



## ONR BAA 13-018

### Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE)

#### Table of Content

**The following information presents the basic organization of this document as well as the location of significant information:**

- I. General Information
  - 1. Agency
  - 2. Research Opportunity Title
  - 3. Program Name
  - 4. Research Opportunity Number
  - 5. Response Date
  - 6. Research Opportunity Description
  - 7. Point(s) of Contact
  - 8. Instrument Type(s)
  - 9. Catalog of Federal Domestic Assistance (CFDA) Number
  - 10. Catalog of Federal Domestic Assistance (CFDA) Titles
  - 11. Other Information
- II. Award Information
- III. Eligibility Information
- IV. Application and Submission Information
  - 1. Application and Submission Process
  - 2. Content and Format of White Papers/Full Proposals
    - a. White Papers
    - b. Full Proposals
      - i. Contracts
  - 3. Significant Dates and Times
  - 4. Submission of Late Proposals
  - 5. Submission of Grant Proposals
  - 6. Submission of White Papers and Full Proposals for Contracts, Cooperative Agreements and Other Transaction Agreements
- V. Evaluation Information
  - 1. Evaluation Criteria
  - 2. Evaluation Panel
- VI. Award Administration Information
- VII. Other Information
  - 1. Government Property/Government Furnished Equipment (GFE) and Facilities
  - 2. Security Classification
  - 3. Use of Animals and Human Subjects in Research
  - 4. Recombinant DNA
  - 5. Use of Arms, Ammunition and Explosives
  - 6. Department of Defense High Performance Computing Program
  - 7. Organizational Conflicts of Interest
  - 8. Project Meetings and Reviews
  - 9. Executive Compensation and First-Tier Subcontract Reporting (APPLIES ONLY TO

- CONTRACTS)
10. Military Recruiting on Campus (APPLIES ONLY TO GRANTS & COOPERATIVE AGREEMENTS)
  11. Combat Trafficking in Persons (APPLIES ONLY TO CONTRACTS)
  12. Updates of Information regarding Responsibility Matters (APPLIES ONLY TO CONTRACTS)
  13. Employment Eligibility Verification (APPLIES ONLY TO CONTRACTS)
  14. Central Contractor Registration (CCR) (APPLIES ONLY TO CONTRACTS)
  15. Other Guidance, Instructions, and Information

## **INTRODUCTION:**

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) 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.

## **GENERAL INFORMATION:**

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

**2. Research Opportunity Title** - Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE)

**3. Program Name** - Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE)

**4. Research Opportunity Number** - 13-018

**5. Response Date** -

White Papers: 8/12/2013 3:00 PM Eastern Standard Time

Full Proposals: 10/14/2013 3:00 PM Eastern Standard Time

**6. Research Opportunity Description** -

The Office of Naval Research, Expeditionary Maneuver Warfare and Combating Terrorism S&T Department (ONR 30) is soliciting white papers and proposals for the Applied Research and Advanced Technology Developments.

The overall goal of this solicitation is to foster new developments in Science and Technology

which may ultimately lead to future operational capabilities beyond those represented by current acquisition programs and requirements. As such, it is anticipated that successful proposals would ultimately contribute to the scientific and technological underpinning from which future Naval Expeditionary and Combating Terrorism warfighting requirements and capabilities may become possible.

Under this BAA, ONR is looking for innovative technical solutions that enable an integrated payload that is compatible with the RQ-21A payload SWAP (Size, Weight and Power) envelope and that contains the following capabilities:

- Very high coverage rate spectral sensing in the SWIR(shortwave infrared) band
- Ability to continuously monitor a wide area activity at a resolution (temporal and spatial) consistent with dismount detection/tracking
- High fidelity inspection sensing in both of the above collection modes
- Autonomous identification of objects, behaviors and materials of interest with accuracy rates high enough to enable a useful real-time dissemination of information directly to warfighters
- While combined day and night solutions offer additional value, a nighttime sensor modality should not be sought at the expense of one of the other desired sensor modalities

Key attributes of each sensor will now be described:

#### Spectral Sensing:

Novel technical solutions are desired that enable a sensor to quickly scan very large areas (e.g. 4 or more km<sup>2</sup> per minute) with sufficient spectral fidelity to identify materials of interest (explosives, sands, drugs, moving vehicles...) at a confidence level high enough to enable information to be disseminated directly from the sensor to a warfighter (e.g. actionable intelligence). In addition, spectral sensing systems are sought that have enough spatial resolution and location accuracy to acquire sub meter spectral signatures and automatically cross-correlate those with other high-resolution sensor modalities.

To address some of the embedded technical challenges Offerors may propose:

- Large format, small pixel pitch SWIR focal plane arrays
- Approaches to the simultaneous collection of spectral signatures for areas (vice lines)
- Minimizing the number of bands collected by utilizing information made available by the other flown modalities
- Any other innovative approaches to addressing the above challenges

Desired attributes of a solution, in addition to a low SWAP include:

- Approaches that do not restrict how the UAS (Unmanned Aerial System) is flown (orbit or line or any other geometry)
- Approaches that are not limited to collection against static ground targets; monitoring of spectral targets moving at up to highway speeds have additional value
- Approaches that enable the autonomous generation of fused products ready for dissemination

#### Wide Area Sensing:

Novel technical solutions are desired that enable a large area (at least 12 km<sup>2</sup>) to be continuously monitored for conditions of interest to the warfighter. Conditions of interest can include objects (e.g. obstacles to maneuver, weapons, military vehicles) and behaviors of interest based on the motion of vehicles/dismounts relative to each other or to a specified location. The sensor should be able to send one or more real time video chip streams to ground users using remote video terminals (or equivalents) or operating ground stations. Additional operating environments for wide area sensing include passive collection of wide-area 3D terrain maps.

