



Broad Agency Announcement  
DARPA Robotics Challenge  
Tactical Technology Office (TTO)  
DARPA-BAA-12-39

April 10, 2012

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## Part I: Overview Information

- **Federal Agency Name:** Defense Advanced Research Projects Agency (DARPA), Tactical Technology Office
- **Funding Opportunity Title:** DARPA Robotics Challenge
- **Announcement Type:** Initial announcement
- **Funding Opportunity Number:** Broad Agency Announcement (BAA) 12-39
- **Catalog of Federal Domestic Assistance Numbers (CFDA):** 12.910 Research and Technology Development
- **Dates**
  - Posting Date: April 10, 2012
  - Proposers' Day Webcast: April 16, 2012
  - Proposers' Day Registration: <http://www.sa-meetings.com/RoboticsChallenge>
  - Proposal Due Date: May 31, 2012

**Concise description of the funding opportunity** - The primary goal of the DARPA Robotics Challenge program is to develop ground robotic capabilities to execute complex tasks in dangerous, degraded, human-engineered environments. The program will focus on robots that can utilize available human tools, ranging from hand tools to vehicles. The program aims to advance the key robotic technologies of supervised autonomy, mounted mobility, dismounted mobility, dexterity, strength, and platform endurance. Supervised autonomy will be developed to allow robot control by non-expert operators, to lower operator workload, and to allow effective operation despite low fidelity (low bandwidth, high latency, intermittent) communications.

- **Total amount of money to be awarded** – Up to \$34 million
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Procurement contract, grant, cooperative agreement or other transaction.
- **Agency contact**  
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For all mail to be received prior to April 30, 2012  
 DARPA/TTO  
 ATTN: BAA 12-39  
 3701 North Fairfax Drive  
 Arlington, VA 22203-1714

For all mail to be received on or after April 30, 2012  
 DARPA/TTO  
 ATTN: BAA 12-39  
 675 North Randolph Street  
 Arlington, VA 22203-2114

## **Part II: Full Text of Announcement**

### **I. FUNDING OPPORTUNITY DESCRIPTION**

DARPA often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will appear first on the FedBizOpps website, <http://www.fbo.gov>, and Grants.gov website, <http://www.grants.gov/>, then the agency website, [http://www.darpa.mil/Opportunities/Solicitations/TTO\\_Solicitations.aspx](http://www.darpa.mil/Opportunities/Solicitations/TTO_Solicitations.aspx). The following information is provided to those wishing to respond to the BAA.

DARPA is soliciting innovative research proposals in the area of robotics for disaster response. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

#### **A. Motivation for Disaster Response Robots**

The Department of Defense strategic plan<sup>1</sup> calls for the Joint Force to conduct humanitarian, disaster relief, and other operations. The strategic plan identifies needs for extending aid to victims of natural or man-made disasters and for conducting evacuation operations.

The DARPA Robotics Challenge program will help directly meet these needs by developing robotic technology for disaster response operations. This technology will improve the performance of robots that operate in the rough terrain and austere conditions characteristic of disasters, and use vehicles and tools commonly available in populated areas. This technology will also work in ways easily understood by subject matter experts untrained in the operation of robots, and be governed by intuitive controls that require little training.

The program will also help meet the global need for resilience against natural disasters and industrial accidents (the Fukushima nuclear accident being a recent exemplar of both), and increase the resilience of infrastructure against acts of terrorism.

#### **B. Program Goals**

The primary goal of the DARPA Robotics Challenge program is to develop ground robotic capabilities to execute complex tasks in dangerous, degraded, human-engineered (vice natural) environments. The program will focus on robots that can use available human tools, ranging from hand tools to vehicles. The program aims to advance the key robotic technologies of supervised autonomy, mounted mobility, dismounted mobility, dexterity, strength, and platform endurance. Supervised autonomy will be developed to allow robot control by non-expert operators, to lower operator workload, and to allow effective operation despite low fidelity (low bandwidth, high latency, intermittent) communications.

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<sup>1</sup> "Sustaining U.S. Global Leadership: Priorities for 21st Century Defense," January 2012, p. 6.

A secondary program goal is to make ground robot software development more accessible, and lower software acquisition cost while increasing capability. This will be accomplished by creating and providing Government Furnished Equipment (GFE) to some performers in the form of a robotic hardware platform with arms, legs, torso, and head, called the *GFE Platform*. Availability of the GFE Platform will allow teams without hardware expertise or hardware to participate.

A parallel secondary program goal is to make ground robot systems development (both hardware and software) more accessible, and lower acquisition cost while increasing capability. This will be accomplished by creating and providing GFE in the form of an open-source, real-time, operator-interactive, virtual test-bed simulator, called the *GFE Simulator*. The GFE Simulator will be populated with models of robots, robot components, and field environments. The accuracy of the models will be rigorously validated on a physical test-bed.

The creation of a widely available, validated, affordable, community supported and enhanced virtual test environment will play a catalytic role, similar to the role the Simulation Program with Integrated Circuit Emphasis (SPICE) played for integrated circuits, allowing new hardware and software designs to be evaluated without the need for physical prototyping. This simulator will lower the barrier for companies to enter the robotics market by allowing them to quickly explore and test new designs at minimal cost with high confidence in the results. It will also catalyze disaggregation of robot software, hardware, and component suppliers, leading to increased competition, increased innovation, and lower cost.

DARPA anticipates that the GFE Simulator will also enhance Science, Technology, Engineering, and Mathematics (STEM) education. For example, in the For Inspiration and Recognition of Science and Technology (FIRST) competition, by allowing students to virtually prototype the design and control of robots, then compare experimental and simulated results – a fundamental lesson in the engineering skill of modeling.

The DARPA Robotics Challenge will consist of three key events – a Virtual Disaster Challenge, and two (2) Disaster Response Challenges. Participation in the Virtual Disaster Challenge is required only for teams working exclusively on control software development. See paragraph E below for details.

### **C. Example Disaster Response Scenario**

In the DARPA Robotics Challenge, robots will compete with each other performing disaster response operations in representative scenarios that will likely include the following sequence of events:

1. Drive a utility vehicle at the site.
2. Travel dismounted across rubble.
3. Remove debris blocking an entryway.
4. Open a door and enter a building.
5. Climb an industrial ladder and traverse an industrial walkway.

6. Use a tool to break through a concrete panel (see Figure 1).
7. Locate and close a valve near a leaking pipe (see Figure 1).
8. Replace a component such as a cooling pump.

These are representative tasks and will likely be updated based on detailed future planning that will take into account safety, cost, performance, operational capabilities and needs.

Figure 1 illustrates Event 6 (the robot on the right-hand side using a power tool) and Event 7 (the robot on the left-hand side turning a valve). The form of these robots is for illustration only; while the robot must be compatible with human operators, environments and tools, there is not a requirement that it have a humanoid form.



