BROAD AGENCY ANNOUNCEMENT (BAA)
FIRST RESPONDER GROUP
BAA 13-012

Department of Homeland Security
Science and Technology (S&T) Directorate

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1. GENERAL INFORMATION

1.1. Introduction

The Department of Homeland Security (DHS) Science & Technology (S&T) Directorate is announcing to business and academia its intent to solicit proposals under this Broad Agency Announcement (BAA). This Broad Agency Announcement (BAA) is contemplated in Federal Acquisition Regulations (FAR) 6.102(d)(2) and 35.016. **This announcement does not request any proposals at this time.** Solicitations (or calls) for proposals will be accomplished via amendments to this BAA.

The over-arching strategy of the BAA involves the use of this 5-year open-ended BAA to quickly and efficiently execute research and development to deliver practical solutions to urgent first responder problems. This strategy will provide DHS an acquisition tool with the flexibility to solicit proposals and make awards to perform rapid prototyping of technical solutions to meet present and compelling first responder needs, as ever-changing urgent operational issues and capability gaps are identified.

The BAA will remain "open" for 5 years; however, proposals will only be solicited and accepted during calls. Each call will identify solicitation topics and contain a common cut-off date for proposal submission. *Proposals received after the specified due date and time shall be governed by the provisions of FAR 52.215-1(c)(3).*

Calls for proposals (made by amendments to this BAA) will occur periodically throughout the life of this over-arching BAA. Each call will: (1) identify specific topic areas; (2) identify any changes to the standard evaluation criteria or proposal preparation instructions, and; (3) contain common cutoff dates for proposal submissions.

It is anticipated that solicitations issued under this BAA will be unrestricted. Small businesses are encouraged to propose on all of the solicitations. The NAICS code, unless otherwise stated in the BAA amendments, shall be 541712 (i.e., Research and Development in the Physical, Engineering, and Life Sciences except Biotechnology), and the size standard is 500 employees. Proposals submitted shall be in accordance with this BAA and its appropriate amendment(s).

Interested offerors should be on alert for any BAA amendments that call for proposals, permit extensions to the proposal submission dates, or otherwise change the requirements of this BAA or its subsequent amendments.

This announcement is restricted to work relating to basic and applied research and that portion of advanced technology development not related to a specific system or hardware procurement. This announcement does not cover support services, such as technical services, engineering services, or other types of support services. Such submissions are considered non-compliant with this BAA and will be rejected without evaluation.

1.2. Program Mission and Objectives

The DHS Science & Technology First Responders Group (FRG) mission is to strengthen the first responder community's ability to protect the homeland and respond to disasters. Through the engagement of first responders at every stage, the FRG pursues a better understanding of needs and requirements, and develops innovative solutions to the most pressing challenges faced during day-to-day and large-scale emergencies.

The objectives of the FRG are:

(1) Enhance first responder preparedness and ensure effective emergency response.

(2) Create high impact technologies and knowledge products that facilitate the safety, effectiveness, and ease with which first responders do their work.

(3) Strengthen the Homeland Security Enterprise and First Responders' capabilities to protect the homeland and respond to disasters.

1.3. Agency Name

Department of Homeland Security
Science & Technology Directorate
First Responders Group
DHS S&T CBD – Mail Stop 0201
245 Murray Lane
Washington, DC 20528-0201

1.4. Program Name

First Responders Group

1.5. Research Opportunity Number

BAA 13-012

1.6. Government Representatives

Science and Technology:

Mr. Greg Price
Program Manager
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Washington, DC 20528

Business:

Ms. Sharon Flowers
Procuring Contracting Officer
Department of Homeland Security
Office of Procurement Operations
Science & Technology Acquisition Division
Washington, DC 20528

2. RESEARCH OPPORTUNITY DESCRIPTION

2.1 Anticipated Technical Topic Areas (TTAs)

The following Technical Topic Areas (TTAs) are representative only. They are provided to help interested offerors understand the classes of needs and their potential scope.

1) Readily accessible, high-fidelity simulation tools to support training and exercises in incident management and response.

Responders face an array of training and exercise mandates, from certification and recertification in specific skills to on–the-job training courses; technical and managerial training; and exercises for individual, team, and agency proficiency. Although there are many federal, state, and local training mandates, funds to conduct training and exercises are often the first to be cut from budgets in fiscal downturns.

While virtual training cannot replace the interaction involved in live training, there are opportunities to significantly reduce costs while increasing responder proficiency. Workshop participants noted the need for simulation capabilities geared toward each emergency response discipline, and that include realistic missions, tools, and decision points. Such simulations would allow a large number of responders to train repeatedly and frequently, while providing the opportunity to test performance in a wide variety of scenarios. Training could be conducted by a widely varying number of participants, from a single individual to thousands of responders in an agency or region.

Catastrophic incidents require the involvement of multiple disciplines, jurisdictions, and agencies. Exercises for testing response coordination during a catastrophic incident are currently conducted via a progressive Homeland Security Exercise and Evaluation Program (HSEEP)-compliant exercise series, culminating in a full-scale exercise. These exercises are designed to test the capabilities and coordination of the participating entities, evaluates performance, and identifies areas for improvement. Full-scale exercises, however, have several limitations. They are expensive (including personnel overtime, facility costs, etc.); they may not involve all relevant agencies; and they are necessarily built on artificial constraints and assumptions to allow agencies to evaluate multiple factors in a time-controlled (and safe) environment. They can only approximate some of the conditions of a catastrophic incident response and are not repeatable without considerable expense. It is extremely difficult, therefore, to test alternate decision paths in a time-constrained exercise,

or during hands-on agency sponsored training that does not involve all entities that might be affected by those choices. Responders are also limited to learning a specific role in a single exercise, and may not have the opportunity to practice or test different roles and responsibilities that they also may fulfill in a real incident.

