Amendment 0003
Solicitation Number ONRBAA 13-004
"Expeditionary Maneuver Warfare Applied Research and Advanced Technology Development"
Date 10 January 2013

The purpose of Amendment 0003 is to respond to questions submitted through 01/10/2013. Questions received after 01/10/2013 will be addressed in a subsequent amendment.

1.   Industry Questions and Answers are provided as follows:

(Q23) ISR Sensor Plan Generation: By sensors, are we talking about only UAS or do they include ships, vehicle mounted radars and cameras, etc.? What sensors are included? Are we talking about heterogeneous sensors/UAS?

(A23) Diverse tactical sensors covering all modalities

(Q24) ISR Sensor Plan Generation: What is the intent of sensor planning? Is it target track quality? Is it maximum target area surveillance sustainment? Is it surveillance coverage?

(A24) Plans that optimize the effectiveness of a given set of sensors in addressing the information requirements of a commander, to include a MEU commander.

(Q25) ISR Sensor Plan Generation: Is sensor planning under austere environment (denial of access including physical threats) a priority?

(A25) Operation in austere environments is always a priority in expeditionary warfare.

(Q26) ISR Sensor Plan Generation: Is real-timeliness of plan generation an important metric?

(A26) For some mission information requirements it can be.

(Q27) ISR Sensor Plan Generation: Is there any program record? What platform or software system are we targeting for integration?

(A27) Naval Tactical Cloud

(Q28) ISR Sensor Plan Generation: will be the deliverable for this research (at the end 5yr)? Are you expecting any software tool to be released? If yes, at what TRL level?

(A28) Yes, TRL 5

(Q29) ISR Onboard/Embedded System Video/Audio Analysis: By mentioning "conditioning of text/audio", and "UAS Platform", is ONR expecting proposers to provide algorithms for conditioning of text/audio on-board UAS platform? If yes, is ONR looking for analysis of audio data acquired by UAS or uplinked to UAS?

(A29) Yes, Yes

(Q30) ISR Onboard/Embedded System Video/Audio Analysis: Could you explain - "Of interest are both the conditioning of video (…) and the conditioning of text/audio (…) as well as the maintenance of conditions of interest"? Does it include target/scene control by UAS to maintain conditions of interest?

(A30) A condition of interest can be the presence, absence or change in a scene (object or behavior).

(Q31) ISR Onboard/Embedded System Video/Audio Analysis: Is ONR implicitly asking for proposers to address both Area of interest #1 (Sensor Plan Generation) and #2 (on-board data conditioning algorithms)?

(A31) Proposers can address one or multiple areas of interest.

(Q32) ISR Onboard/Embedded System Video/Audio Analysis: Is it expected for the proposers to demonstrate algorithms on FPGA/GPU onboard an UAS at the end of 5 yr?

(A32) A demonstration is expected but that can be on a surrogate platform.

(Q33) ISR Onboard/Embedded System Video/Audio Analysis: Is there any program record? What platform or software system are we targeting for integration?

(A33) Tactical UAS programs of record.

(Q34) ISR Onboard/Embedded System Video/Audio Analysis: What will be the deliverable for this research (at the end 5yr)? Are you expecting any software tool to be released? If yes, at what TRL level?

(A34) Yes, TRL 5

(Q35) HSCB: What is the current military practice regarding HSCB data collection, and HSCB theory and understanding?

(A35) HSCB data collection is different depending on level of operations/planning (Strategic, Operational, Tactical). The emphasis here would be Operational and/or Tactical. To date operational data collection has been automated to semi-automated depending on how the data is analyzed (human or machine). There is significant room for improvement in making data collection, particularly online (which includes social media), multi-language, open source data collection fully automated. For Tactical data collection, to date the collection process has been highly manual (boots on the ground) which is problematic in contested or denied areas of access and often requires significant planning and training. HSCB theory and understanding is still very much in the basic research stages. What existing social science theories are applicable under what conditions? Are there cultural dependencies (can you use theories developed in European studies in Asian or African environments)? What are the data dependences (data collection requirements above) to turn theories into executable computer algorithms?

(Q36) HSCB: Is proposer allowed to address two areas of Interest in HSCB Science TA into a single proposal? Is proposer allowed to address only two of four areas of interest in HSCB science TA?

(A36) Yes - any combination is allowable.

(Q37) HSCB: Is the focus here of applying HSCB theory on all types of data sources? What types of data sources is ONR interested?

(A37) ONR is interested in HSCB theories and necessary data that support Operational and Tactical level decision making for planning as well as execution throughout the Range of Military Operations (ROMO) and the Plan Phases of Operations (Phase 0 through Phase V)

(Q38) HSCB: HSCB theory is not language dependent, but underlying linguistics is language dependent. Is proposer expected to address machine translation issues?

(A38) Yes, in a phased manner. The applicability and usefulness of applying a particular theory can be demonstrated in English. However, linguistics may have an impact on how generalizable the application of a particular theory. A path that shows how the research can be applied generally (multi-language, multi-culture) from a specific application is desired.

(Q39) HSCB: Is there any program record? What platform or software system are we targeting for integration?

(A39) There is no definitive program of record.   Industry standards for exchanging data (import and export) as well as a modular design to allow for integration of new data sources and modification of output and/or display of results is desired.