Figure 1. Illustration of example disaster response scenario.

For Event 1 (drive a utility vehicle to the site) the robot must demonstrate mounted mobility by ingress to the vehicle, driving it on a road, and egress from the vehicle. The robot must also demonstrate manipulation by operating the controls, including steering, throttle, brakes, and ignition. The vehicle is expected to be an approximately 1000 lb. (453 kg) payload utility vehicle. The robot must steer, accelerate, and brake. The roadway will be a prepared surface such as asphalt, concrete, gravel, or dirt. The travel course will have moderate curvature, and not be straight. The maximum travel speed is expected to be approximately 15 km/hr (for safety). Ingress to and egress from the vehicle shall not require a fixture nor shall it require vehicle modifications. In earlier stages of the program the roadway will be clear of obstacles, and in later stages the roadway may include obstacles, both stationary and dynamic.

For Event 2 (travel dismounted across rubble) the robot must demonstrate dismounted mobility by crossing terrain ranging from smooth and level, to rough and sloped, with some loose soil and rocks. This terrain will be easily traversable by a human. In addition, the terrain will include discrete obstacles such as rocks, bushes, trees, and ditches that prevent easy passage by a person. The robot must avoid those obstacles that it cannot safely traverse.

For Event 3 (remove debris blocking an entryway) the robot must demonstrate the dexterity and strength to move an object blocking an entryway. The object will have size, weight, and other properties to be movable either by a person or by the GFE Platform. The object mass is expected not to exceed 5 kg. The object type has not yet been selected, but is expected to be solid like a rock or a cinder block, and may have an irregular shape.

For Event 4 (open a door and enter a building) the robot must demonstrate the dexterity to operate a door handle and the strength to push the door open. The door and door handle are expected to be standard, commercially available items.

For Event 5 (climb an industrial ladder and traverse an industrial walkway) the robot must demonstrate dismounted mobility to traverse an industrial elevated walkway. It is expected that the walkway (also known as a catwalk) will have a grated surface and handrails. The robot must also demonstrate dismounted mobility and manipulation to climb an industrial ladder. It is expected that a person would need to use both arms and legs to climb the ladder.

For Event 6 (use a tool to break through a concrete panel) the robot must demonstrate using a power tool to perform forceful manipulation. The power tool is expected to be an air or electric impact hammer and chisel, or an electric reciprocating saw (e.g. Sawzall). The task is expected to be breaking through a concrete panel or through a framed wall.

For Event 7 (locate and close valve near leaking pipe) the robot must demonstrate the perception ability to find a leaking pipe and a nearby valve, the dismounted mobility to approach the valve, and the manipulation ability to close the valve. It is expected that the facility will contain multiple pipes and valves, but only one leaking pipe, and only one valve near the leaking pipe. It is expected that the leak in the pipe will be visible as smoke and audible as the hiss of escaping gas. It is expected that a person would need to use two hands to close the valve. It is expected that there will be an obstacle-free path from the robot start location to the valve.

For Event 8 (replace cooling pump) the robot must demonstrate the perception ability to locate the pump, the manipulation ability to loosen one or more fasteners, and the bi-manual manipulation ability to extract the pump from its fittings and reverse all steps to replace the pump. It is expected that the pump will be small and compact enough that a human could handle it with a single hand, and that the pump assembly will include flanges that would serve as natural “handholds” for a human, and that the pump will have fasteners that eliminate the possibility of cross-threading.

DARPA will adjust the difficulty of the scenario as the program progresses, depending on capabilities demonstrated and practical considerations. DARPA will also intentionally vary

details of the scenario to encourage generality and discourage tuning or optimization of parameters for a small range of conditions.

#### **D. Scoring Criteria and Competition Rules**

The scoring criteria and competition rules have not yet been defined. However, DARPA expects to apply the following principles in formulating them.

For all of the events in the scenario, a human operator<sup>2</sup> will supervise the robot. For highly autonomous robots, the operator would issue few high-level commands, and the data rate of the robot/operator communications link would therefore be relatively low. For less autonomous robots, the operator would issue more low-level commands and receive more sensory information, and the data rate would therefore be relatively high. It is up to the teams to decide on the level of robot autonomy and the type of operator interaction. For two systems that perform the scenario equally well, the scoring approach will favor the system that has the lower data rate. DARPA may also intentionally degrade communications fidelity by lowering channel capacity, increasing latency, and/or limiting quality of service. Performers are encouraged to utilize control interfaces (such as, but not limited to, model predictive control) that allow effective human operation despite degraded communication.

All of the events in the scenario must be performed by a single robot. This precludes entering one robot for Event 1, a second and distinct robot for Event 2, and so forth. However, as long as all robot components are transported from the start to the end of each Event, this does not preclude robots that consist of severable pieces that may automatically assemble and disassemble themselves. Further, this does not preclude robots that change physical shape or dimensions, for example, a robot that automatically “folds” to pass through a confined space such as a vehicle door or a building door.

To provide maximum mobility, the robots would be tetherless during the competition. But robots that are tethered to an energy store, power converter, or heat dissipater carried by the utility vehicle are acceptable. If a tether is used, the tether must be managed without human intervention. Because tethers already limit mobility, there will be no scoring penalty for the use of a tether. Whether located on the utility vehicle or robot, the energy store may be recharged or refueled (for example, by swapping batteries or adding liquid fuel). Any power tools used during the scenario will have their own power, either with an integral battery or a power cord. For two systems that perform the scenario equally well, the scoring approach will favor the system that consumes less energy.

All commands and data must be able to be communicated to and from the robot by a wireless link, presently envisioned as 802.11n at 5GHz, though this may change. The robot must be able

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<sup>2</sup> The term “operator” is used in singular form; however, there may be multiple persons performing the operator functions.

to use a wired link as well should it be needed. DARPA will provide and control the communications infrastructure.

Candidate scoring criteria include the following (not in priority order, and not an exhaustive enumeration):

- Successful event completion
- Completion time
- Data rate
- Energy consumption

**E. Program Structure**

Competitors may enter the DARPA Robotics Challenge via one of the following four distinct tracks:

Track A. A competitor may respond to this BAA by proposing to develop their own system, including both hardware and software. DARPA anticipates funding up to five (5) teams based on the Evaluation Criteria described in Section V below. DARPA expects these teams to model their system with the GFE Simulator.

Track B. A competitor may respond to this BAA by proposing to develop control software only (no hardware development), and compete to be one of the top performing teams in simulation. DARPA anticipates funding up to twelve (12) teams based on the Evaluation Criteria described in Section V below.