Requirements for this priority include high-fidelity virtual simulation tools that would allow responders from multiple agencies, disciplines, and jurisdictions to train for coordinated incident response. Participants defined "high-fidelity" as tools that are as realistic as possible, immersive in the scenario, and potentially include virtual reality capabilities. The technology for these tools currently exists in various forms, from video games to flight simulators, but it needs to incorporate realistic emergency response policies, missions, and equipment. Making realistic simulation tools available to responders on their desktops, laptops, smartphones, or tablet computers holds promise for substantially reducing the cost of providing exercises when weighed against more traditional models. The popularity of massively multiplayer online role-playing games, such as *World of Warcraft*, shows the potential for developing an accessible, immersive, and collaborative exercise environment. Technologies currently used for online video games could support hundreds or thousands of responders training from many different locations. Such tools would allow different jurisdictions to experience and overcome the complications of different missions, incompatible equipment, and communication problems. Virtual exercises could be reenacted repeatedly with different variables. Additionally, high-fidelity simulation tools could capture data to assess operational weaknesses or decision-making flaws, as well as recommend strategies for remediation.

2) The ability to know the location of responders and their proximity to risks and hazards in real time.

Responders generally identify hazards two ways: by noticing a hazard during the course of a response and relaying its presence to other responders and incident commanders, or through pre-incident planning efforts that have proactively identified known hazards or threats. However, pre-incident planning cannot always account for hazards caused or changed by the incident. For example, the presence of a toxic industrial chemical that leaks from its container during an incident could create a hazard well beyond the preplanned hazardous zone.

Similarly, tracking the location of responders across a wide-area and knowing their proximity to hazards or threats can decrease mortality and morbidity. With this capability in place, a police force facing an armed assault similar to the 2008 Mumbai attack would have a constant stream of real-time information on the location and movement of attackers, and commanders would be able to track and direct the response with full visibility of the location of hostile threats.

During a catastrophic incident, responders may operate over an extensive geographic area and without adequate knowledge of hazards and threats. Remote monitoring of responder location combined with simultaneous awareness of incident hazards could enable proactive protective measures or revised tactics. Further, the capability to identify on scene hazards

in real time, display hazards on a visual interface, and track the location of responders in proximity to those hazards would greatly reduce the likelihood of accidental injury or death.

Requirements for this capability are highly ambitious from both a technology and policy level. While many response agencies currently pre-plan for existing hazards, the location or attributes of these hazards can shift during a major incident, possibly invalidating even the most robust pre-incident plans. Additionally, during a catastrophic incident responders may travel far beyond their jurisdictions and without awareness of potential scene hazards. Existing methods to map pre-identified hazard data on geographic information systems have greatly increased hazard awareness for daily response. However, in the context of a catastrophic incident, integration of pre-plans from a variety of jurisdictions would be required, entailing the use of a standardized, scalable, and portable format for all incident data. Further, such a capability would require integrating new data identified as the incident progresses. Once pre-existing and novel hazards were integrated into a common data platform, the location of all operating responders could be integrated on the same platform. From a policy standpoint, standards would be necessary to ensure that hazard and responder data could be standardized across users and jurisdictions.

3) The ability to communicate with responders in any environmental conditions (including through barriers, inside buildings, and underground).

Incident communications, particularly voice communications, depend on two characteristics: the ability to transmit, and the ability to receive and clearly understand the message. In most routine operating conditions, communications systems are generally effective, particularly when using newer digital radio systems. However, message transmission or clarity can be substantially reduced when operating in certain environments, particularly inside buildings, tunnels, underground spaces, or over long distances. Conditions during catastrophic incidents often require communicating urgent information in difficult and changing conditions, often with lives at risk. The *9/11 Commission Report* noted that "the task of accounting for and coordinating the [fire department] units was rendered difficult, if not impossible, by internal communications breakdowns resulting from the limited capabilities of radios in the high-rise environment of the [World Trade Center]."

Communications systems must therefore be able to transmit and receive messages in all potential conditions, particularly those which present the greatest threat to responder safety. Further, a catastrophic incident involving the coordination of numerous responders from diverse jurisdictions creates operational, doctrinal, and technological challenges, especially as the incident scales over a large geographic area or involves numerous responders and response agencies. An additional concern is that while upgrades to radio systems often improve interoperability, different jurisdictions upgrading at different times or to different systems may actually diminish interoperability. Uniform standards can help ensure interoperability across jurisdictions and throughout technology upgrades.

There has been significant research and development to improve communications systems that operate effectively under all conditions. This research has focused substantially on the use of repeater stations to increase the range and clarity of radio communications and the dedication of radio frequencies (such as the D-block) to public safety in order to improve interoperability, improvements which have led to increased communications capabilities since 9/11. Further improvement will require technological advances in range, penetration, and clarity to enable effective voice communications in all incident conditions, as well as anticipating other solutions to address communications challenges.

4) The ability to remotely monitor the tactical actions and progress of all responders involved in the incident in real time.

Existing capabilities rely largely upon voice communication between responders and the incident commander, particularly through the transmission of information requests and progress reports. While this practice allows the incident commander to receive on-demand updates the reliance on voice communication can detract from overall mission success and responder safety. This is due to two main factors: 1) potential unreliability of communications systems in certain situations (such as when operating in a wide geographic area or inside buildings); and 2) continuous changes in the incident scene (potentially limiting the accuracy of transmitted messages). Remotely monitoring actions and progress could resolve these concerns by providing real-time information and increased reliability that improves decision making and allows the recognition of emerging incident requirements.

