



## **Generation of Actionable Intelligence from an Enterprise Environment**

### **INTRODUCTION:**

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) the Department of Defense Grants and Agreements Regulations (DoDGARS) 22.315(a) and 35.016. A formal Request for Proposals (RFP), other solicitation, or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

### **I. GENERAL INFORMATION**

**SPECIAL NOTICE 1:** All Grant Applications submitted under this BAA shall be submitted via the Grants.gov “APPLY” function. No other form of paper or electronic submission will be accepted unless the prospective grantee organization applies for and receives a waiver in accordance with Section IV, Application and Submission Information, Paragraph 5 entitled ‘Submission of Grant Proposals to Grants.gov’ below.

All attachments to grant applications submitted through Grants.gov must be in Adobe Portable Document Format. Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award.

**SPECIAL NOTICE 2:** Be advised that Grants.gov applicants have been experiencing system slowness and validation issues which may impact the time required to submit proposals. Due to a large increase in the volume of grant proposals received by the federal government, the Grants.gov portal is struggling to handle the number of proposals being submitted. In addition, after proposals are uploaded to Grants.gov, the applicant receives an e-mail indicating the proposal has been submitted and that Grants.gov will take up to two days to validate the proposal. Grants.gov may reject the proposal during

the validation process. Therefore, applicants are strongly encouraged to submit their proposals electronically at least THREE days before the date and time proposals are due so that it will not be received late and be ineligible for award consideration. Early submission will allow an applicant time to submit its proposal to ONR through an alternative electronic method in the event the proposal is not accepted by Grants.gov. See the special notice on alternate submission under the section IV.5 below in this BAA.

**1. Agency Name - Office of Naval Research**

**2. Research Opportunity Title – Generation of Actionable Intelligence from an Enterprise Environment**

**3. Program Name – Actionable Intelligence Enabled by Persistent Surveillance**

**4. Research Opportunity Number – ONR BAA 09-032**

**5. Response Date -**

For Thrust Areas 1 and 2

White Papers Due: 14 Aug 2009

Orals Due: 8 Sep 2009

Full Proposals Due: 12 Oct 2009

For Thrust Area 3

White Papers Due: 1 Oct 2009 – 30 Jun 2010

**6. Research Opportunity Description -**

The Office of Naval Research is interested in receiving white papers and proposals for both Applied Research and Advanced Technology Development that will forge major advancements in the Intelligence, Surveillance, Reconnaissance/Command and Control (ISR-C2) Enterprise relevant to asymmetric and irregular warfare. The goals of this program are to: 1) predict threats by exposing hidden enemy organizations and human networks; 2) generate courses of action to preempt enemy action and manipulate enemy decision processes; and 3) from deployed sensors and/or planned tactical data, derive entities, entity associations/aggregates, patterns of behavior, and human networks. To support these goals, three thrust areas for which proposals are being sought are in 1) Understanding the Adversary, 2) ISR-C2 Framework and 3) Operational Adaptation Proof of Concept Demonstrations.

By gaining an understanding of the adversary, own Forces are provided a competitive edge. The ability to provide a timely, reliable threat understanding enables threat network attack options for the commander. In order to achieve this, the developed tools will need to provide real time forecasting and alerting, and new own-force kinetic or non-kinetic force options (actionable intelligence). Capabilities are needed to provide

accurate threat detection by exposing the enemy's vulnerabilities, unmasking their latent networks, discovering their tactics, techniques, procedures (TTPs), and modus operandi.

Decision makers and intelligence analysts have difficulty knowing what information is available. Large staffs are required to sort through data that is broadcast in a bulk manner. Analysts spend much of their time inefficiently sorting through volumes of information to find the small subset that they believe is relevant to the commander's needs. Processes are required to automate data handling functions to enable analysts to focus on interpreting and exploiting relevant data to create useful information quickly. This should include specialized machine processing to discover non-obvious relationships in the data that are not readily evident to the analyst.

To enable such dynamic data processing, analysis, and decision making, a flexible and adaptive information enterprise is necessary. The DoD is working towards Service Oriented Architectures (SOAs) and data sharing strategies that enable enterprise wide services and knowledge discovery. The use of open standards, data tagging and metadata (data about data) allows users to pull data of interest seamlessly across an enterprise. Net-centric approaches are required for exploiting the vast amount of sensor data available today against an irregular threat. It is desired that sensors and sources can be found, assembled and analyzed using a browser interface. Most work to date has focused on obtaining awareness of physical entities, but of perhaps greater importance is gaining an understanding of adversary behavior and decision-making. Today's current cognitive Information Operations (IO) capability limitations regarding people and human networks are:

1. Entity/aggregate classification and tracking are currently not automated and are time consuming.
2. Predictive tools focus on events of interest and are correlation based. Emphasis remains on the "where" question. There is limited capability to expose hidden enemy networks or to address the who, why, how and what questions.
3. Our forces have a limited ability to operationally adapt to irregular actors.

The goal of operational adaptation (OA) is to provide our warfighters with the capabilities to take and hold the initiative, and thereby control the operational tempo across the spectrum of conflict and especially so in Irregular Warfare. OA intends to give our forces the capabilities needed to anticipate enemy actions and to adapt to battle-space situations faster and more effectively than the enemy. Furthermore, OA seeks to prepare the Naval warfighters to understand the effects of their actions on asymmetric enemies and on the local population, which is often a center of gravity in Irregular Warfare. Operational adaptation translates higher resolution models of human networks and their decisions exposed by an information enterprise into rapid and effective war-fighter action.

The three Thrust Areas are described in more detail in the following sections.

### **Thrust Area 1 - Understanding the Adversary**

The information environment is the aggregation of individuals, organizations and systems that collect, process, disseminate and act on information (JP 3-13). There are three interrelated dimensions of the information environment as follows:

- Cognitive dimension: the cognitive dimension encompasses the mind of the decision maker and the target audience (TA). This is the dimension in which people think, perceive, visualize, and decide.
- Informational dimension: The informational dimension is where information is collected, processed, stored, disseminated, displayed, and protected. It consists of the content and flow of information.
- Physical dimension: The physical dimension is composed of the command and control (C2) systems, and supporting infrastructures that enable individuals and organizations to conduct operations.

The cognitive dimension is the focus of this BAA. It is the most important of the three dimensions for fighting irregular warfare. The ability to gain a competitive advantage over an adversary (individual or group) requires understanding how it operates and why it chooses to do the things it does. With a gained understanding, own-force operations can be conducted in the adversary's decision space, thereby influencing or shaping outcomes. As events unfold, information can be fed back into an information or knowledge base to gain even more understanding of the adversary through automated support tools. This would necessarily provide more data for prediction tools to address "where" and "when" the next action of the adversary will occur, "who" will be involved, and perhaps "how" the event will occur.

Another aspect to understanding the adversary is through cultural intelligence – understanding the impact of an individual's cultural background on this behavior. This may also include developing a way to characterize or measure this impact. For example, a cultural quotient (CQ) has been gaining acceptance throughout the business community with respect to cultural intelligence. CQ teaches strategies to improve cultural perception in order to distinguish behaviors driven by culture from those specific to an individual. In addition, the incorporation of emotion and motivation into a decision-making model needs to be considered. For instance, the gaining of social acceptance and encouragement of past actions by reward influences future decision-making and behavior. Knowledge of behavioral influences enables better modeling of human decision-making.

To follow best practices, metrics are needed to measure performance and make improvements. For S&T system development, this implies a clear statement of goals and performance metrics. The S&T metrics in this thrust area include:

- How to measure the relative value of data/metadata to a given contextual question in order to improve the accuracy of the answer and speed processing.
- How to accurately establish causality/understanding when considering a large number of data fields and entities.
- How best to tie ISR with real time C2 given variable uncertainty with ISR data and derived products.