Track C. A competitor may, at their own expense, develop control software only (no hardware development), and compete to be one of the top performing teams in simulation. DARPA will provide cloud computing resources for up to one hundred (100) teams based on the Evaluation Criteria described in Section V below.

At the end of the Virtual Disaster Response Challenge competition (see paragraph F below), up to six (6) of the top performing teams from Track B and Track C will be provided a GFE robot and hardware maintenance support, along with funding for continued software development.

Track D. A competitor may develop a complete system, both hardware and software, at their own expense and enter it into competition. Such entries must pass initial qualification testing, but will otherwise compete on an equal footing with the DARPA-funded efforts.

Table 1 summarizes the alternative tracks for participating in the program.

Track	Initial DARPA Funding?	Compete in Virtual Challenge and if successful use GFE Platform?	Use GFE Simulator?
A	Yes	No	Desired
B	Yes	Yes	Required

C	No	Yes	Required
D	No	No	Desired

Table 1. Alternative tracks for participating in the program.

The supplier of the GFE Platform may not participate in Track A, Track B, Track C, or Track D.

The supplier of the GFE Simulator may not participate in Track A, Track B, Track C, or Track D.

## F. Program Schedule

The program will consist of two phases, each ending with a competitive evaluation. Table 2 shows a simplified summary of the schedule for key events.

Event	Phase 1		Phase 2
	Virtual Disaster Response Challenge	Disaster Response Challenge 1	Disaster Response Challenge 2
Months After Kickoff	9	15	27
Robot Type	Simulated	Physical	Physical

Table 2. Summary schedule of key events.

The Phase 1 period will be the fifteen (15) months anticipated from October 1, 2012 to December 31, 2013. Phase 1 activities include the following:

- The GFE Simulator and its models will be incrementally developed, with a simple version released at program kickoff, and improved versions released throughout the program.
- Experimental physical validation of the GFE simulator's results will be conducted.
- Up to five (5) Track A teams will be funded to develop their hardware and software, and will use the GFE simulator as a tool in their development.
- Up to twelve (12) Track B and up to one hundred (100) Track C teams will develop and test their control software using the GFE Simulator as a tool in their development.
- An unknown number of Track D teams will join the challenge.

Near the middle of Phase 1, a Virtual Disaster Response Challenge competition using the GFE Simulator will determine the highest performing teams from Track B and Track C. Up to six (6) such teams will be declared winners and provided with GFE Platforms and funding for continued work.

At the end of Phase 1, the program will conduct the first Disaster Response Challenge amongst all teams based on an authentic disaster scenario. Up to eight (8) of the highest performing teams will move forward to Phase 2 to compete on a more difficult Challenge.

The Phase 2 period will be the twelve (12) months anticipated from January 1, 2014 to December 31, 2014. These dates are approximate and subject to change. Phase 2 activities include the following:

- Development and validation of the GFE Simulator and its models will continue.
- Support for the GFE Platform will continue for reasonable wear and tear.
- Up to eight (8) DARPA funded teams will continue to develop and test their robot systems to prepare for the second competition.
- An unknown number of Track D teams will join the challenge.

At the end of Phase 2 the program will conduct a second disaster response competition amongst all teams based on an authentic disaster scenario. Based on the competition results, the program will identify the single most capable team, and intends to issue the team a prize with an anticipated value of \$2 million.

### **G. Program Funding**

The program has planned the following funding for teams. This plan is subject to change depending on the number of qualified teams and available resources. (The symbol M represents millions, the symbol k represents thousands.)

#### Phase 1

- Track A: Up to \$3M for each team, with up to five (5) teams
- Track B first nine (9) months through the Virtual Disaster Response Challenge: Up to \$375k for each team, with up to twelve (12) teams
- Track B/Track C last six (6) months after the Virtual Disaster Response Challenge: Up to \$750k additional for each team, with up to six (6) teams

#### Phase 2

- Up to \$1M for up to eight (8) of the top performing teams from the first physical disaster challenge

#### Prize

- Anticipated to be \$2M to a single team

Funding amounts will be equal for teams in a given track in a given period, that is, DARPA intends for teams to compete on an equal funding footing.

The diagram below summarizes sections E, F, and G above:

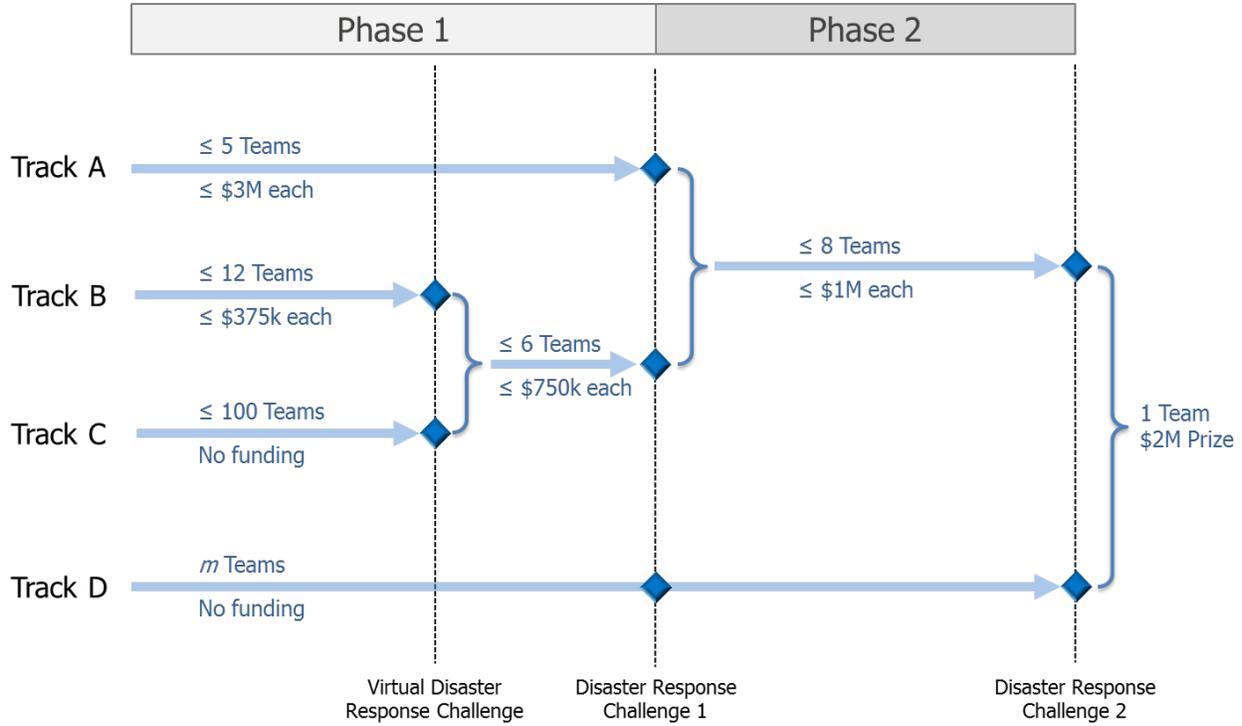


Diagram 1. Summary of Section E, F, and G

**H. Program Scope**

Teams that follow Track A (full system, both hardware and software) and Track B (software only, no hardware development) may respond to this BAA.