During a catastrophic incident, the large number of operating responders may overwhelm the capability of incident commanders to effectively monitor tactical actions and identify progress. Response activities may also occur over expansive areas and incorporate responders from disparate jurisdictions, factors which may constrain the usefulness of voice communications systems (particularly portable radios) to provide a consistent source of on-scene information. During the early stages of an incident, management structures may also be insufficient to receive and process tactical updates while simultaneously developing incident response objectives and allocating resources. The sheer volume of incident communications transmitted from the field to an incident command post may exceed capabilities for analysis and, most importantly, timely decision making.
Real time remote monitoring of tactical actions and progress could also free scarce communications bandwidth for critical messages and allow incident commanders to focus on making decisions instead of being occupied by excessive, confusing, and often irrelevant communications. Remote monitoring of tactical actions could also enable better informed resource allocation by proactively identifying delays in anticipated progress and providing additional support. Such decisions would be further improved by an increase in information fidelity; while status updates transmitted by responders are inherently limited by the transmitting individuals' awareness or recognition of their actual progress (as well as their ability to provide accurate information), remote monitoring helps provide accurate and objective information to enable standardized decision making.

Progress toward a remote monitoring capability depends on three characteristics: 1) tracking responder location across a wide area; 2) providing sufficient detail to reflect tactical progress; and 3) relaying this information to an incident commander in real time in an easily understandable format. While responder tracking has evolved substantially, most applications currently focus on displaying responder location in a geographically confined area (such as a building). Global Positioning System (GPS) technology can be used to display responder locations over a wide area, but may not provide the level of detail needed to indicate tactical progress. For example, even the Precise Positioning Service, the U.S. military's most accurate GPS system, only provides 95 percent location assurance to 22 meters.15 When assessing tactical progress during an emergency response, tracking at this level can enable an understanding of unit location, but not necessarily the tactical efforts in which responders are engaged. An effective system of remote monitoring would likely involve the integration of multimedia data, such as video and audio streams, along with GPS positioning to allow incident commanders to both map location and view current actions. However, such information must be integrated on a single, intuitive platform to facilitate real-time decision making and ease of use under dynamic conditions; training and exercise programs will be needed to teach incident commanders how to use any such system.

5) Protective clothing and equipment for all first responders that protects against multiple hazards.

Responders face a wide variety of potential hazards during a catastrophic incident. Some of these hazards are typical for a particular discipline; that is, those hazards a given responder is trained to expect and manage (e.g., heat and toxic products of combustion for a firefighter, violent perpetrators for a law enforcement officer). However, responders may also face atypical hazards for which they are ill-prepared and possibly ill-protected. The changing response environment may increase the regularity at which responders face these unusual hazards; for example, EMS personnel may increasingly work in hazard zones alongside police officers or hazardous materials technicians, and law enforcement officers may be asked to neutralize a threat while wearing chemical protective clothing. Currently, personal protective equipment (PPE) is designed to protect against the most likely threats facing a given responder: heat and smoke for a firefighter, blood-borne or airborne pathogens for a paramedic and projectiles for a law enforcement officer. The scope of a catastrophic incident may require responders to operate in unfamiliar environments where they are less able to anticipate, and therefore less able to mitigate, multiple and concurrent hazards.

Additionally, catastrophic incidents may include entirely unanticipated hazards, such as looters, secondary devices, infrastructure failures, or wide-area chemical, biological, or radiological contamination. Responders may be far from their home jurisdictions and equipped only with the PPE they transported to the incident scene. While a firefighter operating in his/her own jurisdiction may have access to hazardous materials PPE at the station, this gear may be unavailable when responding to remote locations. In such an environment, the availability of a single set of PPE that protects against all likely (or potential) hazards is of increased importance.

PPE manufacturers currently produce ensembles with multi-hazard protection capabilities (one example is the Project Heroes initiative sponsored by the International Association of Fire Fighters (IAFF) and National Institute of Occupation Safety and Health (NIOSH) in conjunction with several manufacturers to develop firefighting PPE with chemical, biological, radiological, and nuclear (CBRN) protection). However, these products are not widely used by response agencies, in part because their cost outweighs their perceived benefit. While prices for multi-hazard PPE may decline in the future, it will likely remain costlier than other equipment. The response community will need to recognize its value to justify the additional costs, particularly in a time of budgetary constraints. Additionally, the precise multi-hazard protection required of many response disciplines may be ill-defined. For example, while law enforcement officers increasingly require some form of respiratory protection to resolve potential incidents involving weapons of mass destruction (WMD), the extent of this protection may be unclear: do officers simply need respirators to avoid inhaling dust and toxic gases, or must they don self-contained breathing apparatus (SCBA)? The development of requirements and standards to justify the purchase of multi-hazard PPE will be a significant incentive toward broader adoption across responder communities.

2.2. Type Classifications

Prototype technologies delivered at the end of the period of performance (POP) shall be capable of achieving a Technical Readiness Level (TRL) of 7 or higher.

TRL 7 - **System prototyping demonstration in an operational environment (ground or space):** System prototyping demonstration in operational environment. System is at or near scale of the operational system, with most functions available for demonstration and test. Well integrated with collateral and ancillary systems. Limited documentation available.

TRL 8 - **Actual system completed and "mission qualified" through test and demonstration in an operational environment (ground or space):** End of system development. Fully integrated with operational hardware and software systems. Most user documentation, training documentation, and maintenance documentation completed. All functionality tested in simulated and operational scenarios. Verification and Validation (V&V) completed.

