

First Responders Group BAA 13-012/ CALL 0002

- 1. Announcement Number:** BAA 13-012/Call 0002
- 2. FBO Solicitation Number:** HSHQDC-13-R-B0012
- 3. Solicitation Open/Close Dates:**
 - Opening Date – 21 November 2014
 - **Closing Date – 05 January 2015**

Proposals are due by 4:00 p.m. EST time on the closing date. There will be no exceptions to the time and date on which responses are due, unless determined otherwise by the Government. Proposals received after the closing date/time will not be considered.

- 4. Solicitation Topics:** The following are the intended topics, subject to change, under each Technical Topic Area (TTA). Please refer to the attached Statement of Objectives (SOOs) for detailed information.
 - **Increased Exposure Protection Around Firefighter Personal Protective Equipment (PPE) Interfaces (SOO A)**

There are several challenges to ensuring structural firefighter safety, including the fact that firefighter gear is not custom-fitted to the wearer, and the wearer may not have the proper materials at PPE interfaces (i.e. hood to coat, hood to face piece, collar, wristlet to glove, waist to pant, pant to boot, etc.). Despite advances in the design for structural firefighter PPE, firefighters continue to have increased health risks due to toxic gases in fire smoke and the many other combustion products of a fire. The proposed solution should integrate into existing PPE, or be able to be incorporated into new PPE, although slight modification may be necessary.
 - **Self-Detecting and Decontaminating Personal Protective Equipment (SOO B)**

Only specialized personnel with customized equipment have hazardous or infectious substance identification capability. None of these capabilities are built into the daily wear uniform. By meeting this requirement, the technology would help decrease healthcare expenses, reduce loss of work time, and improve First Responder health and safety. As a component of the daily work uniform, the proposed technology would both alert the First Responders to contaminant danger as well as provide a minimum level of protection from the danger during the course of normal operations.
 - **3D Scanner for Vehicle Born Improvised Explosive Device Content Mapping (SOO C)**

Currently there is no technology that provides adequate image resolution using single-sided and standard X-radiation (x-ray) to obtain a Cartesian-coordinate 3D image (e.g., computer-aided geometric design coordinate system). Standard x-ray technology available today requires a significant amount of time on target, a significant number of x-ray panels, and only results in a single-sided image. The solution will develop a delivery and aiming system that includes a remotely controlled adjustable apparatus and a computer interface with 3D content mapping. The system will also provide an external

aiming point and trajectory capability or will be designed such that this feature can be added in the future.

- **Integration of Field-Based Hazard Detection Output (SOO D)**

There is a need to provide First Responders with the ability to input data into a device which will aggregate, interpret, and report information on the presence of a chemical, biological, radiological and nuclear (CBRN) hazardous substance, what threat it poses, and outline the next steps for analysis and remediation. Such an instrument would improve the performance of the response team by providing pivotal training and real-world response models, and ensures First Responders are operating with a complete body of institutional knowledge. The purpose of this technology is to provide a software tool that integrates data from multiple instruments and sources, applies data analytic techniques for better determining the hazard class or CBRN agent, and provide the user with a decision matrix (e.g., other tests that may be required, or suggest if further screening is needed).

- **Simultaneous Radio Transmissions for Greater Situational Awareness (SOO G)**

First Responders need the ability to exchange information rapidly in high intensity situations; one unfortunate result of which is they often transmit radio calls that coincide with each other. This can keep valuable and potentially life-saving information from being transmitted, leading to a lack of situational awareness at critical times. An advanced technology to receive all radio transmissions will ensure that vital information is never missed, and if necessary can be retransmitted or communicated to those who need it.

- **Readily accessible, high-fidelity simulation tools to support training and exercises in incident management and response. (No SOO, all information is below)**

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 that includes 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.

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 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 multiplayer online role-playing games 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.

5. **Number of Awards:** It is anticipated that one (1) award will be made for each topic area. However, multiple awards or no award may be made for each area depending on the quality of the proposals, individual funding requests, and total availability of funds.
6. **Anticipated Ceiling:** See Version 6 of BAA 13-012, Version 6, Section 3- Award Information regarding anticipated ceiling.
7. **Award Type:** See BAA 13-012, Version 6, Section 3- Award Information for information regarding award types.
8. **Anticipated Award Dates:** The 3rd Quarter of Fiscal Year 2015 is when the government anticipates making awards. However, the award date for each topic area may vary based on the quality of the proposals and the availability of funds.
9. **Proposal Instructions:** Offerors shall submit their proposals in accordance with BAA 13-012 Version 6, Section 5 – Application and Submission Information.
10. **Evaluation Criteria:** Proposals will be evaluated in accordance with the evaluation criteria contained in the BAA 13-012 Version 6, Section 6 – Evaluation Information.
11. **Foreign Concerns:** Foreign persons are advised that their participation may be subject to Export Control restrictions. Any such restrictions shall be reviewed on an individual award basis.
12. **Questions:** Any questions concerning this call must be submitted via email to the Contract Specialist at Amalia.Rodezno@hq.dhs.gov and copy the Contracting Officer at Jessica.Wilson@hq.dhs.gov no later than **December 5, 2014 3:00 PM EST** in the following format:

Question #	Reference	Contractors' Question
1	General (if there is no specific document reference)	

2	(Example) BAA 13-012 V.6, page 15, Section 5.2, first paragraph, second sentence	
3	(Example) BAA 13-012/Call 0002, page 2, Section 9, first sentence	
4	(Example) SOO C, page 2, Section 5.1, second paragraph, second sentence	

Please include “Questions for FRG BAA Call 0001/SOO No. x” in the subject line. All questions and responses will be posted on the Federal Business Opportunities website <http://www.fbo.gov> or from <https://baa2.st.dhs.gov> . Questions will only be accepted or answered electronically.

13. Attachments:

SOO No.	SOO/TTA Title
A	Increase Exposure Protection at the Site of Structural Firefighter PPE Interfaces
B	Self-Detecting and Decontaminating Personal Protective Equipment
C	3D Scanner for VBIED Content Mapping
D	Integrate Field-based Hazard Detection Instrument Output and Provide Actionable Analysis and Steps
E	Topic Area removed
F	Topic Area removed
G	Simultaneous Radio Transmissions For Greater Situational Awareness

14. Additional Information: In the event that any of the information contained in the SOOs conflict with BAA 13-012 V.3 (for example, Government Furnished Equipment/ Information/Property) the individual SOO shall take precedence.