Teams that follow Track C or Track D need not respond to this BAA, and instead are required to register at least 60 days prior to the Virtual Disaster Response Challenge event for Track C and the Phase I Disaster Response Challenge event for track D. Register NLT April 1, 2013 for Track C and October 1, 2013 for Track D, exact process to be described in a future announcement. In order to be eligible for DARPA funding following the Virtual Disaster Response Challenge, winning Track C teams will need to submit a proposal to DARPA. A subsequent registration announcement for the second Disaster Response Challenge will be released during Phase II.

For Track A and Track B proposals, the scope of the proposed technical effort must align with the example scenario presented in Section C above. Table 3 lists as rows the scenario events, and lists as columns the technical capabilities that may need to be developed. An ‘X’ in the table cell indicates that the technical capability is needed for the event. The list of capabilities is not intended to be comprehensive or exhaustive.

	Autonomy - Perception	Autonomy – Decision-making	Mounted Mobility	Dismounted Mobility	Dexterity	Strength	Endurance
1. Drive utility vehicle to site	X	X	X		X		
2. Travel dismounted across rubble	X			X			X
3. Remove debris blocking entryway	X			X	X	X	X
4. Open door, enter building	X			X	X		X
5. Climb industrial ladder, traverse industrial walkway	X			X			X
6. Use tool to break through concrete panel	X	X			X	X	X
7. Locate and close valve near leaking pipe	X	X		X	X	X	X
8. Replace component	X	X			X		

Table 3. Technical capabilities needed for events in the disaster response scenario.

The following items fall outside the scope of this BAA:

- Track C and Track D efforts
- GFE Platform development
- GFE Simulation development and validation
- Instructional and educational material development

DARPA will treat as non-responsive any submission to this BAA that proposes any of the above out-of-scope items.

### I. Track A Scope

During the fifteen (15) month Phase 1, Track A will consist of two key periods: Critical Design, and System Build. Development during these periods will culminate in the Disaster Response Challenge at month 15.

During the Critical Design period, the performer will perform the following:

- Complete an overall robot design to meet the program goals. The design will be documented by a technical data package including at least the following items:

- Computer Aided Design (CAD) model of a finished system, a bill of materials, quotes, and lead times of all components
- Mechanical, electrical, and data architecture design, including diagrams of architectures, interfaces, protocols, and similar
- A build plan and schedule
- Validate expected loads and power delivery to extremities to perform the scenario events. The validation will include at least the following items:
  - Analytical calculations and models
  - Properly sized components demonstrating delivered load and mechanical performance demanded of a design using subsystem hardware test rigs
  - Comprehensive test results
- Implement the control approach in simulation and demonstrate the robot performing each of the scenario events.
- Develop perception approaches that allow operator effective situational awareness for robot control. The approaches will include perception hardware, perception architecture, and perception algorithms.

The Critical Design period will culminate in a Critical Design Review (CDR) at no later than month nine (9), during which the performer will present as deliverables:

- A design technical data package
- A complete build plan leading to first operation of the proposed robot
- A model in simulation showing mounted mobility, dismounted mobility, and manipulation.

Continued DARPA funding will depend on successfully meeting the CDR criteria.

During the System Build period, the performer will perform the following tasks:

- Execute the build plan to achieve program goals
- Demonstrate that subsystems meet performance goals stated in the build plan
- Integrate control algorithms to demonstrate mobility and manipulation
- Integrate sensor hardware
- Implement perception approaches that allow operator effective situational awareness for robot control

DARPA desires Unlimited Rights, as defined in DFARS 252.227-7013 and -7014,12 to all deliverables generated by the DARPA Robotics Challenge performer under this effort except clearly-identified, widely-available, commercial software tools, with their commercial availability described and substantiated in the proposal.

## **J. Track B Scope**

During the fifteen (15) month Phase 1, Track B will consist of two key periods: GFE Simulator Integration, and GFE Platform Integration. Development during these two periods will culminate in the Disaster Response Challenge at month 15.

During the GFE Simulator Integration period, the performer will:

- Develop algorithms within the GFE Simulator
- Demonstrate controls approaches that will enable simulated robot to locomote and manipulate effectively in performing the scenario events
- Implement perception approaches that allow operator effective situational awareness for robot control

The GFE Simulator period will culminate in a Virtual Disaster Response Challenge at no later than month nine (9), during which the performer will demonstrate:

- Successful integration of controls approaches into the GFE Simulator
- Ability to move robot through series of simulated challenge tasks
- Score among the top six (6) teams participating in order to receive a GFE Platform

During the GFE Platform Integration period, the performer will:

- Operate the GFE robot in real world environment
- Integrate control algorithms to demonstrate mounted mobility, dismounted mobility, and manipulation
- Demonstrate control strategy with actual sensor hardware
- Participate in Disaster Response Challenge I

DARPA desires Unlimited Rights, as defined in DFARS 252.227-7013 and -7014,12 to all deliverables generated by the DARPA Robotics Challenge performer under this effort except clearly-identified, widely-available, commercial software tools, with their commercial availability described and substantiated in the proposal.

### **K. Technical Interchange**

The program will promote technical interchange between all program participants (Track A, Track B, Track C, Track D, GFE Simulator developer, GFE Platform developer, DARPA, Government partners) through several Technical Interchange Meetings:

- Kickoff for Track A and Track B, planned for October 2012
- Technical Interchange Meeting in preparation for the Virtual Disaster Response Challenge, planned for June 2013
- Technical Interchange Meeting in preparation for Disaster Response Challenge I, planned for December 2013
- Technical Interchange Meeting in preparation for Disaster Response Challenge II, planned for December 2014

### **L. GFE Platform**

The GFE Platform is expected to be provided by Boston Dynamics, Inc. (BDI) and will resemble the BDI Atlas platform, which in turn resembles the BDI PETMAN platform.

The GFE Platform will be physically capable of performing all of the tasks in the disaster response scenario (Section C, above). The platform is expected to have two arms, two legs, a torso, and a head:

- Expected Arm: 7 degrees of freedom, and a hand with 2-3 fingers
- Expected Leg: 6 degrees of freedom, 3 at the hip, 1 at the knee, and 2 at the ankle
- Expected Head: Stereo vision, laser radar
- Expected Mass: 150 kg

### **M. GFE Simulator**

The GFE Simulator is expected to be provided by the Open Source Robotics Foundation, Inc., and will initially be based on the ROS Gazebo simulator.