TRL 9 - **Actual system "mission proven" through successful mission operations (ground or space):** Fully integrated with operational hardware/software systems. Actual system has been thoroughly demonstrated and tested in its operational environment. All documentation completed. Successful operational experience. Sustaining engineering support in place.

In order to meet the requirement, companies submitting proposals should identify which one of the two type classifications, described below, aligns with their proposed strategy.

1. Type I (Prototype Technology):

   Technologies having a TRL of 3 or 4

   - TRL 3 - **Analytical and experimental critical function and/or characteristic proof-of concept:** Proof of concept validation. Active Research and Development (R&D) is initiated with analytical and laboratory studies. Demonstration of technical feasibility using breadboard or brassboard implementations that are exercised with representative data.

   - TRL 4 - **Component/subsystem validation in laboratory environment:** Standalone prototyping implementation and test. Integration of technology elements. Experiments with full-scale problems or data sets.

2. Type II (Mature Technology):

   Technologies having a TRL of 5 or 6

   - TRL 5 - **System/subsystem/component validation in relevant environment:** Thorough testing of prototyping in representative environment. Basic technology elements integrated with reasonably realistic supporting elements. Prototyping implementations conform to target environment and interfaces.

   - TRL 6 - **System/subsystem model or prototyping demonstration in a relevant end-to-end environment (ground or space):** Prototyping implementations on full-scale realistic problems. Partially integrated with existing systems. Limited documentation available. Engineering feasibility fully demonstrated in actual system application.

3. AWARD INFORMATION

3.1. Anticipated Award Date

The anticipated award dates will be specified under each call for proposals. Awards are probable based on amendments issued during the 5-year (FY13-FY17) solicitation period.

3.2. Anticipated Funding for the Program

Estimated Value: Although subject to official fiscal appropriation, it is anticipated that the FRG program will have $4 M per year with a total of $20M over the next 5 years to support this BAA.

Note: The estimated value is not a promise of assured funding in that amount. Funding is uncertain and is subject to change. Changes in availability may occur as a result of Government discretion.

3.3. Type of Contract/Instrument

It is anticipated that a mix of contract types will be used throughout the life of this BAA. The specific type of contract will be issued in each call for proposals. The Government reserves the right to award procurement contracts, Grants, Cooperative Agreements (CAs), Other Transactions (OTs), or Interagency Agreements (IAAs) to appropriate parties should the situation warrant.

3.4. Number of Awards Anticipated

The total number of awards under this solicitation is unknown at this time. Future awards are probable based on calls or amendments issued during the 5-year (FY13-FY17) solicitation period.

3.5. Expected Amount of Individual Awards

It is anticipated that awards will not exceed $1 million. The FRG's desire is for companies and academia to leverage existing technology or development efforts when possible to minimize cost while meeting the stated objectives.

3.6. Anticipated Period of Performance for Individual Awards

The anticipated period of performance for each award is 12 months with no award exceeding 15 months.

4. ELIGIBILITY INFORMATION

This BAA is open to **ALL** responsible sources.

Offerors may include single entities or teams from academia, private sector organizations, Government laboratories, and Federally Funded Research and Development Centers (FFRDCs), including Department of Energy National Laboratories and Centers.

4.1. Federally Funded Research & Development Centers

FFRDCs, including Department of Energy National Laboratories and Centers, are eligible to respond to this BAA, individually or as a team member of an eligible principal Offeror, so long as they are permitted under a sponsoring agreement between the Government and the specific FFRDC.

4.2. Nonprofit Organizations, Educational Institutions and Small Business Set Aside

The Government encourages Nonprofit Organizations, Educational Institutions, Small Businesses, Small Disadvantaged Business (SDB) concerns, Historically Black Colleges and Universities (HBCU), Minority Institutions (MI), Women-Owned Businesses (WB), and Historically Underutilized Business (HUB) zone enterprises as well as large

businesses, academic institutions, and Government laboratories to submit research proposals for consideration and/or to join others in submitting proposals; however, no portion of the BAA will be set-aside for these special entities pursuant to FAR Part 19.502-2, because of the impracticality of reserving discrete or severable areas of research and development in any specific requirement area.

To ensure full consideration in these programs, registration in the https://baa2.st.dhs.gov/ website, described later in this document, requires the appropriate business type selection as well as accurate up-to-date information.

4.3. Organizational Conflict of Interest

Organizational Conflict of Interest issues will be evaluated on a case-by-case basis; as outlined below. Offers who have existing contract(s) to provide scientific, engineering, technical and/or administrative support directly to the DHS S&T will receive particular scrutiny.

(a) Determination. The Government has determined that this effort may result in an actual or potential conflict of interest, or may provide one or more Offerors with the potential to attain an unfair competitive advantage.

(b) If any such conflict of interest is found to exist, the Contracting Officer may (1) disqualify the Offeror, or (2) determine that it is otherwise in the best interest of the United States to contract with the Offeror and include the appropriate provisions to mitigate or avoid such conflict in the contract awarded. After discussion with the Offeror, the Contracting Officer may determine that the actual conflict cannot be avoided, neutralized, mitigated, or otherwise resolved to the satisfaction of the Government, and the Offeror may be found ineligible for award.

(c) Disclosure: The Offeror must represent, as part of its proposal and to the best of its knowledge that: (1) It is not aware of any facts which create any actual or potential organizational conflicts of interest relating to the award of this contract; or (2) It has included information in its proposal, providing all current information bearing on the existence of any actual or potential organizational conflicts of interest, and has included the mitigation plan in accordance with paragraph (d) of this provision.

(d) Mitigation/Waiver. If an Offeror with a potential or actual conflict of interest or unfair competitive advantage believes it can be mitigated, neutralized, or avoided, the Offeror shall submit a mitigation plan to the Contracting Officer for review. Award of a contract where an actual or potential conflict of interest exists shall not occur before Government approval of the mitigation plan.