To address some of the technical challenges Offerors may propose:

- Large format focal plane arrays
- Power efficient processors for on-board, real-time processing of wide area imagery
- Other innovative solutions that address the above technical challenges

#### Interrogation Camera:

Novel technical solutions are desired that enable a very high resolution interrogation camera to better characterize the activities and targets (motion, behavior, spectral characteristics) taking place in areas flagged by the wide area and spectral sensors. This inspection capability is desired for both the panchromatic and spectral sensing modes.

To address some of the technical challenges Offerors may propose:

- Advanced optical designs
- Super resolution
- Other innovative solutions that address the above technical challenges

#### On-board processing:

Novel solutions to on-board processing are desired that enable real time accurate detection of conditions of interest in a form suitable for direct dissemination from the sensor to warfighters (e.g. as an image with text overlays).

To address some of the technical challenges Offerors may propose:

- Novel algorithms for processing spectral and imagery based information in a power efficient manner
- Reducing false positives in spectral condition of interest by using information available from the wide area or interrogation camera (e.g. detection of chemicals in a garden may not be actionable)
- Reducing motion/behavior false positives from the wide area sensor by using information from the spectral and interrogation cameras. For example, motion near an area containing chemical signatures would be of greater interest than the same motion in an area containing no chemical signatures.
- Offerors may assume that there exists significant government-owned prior art related to the on-board tracking of movers that can be leveraged

Based on these technologies and their associated technical development areas that are needed to be addressed, the SPRITE program has been divided into two technology products:

Product 1 - Compact Wide Area Reconnaissance and Spectral Sensor (CWARSS) will contain the hardware needed to enable image acquisition and initial, low-level image processing.

Product 2 - Automated Processing for Spectral Exploitation and Dissemination (APSED) will provide air and ground fused hyperspectral and Wide Area Airborne Sensor (WAAS) processing capabilities to enable the rapid generation, analysis, and reporting of mission relevant actionable intelligence products as well as provide cross-cueing between wide-area search detections and the collection of inspection imagery. APSED includes not only the development and application of advanced algorithms, but also the airborne data collection, management, and storage hardware components.

It is desired for this BAA to utilize a Modular Open Systems Approach (MOSA), where feasible, as long as the approach does not compromise performance or exceed SWAP constraints. Ongoing assessment during development cycles will determine level(s) of system openness that best facilitate transition, but the desired objective is to enable future processor and algorithm upgrades with minimal effort as sensor technology and processor capabilities improve.

The products described in this BAA are intended to be integrated and tested as a payload for the RQ-21A platform. As a result, the total size, weight, and power of the combined system described in this BAA will be severely limited. It is anticipated that the payload will occupy part or all of the available payload spaces on RQ-21A with overall payload weight limited to <30 pounds and overall peak power draw to be <350W. Scalable architectures that could enable expanded capabilities on larger platforms are highly encouraged.

The following subsections describe the CWARSS and APSED technology products in greater detail.

#### 1. Compact Wide Area Reconnaissance and Spectral Sensor (CWARSS)

The Office of Naval Research is seeking sensor technologies for this product that will meet the USMC EO wide area airborne sensing (WAAS) capability needs as well as supporting emerging USMC needs in the collection and analysis of tactical hyperspectral imagery (HSI) and multispectral imagery (MSI).

It is anticipated that a focal plane array (FPA) will be needed to enable an average 0.30 m or better ground sample distance (GSD) from a 10,000 foot above ground level (AGL) flight altitude across a 4 km diameter Area of Persistence (AoP). The WAAS sensor capabilities desired include full AoP updates at 2 Hz and collection that enables one or more 640 x 480 chip streams be generated concurrently at a frame rate of 5 Hz or greater. It is desired that the sensor be able to produce chip streams of any location within the 4 km diameter AoP.

It is also desired to foster technologies that enable simultaneous spectral and WAAS data

collection over the same 4 km diameter AoP. A spectral sensor is desired that can provide spectral data with an average 0.60 m or better GSD, and enable at least one, but preferably four or more, updates of the full AoP per orbit while operating at the desired 10,000' AGL flight altitude (a typical WAAS orbit is expected to take 200-240 seconds). At a minimum, spectral sensors are sought covering part of the shortwave infrared (SWIR) band (1.0-1.7  $\mu\text{m}$ ) and providing a minimum of 7 spectral bands across this range. Spectral sensing solutions expending beyond this minimal spectral range and number of bands are strongly encouraged. In addition, during straight-line flight at 10,000' AGL altitude, it is desired that the spectral sensor be capable of collecting spectral imagery for a 6 km or greater cross-track swath width at 0.60 m or better GSD (nadir).

Sensor architectures are sought to also include the ability to collect higher-resolution imagery. Inspection imagery is desired consistent with a 3x resolution improvement over the image quality provided from the WAAS sensor described above. This inspection camera can be panchromatic, color (Red,Green,Blue) or can match the spectral band of the provided WAAS capability. Technology is also sought that enables spectral imagery having a 3x or more resolution improvement while retaining the same number of bands as in the wide-area spectral sensor. The WAAS and spectral inspection capabilities can either be integrated into a single pointing assembly with the wide area sensors or may be in separate pointing optical systems - provided that the entirety of the CWARSS system remains within the overall platform SWAP constraints.

One goal of the CWARSS collection and pre-processing system is the ability to associate spectral data with the WAAS-derived tracks of moving objects within the AoP. Thus, spectral systems are desired that enable the generation of spectral data having enough temporal fidelity to enable association of a measured spectrum to a vehicle-sized (4 door passenger sedan) ground object moving at a speed of up to 60 miles/hr. Commensurate with the above collection and cross-coordination goals is a need to provide navigation and pointing metadata for all collected imagery that can enable geo-projection with a circular error probability (90%) (CEP 90) of less than 15 m.

Novel WAAS architectures are encouraged as long as they maintain a path to reach the stated temporal and spatial data quality goals within the form factor constraints of SPRITE. Such processing-intensive implementation techniques may rely on significant integration between CWARSS and APSED or unique/novel use of standard communication protocols between CWARSS and APSED.

