraged. A website (<http://www.schafertmd.com/conference/pact/teaming>) has been established to facilitate formation of teaming arrangements between interested parties. Specific content, communications, networking, and team formation are the sole responsibility of the participants. Neither DARPA nor the Department of Defense (DoD) endorses the destination website or the information and organizations contained therein, nor does DARPA or the DoD exercise any responsibility at the destination. This website is provided consistent with the stated purpose of this BAA.

## 4. APPLICATION AND SUBMISSION INFORMATION

### 4.1 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. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

### 4.2 CONTENT AND FORM OF APPLICATION SUBMISSION

#### 4.2.1 Proposal Information

Proposers are required to submit full proposals by the time and date specified in Section 4.4.1 of this BAA in order to be considered during the initial round of selections. DARPA may evaluate proposals received after this date for a period up to one year from date of posting on FedBizOpps and Grants.gov. Selection remains contingent on availability of funds.

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.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is prohibited from competition in DARPA technical research and is bound by appropriate nondisclosure requirements. Proposals may not be submitted by fax or e-mail; any so sent will be disregarded.

Proposals not meeting the format described in this BAA may not be reviewed.

**Proposers must submit their full proposal via the web-based DARPA Technical – Financial Information Management System (T-FIMS) application** at <http://www.tfims.darpa.mil/baa>. (NOTE: University submissions may be made via [www.grants.gov](http://www.grants.gov).) The submission shall include one (1) electronic copy of the proposal. Electronic copies must be in PDF or an MS Word-readable application.

Instructions on how to submit proposals via DARPA's T-FIMS BAA Submission System can be found at: <https://www.tfims.darpa.mil/baa/baalist.asp>. A thorough read of these instructions guarantees successful submission to T-FIMS and explains all the necessary steps to submitting proposals through T-FIMS. Because proposers using T-FIMS may encounter heavy traffic on the web server, and T-FIMS requires a registration and certificate installation for all proposers, proposers should not wait until the day the proposal is due to create an account in T-FIMS and submit the proposal. All proposers using T-FIMS must also encrypt the proposal, as per the instructions below.

#### **For Proposers Submitting via the T-FIMS BAA Tool:**

All proposals submitted electronically via the T-FIMS BAA Tool (not including Grants.gov) must be encrypted using WinZip or PKZip with 256-bit AES encryption. Only one zipped/encrypted file will be accepted per proposal and proposals not zipped/encrypted will be

rejected by DARPA. An encryption password form must be completed and emailed to DARPA-BAA-08-62@darpa.mil at the time of proposal submission. See <https://www.tfims.darpa.mil/baa/> for the encryption password form.

Note the word "PASSWORD" must appear in the subject line of the above email, and there are minimum security requirements for establishing the encryption password. Failure to provide the encryption password may result in the proposal not being evaluated. For further information and instructions on how to zip and encrypt proposal files, see <https://www.tfims.darpa.mil/baa/>.

**For Proposers Posting to Grants.Gov:**

Proposers may elect to use the Grants.gov APPLY function if the applicant is seeking a grant or cooperative agreement. The APPLY function replaces the proposal submission process that other proposers follow. The APPLY function does not affect the proposal content or format. The APPLY function is electronic; proposers do not submit paper proposals in addition to the Grants.gov APPLY electronic submission.

**For All:**

All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal to this BAA, should be directed to one of the administrative addresses below; e-mail or fax is preferred. (DARPA-BAA-08-62@darpa.mil, FAX (703)807-4986, <http://www.darpa.mil/sto/solicitations/index.html>) Frequently asked questions will be available on the PACT website (<http://www.schafertmd.com/conference/pact>). DARPA intends to use electronic mail and fax for correspondence regarding BAA-08-62. Proposals 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.

**4.2.2 Restrictive Markings on Proposals**

All proposals should clearly indicate limitations on the disclosure of their contents. Proposers who include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall-

(1) Mark the title page with the following legend:

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed-in whole or in part-for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this proposer as a result of, or in connection with, the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

Markings like "Company Confidential" or other phrases that may be confused with national security classifications shall be avoided. See Section 6.1 for additional information.

### **4.3 FORMATTING CHARACTERISTICS**

#### **4.3.1 Proposal Format**

All 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 printed 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 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 relevant papers can 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. Except for the attached bibliography and Section I, Volume I shall not exceed 50 pages. Maximum page lengths for each section are shown in braces { } below. All proposals must be written in English.