Expectations for the GFE Simulator include the following:

- Models the three-dimensional environment
- Allows developers to import kinematic, dynamic, and sensor models of a robot
- Allows users to send commands (identical to those sent to a physical robot) over a network to and receive data (similar to that received from a physical robot) from the simulated robot
- Uses physics-based models of inertia, actuation, contact, and environment dynamics to simulate the robot's motion
- Runs in real-time on the "cloud," likely on Graphics Processing Units (GPUs)
- Cloud computing resources will be funded by DARPA for up to 100 teams

The GFE Simulator supplier will manage an open-source effort where the simulator, robot models, and environment models are developed and improved by the supplier as well as by contributors throughout the world.

## **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. 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. 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.

As of the date of publication of this BAA, DARPA expects that program goals for this BAA may be met by proposers intending to perform 'fundamental research,' i.e., basic or applied research performed on campus 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. Notwithstanding this statement of expectation, DARPA is not prohibited from considering and selecting research proposals that, while perhaps not qualifying as 'fundamental research' under the foregoing definition, still meet the BAA criteria for submissions. If proposals are selected for award that offer other than a fundamental research solution, then DARPA will either work with the proposer to modify the proposed statement of work to bring the research back into line with fundamental research or else the proposer will agree to restrictions in order to receive an award. See Section VI.B.4 for further information on fundamental, non-fundamental and restricted research. In all cases, the contracting officer shall have sole discretion to select award instrument type and to negotiate all instrument provisions with selectees.

### **III. ELIGIBILITY INFORMATION**

#### **A. Eligible Applicants**

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. 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 address the following conditions. FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector AND must also provide a letter on letterhead from their sponsoring organization citing the specific authority establishing their eligibility to propose to government solicitations and compete with industry, and compliance with the associated FFRDC sponsor agreement and terms and conditions. This information is required for FFRDCs proposing to be prime 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 (as well as, where relevant, contractual authority) 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 eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the Proposer.

#### **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 USC 203, 205, and 208). The DARPA Program Manager for this BAA is Dr. Gill Pratt. 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.)

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. Therefore, all Proposers as well as 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). 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 must include a description of the action the Proposer has taken or proposes to take 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 that any conflict of interest exists or may exist (whether organizational or otherwise) or has questions on what constitutes a conflict of interest, the Proposer should promptly raise the issue with DARPA by sending his/her contact information and a summary of the potential conflict to the BAA mailbox, DARPA-BAA-12-39@darpa.mil, before time and effort are expended in preparing a proposal and mitigation plan.

### **C. 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.

### **D. Other Eligibility Criteria**

#### **1. Collaborative Efforts**

Collaborative efforts/teaming are encouraged. Specific content, communications, networking, and team formation are the sole responsibility of the participants.

## **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. 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.

## B. Content and Form of Application Submission

### 1. Security and Proprietary Issues

**NOTE: If proposals are classified, the proposals must indicate the classification level of not only the proposal itself, but also the anticipated award document classification level.**

The Government anticipates proposals submitted under this BAA will be unclassified. However, if a proposal is submitted as “Classified National Security Information” as defined by Executive Order 13526 then the information must be marked and protected as though classified at the appropriate classification level and then submitted to DARPA for a final classification determination.

Security classification guidance via a DD Form 254, “DoD Contract Security Classification Specification,” will not be provided at this time, since DARPA is soliciting ideas only. 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 from other classified sources must first receive permission from the respective Original Classification Authority in order to use their information in replying to this BAA. Applicable classification guide(s) should also be submitted to ensure the proposal is protected at the appropriate classification level.

Classified submissions shall 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)

Classified submissions shall be in accordance with the following guidance:

**Confidential and Secret Collateral Information:** Use classification and marking guidance provided by previously issued security classification guides, the DoD Information Security Regulation (DoDM 5200.01, Volumes 1-4), 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 be submitted via ONE of the two following methods:

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

OR

2. Mailed via appropriate U.S. Postal Service methods (e.g., (USPS) Registered Mail or USPS Express Mail). All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner

envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee.

The inner envelope shall be addressed to:

For all communications to be received prior to April 30, 2012  
Defense Advanced Research Projects Agency  
ATTN: DARPA/TTO  
Reference: BAA-12-39  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

For all communications to be received on or after April 30, 2012  
ATTN: DARPA/TTO  
Reference: BAA-12-39  
675 North Randolph Street  
Arlington, VA 22203-2114

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

For all communications to be received prior to April 30, 2012  
Defense Advanced Research Projects Agency  
Security & Intelligence Directorate, Attn: CDR  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

For all communications to be received on or after April 30, 2012  
Defense Advanced Research Projects Agency  
Security & Intelligence Directorate, Attn: CDR  
675 North Randolph Street  
Arlington, VA 22203-2114

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

**Special Access Program (SAP) Information:** SAP information must be transmitted via approved methods. Prior to transmitting SAP information, contact the DARPA SAPCO at 703-526-4052 for instructions.

**Sensitive Compartmented Information (SCI):** SCI must be transmitted via approved methods. Prior to transmitting SCI, contact the DARPA Special Security Office (SSO) at 703-526-4052 for instructions.

**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 Proposer's 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. An original electronic copy of each proposal 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.

## 2. Proposal Submission Information

Proposers are required to submit full proposals by the time and date specified in the BAA in order to be considered.

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 email; any so sent will be disregarded.

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

Grant or cooperative agreement proposals may only be submitted to DARPA through Grants.gov or in hard-copy. Grant or cooperative agreement proposals may not be submitted through any other means (including T-FIMS and other comparable systems). 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.

Proposers must complete the following steps in the order listed below before submitting proposals on Grants.gov (these steps are also detailed at [www.grants.gov/applicants/get\\_registered.jsp](http://www.grants.gov/applicants/get_registered.jsp)):

- Proposers must obtain a DUNS number.
- Proposers must register their organization in the Central Contractor Registration (CCR) <https://www.bpn.gov/ccr/default.aspx>.
- Proposers must register the Authorized Organization Representative (AOR) in Grants.gov.
- Proposers must have the organization's E-BIZ point of contact authorize the AOR to submit applications.

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 proposer will have to resubmit their proposal. 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://grants.gov/applicants/apply\\_for\\_grants.jsp](http://grants.gov/applicants/apply_for_grants.jsp).

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://www.grants.gov/agencies/aapproved\\_standard\\_forms.jsp#2](http://www.grants.gov/agencies/aapproved_standard_forms.jsp#2).

Technical support for Grants.gov submissions may be reached at 1-800-518-4726 or [support@grants.gov](mailto:support@grants.gov).