The WAAS capability will be used to feed imagery data for both storage of full-field imagery at a rate of 2 Hz or faster, as well as for generation of one or more real time sub-image video chip streams at frame rates of 5 Hz or faster. While the APSED product described below will develop the hardware and software to enable image storage, databasing, and chip generation; the CWARSS developed product will be used to provide imagery with the requisite temporal and spatial fidelity needed to support the desired APSED-developed advanced processing tasks.

It is anticipated that the hardware will be tested in a variety of lab and flight environments culminating in a flight test onboard an RQ-21A or equivalent test platform. GSD will be measured as the average GSD across the AoP and will be determined from analysis of imagery collected on representative bar targets placed horizontally on the ground. Spectral image quality

will be assessed against spectral calibration targets as well as through laboratory spectral analysis.

Air vehicle expectations include SWAP and safety of flight limitations consistent with operation from a UAS platform like the RQ-21A air vehicle. Payload command and control will be conducted with messaging conforming to the NATO STANAG (standardization agreement) 4586 standard. Expectation is that the resident Bandit datalinks will be retained; one for communication with the RQ-21A ground control station (GCS) and the other for communication with ground users via portable remote video terminals (RVTs) such as the Video Scout. Ethernet protocols will be used to communicate between the GCS and the payload.

It is desired for CWARSS to provide all hardware needed to collect, pre-process, and produce initial metadata association for the combined WAAS and spectral imagery data sets, while providing camera-model information and access to any needed ancillary pointing data to facilitate advanced processing under APSED.

## 2. Automated Processing for Spectral Exploitation and Dissemination (APSED)

This product is an integrated air and ground, spectral and WAAS processing capability that enables the rapid generation, analysis, and reporting of mission-relevant actionable intelligence products.

The desired APSED capabilities include:

- Command and control of all aspects of the CWARSS and APSED systems. Such command and control capabilities are sought to be consistent with the current RQ-21A data links and with NATO STANAG 4586 standard messaging.
- Extracting moving-object tracks from the WAAS imagery. It is desired to generate tracks from the WAAS imagery in real time over the entire AoP using the airborne hardware, but tracks may be limited to a user-selectable sub-region of the entire AoP.
- Utilization of WAAS imagery to generate 3D terrain models using in-flight hardware. It is desired to enable 3D terrain generation using either circular or straight-line flight collection modes.
- Extracting video-rate chip streams from the WAAS imagery sets. It is desired to develop the capability to generate, in real time and forensically, one or more geo-projected video chip streams having at least 640 x 480 pixels at the native resolution of the WAAS sensor and having an update rate of at least 5 Hz. Video chip stream encoding formats would comply with the L3.0M profile in Motion Imagery Standards Profile (MISP) 6.4. Video chip stream locations will be user selectable by either forward users via an RVT interface or by a user at the WAAS ground station.
- Performing real-time spectral extraction, anomaly detection, and spectral-match detection across the full AoP using spectral databases. Capabilities sought include airborne management of

spectral libraries (laboratory-derived or in-scene-derived) and the ability for a user to change spectral matching criteria while system is in flight.

- Automatic generation of real-time alert messages associated with detection of spectral targets of interest, or detection of motion-related track behavior. Airborne-generated alerts are desired that can provide actionable intelligence to ground users at either a ground station and/or at an RVT.
- Automatic inspection of potential objects of interest using inspection sensor capabilities. Capabilities sought include cross-cueing instances such as inspection of all tracks crossing a prescribed trip-wire, inspection of all tracks containing a specific spectral match, inspection of all objects undergoing a spectral change, among other possibilities that can be proposed.
- Reduction of false positives through cross-sensor fusion. Algorithmic approaches are sought to correlate the multi-sensor imagery resulting from the proposed sensor architecture. For example, technologies are sought to enable association of individual tracklets using spectral content, image texture, and/or motion behavior.
- Downloading and delivery of airborne stored imagery and data to a ground station. A capability is sought to enable delivery of all airborne stored imagery and data after landing. (Data delivery includes data read, reformatting into standard formats (if necessary) and metadata cross-referencing into a database structure). It is desired that removal of all mission imagery and data from the aircraft (downloading) occur in less than one (1) hour after landing while data delivery to a ground database occur in a time less than the total imagery and data collection time.
- Formatting of data and imagery. It is also desired that all imagery formats developed and stored by the APSED system conform to L3.0M profile in Motion Imagery Standards Profile (MISP) 6.4 (for video), NITFS (National Imagery Transmission Format Standard) 2.1 for WAAS and spectral imagery data, STANAG 4676 for track data, and STANAG 4586 for payload command and control.

Plans are to test the APSED product with an airborne demo of integrated autonomous processing, cueing, and dissemination capabilities using a combined WAAS / spectral payload.

#### Tasks:

ONR has broken down the development and testing of the two products described in this BAA into three tasks. Offerors may choose to propose separately to any individual task, to a subset of tasks, or to all the tasks. Offerors desiring to submit a proposal for multiple or all tasks should submit a separate white paper for each individual task as well as a short (5 pages or less) white paper describing the overall capability. If multiple tasks are proposed, the overall capability white paper must describe any synergies that result from performing those multiple tasks.

#### Task (1) Sensor Assembly with Stabilized Optical Platform

To meet current and emerging USMC needs, the state-of-the art WAAS and spectral sensor volumes must be dramatically reduced while still achieving desired simultaneous WAAS, spectral, and inspection capabilities. Critical issues will need to be addressed in focal plane

design, lightweight optics, sensor pointing control and stabilization, and data processing in order to meet these simultaneous program goals. Additionally, the WAAS data collection rate is significantly higher than any rate previously attempted in a payload of this SWAP and will require substantial technical innovation to address streaming data collection, image processing, data storage, and data analysis. For this effort, S&T challenges include focal plane array (FPA) SWAP, FPA readout electronics speed and size, image stabilization techniques, spectral sensor SWAP, spectral sensor coverage rate, compact wide field-of-view optics, and spectral sensor optical design.