The operational challenges that exist are illustrated through the following contextual representations and questions:

1. US forces encounter many elements out in the field, e.g., on patrols. As much time as can be allowed, preparation for the patrols include gaining as much knowledge about the environment and its elements prior to executing the patrol mission. With this in mind, sometimes the information is not available precisely as desired including level of detail and when it is needed. This needs to be taken into account in providing the best relevant available information and how it is connected to other information. Topographical maps of the immediate and general surrounding area are highly desirable, as is information automatically indexed to existing map products and geospatial applications. In addition to the immediate mission area, information is desired for all routes and modes of insertion and extraction to include aerial, waterborne, ground mobility, and foot patrol. The following questions may be asked by tactical forces:

- a) What can you tell me about the area/terrain? This will include trafficability, hydrographics, border crossings, farm buildings/locations, public buildings, locations of surveyed or potential Helicopter Landing Zone (HLZs), Drop Zones (DZs), and Beach Landing Sites (BLSs).
- b) Who should I expect to encounter during the patrol? This will include time of day, seasonal and cultural information.
- c) What type of activity do I expect to encounter? What is considered anomalous activity? This will take into consideration routes of the mission, buildings and landmarks along the routes and general area.
- d) Who are the community leaders/key personalities and what do they look like? Along these same lines, what names are being mentioned/dropped in conversation?
- e) For a building of interest, what is the floor plan? What are the construction details relevant to building entry and clearance (i.e., door type and composition, interior and exterior wall composition)? What is the best way to approach the building without being observed by building occupants (e.g., window line of sight, landscaping, and external obstructions)?
- f) What is around the area that might change the environment and/or adversary to make it more harmful to response elements in the area?
- g) What is the best place to be positioned for collections? What are the high risk areas?
- h) What is the best path and/or area for Blue Forces to stage, rest, move from point A to point B, etc.?

2. Taking into account what is known about the adversary, planning a mission that is perhaps 3 or 4 days into the future will need different kinds of questions answered. Some of the questions necessarily link to questions at the tactical level and may also lead into development of a higher level view and support for more future missions. This may occur, for example, at the Marine Expeditionary Force (MEF) level for mission planning and will also draw on how to exploit the adversary and what its ability is to exploit US forces. In order to address this, information is also needed on a large scale such as knowledge of movements of demonstrations, logistics, and larger contextual things, e.g., shipping lanes and lines. The following questions may be asked:

- a) What are the rules of engagement (ROEs), trigger events, indicators?

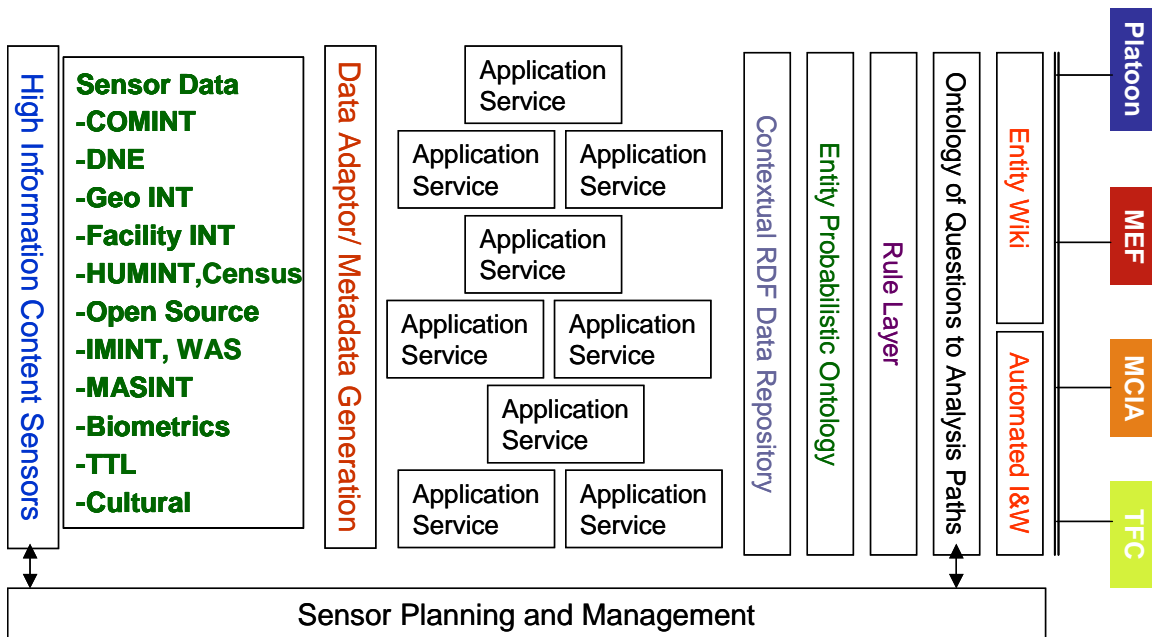
- b) Where are the adversaries (depends on adversary type)? What are their intentions? How do the adversaries employ their platforms?
- c) What are their pre-planned responses (PPRs)? Given knowledge of these, what can be done to shape their response towards achieving our mission success? What level of authority to deviate from PPRs is delegated to tactical commanders?
- d) How can I get my resources to work together on a common immediate problem (automated tipping and cueing)?
- e) How can I find, keep, and fix the target of interest (TOI)?
- f) What can be done (change an individual's behavior) to expose the adversary in ways so that it does not know its being exposed to the mission's advantage?
- g) How do adversaries communicate? Can we intercept or deny their communications? Can they intercept or deny our communications? What are their loss-of-communications contingency plans?

3. At a more strategic level of operations, the analyst will need to consider the larger picture and trend analysis. Many of the questions posed in the above paragraph support the characterization of information for strategic operations. Some additional aspects may include:

- a) What financial incentives/transactions are occurring in the area of interest and what are the implications towards dealing with the adversary?
- b) What is the threat disposition?
- c) Where might the adversary be hiding?
- d) What regional areas need mensurated imagery information in order to perform their missions?
- e) What entities (people, networks, organizations, etc.) provide indirect support to the adversary? In the case of non-governmental adversaries (e.g., insurgent cells, terrorist organizations), identification of the support network is critical and may include but not be limited to financiers, logisticians, suppliers, trainers, and technical experts.

### **Thrust Area 2 - ISR-C2 Framework**

A new ISR-C2 framework needs to be implemented in order to allow tactical, real-time empowerment by the ISR enterprise. Core operations performed in this framework will address processing data about human networks. Processing and exploitation must leverage appropriate human-system collaboration. A SOA is envisioned that will offer separation of data structures, service applications and operator display. This flexible architecture will provide a means to share data across the enterprise and orchestrate services. A clearly defined system should offer effective solutions that are repeatable. Realistic assumptions of data access and network reliability need to be incorporated into the design. The set of services needed and ability to support a fully automated identification of high value target entities/aggregates/networks require well-defined processes. In particular, data inputs/outputs, schemas/ontologies, service orchestration, and operator display/interaction must be standardized across an enterprise.



**Figure 1 – Information Enterprise, ISR-C2**

A notional information enterprise is shown in Figure 1. The figure is used as a concept graphic to illustrate some of the needed data strategies, services, and interfaces envisioned to provide actionable intelligence to tactical warfighters. An entity is a person, group, place, event/behavior, object or parameter.