(Q40) HSCB: What will be the deliverable for this research (at the end 5yr)? Are you expecting any software tool to be released? If yes, at what TRL level?

(A40) Deliverable for this research will include a working prototype as well as a research report that at a minimum discusses the assumptions, limitations, applicability, and generalizability of the capability demonstrated. TRL level 4 or 5.

(Q41) Maneuver: On page 14 of the ONR BAA 13-004, the topics description mentions "Waste heat recovery technologies applicable to military wheeled vehicles equipped with reciprocating engines operating in high ambient temperatures." Is the intent of this topic to seek technologies that convert waste heat into electricity or would utilizing waste heat to provide vehicle air conditioning be appropriate?

(A41) Waste heat recovery technologies that result in increased fuel efficiency and/or reduced thermal signature are of interest. Both onboard exportable power and vehicle air are of interest.

(Q42) Maneuver: Will performers need to integrate the technology developed on the program with the Navy system by the end of the program? If so, will any information on the existing system be provided before the white paper (or proposal) submission deadlines? Alternatively, will surrogate sensors suffice?

(A42) For basic and applied research (6.1 and 6.2) where phenomenology and feasibility are the focus, integration will not be mandatory. For advanced technology development (6.3), integration with the ONR 30 Maneuver Thrust Area funded autonomous ground vehicle navigation kit will be desirable during the final year of the proposed effort if successful. Details on the system will be provided as needed through the effort. Open literature searches on "Small Unit Mobility Enhancement Technologies" (SUMET) will provide a clearer understanding including the fact sheet on the ONR website. For 6.1 and 6.2 efforts, surrogate sensors and platforms could suffice especially in the early phases of the project.

(Q43) Maneuver: Will program demonstrations likely be at a Navy location (e.g. SPAWAR San Diego?), or at the performer's facility, or another designated location??

(A43) Developmental tests will be held at performer and Government lab locations. Operational tests would likely be held at 29 Palms Marine Corps base or Quantico Marine Corps base. Demonstrations could be held at any location based upon audience and availability of sites.

(Q44) ISR: Is there any interest in a tower/tripod mounted (e.g., onboard ship or ground) wide FOV ISR system (custom sensors, algorithms & processor) that can provide persistent long-range detection/recognition & situational awareness capability? Or is the emphasis more on UAS based ISR? If UAS, what size platforms- STUAS only, or larger (e.g., X47-B)?

(A44) The development of a new sensor is outside of the scope of the ISR section of the BAA. Processing that could generate situation awareness on a variety of sensor types would considered in scope.

(Q45) ISR: For the UAS case, is there any preference for one of these three levels of integration to existing UAS? (a) Providing full custom sensor+algorithm+processor system that mounts on UAS; (b) Using existing UAS sensors, proposing custom algorithms+processor only; (c) Using existing UAS sensors+processors, propose custom efficient smart algorithms that can be mapped to these.

(A45) B and C are preferred over A.

(Q46) ISR Automated Sensor Plan Generation: What is meant by "a set of tracks that detail mission information needs over time"? Is this the same as an ATO? Or a mission order for ground troops?

(A46) In this context a track is a representation of the information needs of an assigned mission over time. For example one point could be (0930, image of the bridge, updated location on HVI). Another point could be (1000, image of the objective, electronic activity around an area of interest)

(Q47) ISR: Shipboard and automated production of the information products required by amphibious warfare missions such as: a mission finalization service, mission information processing service, mission information visualization service, and warfighting function mission integration service. These services require established interfaces. Have interfaces been identified for these types of services? Or, do you want the white paper to describe what type of interfaces are required (or need to be built) in order to achieve the objectives?

(A47) Interfaces that will have to be supported include SOA and HDFS based cloud. A white paper that further explored this question may be of interest

(Q48) Question regarding page 25 of the subject BAA - is the "1. Amount and Period of Performance" table noted an example or the actual funding available per topic award?

(A48) The table on page 25 reflects an estimate of the actual funding for the entire program - $45,000,000.

(Q49)   On page 29, the BAA instructions for white papers include the following: "NOTE: 1) Do not send .ZIP files; 2) Do not send password protected files." [Company] policy with regard to sending ITAR and/or proprietary information via email is that the information be encrypted. In other words, we cannot respond to you BAA without committing a firing offense.

(A49) Password protected/encrypted emails are permitted; encrypted files are not.

(Q50) Question on the white paper format: The instructions indicate that the 10 pp limit excludes "cover page, resumes, bibliographies, and table of contents". However the instructions under "Technical Concept" indicate that this 5 pp section "should include references." I realize bibliographies and references can have ambiguous meanings. Should we treat the references cited in the narrative and listed together at the end of the white paper as counting against the 5 pp technical section? Related question - Is it permissible to include figures related to the technical narrative as appendices that do not count against the page limit?

(A50) No, references provided will not count towards the 5 page limit of the Technical Concept section of a white paper.

(Q51) If I understand the BAA description correctly, since the 9 threads of the BAA seem to each include many sub areas of interest marked by bullets, some very different in nature from each other. Would it be safe to assume that each bullet requires a white paper of its own in case we are trying to answer more than one bullet within a thread?

(A51) Yes.

(Q52) For dogs being [used] in the research, would it be okay to use dogs from working dog organizations outside of the U.S? (though in countries allied to the US)?

(A52) Yes.