#### **4.3.1.1 Volume I, Technical and Management Proposal**

##### Section I. Administrative

- A. {1} Cover sheet to include:
- (1) BAA number (DARPA-BAA-08-62)
  - (2) Technical area
  - (3) Lead Organization submitting proposal
  - (4) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT"
  - (5) Contractor's reference number (if any)
  - (6) Other team members (if applicable) and type of business 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), total funds requested from DARPA, and the amount of cost share (if any) and
  - (10) Date proposal was submitted.
- B. {1} Official transmittal letter.

##### Section II. Summary of Proposal

- A. {3} Executive Summary of the Proposal. This section should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art and

alternate approaches. A concise description of the technical rationale and its correlation with program goals, risk elements, cost, schedule, milestones, and an outline of the organization of the team participants should also be included in the summary.

- B. {1} A one-slide summary of the proposal in PowerPoint that quickly and succinctly indicates the main objective, key innovations, expected impact, and other unique aspects of the proposal.

### Section III. 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. {20} Technical Approach. This section is the centerpiece of the proposal. It should fully describe the uniqueness and benefits of the proposed approach relative to current state-of-the-art and alternate approaches. It should fully describe the detailed technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of program objectives, intermediate milestones, and deliverable production. This section should clearly explain: What you are proposing (and how it works); why you are proposing this approach; why you believe it can be done now; and the importance or affect if successful (who will care and why).
- B. {10} Management Approach. This section should establish that the proposing organization is appropriately organized, is staffed by highly qualified key personnel (include brief bios), and features the necessary interactions to ensure an effective integrated technology development effort (an organizational chart is recommended). Proposers are strongly encouraged to include a detailed description of their risk management approach including, where appropriate, a discussion of the proposer's risk buy-down strategy, risk retirement plan, and risk retirement schedule. Finally, this section should indicate how the proposed management approach supports effective transition of the technology to the operational military communities in such a way as to enhance U.S. defense.
- C. {5} Relevant Capabilities. This section should describe the relevant experience of the key personnel and the proposing organization, as well as the relevant facility and business capabilities of the proposing organization. This section should include a discussion of proposer's previous accomplishments in this or closely related development areas, including a discussion of similar work funded by other Government organizations.
- D. {3} 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:
- A general description of the objective (for each defined task/activity);
  - A detailed description of the approach to be taken to accomplish each defined task/activity);
  - Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
  - The exit criteria for each task/activity - a product, event or milestone that defines its completion.
  - Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.

*Note: It is recommended that the SOW be developed so that each Phase of the program is separately defined. Do not include any proprietary information in the SOW.*

- E. **{3} Deliverables.** Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization will clearly address how the proposed effort will meet the goals of the program. Include in this section all proprietary claims to results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. (SEE SECTION 6.3, INTELLECTUAL PROPERTY.) If there are no proprietary claims, this should be stated. NOTE: For purposes of completing Section 6.3, Intellectual Property, this information will NOT be counted in the proposer's page count.
- F. **{3} Cost, schedule and milestones.** Detail cost, schedule, and milestones for the proposed research, including estimates of cost for each task in each year of the effort, for each phase, and total cost and company cost share, if applicable. Please note: cost-sharing is neither required nor encouraged. Additionally, proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach(es) is/are feasible.

#### Section IV. 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 relevant papers can be included in the submission.

#### **4.3.1.2 Volume II, Cost Proposal – {No Page Limit}**

Cover sheet to include:

- (1) BAA number;
- (2) Technical area;
- (3) Lead Organization submitting proposal;
- (4) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT";
- (5) Contractor's reference number (if any);
- (6) Other team members (if applicable) and type of business 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*), 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) Subcontractor Information;
- (20) Proposal validity period; and
- (21) Any Forward Pricing Rate Agreement, other such approved rate information, or such other documentation that may assist in expediting negotiations (if available).

Detailed cost breakdown to include:

- (1) total program cost broken down by major cost items to include:
  - i. direct labor, including individual labor categories or persons, with associated labor hours and numbered direct labor rates
  - ii. If consultants are to be used, proposer must provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate
  - iii. Indirect costs including Fringe Benefits, Overhead, General and Administrative Expense, Cost of Money, etc. (Must show base amount and rate)
  - iv. Travel – Number of trips, number of days per trip, departure and arrival destinations, number of people, etc.
  - v. Other Direct Costs – Should be itemized with costs or estimated costs. Backup documentation should be submitted to support proposed costs.
- (2) major program tasks by fiscal year
- (3) an itemization of major subcontracts and equipment purchases, to include: a cost proposal as detailed as the Proposer's cost proposal; the subcontractor's cost proposal can be provided in a sealed envelope with the Proposer's cost proposal. Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Please include a brief description of the Proposers' procurement method to be used;
- (4) an itemization of any information technology (IT) purchase including subcontractor cost (NOTE: For IT equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding)
- (5) a summary of projected funding requirements by month; and
- (6) the source, nature, and amount of any industry cost-sharing. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each; and identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished / Facilities / Information, access to Government Subject Matter Expert/s, etc.