Moving from left to right, high information content sensors provide the raw data required to understand entities and their associations. Since raw data is collected and stored throughout the enterprise, it must be automatically formatted and tagged (XML) in a way that supports discovery. It is envisioned that the enterprise will require many application services, each capable of discovering different types entity associations. An entity is a person, group, place, event, behavior, object, or parameter. Inferred entity associations must be captured as contextual Resource Description Framework (RDF) statements. An RDF statement tagged with a confidence value, time, place, and pedigree information that indicate its origin. The pedigree information should uniquely identify the process through which the RDF statement was derived. For example, an image may capture an association between a person and another person, group, behavior, event or place at a specific time, place and confidence level. All contextual RDF statements generated by application services need to be stored in a searchable library. Previously discovered associations can be used, in addition to tagged data, by application services. The enterprise should allow ontologies to be discovered by clustering RDF statements (structured learning), suggested by warfighters or analysts or inferred by application services. Tools are needed to maintain a distributed library of ontologies. The enterprise should also have a separable rule library. Rules capture the meaning of data once

mapped to an ontology and can be used to infer dangerous entities. The enterprise will also contain a work flow manager, stored in Web Ontology Language (OWL) as a mapping of contextual questions to the relevant application services and data required to address the question. Examples of contextual questions include:

- When am I going to be attacked?
- Who is shaping opinion in my area of responsibility?
- How is an enemy modus operandi being maintained?
- Where are supporting facilities located?
- Why is public sentiment degrading?
- What own actions should I take to enhance mission accomplishment?

Entity and question specific ontologies should be maintained and visualized as active wikis. The wiki based user interface must allow the answers to queries about entities and other contextual questions to be easily and quickly presented to the warfighter/analyst. Upon query, the interface will match and/or parse questions in such a way to retrieve the needed information if readily available in the entity repository, or it may trigger the orchestration of services to obtain data/metadata and process them according to the question asked (via the workflow manager). The enterprise must also automatically recognize when dangerous entities or conditions have been discovered and automatically push warnings to the unit that can act.

**Offerors should prototype an end-to-end system (data through wiki and I&W (Indications and Warnings)), that conforms to architecture described for a bounded set of entities and/or questions. A larger enterprise will be assembled by combining successful prototypes.**

Some potential application services are:

- Contextual RDF generators.
- Clustering of contextual RDF data into entity ontologies.
- Causal services to determine causal variables/features for observed behavior.
- Application services that suggest own force options, enabled by high resolution models of human networks and decisions.

The S&T investment in this thrust area includes:

- How to make data discoverable at the lowest level needed.
- How to discover and record all information containing entity associations across disparate data.
- How to discover data and associations relevant to an ontology.
- How to use enterprise enabled rules to generate understanding and warnings.
- How to orchestrate the mapping and execution of a variety of application services working against a large number of data layers and contextual RDF in support of contextual questions.
- Association, ontology and rule layer maintenance and deconfliction.
- How higher resolution models of human networks and decisions can be used to suggest optimal own action.



- Development of association processes that measure similarities between entities and ontologies.
- How computer network analysis tools can be used for human network analysis in both the prediction of short term and longer term effects.

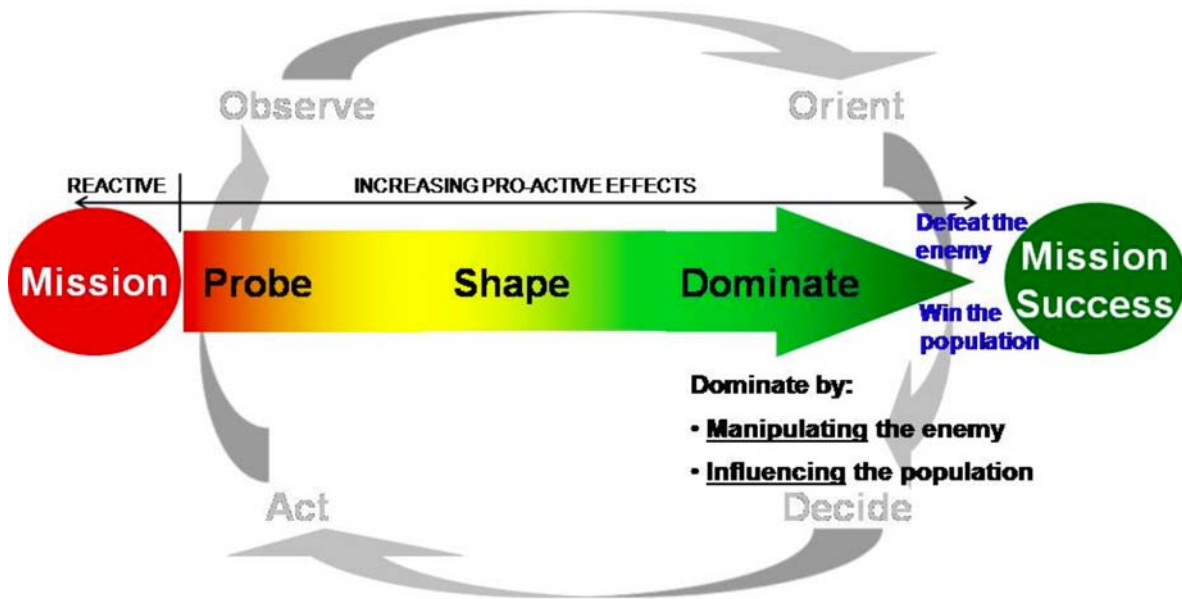
The S&T metrics for this thrust area include and are not limited to:

1. Configuring an analysis environment relevant to a new community of interest (COI) question in less than 1 man week.
2. Increasing the speed of own force decision cycle through process automation up to an order of magnitude.
3. Identification of high value target entities/aggregates/networks with the following goals:
  - a. Identification of 50% of a network responsible for an enemy process,
  - b. 75% reduction in space/time/action uncertainty with respect to a hostile network,
  - c. Behavior trends measured to an 80% confidence level,
  - d. 80% of expected consequences of decision stimulation/manipulation or network attack witnessed,
  - e. Dynamic processes that adapt to changes in enemy learning with 75% reliability,
  - f. Once configured, data handling would be automated and 90% of system queries answered in a time suitable to user.

### **Thrust Area 3 - Operational Adaptation Proof of Concept Demonstrations**

As described above, an architecture that accommodates data sharing across the enterprise will need to be highly adaptable to the environment. The services will need to be orchestrated to efficiently meet changing operational needs of the warfighter and supporting analysts. In order to maintain a dominant position of power against irregular threats, the sustainment of a rapid tempo with adaptation and decision superiority is *critical*.

Operational Adaptation is the key to seizing and holding the initiative against threats in Hybrid Complex Operations (HCOs). Examples of HCOs (irregular warfare) include current conflicts in Iraq and Afghanistan. To operate between the complete set of possible own force actions, adversary understanding and human decision making requires tools to optimize over effect and speed. The set of possible own force actions requires inclusion of understanding individual, group, social, and cultural factors that influence behavior of the adversary and those sympathetic to the adversary. In order to provide US forces the capability to dominate on future hybrid battlefields, three supporting elements are identified: probe, shape, and dominate as shown in Figure 2.



**Figure 2 – Operational Adaptation for Hybrid Complex Operations**

The process of detecting (Observe) and understanding (Orient) the significance of signals associated with the adversary’s activities is known as ‘Probe.’ The signals are a composite of all the information that is known about a particular entity/aggregate/network. Tools that characterize what is known and not known are needed. These include high resolution models of entities which are obtained not only by traditional multi-INT sources but also by biometrics, tagging, tracking, and locating (TTL), and cultural information. Metadata about the probes (environmental conditions, time, place, etc.) need to be correlated to adversary/populous response. Reliability of the responses can be computed or possibly measured through repetitive probing. In theory, a notional multi-dimensional performance or “ROC” (receiver operating characteristic) curve can be generated. Probing through own force actions and observing the responses of the adversary will increase situational awareness to guide the next step known as ‘shaping’.