The major sub elements in this task are outlined below:

#### Optical Platform:

A sensor assembly and stabilized platform is sought to provide an integrated physical and electrical assembly combining all of the requisite WAAS, spectral, and inspection sensors of the airborne payload. This platform would also include any needed optical bench and stabilization mechanism(s) for those sensors. The sensors may be combined or distributed in any way that preserves their ability to meet their fundamental performance goals.

#### WAAS sensor:

A WAAS sensor capability is sought to provide the capability to collect imagery of a 4 km diameter AoP at frame rates of tactical interest. The resolution goal is to provide imagery having an average GSD of 30 cm (average across the full circular AoP) with an update rate of 2 Hz or faster (solutions providing 5 Hz or faster are strongly encouraged). Due to the flight dynamics of the desired RQ-21A platform, it is desired that solutions enable the above GSD when flying at altitudes at or below about 10,000' above ground. Image preprocessing may occur on the WAAS sensor data (for example to implement non-uniformity corrections, or to improve resolution through multi-frame processing) with the requirement that the resulting imagery retain the ability for it to be used for automated track analysis and detection of vehicle- and dismount-sized moving objects. The sensor would be responsible for any image pre-processing necessary to provide high quality imagery and should include this image pre-processing hardware SWAP within the sensor's SWAP constraints. The sensor will be responsible for providing camera model information and pointing data to facilitate APSED operation.

#### Spectral sensor:

A sensor capability is sought to collect spectral data in the SWIR range (1.0-1.7  $\mu\text{m}$  minimum bandwidth) and providing a usable number across this range. Proposed systems delivering larger spectral range and a large number of spectral bands, while remaining within overall SWAP constraints, are strongly encouraged. It is desired that the developed spectral imaging capability enables three operational modes: 1) persistent coverage of a 4 km diameter AoP with an update rate of one update per aircraft orbit (strong preference will be given for systems able to collect four or more updates per orbit), 2) coverage of a 6 km wide cross-track swath, centered at nadir, and 3) collection of higher resolution spectral imagery having at least a 3x resolution improvement over the imagery collected in mode 1). These three modes need not be performed simultaneously nor need to use the same optical system. However, all three capabilities must be enabled from the same payload along with the other SPRITE capabilities. It is also desired to develop spectral imaging sensor solutions that will enable collection of spectral data on ground

objects moving at a ground speed of up to 60 mph. The spectral image resolution goal is to provide imagery having an average GSD of 60 cm (average across the 4 km diameter circular AoP). As described above, due to the flight dynamics of the desired RQ-21A platform, solutions are desired that enable the above GSD when flying at altitudes at or below about 10,000' above ground. Image preprocessing may occur on the spectral sensor data (for example to implement non-uniformity corrections, or to deconvolve spatial and spectral image content) with the requirement that the resulting imagery retain the ability for to be used for automated spectral analysis of static and moving objects. The sensor would be responsible for any image pre-processing necessary to provide high quality imagery and should include this image pre-processing hardware SWAP within the sensor's SWAP constraints. The sensor will be responsible for providing camera model information and pointing data to facilitate APSED operation.

#### Inspection Sensor:

An inspection sensor is sought that can provide panchromatic or color imagery at a resolution with at least a 3x improvement over that provided by the WAAS sensor and that can perform inspection of any location within the 4 km diameter AoP. The inspection sensor may reside within the WAAS sensor assembly or may consist of an independent pointing mechanism. If the inspection sensor utilizes a hibernation mode (to reduce system power draw) it is desired that the inspection sensor "wake-up" time be less than one (1) second. The inspection sensor will be responsible for providing camera model information and pointing data to facilitate APSED operation. Pre-processed inspection imagery will be provided in a format compatible with generation of a MISB-compliant h.264 video stream and compatible with generation of individual NITF images.

A spectral inspection sensor is also sought that enables collection of spectral imagery having a 3x or more resolution improvement while retaining the same number of bands as in the wide-area spectral sensor. The spectral inspection sensor is sought to perform inspection of any location within the 4 km diameter AoP and provide close inspection of selected targets.

#### Task (2) Payload Management System

A management system for the payload is sought to provide the necessary coordination and association capabilities of the system. This desired management system should enable multiple simultaneous users (through either RVT or ground station terminals) to request inspection-sensor imagery, request live video chip streams, and to request spectral analysis; and to perform these functions on airborne stored- as well as live-collected imagery. In addition, the airborne payload management system is desired to control a solid-state high-speed data storage and retrieval capability. As such, the payload management capability desired also includes development of any needed image compression/de-compression capabilities. The goal is to host this sensor management functionality on a small number of embedded processor cards. Full-mission data storage should occupy a similarly sized volume. This level of multi-user and multi-task coordination and extremely dense high-speed solid-state data storage has not been attempted before.

### Task (3) Sensor Processing Algorithms and Hardware

Onboard processing algorithms and implementations are sought to advance automated analysis in several key areas. First, advances are desired in the development of highly efficient embedded real-time track-generation software to enable airborne auto-track generation on the whole AoP collected by the WAAS sensor. It is anticipated that advances in algorithms and especially in false track mitigation will be important in meeting this goal. Second, advances are desired in embedded real-time autonomous spectral detection systems. Current systems do not have sufficient false-alarm rejection rates to be used effectively in the complex mixed urban/rural battlespace environments envisioned for this payload. Furthermore, due to repeat coverage, continuous look-angle changes, and day-time sun-ground angle variations, novel capabilities will be needed to continuously monitor and track individual spectral targets. Finally, new capabilities will need to be developed to address cross-sensor coordinated analysis. In particular, developments are sought that will tie together spectral detections and track generation so that all tracked objects have associated spectral data sets and those spectral data sets can be used to augment track association. A power-efficient, lightweight, hardware architecture will be needed to host the algorithms described above, as well as to store collected imagery, metadata, and intelligence products obtained by analysis.

Additional Considerations for all technical proposals:

There are several additional systems-level considerations that are desired to be addressed as part of all tasks. These include consideration of systems integration, testing (lab and flight testing), system ruggedization, ground command and control, and development of multiple copies of delivered hardware.