The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements.

NOTE: The FY2008 Defense Appropriations Act caps indirect cost rates for any procurement contract, grant or agreement using 6.1 Basic Research FY08 Funding at 35% of the total cost of

the award. Total costs include all bottom line costs. Indirect costs are all costs of a prime award that are Facilities and Administration costs (for awardees subject to the cost principles in 2 CFR part 220) or indirect costs (for awardees subject to the cost principles in 2 CFR part 225 or 230 or 48 CFR part 32). If DARPA anticipates using 6.1 funding for this effort, the Contractor must be made aware that total negotiated indirect cost rates may not exceed 35% of the total cost of the award. The cost limitations do not flow down to subcontractors. The original text of the Act can be found at Department of Defense Appropriations Act of 2008, Pub. L. No. 110-116, §8115, [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_cong\\_public\\_laws&docid=f:publ116.110](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ116.110).

Supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates in Section III F. above. Include a description of the method used to estimate costs and supporting documentation. Note: “cost or pricing data” as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of \$650,000 or greater unless the proposers request an exception from the requirement to submit cost of pricing data. “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.) All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, of which cannot be uploaded to T-FIMS, 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.

#### **4.4 SUBMISSION DATES AND TIMES**

##### **4.4.1 Proposal Date**

The proposal (one electronic copy) must be submitted to <http://www.tfims.darpa.mil/baa> on or before 4:00 p.m. EDT, October 14, 2008 in order to be considered during the initial round of selections; however, proposals received after this deadline may be received and evaluated up to one year from date of posting on FedBizOpps. Proposals may be submitted at any time from issuance of this announcement through the closing date or due date otherwise specified by DARPA; however, proposers are warned that the likelihood of funding is greatly reduced for proposals submitted after the initial closing date deadline.

DARPA will post a consolidated Question and Answer response after October 3, 2008, before final full proposals are due. In order to receive a response to your question, submit your question by September 26, 2008 to [DARPA-BAA-08-62@darpa.mil](mailto:DARPA-BAA-08-62@darpa.mil).

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

Failure to comply with the submission procedures may result in the submission not being evaluated.

#### **5. APPLICATION REVIEW INFORMATION**

## **5.1 EVALUATION CRITERIA**

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria, in order of descending importance: (5.1.1) Ability to Meet Program Metrics; (5.1.2) Overall Scientific and Technical Merit; (5.1.3) Potential Contribution and Relevance to the DARPA Mission; (5.1.4) Proposer's Capabilities and Related Experience; (5.1.5) Plans and Capability to Accomplish Technology Transition; and (5.1.6) Cost and Schedule Realism. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. The following are descriptions of the above listed criteria:

### **5.1.1 Ability to Meet Program Metrics**

The feasibility and likelihood of the proposed approach for satisfying the program go/no-go metrics are explicitly described and clearly substantiated. The proposal reflects a mature and quantitative understanding of the Program Metrics (see Section 1.2), the statistical confidence with which they may be measured, and their relationship to the concept of operations that will result from successful performance in the program.

### **5.1.2 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 as referenced in Section 4.3.1.1, Sub-section III, Detailed Proposal Information, above. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal clearly identifies major technical risks and planned mitigation efforts and provides ample justification as to why the approach(es) is/are feasible.

### **5.1.3 Potential Contribution and Relevance to the DARPA Mission**

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA's mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use.

### **5.1.4 Proposer's Capabilities and Related Experience**

The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team's expertise to manage the cost and schedule will be evaluated. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

### **5.1.5 Plans and Capability to Accomplish Technology Transition**

The capability to transition the technology to the research, industrial, and operational military communities in such a way as to enhance U.S. defense, to the extent to which intellectual

property rights limitations as set forth according to Section 6.3, below, create a barrier to technology transition.

### **5.1.6 Cost and Schedule Realism**

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed. The proposer's abilities to aggressively pursue performance metrics in the shortest timeframe and to accurately account for that timeframe will be evaluated, as well as proposer's ability to understand, identify, and mitigate any potential risk in schedule.