To ‘Shape’ a response is to set conditions that are believed to create an environment most favorable to the desired outcome. Once the desired outcomes are identified and prioritized, tools and services are needed to identify or recommend influence factors and estimate impact. Additionally, these tools should help to derive potential conditions, locations, and time horizons. Such tools might include embedded or offline simulations to predict the shaping effect. Latent variables and secondary effects should be considered, including socio-cultural, political, and economic impacts. Shaping is inherently a pro-active process of probing as it can provide entity/aggregate/network patterns and reactions that increase US forces understanding of the adversary. By identifying the desired outcomes and setting conditions of the environment, the action of the adversary can be shaped by US forces. This allows for domination of the situation.

In order to ‘dominate’ the situation, two aspects are key: manipulating the adversary and influencing the population towards the desired outcome. A stimulus can be used to generate a specific adversary/populous response or to effect their own actions in a

predictable way. Identifying the social, cultural, political, economic and/or demographic influences (variables) on cognitive processes is essential in understanding human behavior. Tools are needed to determine whether the stimulus provided the desired effect or not. If multiple and/or interacting stimuli are recommended, tools to help US forces understand the timing and the resulting adversary/populous effects are desired. As more understanding is gained by improving own forces' ability to detect and predict signals produced by the entity/aggregate/network, the capability to produce signals that elicit predictable responses and thus manipulate the outcome, can be realized.

Within a larger enterprise, successful prototypes from the first two thrust areas (as described in **Thrust Area 1** and **Thrust Area 2**) or other capable approaches will be exercised through demonstrations. These are designed to show an operational adaptation capability by presenting scenarios of unusual events, unexpected populous reactions, and/or increasingly complex interactions among entities. The system will need to provide situational awareness, alert the warfighter/analyst to the most important entities of interest, provide "forensic" tools to diagnose the events, predict adversary actions/reactions, identify collections for further analysis, and/or recommend US forces' actions to support desired outcomes, while remaining within the operational tempos of the tactical, operational, and strategic levels. These capabilities will allow friendly forces to pro-actively engage and defeat enemy networks, cells, and entities.

In order to show a capability proof of concept, three feasibility demonstrations are planned over the next several years with a particular focus in each demonstration. The first demonstration may focus on testing a prototype revealing high value target entities/aggregates/networks and providing some indications and warnings (I&Ws) associated with these. The second demonstration may focus on revealing the cultural and behavioral patterns and anomalies that will provide an alert about potentially dangerous activities or entities of interest. A later demonstration will focus on an end-to-end system prototype to support threat stimulation and manipulation. This will involve knowing what the threat is, identifying vulnerabilities of the entities/aggregates/networks, supplying desired outcomes or mission objectives, and then providing recommended actions to shape the outcome. In effect, this will show the ability to provide real time forecasting and alerting, and new own-force kinetic or non-kinetic force options (actionable intelligence).

In order to conduct a capability proof of concept, it is expected that the offeror will have to examine the following S&T challenges:

1. Can relevant signals in multi-INT data be modeled?
2. Can threat network and behavior signals be measured in areas of interest?
3. Can higher resolution models of an expanded own force decision space be derived?
4. Can own force decision models be integrated with red force and environmental models, across time, space and data features?
5. Can tactical warfighter decision making be enhanced?

The S&T metrics in this thrust area include measurement and prediction accuracy for:

- Changes in local attitudes, public perceptions or other area atmospherics
- Information about individuals or groups
- Behavior detection from sensors or sources
- The outcome caused by behavior probes or decision stimulus

Responsive offerors to this thrust area may:

1 – Propose to mature technology that is relevant to operational adaptation and that can be expected to be ready for insertion into a operational demonstration within two years.

2 – Propose operational adaptation proof of concept demonstration constructs that are informed by model (human network and decision models, considered across own force, red force actors and neutrals) and military relevance.

Funding for this thrust area is still subject to final approval.

Proposals should specify the thrust area addressed, either **Thrust Area 1, Thrust Area 2 or Thrust Area 3**. A well written proposal will describe the technologies that will be developed and the question or set of questions to which it will provide answers. Rationale should be provided as to why the approach chosen offers promise to the warfighter. These can be focused to any particular level of command. Within the proposal, clearly state who the potential users will be that would benefit from this capability. To ensure that technology developments are compatible with DoD and information technology standards, proposals should also identify the XML-based data format standards, protocol standards, display standards, etc. that will be used.

Work funded under this BAA will include Applied Research and Advanced Technology Development (ATD). With regard to any restrictions on the conduct or outcome of work funded under this BAA, ONR will follow the guidance on and definition of "contracted fundamental research" as provided in the Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum of 26 June 2008. As defined therein, the definition of "contracted fundamental research", in a DoD contractual context, includes [research performed under] grants and contracts that are (a) funded by Research, Development, Test, and Evaluation Budget Activity 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Activity 2 (Applied Research) and performed on campus at a university or by industry. ATD is funded through Budget Activity 3. In conformance with the USD(AT&L) guidance and National Security Decision Directive 189, ONR will place no restriction on the conduct or reporting of unclassified fundamental research, except as otherwise required by statute, regulation or Executive Order. Normally, fundamental research is awarded under grants with universities and under contracts with industry. ATD is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of research results due to subject matter sensitivity. As regards the present BAA, the Research and Development efforts to be funded will consist of Applied Research and Advanced Technology Development. The funds available to support awards are Budget Activity 2 and Budget Activity 3 and not basic research.

## **7. Point(s) of Contact –**

Questions of a technical nature should be submitted to:

Program Manager Name: Martin Kruger  
Address: Office of Naval Research  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203-1995

Code: 30

Email: martin.kruger1@navy.mil

Questions of an administrative nature should be submitted to:

Name: Ronald McKean  
Address: Office of Naval Research  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203-1995

Code: 253

Email: ronald.mckean.ctr@navy.mil

Questions of a security nature should be submitted to:

Diana Pacheco  
Information Security Specialist  
Office of Naval Research  
Security Department, Code 43  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203-1995  
Email Address: diana.pacheco@navy.mil

Note: All UNCLASSIFIED communications shall be submitted via e-mail. All questions of an UNCLASSIFIED nature to the Technical Point of Contract (POC) or Security POC shall be sent via e-mail with a copy to the designated Business POC. Questions submitted within 2 weeks prior to a deadline may or may not receive a response.

Any CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any Offeror wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC with copy to both the Technical POC and the Business POC stating that the Offeror would like to ask a CLASSIFIED question. **DO NOT EMAIL ANY CLASSIFIED QUESTIONS.** The Security POC will contact the Offeror and arrange for the CLASSIFIED question to be asked through a secure method of communication

## **8. Instrument Type(s) -**

It is anticipated that awards may take the form of contracts and grants.

**9. Catalog of Federal Domestic Assistance (CFDA) Number -**

12.300

**10. Catalog of Federal Domestic Assistance (CFDA) Title -**

Basic and Applied Scientific Research (Note: This BAA will include Applied Research and Advanced Technology Development (ATD) only.)

**11. Other Information -**

This announcement is restricted to applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts and grants and other assistance agreements made under this BAA are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

**II. AWARD INFORMATION**

The amount and period of performance of each selected proposal will vary depending on the research area and the technical approach to be pursued by the selected Offeror.

The estimated total amount of awards, for Thrust Areas 1 and 2 of this BAA, is \$11.6M anticipated to be made available over a five year period. For Thrust Area 3 of this BAA, the budget has not been finalized.