Offerors are expected to describe their ability to conduct system-level optimization and planning within their proposed task as well as across other vendors that may be supplying additional components and technologies. Testing considerations would include description of needed laboratory and field testing prior to full-payload integration and test; all with a path toward final payloads testing onboard a manned aircraft followed by testing onboard an RQ-21A or equivalent aircraft. In preparation for these component and systems level test, each Offeror is asked to describe their design and test procedures related to system ruggedization consistent with the eventual need to meet environmental requirements for flight on a RQ-21A aircraft in either CONUS or theater tests.

Offerors are expected to comment on their need for ground station capabilities needed to provide system command and control as well as to verify in-flight capabilities of the delivered technology. While such deliveries would not be expected to constitute delivery of an integrated ground station capability, Offerors will be expected to describe how any delivered ground capabilities could be integrated into a system-level ground station capability. At a minimum, it will be expected that any command and control messaging between the ground station and the aircraft conform to It is also desired that all imagery formats developed and stored by the APSED system conform to STANAG 4586, any image products conform to the L3.0M profile in Motion Imagery Standards Profile (MISP) 6.4 (for video), or NITFS 2.1 for WAAS and spectral imagery data, and conform to STANAG 4676 for imagery-derived track data.

Finally, Offerors are asked to provide consideration of the costs and engineering needed to produce and support ~10 copies of the hardware and software beyond those required for the anticipated flight test activity at the end of this program. These considerations include topics such as anticipated long-lead components, system training and maintenance, information assurance certifications, and any other issues that may be relevant to use of the delivered capability for long terms in a theater test.

#### Additional information

Offerors should submit separate white papers for each task of interest. Offerors addressing two or more tasks should also submit a separate short (5 pages or less) overview document describing the overall capability and synergies between tasks. The technology solutions must be demonstrated at a technology readiness level (TRL) of 6 at the time of the final demonstration in FY18. After down-selecting white papers, full proposals may be requested from selected candidates. If the government expresses interest in multiple tasks from the same performer, the proposal submitted will need to segregate individual tasks and costs, as the government reserves the right to individually fund parts of a proposal as further explained below. See Section IV of this BAA for detailed information on the submission of white papers and full proposals.

ONR may employ a Government integrator to combine vendor products and unique government-developed technologies into prototype payloads. Successful vendors must allow the systems integrator to have full access to their technology in order to have successful technology demonstrations.

#### Transition

This effort seeks to develop innovative technology solutions while simultaneously delivering robust technology and products for acquisition and experimentation. Transition consists of delivering mature S&T products to acquisition in an agreed upon manner. Offerors selected to perform research will be expected to work with other technology developers and also as members of government-lead teams that will coordinate the delivery of products to acquisition programs in a way that meets the schedule and performance requirements of the acquisition sponsor. Offerors should expect that the prototypes they develop will require modifications in order to properly integrate into the acquisition program or experimentation venue. The government will provide the guidance and coordination for interfacing and integrating products into acquisition programs and experimentation. The government may choose to provide the infrastructure to host selected Performer technology prototypes for transition testing and experimentation. Full government rights to technology products - including intellectual property - is a necessary and important factor in the selection process.

#### Other Information

Work funded under a BAA may include basic research, applied research and some 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 24 May 2010. 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. The research shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.

Pursuant to DoD policy, research performed under grants and contracts that are a) funded by Budget Category 6.2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Category 6.3 (Advanced Research) does not meet the definition of "contracted fundamental research." In conformance with the USD(AT&L) guidance and National Security Decision Direction 189, ONR will place no restriction on the conduct or reporting of unclassified "contracted fundamental research," except as otherwise required by statute, regulation or Executive Order. For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting "contracted fundamental research." In those cases, it is the *prime contractor's responsibility* in the proposal to identify and describe the subcontracted unclassified research and include a statement confirming that the work has been scoped, negotiated, and determined to be fundamental research according to the prime contractor and research performer.

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.

FAR Part 35 restricts the use of the Broad Agency Announcements (BAAs), such as this, to the acquisition of basic and 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 BAAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

As regards to the present BAA, the Research and Development efforts to be funded will consist of (Program Manager to fill in the blank [include those that apply]) basic research, applied research, advanced technology development. The funds available to support awards are Budget Activity 2 and 3.

**THIS ANNOUNCEMENT IS NOT FOR THE ACQUISITION OF TECHNICAL, ENGINEERING AND OTHER TYPES OF SUPPORT SERVICES.**

## 7. Point(s) of Contact -

Questions of a technical nature should be submitted to:

Mr. Martin Kruger  
Program Manager and  
Ms. Maya Rubeiz, Deputy Program Manager  
ONR Code: 30  
Office of Naval Research  
One Liberty Center  
875 N. Randolph Street, Arlington, VA 22203-1995  
Email: [martin.kruger1@navy.mil](mailto:martin.kruger1@navy.mil)  
Email: [maya.rubeiz@navy.mil](mailto:maya.rubeiz@navy.mil)

Questions of a business nature should be submitted to:

Frank Kennedy  
Contract Specialist  
ONR Code 255  
Office of Naval Research  
One Liberty Center  
875 N. Randolph Street, Arlington, VA, 22203  
Email: [frank.j.kennedy@navy.mil](mailto:frank.j.kennedy@navy.mil)

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

Comments or questions submitted should be concise and to the point, eliminating any unnecessary verbiage. In addition, the relevant part and paragraph of the Broad Agency Announcement (BAA) should be referenced.

Questions submitted within 2 weeks prior to a deadline may not be answered, and the due date for submission of the white paper and/or full proposal will not be extended.

Amendments will be posted to one or more of the following webpages:

- Federal Business Opportunities (FEDBIZOPPS) Webpage - <https://www.fbo.gov/>
- ONR Broad Agency Announcement (BAA) Webpage - <http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx>

Questions of a security nature should be submitted to:

Diana Pacheco  
Industrial 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 to the Technical Point of Contract (POC) with a copy to the designated Business POC.

CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any entity 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 entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity and arrange for the CLASSIFIED question to be asked through a secure method of communication.

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

Awards will be issued as Contracts. ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

Any contract awards resulting from this BAA will incorporate the most current FAR, DFARs, NMCARS and ONR clauses.

Examples of model contracts can be found on the ONR website at the following link:  
<http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/contract-model-awards.aspx>.

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

12.300

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

Basic & Applied Scientific Research

## **II. AWARD INFORMATION**

### **1. Amount and Period of Performance- Estimated Total Amount of Funding Available (\$K):**

FY2014	FY2015	FY2016	FY2017	FY2018	Total
\$6141	\$7752	\$7207	\$6529	\$4371	\$32000

Anticipated Number of Awards: One or more awards per Task.

Each white paper and proposal must address only one Task; however, Offerors may respond, via separate proposals, to multiple Tasks, if desired. Anticipated Range of Individual Award

Amounts: As required to complete each Topic. There may be more than one performer per task.

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 is shown in the table above and is anticipated to be made available over a five year period. ONR may award less than this total under this BAA and apply it elsewhere. One or more work orders addressing the tasks described above may be awarded to one or more Government laboratories based on proposals received outside this BAA.

Anticipated Period of Performance: Up to five (5) years.

## **2. Production and Testing of Prototypes-**

In the case of funded proposals for the production and testing of prototypes, ONR may during the contract period add a contract line item or contract option for the provision of advanced component development or for the delivery of additional prototype units. However, such a contract addition shall be subject to the limitations contained in Section 819 of the National Defense Authorization Act for Fiscal Year 2010.

## **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.

University Affiliated Research Centers (UARC) are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contracts.

Teams are also encouraged and may 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 § 1201.1 et seq.

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

##### **1. Application and Submission Process - White Paper, Oral Presentation, Full Proposals**

White Papers: The due date for white papers is no later than 3:00 PM (EDT) on **12 August, 2013**. White papers are to be submitted in the format described below to the ISR30 Upload site identified below.

All white papers are required to be uploaded to the ISR Upload Site (<https://onroutside.onr.navy.mil/aspprocessor/isr30a/>). Each white paper should state the particular task that it is addressing.

If an Offeror does not submit a white paper before the specified due date and time, it is not eligible to participate in the remaining Full Proposal submission process and is not eligible for funding. Each white paper should state that it is submitted in response to this BAA and cite the particular sub-section (task) of the Research Opportunity Description that the white paper is primarily addressing.

The ISR 30 team will evaluate each white paper and indicate in its email response to the proposer whether a full proposal would appear to have a high or low probability of success if submitted. The Government may provide recommendations related to contract structure (e.g., options) when providing results of White Paper Review. Submission of a full proposal will be either encouraged or discouraged; however, a full proposal may be submitted by a proposer, even if its white paper was not well received, and it will receive full consideration.

White Paper Evaluation/Notification: Navy evaluations of white papers will be issued via email notification on or about **09 September, 2013**.

An oral presentation may be subsequently requested from those Offerors whose proposed technologies have been identified through the above-referenced E-mailed white papers as being of "particular value" to the Navy but require additional clarifications to determine if the reviewers would like to encourage a full proposal. Oral proposals are not required. Any such encouragement does not assure a subsequent award. Additionally, details for the oral presentation will be provided with the above-referenced E-mail notification.

Full Proposals: The due date and time for receipt of Full Proposals is no later than **14 October 2013, 4:00 PM EST**. It is anticipated that the final selections will be made on or about **11 November 2013**. As soon as the final full proposal evaluation process is completed, each PI will be notified via email of the project's selection or non-selection for FY14 funding. Full proposals received after the published due date and time will not be considered for funding, except as may

be allowed under the "Submission of Late Proposals" clause below.

## **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 responses are permitted. If a classified proposal is submitted, the resultant contract will be unclassified.

### Unclassified Proposal Instructions:

Unclassified White Papers and Full Proposals shall be submitted in accordance with Section IV. Application and Submission Information.

### Classified Proposal Instructions:

Classified White Papers and Full Proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

OUTSIDE ENVELOPE (no classification marking):

Office of Naval Research  
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 Kruger, Martin ([martin.kruger1@navy.mil](mailto:martin.kruger1@navy.mil)), ONR Code 30 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)  
Program: Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE)  
Office of Naval Research  
Attn: Kruger, Martin  
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.

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.

## **a. WHITE PAPERS**

### **White Paper Format**

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single spaced
- Font - Times New Roman, 12 point
- Max. Number of Pages permitted: 10 pages (excluding cover page, resumes, bibliographies, and table of contents)
- Copies - One (1) electronic copy in Adobe PDF or Word 2007 delivered uploaded to the ONR ISR 30a website provided below. The subject line of the email shall read "ONR BAA 13-018 White Paper Submission."

#### **NOTE:**

- 1. Do not send hardcopies of White Papers (including Facsimiles) as only electronic submissions will be accepted and reviewed;**
- 2. ZIP files are acceptable.**
- 3. Do not send password protected files.**

### **White Paper Content**

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER", and shall include the BAA number, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
- **Technical Content:** A description of the technology innovation and technical risk areas.
  - Cover Page: The Cover Page shall be labeled "WHITE PAPER", and shall include the BAA number, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
  - Technical Concept: A description of the technology innovation and technical risk areas.

A ten (10) page technical section shall state which areas and topics are being

addressed and shall consist of clear descriptions of:

- objectives of the proposed effort,
- technical issues to be resolved to accomplish objectives,
- risks which must 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,
- a comparison against competing technological developments,
- particular prior experience of the Offeror in targeted technology area, and
- a clear description of and schedule for demonstration of the significant aspects of the concept.