DARPA intends to use electronic mail correspondence regarding BAA 12-39. All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal to this BAA, should be sent via email to DARPA-BAA-12-39@darpa.mil. Proposals may not be submitted by fax or email; 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.

### **3. Proposal Format**

The proposal shall be delivered in a single volume including both technical and cost information. Proposals not meeting the format described in this BAA may not be reviewed.

The proposal shall include the following sections, each starting on a new page (where a "page" is 8-1/2 by 11 inches with type not smaller than 12 point, charts may use 10 point font, margins not smaller than 1 inch, and line spacing not smaller than single-spaced). Fold-outs up to 11 by 17 inches may be used but will be counted as two pages. All submissions must be in English. Individual elements of the proposal shall not exceed the total of the maximum page lengths for each section as shown in braces { } below.

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

## Proposal Section 1. Administrative

### 1.1 Cover Sheet {no page limit}

- BAA number;
- Track Type, either Track A or Track B;
- Lead organization submitting proposal;
- Type of business, selected among the following categories:
  - WOMEN-OWNED LARGE BUSINESS,
  - OTHER LARGE BUSINESS,
  - SMALL DISADVANTAGED BUSINESS [identify ethnic group from among the following: Asian-Indian American, Asian-Pacific American, Black American, Hispanic American, Native American, or Other],
  - WOMEN-OWNED SMALL BUSINESS,
  - OTHER SMALL BUSINESS,
  - HBCU,
  - MI,
  - OTHER EDUCATIONAL,
  - OTHER NONPROFIT, OR
  - FOREIGN CONCERN/ENTITY;
- All other team members (if applicable and including second- and lower-tier subcontractors) and type of business for each;
- Proposal title;
- Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax, and electronic mail;
- Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax, and electronic mail;
- Award instrument requested: cost-plus-fixed-fee (CPFF), cost-award—no fee, cost sharing contract – no fee, or other type of procurement contract (specify), or other transaction;
- Place(s) and period(s) of performance;
- Summary of the costs of the proposed research, including total base cost, estimates of base cost in each year of the effort, estimates of itemized options in each year of the effort, and cost sharing if relevant;
- Name, address, and telephone number of the offeror's cognizant Defense Contract Management Agency (DCMA) administration office (if known);
- Name, address, and telephone number of the offeror's cognizant Defense Contract Audit Agency (DCAA) audit office (if known);
- Date proposal was prepared;
- DUNS number;
- TIN number;
- Cage Code;
- Proposal validity period (minimum 180 days).

## **1.2 Table of Contents {no page limit}**

### **1.3 Organizational Conflict of Interest Affirmations and Disclosure {no page limit}**

Per the instructions in Section III.A.1 above, if the offeror or any proposed subcontractor IS providing SETA support, as described, to any DARPA technical office(s) through an active contract or subcontract (regardless of which DARPA technical office is being supported), they must provide documentation: (1) stating which office(s) the offeror, subcontractor and/or individual supports; (2) identify the prime contract numbers; AND (3) include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate the conflict.

If the offeror or any proposed subcontractor IS NOT currently providing SETA support as described, then the offeror should simply state “NONE.”

**Proposals that fail to fully disclose potential conflicts of interests or do not have acceptable plans to mitigate identified conflicts will be rejected without technical evaluation and withdrawn from further consideration for award.**

### **1.4 Human Use {no page limit}**

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. For further information on this subject, see Section VI.B.3 below. If human use is not a factor in a proposal, then the offeror should state “NONE.”

### **1.5 Animal Use {no page limit}**

For submissions containing animal use, proposals must briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. For further information on this subject, see Section VI.B.4 below. If animal use is not a factor in a proposal, then the offeror should state “NONE.”

### **1.6 Statement of Unique Capability Provided by Government or Government-Funded Team Member {no page limit}**

Per Section III.A. – Eligible Applicants, proposals which include Government or Government-funded entities (i.e., FFRDC’s, National laboratories, etc.) as prime, subcontractor or team member, shall provide a statement which clearly demonstrates the work being provided by the Government or Government-funded entity team member is not otherwise available from the private sector. If none of the team members belongs to a Government or Government-funded entity, then the offeror should state “Not Applicable.”

### **1.7 Government or Government-funded Team Member Eligibility {no page limit}**

Per Section III.A. – Eligible Applicants, proposals which include Government or Government-funded entities (i.e., FFRDC’s, National laboratories, etc.) as prime, subcontractor or team member shall provide documentation citing the specific authority which establishes they are eligible to propose to Government solicitations: (1) statutory authority; (2) contractual authority; (3) supporting regulatory guidance; AND (4) evidence of agency approval. If no such entities are involved, then the offeror should state “NONE.”

## Proposal Section 2. Technical Details

### 2.1 PowerPoint Summary Chart {1}:

Provide a one slide summary of the proposal in graphical format that effectively and succinctly conveys through visual means the main objective, key innovations, expected impact, and unique aspects of the proposal. The use of “penta” and “quad” chart formats is discouraged.

### 2.2 Innovative Claims for the Proposed Research {2}:

This section is the centerpiece of the proposal and should succinctly describe the unique proposed approach and contributions. This section may also *briefly* address the following topics:

- a. Problem Description. Provide a concise description of the problem areas addressed. Make this specific to your approach.
- b. Research Goals. Identify specific research goals. Goals should address the technical challenges of the effort.
- c. Expected Impact. Describe and justify the expected impact of your research.

### 2.3 Technical Approach {8}:

Provide a detailed description of the technical approach. This section will serve as the primary expression of the offeror’s scientific and technical ideas. It should also include the offeror’s understanding of the state of the art approaches and the limitations that relate to each topic addressed by the proposal. Describe and analyze state of the art results, approaches, and limitations within the context of the problem area addressed by this research. Demonstrating problem understanding requires not just the enumeration of related efforts; rather, related work must be compared and contrasted to the proposed approach.

Track A proposals must address the hardware, software, integration, and testing aspects of system development.

- Hardware: What form will the robot take and how will that form enable it to perform each of the events in the scenario? Is this an evolution of an existing design, or a “clean sheet” design? Describe all major design features, including mechanical (structures, actuation, ...), electrical (energy source, computing, ...), sensing (robot state, environmental, ...), and operator interface. Describe the design methodology and the approach to high-risk elements of the design.
- Software: What is the high-level architecture of the software? Is this an evolution of an existing design, or a “clean sheet” design? Describe the major software modules, including modules performing the functions of obstacle detection, obstacle avoidance, localization, path planning, motion planning, controls, and human-robot interaction.
- Integration: What process will the team use to integrate hardware and software? What is the likely sequence of pieces to be integrated?
- Testing: How will the team test the hardware, software, and integrated system? What laboratory and outdoor facilities will the test processes utilize?