Estimated Total Amount of Funding Available (\$11.6M):

FY10	FY11	FY12	FY13	FY14	Total
2.3M	2.3M	2.3M	2.3M	2.4M	11.6M

Anticipated Number of Awards:

One or more awards per Thrust Area may be made. An Offeror may propose in more than one Thrust Area.

Anticipated Period of Performance:

Up to five (5) years.

**III. ELIGIBILITY INFORMATION**

All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit either white papers or full proposals in response to this BAA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR POC to discuss its area of interest. The various scientific divisions of ONR are identified at <http://www.onr.navy.mil/>. As with FFRDCs, these types of federal organizations may team with other responsible sources from academia and industry that are submitting proposals under this BAA.

Teams are encouraged to submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.

Some topics cover export controlled technologies. Research in these areas is limited to “U.S. persons” as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 120.1 et seq. (See Section VII, Other Information).

#### **IV. APPLICATION AND SUBMISSION INFORMATION**

##### **1. Application and Submission Process -**

##### **White Paper Submission for Thrust Area 1 and Thrust Area 2**

White Papers are required prior to submitting a Full Proposal – The due date for White Papers is no later than 2 p.m. (Eastern Daylight Time) on Monday, 17 August 2009. White Papers shall be submitted by email to the Technical Point of Contact (TPOC) identified in Paragraph 7 above (see Section I, GENERAL INFORMATION). Each White Paper will be evaluated by the government to determine whether the technology advancement proposed appears to be of “particular value” to the Department of the Navy. The submitters of White Papers judged to be of “particular value” to the Navy will be so identified in the initial response, via E-mail, provided by ONR and encouraged to make an Oral Presentation of their White Papers. The process for an Oral Presentation is described below. E-mail notification will be issued on or about Monday, 24 August 2009. The submitter of any White Paper not judged by ONR reviewers as being of “particular value” to the Navy may still submit a Full Proposal by the date and time

specified in the BAA, but the initial Navy response provided is a useful indicator of likely future project funding under this solicitation. Full Proposals will not be considered under this BAA unless a White Paper was received before the White Paper due date specified above.

### **Oral Presentation for Thrust Area 1 and Thrust Area 2**

White Papers that have been identified as being of “particular value,” as mentioned in the above paragraph, will be the subject of a follow-on Oral Presentation on or about Tuesday, 8 September 2009. Any Offeror whose white paper was not determined to be of “particular value” to the Navy may contact the TPOC (identified in Paragraph 7 above) to arrange to make an Oral Presentation along with the other scheduled Offerors.

A detailed format for the presentation will be provided in the E-mail notification. Each presentation will be no longer than thirty (30) minutes in duration. An additional ten (10) minutes will be allowed for questions (if any) from the panel of government reviewers. Those Offerors whose technology is still considered as having “particular value” to the Navy and Marine Corps will be encouraged to submit detailed technical and cost proposals. However, such encouragement after oral presentations does not assure a subsequent award. The Office of Naval Research will not reimburse travel costs and time for potential bidders to brief their proposals.

Oral Presentations may be classified if the technology is sensitive and not releasable as unclassified or FOUO. Prior coordination with ONR’s Program Office is required to present a classified presentation.

### **Full Proposal Submission for Thrust Area 1 and Thrust Area 2**

The due date for receipt of Full Proposals is 2:00 p.m. (Eastern Daylight Time) on Friday, 12 October 2009. It is anticipated that final selections for awards will be on or about Friday, 30 October 2009. As soon as the final proposal evaluation process is completed, each Offeror will be notified via E-mail or letter of its selection or non-selection for an award.

### **White Paper Submission for Thrust Area 3**

White Papers in this thrust area will be accepted until 30 June 2010. The government may request an oral presentation at any time during the year. No oral proposals should be submitted under Thrust Area 3 prior to 1 October 2009. The budget for this thrust area has not been finalized.

## **2. Content and Format of White Papers/Full Proposals –**

White Papers and Full Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified proposals are permitted. If a classified proposal is submitted, the resultant contract will be unclassified.

### **Unclassified Proposal Instructions:**



Unclassified proposals shall be submitted directly to the Technical Point of Contract (TPOC).

Classified Proposal Instructions:

Classified proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address and marked in the following manner:

OUTSIDE ENVELOPE (no classification marking):

“Office of Naval Research  
Attn: Document Control Unit  
ONR Code 43  
875 North Randolph Street  
Arlington, VA 22203-1995”

The inner wrapper of the classified proposal should be addressed to the attention of Mr. Martin Kruger, ONR Code 30 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material):

Program: Actionable Intelligence Enabled by Persistent Surveillance  
Office of Naval Research  
Attn: Mr. Martin Kruger  
ONR Code: 30  
875 North Randolph Street  
Arlington, VA 22203-1995

An ‘unclassified’ Statement of Work (SOW) must accompany any classified proposal.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information. The proposal shall include a severable, self-standing Statement of Work, which contains only unclassified information and does not include any proprietary restrictions.

IMPORTANT NOTE: Titles given to the White Papers/Full Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

The proposal format and content identified below are applicable to the submission of proposals for contracts. As noted in Paragraph 5 below, proposals seeking grants and cooperative agreements are to be formatted as required by Standard Form 424 (R&R), which is available via the internet at <http://www.grants.gov/>.

**a. WHITE PAPERS**

## **White Paper Format**

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- No more than ten (10) single-sided pages (excluding cover page and resumes). White Papers exceeding the page limit may not be evaluated.
- Copies – Electronic (E-mail) submissions provided on or before the date and time outlined in the BAA are deemed acceptable. E-mail attachments in either Microsoft® Word or Excel compatible or .PDF format should be sent to the attention of Mr. Martin Kruger at: [martin.kruger1@navy.mil](mailto:martin.kruger1@navy.mil).

## **White Paper Content**

- **Cover Page:** The Cover Page shall be labeled “WHITE PAPER” and shall include the BAA number, proposed title, relevant Thrust Area within this BAA, the Offeror’s administrative and technical points of contact, telephone numbers, facsimile numbers, and E-mail addresses. The cover page shall be signed by an authorized officer.
- **Technical Concept:** A six (6) page or fewer technical section which clearly describes the objectives of the proposed effort, technical issues to be resolved to accomplish objectives, the technical approach proposed to resolve these issues, an assessment of the proposed new capability over the existing state of the art, and a comparison against competing technological developments. The following should also be addressed:
  - **Operational Naval Concept (where applicable):** A description of the concept of operation for the new capabilities to be delivered and the expected operational performance improvements.
  - **Operational Utility Assessment Plan (where applicable):** A plan for demonstrating and evaluating the operational effectiveness of the Offeror’s proposed products or processes in field experiments and/or tests in a simulated environment.
- **Programmatic Section:** A one (1) page programmatic section that includes milestones and a timetable.
- **Resumes:** A single page (each) summary resume (including previous relevant experience and pertinent publications) for the Principal Investigator (PI) and other key personnel.
- **Deliverables:** A one (1) page list of proposed deliverables for the effort.
- **Cost:** A one (1) page summary of costs segregated by tasks.

## **b. FULL PROPOSALS**

### **Full Proposal Format – Volume 1 - Technical and Volume 2 - Cost Proposal**

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Number of Pages - Volume 1 is limited to no more than twenty (20) pages (applies to Technical Proposal only). There are no page limitations to Volume 2.
- Copies – one (1) original, four (4) copies and one electronic copy on a CD-ROM (in Microsoft® Word or Excel 97 compatible or .PDF format). If a grant is sought, the full proposal should be submitted electronically on Standard Form 424 (R&R) at <http://www.grants.gov/> as delineated below.