(e) Other Relevant Information: In addition to the mitigation plan, the Contracting Officer may require further relevant information from the Offeror. The Contracting Officer will use all information submitted by the Offeror, and any other relevant information known to

DHS, to determine whether an award to the Offeror may take place, and whether the mitigation plan adequately neutralizes or mitigates the conflict.

(f) Corporation Change. The successful Offeror shall inform the Contracting Officer within thirty (30) calendar days of the effective date of any corporate mergers, acquisitions, and/or divestures that may affect this provision.

(g) Flow-down. The contractor shall insert the substance of this clause in each first tier subcontract that exceeds the simplified acquisition threshold.

5. APPLICATION AND SUBMISSION INFORMATION

The following proposal preparation instructions may apply in total, or in part, to subsequent individual calls for proposals. Each amendment to this BAA calling for proposals will detail which proposal preparation instructions apply. Proposals submitted shall be in accordance with this announcement and any instructions in the individual call for proposals. Offerors should be alert for any BAA amendments that may permit extensions to the proposal submission date.

5.1. BAA Package Download

This BAA package may be downloaded in its entirety from the Federal Business Opportunities website http://www.fbo.gov or from https://baa2.st.dhs.gov.

Registration is not required to download the BAA package; however, a registration in https://baa2.st.dhs.gov/ is required to upload a response to the BAA.

5.2. Application and Submission Process

Submissions will not be accepted from organizations that have not registered. Any organization that wishes to participate in this BAA must register at: https://baa2.st.dhs.gov/.

(a) Submitting a Response to this BAA:

No Classified Proposals (or portions of proposals) will be accepted.

The proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DHS regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

The DHS BAA website at https://baa2.st.dhs.gov offers electronic access to BAA solicitations, frequently asked questions (FAQs), answers to FAQs, abstracts of previously funded projects, and hyperlinks to other useful information.

Please refer to the "Registrations and Submissions Training Guide", in the upper right hand corner of the FAQ page for step-by-step instructions for registering your company and submitting your proposal.

IMPORTANT: Before submitting a proposal for the first time, you must first register your company and user account in the system. It is recommended that the Business Official or an authorized representative designed by the Business Official be the first person to register for your company. Your company's Taxpayer Identification Number (TIN) is required during registration. (If your company is registered, other new users may register and associated their information with the company's existing record. When registration is completed, users can submit and manage their proposals.

NOTE: User registration is not sufficient for registering the proposal. To register your proposal, you must log on with your credentials. Click the "Start New Proposal" side link. When the Start the New Proposal page displays, pick the solicitation and topic, and then enter the title of the proposal that you are submitting. When you have entered the title, click the "Add Proposal to Activity Worksheet" button. The Proposal Activity worksheet page lists your proposal in the In Progress section of the page. Your proposal is registered at this point. Repeat this step before the proposal registration deadline for every proposal you wish to register.

After you have completed the coversheet and uploaded your Full Proposal documents, you must click on the "Submit Proposal" button to submit the Full Proposal; simply uploading the documents is not sufficient.

5.3. Format and Content of Proposals

Proposal Format

Proposals will consist of two volumes:

- Volume 1 - Technical Proposal
- Volume 2 - Cost Proposal

For each volume, the following format shall apply:

- Paper Size – 8.5-by-11-inch paper
- Margins – 1 inch
- Spacing – Single- or double-spaced
- Font – Times New Roman, 12 point. Text embedded within graphics or tables in the body of the Project Description Form should be legible and not smaller than 8 point.
- Number of Pages –
    - Volume 1 (Technical Proposal): No more than 30 single-sided pages. Proposals exceeding the page limit will not be evaluated. The Official Transmittal Letter, as

well as the cover page, table of contents and resumes/biographical information about potential performers in the proposal are not subject to the page limitation.

- Volume 2: (Cost Proposal): No more than 10 pages

- Copies – A proposal shall consist of one electronic file for the Technical Proposal volume and one electronic volume for Cost proposal volume. Electronic files will be in portable document format (PDF), readable by IBM-compatible PCs. Each file size must be no more than 10 MB.

Proposal Content

Volume 1: Technical Proposal

Volume I of the proposal shall be in the form of a Technical Proposal volume. Responsiveness to the order and content of sections listed in Volume I is important to assure thorough and fair evaluation of proposals. Nonconforming proposals may be rejected without review. The Technical Proposal must cover the following points in more detail:

- **Official Transmittal Letter:** This is an official transmittal letter with authorizing official signature. For an electronic submission, the letter can be scanned into the electronic proposal. The letter of transmittal shall state whether the proposal has been submitted to another government agency, other than DHS S&T, and if so, which one and when.

- **Cover Page:** This should include the words "Technical Proposal" and the following:

  1) BAA number;
  2) Call number;
  3) Technical Topic Area;
  4) Title of Proposal;
  5) Type of classifications;
  6) Identity of prime Offeror and complete list of subcontractors, if applicable;
  7) Technical point of contact (name, address, phone/fax, electronic mail address);
  8) Administrative/business point of contact (name, address, phone/fax, electronic mail address); and,
  9) Duration of effort (separately identify the basic effort and any options)
  10) In accordance with FAR 4.1201, prospective offerors for contracts and for OTAs involving prototypes (Section 845), shall state the certifications in the Online Representations and Certifications Application (ORCA) at http://orca.bpn.gov have been completed and shall provide the Certification Validity period; and

11) The signature and title of an authorized representative of the entity submitting the proposal. If multiple organizations are participating, one signature from the principal/leading organization is acceptable.