Track B proposals must address the software and testing aspects of software development, covering the Software and Testing items described above for the Track A proposals (excluding any hardware elements that are not applicable to Track B).

#### **2.4 Intellectual Property {1}**

Per section VIII. below, offerors responding to this BAA must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. The Government will assume unlimited rights if offerors fail to identify any intellectual property restrictions in their proposals. Include in this section all proprietary claims to results, prototypes, deliverables or systems supporting and/or necessary for the use of the research, results, prototypes and/or deliverables. If no restrictions are intended, then the offeror should state “NONE”.

#### **2.5 Management Plan {2}:**

Describe formal teaming agreements that are required to execute this program, a brief synopsis of all key personnel, and a clearly defined organization chart for the program team (prime contractor and subcontractors, if any). Provide an argument that the team size and composition are both necessary and sufficient to meet the program objectives. Provide detailed task descriptions, costs, and interdependencies for each individual effort and/or subcontractor. To the extent that graduate students and postdocs are involved in individual efforts, describe their role and contribution. Information in this section must cover the following information:

- a. Programmatic relationship of team members;
- b. Unique capabilities of team members;
- c. Task responsibilities of team members;
- d. Teaming strategy among the team members;
- e. Key personnel along with the amount of effort to be expended by each person during each year; and
- f. Government role in project, if any.

#### **2.6 Personnel, Qualifications, and Commitments {3}:**

List key personnel, showing a concise summary of their qualifications. Provide a description of any previous accomplishments or similar efforts completed/ongoing in this or closely related research area, including identification of other Government sponsors, if any.

Indicate the level of effort in terms of hours to be expended by each person during each contract year and other (current and proposed) major sources of support for them and/or commitments of their efforts. DARPA expects all key personnel associated with a proposal to make substantial time commitment to the proposed activity and the proposal will be evaluated accordingly. It is DARPA’s intention to put key personnel clauses into the contracts, so offerors should not bid personnel whom they do not intend to execute the contract.

Include a table of key individual time commitments as follows:

Key Individual	Project	Pending/Current	2010	2011	2012
Jane Doe	Program Name	Proposed	X hours	Y hours	Z hours
	Project 1	Current	n/a	n/a	n/a
	Project 2	Pending	100 hours	n/a	n/a
John Deer	Program Name	Proposed			

**2.7 Schedule and Milestones {6}:**

This section should include:

- a. {2 pages} Schedule Graphic. Provide a graphic representation of project schedule including detail down to the individual effort level. This should include but not be limited to a coherent development plan, which demonstrates a clear understanding of the proposed research; and a plan for periodic and increasingly robust tests over the project life that will show applicability to the overall program concept.
- b. {2 pages} Detailed Task Descriptions. Provide detailed task descriptions for each discrete work effort and/or subcontractor in schedule graphic.
- c. {2 pages} Cost Summary. Provide a top level total cost summary for the entire program. Show each major task and subtask by month and delineate prime and major subcontractor efforts.
- d. {2 pages} Cost, schedule and measurable milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the prime and major subcontractors, total cost and company cost share, if applicable. (Note: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.) Show all project milestones. Use “x months after contract award” designations for all dates.

**2.8 Statement of Work (SOW) {5}:**

In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. 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 completion criteria for each task/activity—a product, event or milestone that defines its completion;
- Define all deliverables (reports, data, software, hardware, prototypes, etc.) to be provided to the Government in support of the proposed research tasks/activities. Include expected delivery date for each deliverable.

**Do not include any proprietary information in the SOW or include any markings placing limitations on distribution on the pages containing the SOW.**

## **Proposal Section 3. Cost**

### **3.1 Detailed Cost Breakdown {no page limit}**

Provide: (1) total program cost broken down by major cost items (direct labor, including labor categories; subcontracts; materials; other direct costs, overhead charges, etc.) and further broken down by task and phase; (2) major program tasks by fiscal year; (3) an itemization of major subcontracts and equipment purchases; (4) an itemization of any information technology (IT) purchase<sup>3</sup>; (5) a summary of projected funding requirements by month; (6) the source, nature, and amount of any industry cost-sharing; (7) identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Experts, etc.); and (8) provide appropriate cost or price analyses of subcontractor proposals, IAW FAR 15.404-3, to establish the reasonableness of proposed subcontract prices.

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. 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. NOTE: for IT and equipment purchases, include a letter stating why the offeror cannot provide the requested resources from its own funding.

Provide supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates 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 offeror is seeking a procurement contract award of \$700,000 or greater unless the offeror requests an exception from the requirement to submit cost or pricing data. “Cost or pricing data” are not required if the offeror proposes an award instrument other than a procurement contract (e.g., other transaction). All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic/email, etc.), either by the offeror or by the subcontractor organization.

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<sup>3</sup> IT is defined as “any equipment, or interconnected system(s) or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency. (a) For purposes of this definition, equipment is used by an agency if the equipment is used by the agency directly or is used by a contractor under a contract with the agency which – (1) Requires the use of such equipment; or (2) Requires the use, to a significant extent, or such equipment in the performance of a service or the furnishing of a product. (b) The term “information technology” includes computers, ancillary, software, firmware and similar procedures, services (including support services), and related resources. (c) The term “information technology” does not include – (1) Any equipment that is acquired by a contractor incidental to a contract; or (2) Any equipment that contains imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, is not information technology.”

#### **4. Submission Dates and Times**

Proposers should submit one (1) original, two (2) hard copies and two (2) CD-ROMs containing the entire proposal as a single Adobe PDF file to the following address:

For proposals to be received prior to April 30, 2012  
ATTN: BAA 12-39  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

For proposals to be received on or after April 30, 2012  
ATTN: BAA 12-39  
675 North Randolph Street  
Arlington, VA 22203-2114

Grant or cooperative agreement proposals may only be submitted to DARPA through Grants.gov or in hard-copy (see section IV.B.2). No e-mailed or faxed proposals will be accepted. The deadline for proposal submissions is 4:00pm Eastern Time on Thursday, May 31, 2012. The dates and times indicated are deadlines by which proposals must be received by DARPA or submitted to Grants.gov.

Proposers are required to submit proposals by the time and date specified in the BAA in order to be considered. Ability to review late submissions remains contingent on availability of funds. 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 Monday, April 30, 2012, before final full proposals are due. In order to receive a response to your question, submit your question by Friday, April 20, 2012 to DARPA-BAA-12-39@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. Intergovernmental Review**

Not Applicable.

#### **6. Funding Restrictions**

Not Applicable.

## 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) Proposer's Capabilities and/or Related Experience; (c) Cost Realism; and (d) Potential Contribution and Relevance to the DARPA Mission.