### **Full Proposal Content**

Volume 1: Technical Proposal

- **Cover Page (not included in page limitation):** This should include the words “Technical Proposal” and the following:

- 1) BAA number;
- 2) Title of Proposal;
- 3) Identity of prime Offeror and complete list of subcontractors, if applicable;
- 4) Technical contact (name, address, phone/fax, electronic mail address)
- 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
- 6) Duration of effort (differentiate basic effort and any proposed options)

- **Table of Contents (not included in page limitation):** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.

- **Abstract:** A concise (approximately 200 words) abstract of the proposed effort. This should include a discussion of how the proposed research effort will respond to the objectives of ONR.

- **Statement of Work:** A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, the proposals must include a severable, self-standing SOW, without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.

• **Technical Approach:** The Offeror shall provide a detailed plan that coherently describes the technical approach proposed for contract performance which demonstrates a technical understanding of the proposed Statement of Work (SOW). The technical approach should address each of the numbered task areas delineated in the SOW providing specific or unique techniques to be employed and anything else the Offeror considers relevant in performing the SOW. The technical approach should indicate how the work will be performed, including the capabilities and resources which will be applied, what problem areas exist, the proposed solutions and a full explanation of the proposed disciplines, procedures and techniques to be followed. Emphasis should be placed upon the extent that the Offeror's technical approach ensures timely delivery and successful completion of the tasks outlined by the SOW. The following should also be addressed:

- **Operational Naval Concept (where applicable):** The concept of operation for the new capabilities to be delivered and the expected operational performance improvements.
- **Operational Utility Assessment Plan (where applicable):** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.

• **Project Schedule and Milestones:** A summary of the schedule of events and milestones.

• **Assertion of Data Rights and/or Rights in Computer Software:** For a contract award an Offeror may provide with its proposal assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014 and -7017. These clauses may be accessed at the following web address:

<http://farsite.hill.af.mil/VDFDARA.HTM>

The Government may challenge assertions that are provided in improper format or that do not properly acknowledge earlier federal funding of related research by the Offeror.

• **Deliverables:** A detailed description of the results and products to be delivered inclusive of the timeframe in which they will be delivered.

• **Management Approach:** A discussion of the overall approach to the management of this effort, including brief discussions of the total organization; use of personnel; project/function/subcontractor/subrecipient relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors/subrecipients (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government

Furnished Equipment/Hardware/Software/Information required, by version and/or configuration.

- **Personnel:** The Offeror shall provide resumes of proposed key personnel to be utilized by the contractor/subcontractor in the performance of this contract. The Offeror shall ensure that the proposed personnel are fully capable of performing in an efficient, reliable and professional manner.

- **Past Performance:** Past performance consists of a description of Offeror’s government and commercial contracts (both prime and major subcontracts) received during the past three years for the performance of work similar to the effort being proposed. The Offeror may describe any quality awards or certificates that indicate the Offeror possesses a high quality process for providing desired research and development outcomes.

- **Other Agencies:** Include the name(s) of any other agencies to which the proposal has also been submitted.

## **VOLUME 2: Cost Proposal**

### **INSTRUCTIONS FOR CONTRACTS AND OTHER TRANSACTION AGREEMENTS**

Although not required and provided for informational purposes only, adhering to the instructions delineated below may expedite contract or assistance award placement. Detailed instructions, entitled “Instructions for Preparing Cost Proposals for Contracts and Agreements”, including a sample template for preparing costs proposals for contracts and agreements, may be found at ONR’s website ‘Acquisition Department – Submitting a Proposal’ link at: [http://www.onr.navy.mil/02/how\\_to.asp](http://www.onr.navy.mil/02/how_to.asp)

The Cost Proposal shall consist of a cover page and two parts, Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar or Government fiscal year, and Part 2 will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work. Options must be separately priced.

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

- BAA number
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address) and
- Summary Statement of Costs
- Cognizant DCAA and DCMA point of contact, address, phone/fax and E-Mail

address (if readily available)

**Part 1:** Detailed breakdown of all costs by cost category by calendar or Government fiscal year:

- Direct Labor – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. and their applicable allocation bases. If composite rates are used, provide the calculations used in deriving the composite rates.
- Travel –The proposed travel cost should include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principals.
- Subcontracts – 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 may be sent directly to the Government. Subcontractor proposals must be received and reviewed prior to contract award. The prime contractor should perform and provide a cost/price analysis of each subcontractor’s cost proposal.\*  
\***Note:** DoD Federal Acquisition Regulation provision 252.215-7003 (48 CFR §252.215-7003) is incorporated into this solicitation by reference. The offeror is to exclude excessive pass-through charges from subcontractors. The offeror must identify in its proposal the percentage of effort it intends to perform and the percentage to be performed by each of its proposed subcontractors. If more than 70 percent of the total effort will be formed through subcontractors, the offeror must include the additional information required by the above-cited clause.
- Consultants – Provide a breakdown of the consultant’s hours, the hourly rate proposed, any other proposed consultant costs, a copy of the signed Consulting Agreement or other documentation supporting the proposed consultant cost, and a copy of the consultant’s proposed statement of work if it is not already separately identified in the prime contractor’s proposal.
- Materials & Supplies – Provide an itemized list of all proposed materials and supplies including quantities, unit prices, proposed vendors (if known), and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- Contractor Acquired Equipment or Facilities – Equipment and/or facilities are normally furnished by the Contractor. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

- Other Direct Costs – Provide an itemized list of all other proposed other direct costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- Options – The Base Period of Performance and Option Periods must be priced at the submission of the proposal. Unpriced options will not be included in any resulting contract or agreement.
- Fee/Profit (Contract Proposals Only) – Profit or fee is not allowed on direct costs for facilities or in cost-sharing contracts.

Note: Indicate if you have an approved Purchasing/Estimating System and/or describe the process used to determine the basis of reasonableness (e.g., competition, market research, best value analysis) for subcontractors, consultants, materials, supplies, equipment/facilities, and other direct costs.

**Part 2** : Cost breakdown by task/sub-task corresponding to the same task breakdown in the proposed Statement of Work. When options are contemplated, options must be separately identified and priced by task/subtask.

## **INSTRUCTIONS FOR GRANTS AND COOPERATIVE AGREEMENTS**

The offeror must use the Grants.Gov forms from the application package template associated with the BAA on the Grants.Gov web site located at <http://www.grants.gov/>. Elements of the budget should include:

- Direct Labor – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates or percentage of effort or total man-years. Provide escalation rates for out years. Justify in Field K.
- Indirect Costs – Fringe Benefits, Overhead, F&A, G&A etc. and their applicable allocation bases. If composite rates are used, provide the calculations used in deriving the composite rates. Justify in Field K.
- Travel – The proposed travel cost should include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principals. Justify in Field K.
- Subawards - Cost proposal as detailed as the recipient's cost proposal will be required to be submitted by the subrecipient. The subawardee's or subrecipient's cost proposal can be provided in a sealed envelope with the recipient's cost proposal or may be sent directly to the Government. Subawardee proposals must be received and reviewed prior to award.
- Consultants – Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs and a copy of the consultant's proposed statement of work if it is not already separately

identified in the prime recipient’s proposal. Strong justification must be provided, and consultants are to be used only under exceptional circumstances where no equivalent expertise can be found at a participating university. Justify in Field K.

- Materials & Supplies – Provide an itemized list of all proposed materials and supplies including quantities, unit prices, proposed vendors (if known), and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Justify in Field K.
- Recipient Acquired Equipment or Facilities – Equipment and/or facilities are normally furnished by the Recipient. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). For computer/laptop purchases include a statement indicating the computer/laptop will be integrated into the program or used as an integral part of the research effort. Justify in Field K.
- Other Direct Costs – Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs, and the basis for the estimates (e.g., quotes, prior purchases, catalog price lists). Justify in Field K.  
NOTE: If the grant proposal is for a conference, workshop, or symposium, the proposal should include the following statement: “The funds provided by ONR will not be used for food or beverages.”
- Options – The Base Period of Performance and Option Periods must be priced at the submission of the proposal. Any proposal containing unpriced options will not be included in the award.
- Fee/Profit - Fee/profit is unallowable.