The evaluation criterion 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. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection and before award, the contracting officer will negotiate cost/price reasonableness.

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. Award(s) may be made to any proposer(s) whose proposal(s) is determined advantageous to the Government regardless of its overall rating.

**NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.**

## **5.2 REVIEW AND RECOMMENDATION PROCESS**

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 merit, importance to agency programs, and funding 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.

DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. For evaluation purposes, a proposal is the document described in "Proposal Information," Section 4.2.1. 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.

It is the policy of DARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. Upon completion of the source selection process, the original of each proposal received will be retained at DARPA and all other copies will be destroyed.

## **6. AWARD ADMINISTRATION INFORMATION**

### **6.1 AWARD NOTICES**

As soon as the evaluation of a proposal is complete, the proposers 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 U.S. Mail to the Technical POC identified on the proposal coversheet.

### **6.2 ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS**

#### **6.2.1 Security**

The Government anticipates that proposals submitted under this BAA will be unclassified. In the event that a proposer chooses to submit a classified proposal or submit any documentation that may be classified, the following information is applicable.

After reviewing the incoming proposals, if a determination is made that the award instrument may result in access to classified information; a DD Form 254 will be issued and attached as part of the award. Proposers choosing to submit a classified proposal must first receive permission from the Original Classification Authority to use their information in replying to this BAA. Applicable classification guide(s) should be submitted to ensure that the proposal is protected appropriately.

Classified submissions shall be in accordance with the following guidance:

**Collateral Classified Information:** Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority. Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) Registered Mail or U.S. Postal Service 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. The inner envelope shall be addressed to:

Defense Advanced Research Projects Agency  
ATTN: STO  
Reference: (BAA08-62)  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

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  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

All Top Secret materials should be hand carried via an authorized, two-person courier team to the DARPA CDR.

**Special Access Program (SAP) Information:** Contact the DARPA Special Access Program Central Office (SAPCO) at 703-526-4052 for further guidance and instructions prior to transmitting SAP information to DARPA. Top Secret SAP, must be transmitted via approved methods for such material. Consult the DoD Overprint to the National Industrial Security Program Operating Manual for further guidance. *Prior to transmitting SAP material*, it is strongly recommended that you coordinate your submission with the DARPA SAPCO.

**Sensitive Compartmented Information (SCI) Data:** Contact the DARPA Special Security Office (SSO) at 703-812-1994/1993 for the correct SCI courier address and instructions. All SCI should be transmitted through your servicing Special Security Officer (SSO). SCI data must be transmitted through SCI channels only (i.e., approved SCI Facility to SCI facility via secure fax).

**Proprietary Data:** All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Proposers' responsibility to clearly define to the Government what is considered proprietary data.

Proposers must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose. It is the policy of DARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. The original of each proposal received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided that the formal request is received at this office within 5 days after unsuccessful notification.

### **6.3 INTELLECTUAL PROPERTY**

### 6.3.1 Procurement Contract Proposers

#### 6.3.1.1 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 admonished that the Government will use the list during the source selection 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.”

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

| NONCOMMERCIAL                                                               |                     |                             |                                          |
|-----------------------------------------------------------------------------|---------------------|-----------------------------|------------------------------------------|
| Technical Data<br>Computer Software To<br>be Furnished With<br>Restrictions | Basis for Assertion | Asserted Rights<br>Category | Name of Person Asserting<br>Restrictions |
| (LIST)                                                                      | (LIST)              | (LIST)                      | (LIST)                                   |

#### 6.3.1.2 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 source selection 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.”

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

| COMMERCIAL                                                                  |                     |                             |                                          |
|-----------------------------------------------------------------------------|---------------------|-----------------------------|------------------------------------------|
| Technical Data<br>Computer Software To<br>be Furnished With<br>Restrictions | Basis for Assertion | Asserted Rights<br>Category | Name of Person Asserting<br>Restrictions |
| (LIST)                                                                      | (LIST)              | (LIST)                      | (LIST)                                   |

**6.3.2 NonProcurement Contract Proposers**

6.3.2.1 Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting an Other Transaction for Prototype shall follow the applicable rules and regulations governing that instrument, but in all cases should appropriately identify any potential restrictions on the Government’s use of any Intellectual Property contemplated under that award instrument. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in the paragraphs above. The Government may use the list during the source selection 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.”

6.3.2.2 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.

6.3.2.3 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.