This section should include references

- **Other Requirements:** Include description of requirements and cost amount for Government Furnished Equipment (GFE), and identify any proprietary technologies.
- **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
- **ROM:** A rough order of magnitude for the proposed effort, to include program duration, broken out by Government Fiscal Year (01 OCT – 30 SEP) (ROM should include costs for labor, travel, and other relevant costs).
- **Operational Utility Assessment Plan:** 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.
- **Other Requirements:** White papers must be uploaded to:  
<https://onroutside.onr.navy.mil/aspprocessor/isr30a/>  
Please retain the confirmation email you will receive once you upload your paper.

## **b. FULL PROPOSALS**

### **i. INSTRUCTIONS FOR CONTRACTS, COOPERATIVE AGREEMENTS AND OTHER TRANSACTION AGREEMENTS (Does not include Grants)**

*NOTE: Submission instructions for BAAs issued after FY 2010 have changed significantly from previous requirements. Potential Offerors are advised to carefully read and follow the*

*instructions below. The new format and requirements have been developed to streamline and ease both the submission and the review of proposals.*

All full proposals must be in the format given below. **Nonconforming proposals may be rejected without review.**

Proposal Package: The following five documents with attachments comprise a complete proposal package:

- (1) Technical Proposal Template (pdf)*
- (2) Technical Content (word 25 Page Limit)*
- (3) Cost Proposal Spreadsheet (excel)*
- (4) Adequacy Checklist for Pre Award Audit (SF 1408) (as applicable)*
- (5) Severable (non proprietary) Statement of Work (Word)*

*These documents can be found at: <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx>*

*All have instructions imbedded into them that will assist in completing the documents. Also, both the Technical Proposal Template and the Cost Proposal Spreadsheet require completion of cost-related information. Please note that attachments can be incorporated into the Technical Proposal Template for submission.*

For actions below the simplified acquisition threshold (less than or equal to \$150K), the Cost Proposal Spreadsheet, Technical Proposal Template and Technical Content documents are required. In addition, if a purchase order will be awarded, the effort will be fixed price. Purchase orders can also contain options, if authorized under the BAA, as long as the total amount of the base and all options does not exceed \$150k.

Intellectual Property: Offerors responding to this BAA must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. The Government will assume unlimited rights if offerors fail to identify any intellectual property restrictions in their proposals. Include in this section all proprietary claims to results, prototypes, and/or deliverables. If no restrictions are intended, then the offeror should state "NONE."

The format requirements for any attachments are as follows:

- Paper Size- 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing- single or double spaced
- Font- Times New Roman, 12 point
- Smaller font may be used for figures, tables and charts.

The Cost Proposal Spreadsheet can be found by following this link:  
<http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost->

[proposal.aspx](#). Click on the "proposal spreadsheet" link and save a copy of the spreadsheet. Instructions for completion have been embedded into the spreadsheet. **Any proposed options that are identified in the Technical Proposal Template or Technical Content documents, but are not fully priced out in the Cost Proposal Spreadsheet, will not be included in any resulting contract, cooperative agreement, or other transaction.** If proposing options, they **must** be separately priced and separate spreadsheets should be provided for the base period and each option. In addition to providing summary by period of performance (base and any options), the Contractor is also responsible for providing a breakdown of cost for each task identified in the Statement of Work. The sum of all costs by task worksheets **MUST** equal the total cost summary.

For proposed subcontracts or interorganizational transfers over \$150,000, Offerors must provide a separate fully completed Cost Proposal Spreadsheet in support of the proposed costs. This spreadsheet, along with supporting documentation, must be provided either in a sealed envelope with the prime's proposal or via e-mail directly to both the Program Officer and the Business Point of Contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor. Offerors should also familiarize themselves with the new subcontract reporting requirements set forth in Federal Acquisition Regulation (FAR) clause 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards. The pertinent requirements can be found in Section VII, Other Information, of this document.

Offerors should submit one (1) original, plus 1 hard copy and one (1) electronic copy on CD-ROM as discussed with the cognizant Program Officer, of their proposal package. The electronic copy should be submitted in a secure, pdf-compatible format, except for the electronic file for the Cost Proposal Spreadsheet which should be submitted in a Microsoft Excel 2007 compatible format and the severable (non proprietary) Statement of Work (Word). Offerors should submit a complete package electronically to the upload website provided.

The secure pdf-compatible format is intended to prevent unauthorized editing of the proposal prior to any award. A password should not be required for opening the proposal document, but the Government must have the ability to print and copy text, images, and other content. Offerors may also submit their Technical Proposal Template and Content in an electronic file that allows for revision (preferably in Microsoft Word) to facilitate the communication of potential revisions. Should an Offeror amend its proposal, the amended proposal should be submitted following the same hard and electronic copy guidance applicable to the original proposal.

The electronic submission of the Excel spreadsheet should be in a "useable condition" to aid the Government with its evaluation. The term "useable condition" indicates that the spreadsheet should visibly include and separately identify within each appropriate cell any and all inputs, formulas, calculations, etc. The Offeror should not provide "value only spreadsheets" similar to a hard copy.

### 3. Significant Dates and Times -

Event	Date	Time
White Paper Due Date	8/12/2013	3:00 PM Eastern Daylight Time
Notification of White Paper Evaluation*	9/09/2013	
Oral Presentations*	9/23/2013	
Notification of Oral Presentation Evaluation*	9/30/2013	
Full Proposal Due Date	10/14/2013	3:00 PM Eastern Daylight Time
Notification of Selection: Full Proposals*	11/11/2013	
Awards*	03/11/2014	

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

**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:

- a. 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
- b. 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
- c. 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.

## **5. Address for the Submission of White Papers and Full Proposals for Contracts.**

White Papers must be emailed to Martin Kruger at the following email address: martin.kruger1@navy.mil. Hard Copies of the Full Proposal and the DVD or CD-ROM of the Full Proposal should be sent to the Office of Naval Research as indicated below. All supporting documentation should be submitted with the DVD or CD-ROM of the Full Proposal.