### 3. Significant Dates and Times –

#### Anticipated Schedule of Events For Thrust Areas 1 and 2 Only

<u>EVENT</u>	<u>DATE</u>	<u>TIME (EASTERN TIME)</u>
White Papers Due Date	17 Aug 2009	2:00 pm
Notification of Initial Navy Evaluations of White Papers	24 Aug 2009*	N/A
Oral Presentation of White Papers	8 Sep 2009*	To be scheduled following notification of initial Navy evaluation.
Full Proposals Due Date	12 Oct 2009	2:00 pm



<b>Notification of Selection for FY10 Award</b>	<b>30 Oct 2009*</b>	<b>N/A</b>
<b>Issued FY10 Awards</b>	<b>March 2009*</b>	<b>N/A</b>

**\*These dates are estimates as of the date of this announcement.**

**White Papers for Thrust Area 3 will be accepted from 1 Oct 2009 through 30 June 2010. The submitters of White Papers for Thrust Area 3 will be provided additional information for submittal of full proposals at the time of notification of initial evaluation of their white papers.**

**NOTE: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Materials submitted through the U.S. Postal Service, for example, may take seven days or more to be received, even when sent by Express Mail. Thus any hard-copy proposal should be submitted long enough before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.**

#### **4. Submission of Late Proposals –**

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is “late” and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

- If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 P.M. one working day prior to the date specified for receipt of proposals; or
- There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government’s control prior to the time set for receipt of proposals; or
- It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time

specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

**(THE FOLLOWING LANGUAGE IS NOT APPLICABLE TO PROPOSALS FOR CONTRACTS AND OTHER TRANSACTION AGREEMENTS)**

**5. Submission of Grant and Cooperative Agreement Proposals through Grants.gov (NOT APPLICABLE TO PROPOSALS FOR CONTRACTS AND OTHER ASSISTANCE AGREEMENTS)**

Detailed instructions entitled “Grants.Gov Electronic Application and Submission Information” on how to submit a grant or cooperative agreement proposal through Grants.gov may be found at the ONR website listed under the ‘Acquisition Department – Submitting a Proposal’ link at: [http://www.onr.navy.mil/02/how\\_to.asp](http://www.onr.navy.mil/02/how_to.asp)

Grant and cooperative agreement proposals shall be submitted through [Grants.gov](http://www.grants.gov) using the [Grants.gov](http://www.grants.gov) forms from the application package template associated with the BAA on the [Grants.gov](http://www.grants.gov) website. To be considered for award, applicants must include the ONR Department Code in Block 4 entitled ‘Federal Identifier’ of the Standard Form (SF) 424 R&R. Applicants who fail to provide a Department Code identifier may receive notification that their proposal submission has been rejected.

White Papers should not be submitted through the Grants.govApply process but rather should be sent directly to ONR. White paper submissions should be emailed directly to the appropriate ONR Program Officer/Program Manager.

By completing Blocks 18 and 19 the Grant Applicant is providing the certification on lobbying required by 32 CFR Part 28. Refer to Section VI, ‘Award Administration Information’ entitled “Certifications” for further information.

For electronic submission of grant and cooperative agreement full proposals, several one-time actions must be completed in order to submit an application through Grants.gov. These include obtaining a Dun and Bradstreet Data Universal Numbering System (DUNS) number, registering with the Central Contract Registration (CCR), registering with the credential provider, and registering with Grants.gov. See [www.grants.gov](http://www.grants.gov), specifically [www.grants.gov/GetStarted](http://www.grants.gov/GetStarted).

Use the Grants.gov Organization Registration Checklist at [http://www.grants.gov/applicants/register\\_your\\_organization.jsp](http://www.grants.gov/applicants/register_your_organization.jsp) which will provide guidance through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called ‘MPIN’ are important steps in the CCR registration process. Applicants who are not registered with CCR and Grants.gov should

allow at least 21 days to complete these requirements. The process should be started as soon as possible. Additionally, in order to download the application package, applicants will need to install PureEdgeViewer. This small, free program will allow applicants to access, complete and submit applications electronically and securely. For a free version of the software, visit the following website:

[www.grants.gov/help/download\\_software.jsp](http://www.grants.gov/help/download_software.jsp). Any questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or [support@grants.gov](mailto:support@grants.gov).

### **Special Notices Relative to Grant Applications to be submitted through Grants.Gov:**

All attachments to grant applications submitted through Grants.Gov must be in Adobe Portable Document Format. The previous Application Package Template was based on PureEdge forms which is no longer supported by Grants.Gov. To submit an electronic grant application/proposal through Grants.Gov, you must download and complete the new Adobe Forms Application Package Template which is now associated with this BAA. Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award.

Process to Obtain a Waiver from the Use of Grants.Gov for Submission of Full Grant Proposals: If a prospective grantee is unable to comply with the requirement to use Grants.Gov “APPLY” for submission of a grant application under this BAA or finds it would be an excessive burden to comply with this requirement, a waiver request may be submitted not less than 30 calendar days prior to the closing date for receipt of Full Proposals. Such request should be submitted by the Electronic Business Point of Contact listed in the CCR for the organization and should contain the Organization/Individual’s name, address, telephone number, and email address. The request should state the reason for the request in sufficient detail so a decision can be made. The Waiver Request should be submitted to the ONR Acquisition Department point of contact or Grants Officer listed in the BAA. Such request can be sent by registered mail or email. The “postmark” stamp on the envelope or the time annotated on the email will be used to determine timeliness of the request. A decision and response will be issued within 14 calendar days of receipt of the request by ONR. Foreign Grantees who are not registered in CCR may request a waiver on that basis since CCR registration is integral to the Grants.Gov application process.

### **Special Notice on Alternate Submission**

The following alternative to submitting proposals to the grants.gov website is provided for use under this BAA. Proposals using the alternative submission process will be accepted only if grants.gov is not accepting the proposal and the offeror has called the grants.gov helpline and received a case ticket number. If grant.gov has not within two days by return email validated your proposal submission, call Grants.gov (1-800-518-4726) to obtain a case ticket number. An email from Grants.gov indicating rejections of the grant proposal will not be accepted in place of a Grants.gov case ticket number.

a. Upload the proposal using the form on the following website:

<http://onroutside.onr.navy.mil/aspprocessor/BAAPE/>

b. Use this form to upload your grant proposal directly to the Office of Naval Research. All fields in the form are required to be completed, including the assigned Grants.gov case ticket number. Your completed package should also include a signed scanned proposal cover sheet with the signature of your authorized organizational representative as part of the 'Attached Form'. Submit one file per proposal in PDF format. **DO NOT submit any parts of the proposal separately. Technical proposals, endorsements, etc. should be on the Grants.gov ATTACHMENTS form.**

c. Use the naming convention below for all uploaded proposals.

\*Convention: (ONRBAA09-XXX\_Topic\_LeadPI\_University.pdf)

\*Example: ONRBAA09-012\_NOPP\_MSMITH\_UNIVRESEARCH.PDF

d. Once a document has been submitted, a "Thank You" page will appear and an email will be sent to the address provided. If you do not receive an email confirmation, your file has not been properly received. You should immediately contact the business point of contact listed in the BAA.