**6.4 MEETING AND TRAVEL REQUIREMENTS**

There will be a program kickoff meeting at the contractor’s facility, and all key participants are required to attend. Performers should also anticipate periodic site visits at the Program Manager’s discretion.

## 6.5 HUMAN USE

Proposals selected for contract award are required to comply with provisions of the Common Rule (32 CFR 219) on the protection of human subjects in research (<http://www.dtic.mil/biosys/downloads/32cfr219.pdf>) and the Department of Defense Directive 3216.2 ([http://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/BC325237-802E-D019-A78AF9A6F4DF4282/library/1-08%20-%20DODD%203216-2%20\(25%20Mar%202002.pdf\)](http://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/BC325237-802E-D019-A78AF9A6F4DF4282/library/1-08%20-%20DODD%203216-2%20(25%20Mar%202002.pdf))). All proposals that involve the use of human subjects are required to include documentation of their ability to follow Federal guidelines for the protection of human subjects. This includes, but is not limited to, protocol approval mechanisms, approved Institutional Review Boards, and Federal Wide Assurances. These requirements are based on expected human use issues sometime during the entire length of the proposed effort.

For proposals involving “greater than minimal risk” to human subjects within the first year of the project, performers must provide evidence of protocol submission to a federally approved IRB at the time of final proposal submission to DARPA. For proposals that are forecasted to involve “greater than minimal risk” after the first year, a discussion on how and when the proposer will comply with submission to a federally approved IRB needs to be provided in the submission. More information on applicable federal regulations can be found at the Department of Health and Human Services – Office of Human Research Protections website (<http://www.dhhs.gov/ohrp/>). Any aspects of a proposal involving human use should be specifically called out as a separate element of the statement of work and cost proposal to allow for independent review and approval of those elements.

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. The IRB conducting the review must be the IRB identified on the institution’s Assurance. 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. 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 along with evidence of appropriate 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 regulatory 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 and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between one to three months, followed by a DoD review that could last between three to six months. No

DoD/DARPA funding can be used towards human subjects research until ALL approvals are granted.

## **6.6 ANIMAL USE**

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

For submissions containing 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 PHS Policy on Humane Care and Use of Laboratory Animals, available at <http://grants.nih.gov/grants/olaw/olaw.htm>.

All 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 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 Recipient will be required to complete and submit an ACURO Animal Use Appendix, which may be found at <https://mrmc.amedd.army.mil/AnimalAppendix.asp>

## **6.7 PUBLIC RELEASE OR DISSEMINATION OF INFORMATION**

The following provision will be incorporated into any resultant contract:

(a) 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 the DARPA Technical Information Officer (DARPA/TIO). 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. 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.

(b) When submitting material for written approval for open publication as described in subparagraph (a) above, the Contractor must submit a request for public release request to the DARPA TIO 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 (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle 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'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 can be sent either via e-mail to [tio@darpa.mil](mailto:tio@darpa.mil) or via 3701 North

Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to <http://www.darpa.mil/tio> for information about DARPA's public release process.

## **6.8 EXPORT CONTROL**

Should this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following apply:

(1) The Contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

## **6.9 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) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

## **6.10 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.

**6.10.1 Central Contractor Registration (CCR)**

Selected proposers not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to any award under this BAA. Information on CCR registration is available at <http://www.ccr.gov>.

**6.10.2 Representations and Certifications**

In accordance with FAR 4.1201, prospective proposers shall complete electronic annual representations and certifications at <http://orca.bpn.gov>.

**6.10.3 Wide Area Work Flow (WAWF)**

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment directly via the Internet/WAWF at <http://wawf.eb.mil>. Registration to WAWF will be required prior to any award under this BAA.

**6.10.4 T-FIMS**

The award document for each proposal selected and funded will contain a mandatory requirement for DARPA Monthly Status Reports each year, one of which will be an annual project summary. These reports will be electronically submitted by each awardee under this BAA via T-FIMS. The T-FIMS URL and instructions will be furnished by the contracting agent upon award.

**6.11 AGENCY CONTACTS**

DARPA will use electronic mail for all technical and administrative correspondence regarding this BAA, with the exception of selected/not-selected notifications.

Administrative, technical or contractual questions should be sent via e-mail to DARPA-BAA-08-62@darpa.mil. If e-mail is not available, fax questions to (703)807-4986, Attention: BAA08-62. All requests must include the name, email address, and phone number of a point of contact.

The technical Point of Contact (POC) for this effort is:

Dr. Peter Haaland

DARPA/STO

ATTN: BAA08-62

3701 North Fairfax Drive

Arlington, VA 22203-1714

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