- **Table of Contents**

- **Executive Summary:** Summarize the proposal and the expected benefits of the solution.

- **Proposal:** Describe the proposed work and the associated technical and management issues.

- **Performance Goals:** Describe the overall methodology and how it will meet the program objectives and the specific Technical Task Area.

- **Detailed Technical Approach:** Describe the proposed design and technical issues. Identify the critical technical issues in the design and concept.

- **Statement of Work (SOW), Schedule, and Milestones:** Provide an integrated display for the proposed research, showing each task with major milestones. Include a proposed schedule for the effort (estimated dates of tasks, milestones and deliverables). Describe how each task will be performed and identify sub-tasks, if appropriate. Include a section clearly marked as the SOW you propose to undertake. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award.

- **Deliverables:** Provide a brief summary of all deliverables proposed under this effort, including data, and reports consistent with the objectives of the work; along with suggested due dates (calendar days after the effective date of award). This section shall be severable, i.e., it will begin on a new page and the following section shall begin on a new page. It is anticipated that the proposed detailed list and description of all deliverables will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing detailed list and description of all deliverables without any proprietary restrictions, which can be attached to the contract or agreement award.

- **Management Plan:** Provide a brief summary of the management plan, including an explicit description of what role each participant or team member will play in the project, and their past experience in technical areas related to this proposal.

  Commercialization Plan: Offerors must also include a description in the proposal of their plan for commercializing the technology, or other plans for getting the technology into established transition paths. Technology transition plans that include commercial partnerships are preferred, but transition into the open source

community is also acceptable. This request does not entail providing a full business plan, nor does it imply that DHS views commercialization activities as in the scope of this solicitation. The intent is for offerors to provide evidence that, as part of the technical plan development, consideration has been given to the ultimate commercialization of the outputs of DHS-funded programs. Such considerations would include expected user base, how the technology will be used, and how it will be transitioned, manufactured and distributed in to broad use. Of key importance are the identification of technology diffusion paths that are appropriate for the type and maturity of the technology involved, and any additional factors that might increase the likelihood of it being commercialized. Offerors who intened to partner with other companies for manufacturing and distribution services should identify their partners and the partners capabilities.

- **Facilities:** List the location(s) where the work will be performed, and the facilities to be used. Describe any specialized or unique facilities which directly affect the effort.

- **Government-Furnished Resources:** Provide a brief summary of required information and data which must be provided by the Government to support the proposed work, if any.

- **Cost Summary:** Summarize the projected total costs for each task in the initial period of performance and any proposed option year of the effort, including a summary of subcontracts, man hours, and consumables.

- **Resumes for Key Personnel:** In Appendix A, provide resumes and *curriculum vitae* (CVs) for each of the key personnel. These resumes do not count toward the 30-page limit.

- **Other DHS Support:** As an appendix, provide a list of any current or pending awards or proposals with DHS that pertain to the work, submitted either as a prime contractor, subcontractor/consultant, or teaming partner. This section will not count towards the 30-page limit.

VOLUME 2: Price/Cost Proposal

The Price/Cost Proposal shall consist of a cover page and two parts, Part 1 and Part 2. Part 1 will provide a detailed cost breakdown of all costs by cost category and Part 2 will provide a Cost breakdown by task/sub-task using the same task numbers in the Statement of Work. Options must be separately priced.

Cover Page: The use of the SF 1411 is optional. The words "Price/Cost Proposal" should appear on the cover page in addition to the following information:

1) BAA number;
2) Call number;

3) Technical Topic Area;
4) Title of Proposal;
5) Type of classifications;
6) Identity of prime Offeror and complete list of subcontractors, if applicable;
7) Technical point of contact (name, address, phone/fax, electronic mail address);
8) Administrative/business point of contact (name, address, phone/fax, electronic mail address); and,
9) Duration of effort (separately identify the basic effort and any options)
10) In accordance with FAR 4.1201, prospective offerors for contracts and for OTAs involving prototypes (Section 845), shall state the certifications in the Online Representations and Certifications Application (ORCA) at http://orca.bpn.gov have been completed and shall provide the Certification Validity period; and
11) The signature and title of an authorized representative of the entity submitting the proposal. If multiple organizations are participating, one signature from the principal/leading organization is acceptable.

Part 1: Detailed breakdown of all costs by cost category. The Offeror should provide a total estimated price for major demonstrations and other activities associated with the program, including cost sharing, if any. The Offeror should state whether any Independent Research and Development (IR&D) program is or will be dedicated to this effort, or if IR&D is being pursued to benefit related programs as well. Any cost sharing estimates should include the type of cost share, i.e. cash or in-kind. If in-kind is proposed, the Offeror should provide a discussion of how the cost share was valued.

- **Direct Labor** – Individual labor category or person, with associated labor hours and ***unburdened*** direct labor rates;
- **Indirect Costs** – Fringe Benefits, Overhead, G&A, COM, etc. (***Must show base amount and rate***)
- **Travel** – Number of trips, destinations, durations, etc. (Travel estimate should include costs for attendance/presentation at an annual one-day First Responders Group Review that is held in the Washington metropolitan area.)
- **Subcontract** – A cost proposal ***as detailed as the Offeror's cost proposal*** will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date;
- **Consultant** – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;
- **Materials**--Materials should be specifically itemized with costs or estimated costs. Where possible, indicate purchasing method, (Competition, engineering estimate, market survey, etc.)
- **Other Directs Costs**, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. Justifications must be provided when Government funding for such items is sought.
- **Fee/Profit** including fee percentage.

Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

The Price/Cost Proposal should be consistent with your proposed SOW. Activities such as demonstrations required to reduce the various technical risks should be identified in the SOW and reflected in the Price/Cost Proposal. The Offeror should provide a total estimated price for the major Research, Development, Test, and Evaluation (RDT&E) activities associated with the program.

For the Price/Cost Proposal, the DHS BAA website system has a web form where the Offeror may enter data regarding the cost proposal. The system does not allow the Full Proposal to be submitted without completing this Cost Proposal web form. Offerors may choose to not enter information in the Cost Proposal web form since the Cost Proposal cover page, Part 1, and Part 2 will be uploaded separately. However, Offerors will still need to go to the last page of the Cost Proposal web form and hit the confirmation button noting that the Offeror has reviewed the empty web form and is submitting the web form blank.

5.4. Protection of Information Uploaded to BAA Website:

All data uploaded to https://baa2.st.dhs.gov/ is protected from public view or download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. Documents may only be reviewed by the registrant, authorized Government representatives, and assigned evaluators.

5.5. Proposal Due Date and Time:

The proposal due date and time will be specified in each call for proposals to the solicitation.

5.6. Submission of Late Proposals

Proposals **WILL NOT BE ACCEPTED** after the published due dates.

5.7. Further Assistance Needed for this BAA

The applicable electronic address for all correspondence for this BAA is: Sharon.Flowers@hq.dhs.gov or Sophia.Woodward@hq.dhs.gov .

For technical assistance with using the https://baa2.st.dhs.gov/ website, submit questions to the administrators at dhsbaa@reisystems.com , phone (703) 480-7676.

5.8. BAA Contractual and Technical Questions.

All contractual and technical questions regarding this BAA including the published requirements and instructions must be directed to the Contracting Officer at – Sharon.Flowers@hq.dhs.gov and the Contract Specialist at Sophia.Woodward@hq.dhs.gov . The program and technical staff will not acknowledge, forward, or respond to any inquiries received in any other manner concerning this BAA. Contractual questions and answers will be posted periodically under the Frequently Asked Questions (FAQs) section on the www.fbo.gov and https://baa2.st.dhs.gov websites.

6. EVALUATION INFORMATION

The following basis for award requirements may apply in total, or in part, to subsequent individual calls for proposals. Each amendment to this BAA calling for proposals will detail which basis for award requirements apply and any tailored criteria.

6.1. Evaluation Criteria

The evaluation of Proposals will be accomplished through an independent technical review using the following criteria, which are listed in descending order of relative importance.

Criterion I: Sound technical and managerial approach to the proposed work, including a demonstrated understanding of the critical technology or engineering challenges required for achieving the goals of the TTA.

Criterion II: Potential of the technology/solution for meeting the TTA goals provided in BAA 13-012 resulting in the best ideas and concepts.

Criterion III: Qualitative assessment of the commercialization experience and strategy to determine the likelihood that the offeror will be able to deploy a technology and/or solution(s) that can be transitioned effectively to the user community either through commercialization of the technology or through other means.

Criterion IV: Capability to perform proposed work and history of performance of the Team in developing related technologies.

Criterion V: Each offeror's cost/price proposal will be evaluated for reasonableness and completeness of the proposed contract cost.

The primary basis for the selection of proposals for award shall be technical, importance to agency programs, and funding availability. Cost reasonableness and completeness shall also be considered to the extent appropriate.

NOTE: ***DHS S&T reserves the right to select for award and fund all, some, or none of the Proposals received in response to individual calls.***

6.2. Evaluation Panel

S&T's policy is to ensure an impartial, equitable, and comprehensive evaluation of all proposals and to select the source (or combination of sources) whose offer is most advantageous to the government. All properly submitted proposals that conform to the BAA requirements will be evaluated by an evaluation panel comprised of federal and non-federal employees. First responder subject matter experts (SMEs), mainly state and local government employees (e.g. firefighters), may be used to provide technical assistance to federal employees involved in the evaluation of proposals.

All Government personnel are bound by public law to protect proprietary information. Further, Contractor personnel who will have access to any proprietary data will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information and shall certify that they have no financial interest in any submissions evaluated. They will not be permitted to release any source-selection information to third parties, including others in their organization. Submissions and information received in response to this BAA constitute permission to disclose that information to certified evaluators under these conditions.

6.3. Notification to Offerors of Evaluation Findings

Once the proposal evaluation process is complete, offerors will be notified via e-mail, or in writing, of selection or non-selection for an award. Offerors not selected for an award may request feedback regarding the evaluation findings of submitted proposals. A written request to the Contracting Officer must be received within 3 calendar days of notification of non-selection.

7. AWARD ADMINISTRATION INFORMATION

7.1. Comments or Concerns

If Offerors have any comments or concerns about the BAA, the DHS S&T Contracting Officer can be contacted by mail at:

U. S. Department of Homeland Security
ATTN: Ms. Sharon Flowers, Contracting Officer
Office of Procurement Operations/S&T Directorate - Stop 210
245 Murray Lane, SW
Washington, DC 20528

8. OTHER INFORMATION

8.1. Information for Proposal Respondents

BAA 13-012 is for planning purposes only. It will not be construed as an obligation on the part of the Government to acquire any products or services.

No entitlement to payment of direct or indirect costs or charges by the Government will arise as a result of submission of responses to BAA 11-02 and the Government's use of such information. Respondents to BAA 11-02 may be requested to provide additional information based on their submittals. Unnecessarily elaborate responses containing extensive marketing materials are not desired.

Technical and cost proposals, or any other material, submitted in response to BAA 11-02 will not be returned. However, depending on the markings on the proposal, DHS S&T will adhere to FAR policy on handling source selection information and proprietary proposals. It is the policy of DHS S&T to treat all proposals as sensitive competitive information, and to disclose their contents only for the purpose of evaluation.