## **6. Address for the Submission of Hard Copy and Full Proposals for Contracts.**

Hard copies of Full Proposals for Contracts should be sent to the Office of Naval Research at the following address:

Office of Naval Research  
Attn: Mr. Martin Kruger  
ONR Department Code: 30  
875 North Randolph Street  
Arlington, VA 22203-1995

## **V. EVALUATION INFORMATION**

### **1. Evaluation Criteria –**

The following evaluation criteria apply to both the White Papers and the Full Proposals. Proposals will be selected through a technical/scientific/cost decision process with technical and scientific considerations being more important than cost. Criteria A-D are listed in descending order of priority. Any subcriteria listed under a particular criterion are of equal importance to each other.

A. Overall scientific and technical merits of the proposal.

1. The degree of innovation.
2. The soundness of technical concept.

3. The Offeror's awareness of the state of the art and understanding of the scope of the problem and the technical effort needed to address it.
- B. Potential naval relevance and contributions of the effort to the agency's specific mission.
- C. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed principal investigator and personnel.
  1. The quality of technical personnel proposed.
  2. The Offeror's experience in relevant efforts with similar resources.
  3. The ability to manage the proposed effort.
- D. The amount and realism of the proposed costs.

The degree of importance of cost will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the proposal's technical superiority to the Government.

For proposed awards to be made as contracts to large businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

The Government will evaluate options for award purposes by adding the total cost for all options to the total cost for the basic requirement. Evaluation of options will not obligate the Government to exercise the options during contract performance.

## **2. Evaluation Panel –**

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Cost proposals will be evaluated by Government business professionals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. Similarly, support contractors may be utilized to evaluate cost proposals. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions.

## **VI. AWARD ADMINISTRATION INFORMATION**

### **1. Administrative Requirements –**

- The North American Industry Classification System (NAICS) code – The North American Industry Classification System (NAICS) code for this announcement is “541712” with a small business size standard of “500 employees”.
- Central Contractor Registry (CCR) - Successful Offerors not already registered in the CCR will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>.
- Subcontracting Plans - Successful contract proposals that exceed \$550,000, submitted by all but small business concerns, will be required to submit prior to award a Small Business Subcontracting Plan in accordance with FAR 52.219-9.
- Certifications – Proposals for contracts and assistance agreements should be accompanied by a completed certification package.

#### Contracts Proposals:

For contracts, in accordance with FAR 4.1201, prospective contractors shall complete and submit electronic annual representations and certifications at <http://orca.bpn.gov>. In addition to completing the Online Representations and Certifications Application (ORCA), proposals must be accompanied with a completed DFARS and contract specific representations and certifications. These "DFARS and Contract Specific Representations and Certifications", i.e., Section K, may be accessed under the Contracts and Grants Section of the ONR Home Page at [http://www.onr.navy.mil/02/rep\\_cert.asp](http://www.onr.navy.mil/02/rep_cert.asp).

#### Grants:

Grant awards greater than \$100,000 require a certification of compliance with a national policy mandate concerning lobbying. Grant applicants shall provide this certification by electronic submission of SF424 (R&R) as a part of the electronic proposal submitted via [Grants.gov](http://Grants.gov) (complete Blocks 18 and 19); The following certification applies to each applicant seeking federal assistance funds exceeding \$100,000:

### **CERTIFICATION REGARDING LOBBYING ACTIVITIES**

(1) No Federal appropriated funds have been paid or will be paid by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative

agreement, the applicant shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

(3) The applicant shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Grants not through Grants.gov:

Proposers seeking grants who have received Grants.gov waiver approval for awards greater than \$100,000 shall complete and submit electronic representations and certifications at the Contracts and Grants Section of the ONR Home Page at [http://www.onr.navy.mil/02/rep\\_cert.asp](http://www.onr.navy.mil/02/rep_cert.asp) .

## **2. Reporting -**

The following are samples of data deliverables that are typically required under a research effort:

- \*Technical and Financial Progress Reports
- \*Presentation Materials
- \*Final Report

Additional data deliverables may be proposed and finalized during negotiations. Research performed under contracts may also include the delivery of software, prototypes, and other hardware deliverables.

## **VII. OTHER INFORMATION**

### **1. Government Property/Government Furnished Equipment (GFE) and Facilities**

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of special test equipment or other equipment that is 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 and operational military units are available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for any one specific program. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain as part of their proposals which of these facilities are critical for the project's success.

## **2. Security Classification**

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. If access to classified material will be required at any point during performance, the Offeror must clearly identify such need prominently in its proposal.

## **3. Use of Animals and Human Subjects in Research**

If animals are to be utilized in the research effort proposed, the Offeror must complete a DOD Animal Use Protocol with supporting documentation (copies of AALAC accreditation and/or NIH assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. For assistance with submission of animal research related documentation, contact the ONR Animal/Human Use Administrator at (703) 696-4046.

Similarly, for any proposal for research involving human subjects the Offeror must submit prior to award: documentation of approval from an Institutional Review Board (IRB); IRB-approved research protocol; IRB-approved informed consent form; proof of completed human research training (e.g., training certificate or institutional verification of training); an application for a DoD Navy Addendum to the Offeror's DHHS-issued Federalwide Assurance (FWA) or the Offeror's DoD Navy Addendum number. In the event that an exemption criterion under 32 CFR.219.101(b) is claimed, provide documentation of the determination by the Institutional Review Board (IRB) Chair, IRB Vice Chair, designated IRB administrator or official of the human research protection program. Information about assurance applications and forms can be obtained by contacting ONR\_343\_contact@navy.mil . If the research is determined by the IRB to be greater than minimal risk, the Offeror also must provide the name and contact information for the independent medical monitor. [Note: for research involving human subjects that is greater than minimal risk, administrative procedures to protect human subjects from medical expenses (not otherwise provided or reimbursed) that are the direct result of participation in a research project must be addressed. Additional supporting documentation may be requested. For additional information on this topic, email ONR\_343\_contact@navy.mil.] For assistance with submission of human subject research related documentation, contact the ONR Animal/Human Use Administrator at (703) 696-4046.



#### **4. Department of Defense High Performance Computing Program**

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and RDT & E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and other assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.

#### **5. Protection of Proprietary and Sensitive Information**

The parties acknowledge that, during performance of the contract, grant, or other assistance agreement resulting from this BAA, the recipient may require access to certain proprietary and confidential information (whether in its original or derived form) submitted to or produced by the Government. Such information includes, but is not limited to, business practices, proposals, designs, mission or operation concepts, sketches, management policies, cost and operating expense, technical data and trade secrets, proposed Navy budgetary information, and acquisition planning or acquisition actions, obtained either directly or indirectly as a result of the effort performed on behalf of ONR. The recipient shall take appropriate steps not only to safeguard such information, but also to prevent disclosure of such information to any party other than the Government. The recipient agrees to indoctrinate company personnel who will have access to or custody of the information concerning the nature of the confidential terms under which the Government received such information and shall stress that the information shall not be disclosed to any other party or to recipient personnel who do not need to know the contents thereof for the performance of the contract/agreement. Recipient personnel shall also be informed that they shall not engage in any other action, venture, or employment wherein this information will be used for any purpose by any other party.

#### **6. Project Meetings and Reviews**

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

#### **7. Submission of Questions**

Any questions regarding this solicitation must be provided to the Technical Point of Contact and/or Administrative Point of Contact listed in this solicitation. All questions shall be submitted in writing by electronic mail.

As Regards Thrust Areas 1 and 2:

Questions regarding **white papers** must be submitted by 2:00 P.M. Eastern Daylight Time on **31 Jul 2009**. Questions after this date and time may not be answered, and the due date for submission of the white papers will not be extended.

Questions regarding **full proposals** must be submitted by 2:00 P.M. Eastern Daylight Time on **28 Aug 2009**. Questions after this date and time may not be answered, and the due date for submission of the proposals will not be extended.