#### (a) Overall Scientific and Technical Merit

The proposed technical approach is innovative, 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) Proposer's Capabilities and/or 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 has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

#### (c) Cost 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. The proposal will be reviewed to determine if 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, this will involve review, at the prime and subcontract level, of 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. 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.

#### (d) 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 application.

## **B. Review and Selection Process**

Evaluation of proposals will be accomplished through a scientific/technical review of each 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.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. 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.

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. After proposals have been evaluated and selections made, an electronic copy of each proposal received will be retained at DARPA and all other copies will be destroyed.

## 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 United States Postal Service OR email to the Technical point of contact 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 Technical Interchange Meetings and periodic site visits at the Program Manager's discretion.

#### 2. Human Use

All research involving human subjects, to include use of human biological specimens and human data, selected for funding 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* ([http://www.access.gpo.gov/nara/cfr/waisidx\\_07/32cfr219\\_07.html](http://www.access.gpo.gov/nara/cfr/waisidx_07/32cfr219_07.html)) 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, for example 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 have a valid Assurance. In addition, personnel involved in human subjects research must provide documentation of completing appropriate training for the protection of human subjects.

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.

### **3. 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); (ii) the guidelines described in National Institutes of Health Publication No. 86-23, "Guide for the Care and Use of Laboratory Animals"; (iii) DoD Directive 3216.01, "Use of Laboratory Animals in DoD Program."

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-www.army.mil/index.cfm?pageid=Research\\_Protections.acuro&rn=1](https://mrmc-www.army.mil/index.cfm?pageid=Research_Protections.acuro&rn=1).

### **4. Publication Approval**

It is the policy of the Department of Defense that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. The definition of Contracted Fundamental Research is:

“Contracted Fundamental Research includes [research performed under] grants and contracts that are (a) funded by budget category 6.1 (Basic Research), whether performed by universities or industry or (b) funded by budget category 6.2 (Applied Research) and performed on-campus at a university. The research shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a

high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.” Such research is referred to by DARPA as “Restricted Research.”

Pursuant to DoD policy, research performed under grants and contracts that are (a) funded by budget category 6.2 (Applied Research) and NOT performed on-campus at a university or (b) funded by budget category 6.3 (Advanced Technology Development) does not meet the definition of fundamental research. Publication restrictions will be placed on all such research.

It is anticipated that awards for both Fundamental and Non-fundamental Research may be made as a result of this BAA. Appropriate clauses will be included in resultant awards for Non-fundamental Research to prescribe publication requirements and other restrictions, as appropriate. DARPA does not anticipate applying publication restrictions of any kind to Fundamental Research to each individual award that may result from this BAA.

Proposers are advised if they propose grants or cooperative agreements, DARPA may elect to award other award instruments due to the need to apply publication or other restrictions. DARPA will make this election if it determines that the research resulting from the proposed program 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 and will be considered Restricted Research.

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 same or similar provision will be incorporated into any resultant Restricted Research or 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 (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/Awardee's Information: POC name, email 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 email to [prc@darpa.mil](mailto:prc@darpa.mil) or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to [http://www.darpa.mil/NewsEvents/Public\\_Release\\_Center/Public\\_Release\\_Center.aspx](http://www.darpa.mil/NewsEvents/Public_Release_Center/Public_Release_Center.aspx) for information about DARPA's public release process.

## 5. Export Control

The following clause will be included in all procurement contracts, and may be included in Other Transactions as deemed appropriate:

- (a) *Definition.* “Export-controlled items,” as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130). The term includes:
- 1) “Defense items,” defined in the Arms Export Control Act, 22 U.S.C. 2778(j)(4)(A), as defense articles, defense services, and related technical data, and further defined in the ITAR, 22 CFR Part 120.
  - 2) “Items,” defined in the EAR as “commodities,” “software,” and “technology,” terms that are also defined in the EAR, 15 CFR 772.1.
- (b) The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR.
- (c) The Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.
- (d) Nothing in the terms of this contract adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, Executive orders, and regulations, including but not limited to—
- (1) The Export Administration Act of 1979, as amended (50 U.S.C. App. 2401, *et seq.*);

- (2) The Arms Export Control Act (22 U.S.C. 2751, *et seq.*);
  - (3) The International Emergency Economic Powers Act (50 U.S.C. 1701, *et seq.*);
  - (4) The Export Administration Regulations (15 CFR Parts 730-774);
  - (5) The International Traffic in Arms Regulations (22 CFR Parts 120-130); and
  - (6) Executive Order 13222, as extended;
- (e) The Contractor shall include the substance of this clause, including this paragraph (e), in all subcontracts.

### **6. 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.

### **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 E-Verify 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. Central Contractor Registration (CCR) 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 Central Contractor Registration (CCR) and have a valid Data Universal Numbering System (DUNS) number prior to submitting a proposal. Information on CCR registration is available at <http://www.ccr.gov>. All proposers must maintain an active CCR registration 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.

DARPA cannot make an assistance award to a proposer until the proposer has provided a valid DUNS number and has maintained an active CCR registration with current information.

### **9. Reporting Executive Compensation and First-Tier Subcontract Awards**

The 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**

FAR clause 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matter, will be included in all contracts valued at \$500,000 where the contractor has current active Federal contracts and grants with total value greater than \$10,000,000.

### **11. Representation by Corporations Regarding Unpaid Delinquent Tax Liability or a Felony Conviction Under Any Federal Law**

*Each proposer must complete and return the representations in paragraph (b) below with their proposal submission.*

(a) In accordance with sections 8124 and 8125 of Division A of the Consolidated Appropriations Act, 2012 (Pub. L. 112-74) none of the funds made available by that Act 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, 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.

(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 violated under Federal law within the preceding 24 months.

## **12. Cost Accounting Standards Notices and Certification (Deviation 2012-00003 (JAN 2012))**

As per FAR 52.230-2, amended by Deviation 2012-00003 (JAN 2012), 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 Chapter 99), except those contracts which are exempt as specified in 48 CFR 9903.201-1. Any offeror submitting a proposal which, if accepted, will result in a cost accounting standards (CAS) compliant contract, must submit representations and a Disclosure Statement as required by 48 CFR 9903.202 detailed in FAR 52.230-2.

### **C. Reporting**

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

### **D. Electronic Systems**

#### **1. Representations and Certifications**

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

#### **2. 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.

#### **3. i-Edison**

All required invention and patent reporting shall be accomplished, as applicable, using the i-Edison.gov reporting website at (<http://s-edison.info.nih.gov/iEdison>).

## **VII. AGENCY CONTACTS**

Email is a preferred method of communication.

Administrative, technical or contractual questions should be sent via email to DARPA-BAA-12-39@darpa.mil. All requests must include the name, email address, and phone number of a point of contact.

## **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 admonished 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:

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

**2. 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:

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

**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.