8.2. Government Property, Government Furnished Equipment (GFE) and Facilities

The Government may provide government-furnished equipment (GFE), resources (GFR), information (GFI), or services (GFS) under the terms of each negotiated contract or agreement. GFE, GFR, GFI, or GFS requested by an Offeror must be factored into the Offeror's project cost. Each Offeror must provide a very specific description of any equipment or hardware it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment or hardware will be included as part of a deliverable item under the resulting award.

In addition, this description should identify the component, nomenclature, and configuration of the equipment or hardware that it proposes to purchase for this effort. The Government wants to have the contractor purchase the equipment or hardware for deliverable items under its contract. It will evaluate case-by-case the purchase, on a direct reimbursement basis, of special test equipment or other equipment, not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities may be available, and should be considered as potential GFE. These facilities and resources are of high value, and some are in constant demand by multiple programs. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend and why.

If any prototype, instrument or device that is produced during the period of performance of a funded project, one or more samples shall be delivered to DHS S&T FRG before the end of the period of performance for demonstration purposes. More specific information about the provision of a sample(s) will be incorporated in the Statement of Work.

8.2. SAFETY Act

As part of the Homeland Security Act of 2002, Congress enacted the Support Anti-Terrorism by Fostering Effective Technologies Act of 2002 (the "SAFETY Act"). The

SAFETY Act puts limitations on the potential liability of firms that develop and provide qualified anti-terrorism technologies. DHS S&T, acting through its Office of SAFETY Act Implementation (OSAI), encourages the development and deployment of anti-terrorism technologies by making available the SAFETY Act's system of "risk management" and "liability management." Offerors submitting proposals in response to this BAA are encouraged to submit SAFETY Act applications for their existing technologies. They are invited to contact OSAI for more information, at 1-866-788-9318 or helpdesk@safetyact.gov. They also can visit OSAI's Web site at www.safetyact.gov.

8.3. Export Control Considerations

International Traffic in Arms Regulations (ITAR) may apply to one or more of the topics in this BAA. Foreign nationals must meet the requirements for participation set by those regulations, if required.

8.4. Security Classification

No Classified Project Description Forms or Full Proposals (or portions of proposals) will be accepted.

8.5. Information for Proposal Respondents

This BAA seeks to solicit sound scientific studies and techniques to address the DHS First Responder Group objectives set forth in Section 1.2. It will not be construed as an obligation on the part of the Government to acquire any products or services. No entitlement to payment of direct or indirect costs or charges by the Government will arise as a result of submission of responses to this BAA and the Government's use of such information. Respondents to this BAA may be requested to provide additional information based on their submittals. Unnecessarily elaborate responses containing extensive marketing materials are not desired.

8.6. Subcontracting Plan

Successful contract proposals that exceed $650,000.00, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

8.7. Additional Deliverables

Performers should define additional program-specific deliverables as appropriate for the proposed approach. The Government may describe additional deliverables at the time proposals are requested.

8.8. Reporting

The following *minimum* deliverables will be required under traditional procurement contracts or other transactions agreements awarded to those Offerors whose Proposals are selected for award.

Monthly Project Status Report

The report must be electronically submitted to the Program Manager within fifteen days after the last day of each month. At minimum, the Monthly Project Status Report shall include the following information:

Static Information (Information that does not change monthly over the project):

- Project Title
- DHS Project Control #
- Period of Performance
- Principal Investigator's Name, Telephone Number, E-mail and Unclassified/Secure Facsimile Number(s)
- Performer's Financial Contact Name and Telephone Number

Monthly Update Information To Be Provided in Bulleted or Short Narrative Format:

- Activity During the Past Reporting Period (month)
- Progress Achieved Against Deliverable(s) During Reporting Period
- Progress Achieved Against Project Milestones and Tasks During Reporting Period
- Deliverables Submitted This Period
- Milestones Reached/Achieved This Period
- Other Noteworthy Accomplishments (Meetings, Presentations, Publications, etc.)
- Topics of Concern/Slippage (Technical, Schedule and/or Cost)
- Recovery Plan (if needed)
- Explicit Plans for Next Month
- Project Budget Information (Amount Spent During Reporting Period, Cumulative Amount Spent Since Project Inception, and Amount of Funding Remaining)

The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each Offeror and finalized with the contracting agent:

- Monthly Progress Status Reports
- Presentation Material
- Other Documents or Reports
- Final Report (suitable for publishing and peer review)

8.9. Certificate of Current Cost or Pricing Data

Successful contract proposals that exceed $700,000.00 may require the submission of a Certificate of Current Cost or Pricing Data in accordance with FAR 15.403-4(b)(2), prior to award.

8.10. Test and Evaluation Facilities

Department of Homeland Security Science & Technology Directorate may make available appropriate test and evaluation facilities to support this program. Offerors should provide any specific requirements needed for test and evaluation of their proposed concept in their white papers and proposals.

8.11. Hazardous Materials

Depending on the topic, Offeror may choose to or be required to utilize hazardous materials during the course of the project development effort. If the government provides hazardous samples as part of the developmental and operational testing, information on the samples will be provided to the successful Offerors requiring such samples.

Hazardous material, as used here, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract). If the successful Offerors choose to use their own hazardous samples, Offerors must meet the requirements for the identification and material safety as follows:

HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SECURITY DATA

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The Offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (*If none, insert "None"*) Identification No.

_____ _____
_____ _____
_____ _____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful Offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful Offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful Offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to—

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with paragraph (h) (1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (i)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in

advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.
(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.