<b>Primary Contact</b>	<b>Secondary Contact</b>
Office of Naval Research Attn: Martin Kruger ONR Department Code: 30 875 North Randolph Street Arlington, VA 22203-1995	Office of Naval Research Attn: Maya Rubeiz ONR Department Code: 30 875 North Randolph Street Arlington, VA 22203-1995

## **V. EVALUATION INFORMATION**

### **1. Evaluation Criteria -**

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below, and program balance to provide overall value to the Government. The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions, and cost/price within a reasonable time, or the proposer fails to timely provide requested additional information. Evaluations will be conducted using the following evaluation criteria:

1. Overall scientific and technical merits of the proposal;

2. The qualifications, capabilities and experience of the proposed Principal Investigator (PI), team leader and key personnel who are critical in achieving the proposal objectives;
3. The offeror's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives;
4. Potential Naval relevance and contributions of the effort to the agency's specific mission and to programs record
5. Realism of transition/commercialization
6. The realism of the proposed costs and availability of funds.

Overall, the technical factors 1 - 5 above are significantly more important than the cost factor, with the technical factors all being of equal value. 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.

The ultimate recommendation for award of proposals is made by ONR's scientific/technical community. Recommended proposals will be forwarded to the ONR contracts department. Any notification received from ONR that indicates that the Offeror's full proposal has been recommended, does not ultimately guarantee an award will be made. This notice indicates that the proposal has been selected in accordance with the evaluation criteria above and has been sent to the contracting department to conduct cost analysis, determine the offeror's responsibility, and take other relevant steps necessary prior to commencing negotiations with the offeror.

## **2. Commitment to Small Business - (For Contract Awards Only)**

The Office of Naval Research is strongly committed to providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses (SDBs), woman-owned small businesses (WOSBs), historically underutilized business zone (HUBZone) small businesses, veteran-owned small business (VOSBs), service disabled veteran-owned small businesses (SDVOSBs), historically black colleges and universities, and minority institutions, and other concerns subject to socioeconomic considerations through its awards.

a.) Subcontracting Plan - For proposed awards to be made as contracts that exceed \$650,000, large businesses and non-profits (including educational institutions) shall provide a Subcontracting Plan that contains all elements required by FAR 52.219-9, as supplemented by DFARS 252.219-7003. Small businesses are exempt from this requirement.

The Subcontracting Plan should be submitted as an attachment to the "Technical Proposal Template" and will not be included in the page count. If a company has a Master Subcontracting Plan, as described in FAR 19.701 or a Comprehensive Subcontracting Plan, as described in DFARS 219.702, a copy of the plan shall also be submitted as an attachment to the "Technical Proposal Template."

Plans will be reviewed for adequacy, ensuring that the required information, goals, and assurances are included. Zero Percent (0%) for goals, or Zero Dollars (\$0), or Not Applicable (N/A), are unacceptable. If a subcontracting plan is not submitted with the proposal package or

the negotiation of an acceptable subcontracting plan is required, there could be a delay in the issuance of an award. In addition, in accordance with FAR 52.219-9, failure to submit and negotiate a subcontracting plan may make an offeror ineligible for contract award.

Offerors shall propose a plan that ensures small businesses (inclusive of SDBs, WOSBs, HUBZone, VOSBs and SDVOSBs, etc.) will have the maximum practicable opportunity to participate in contract performance consistent with its efficient performance.

As a baseline, offerors shall to the best extent possible propose realistic goals to ensure small business participation in accordance with the current fiscal year subcontracting goals found on the Department of Defense Office of Small Business Program website at:

<http://www.acq.osd.mil/osbp/> If proposed goals are below the statutory requirements, then the offeror should provide a viable written explanation as to why small businesses are unable to be utilized and what attempts have been taken to ensure that small business were given the opportunity to participate in the effort to the maximum extent practicable.

All offerors who become subsequent awardees will submit the Individual Subcontract Report (ISR) (formerly SF294), and the Summary Subcontract Report (SSR) (formerly the SF295) using the Electronic Subcontracting Reporting System (eSRS) at: <http://www.esrs.gov>, following the instructions in the eSRS. In addition subsequent awardees shall adhere to the following;

\* The ISR shall be submitted semi-annually during contract performance for the periods ending March 31 and September 30. A report is also required for each contract within 30 days of contract completion. Reports are due 30 days after the close of each reporting period, unless otherwise directed by the contracting officer. Reports are required when due, regardless of whether there has been any subcontracting activity since the inception of the contract or the previous reporting period.

\*The SSR shall be submitted as follows: The report shall be submitted semi-annually for the six months ending March 31 and the twelve months ending September 30. When selecting the appropriate department/agency under "agency to which this report is submitted", choose from the second drop-down menu, which includes Department of the Navy (1700) (Note: do not select from below the departments/agencies (component) listed beyond the second drop-down menu). Include the following email addresses: OSBP.info@navy.mil which will provide notification to the Navy SSR Program Coordinator regarding the submission of the SSR. \* Ensure that its subcontractors with subcontracting plans agree to submit the ISR and/or the SSR using the eSRS;

\*Provide its prime contract number, its DUNS number, and the e-mail address of the offeror's official responsible for acknowledging receipt of or rejecting the ISRs to all first-tier subcontractors with subcontracting plans so they can enter this information into the eSRS when submitting their ISRs; and

\*Require that each subcontractor with a subcontracting plan provide the prime contract number, its own DUNS number, and the e-mail address of the subcontractor's official responsible for acknowledging receipt of or rejecting the ISRs, to its subcontractors with subcontracting plans.

b.) Small Business Participation Statement –

If subcontracting opportunities exist, all prime Offerors shall submit a Small Business Participation Statement regardless of size in accordance with DFARS 215.304 when receiving a contract for more than the simplified acquisition threshold (i.e., \$150,000). All offerors shall provide a statement of the extent of the offeror's commitment in providing meaningful subcontracting opportunities for small businesses and other concerns subject to socioeconomic considerations through its awards and must agree that small businesses, VOSBs, SDVOSBs, HUBZones, SDBs, and WOSBs concerns will have to the maximum practicable opportunity to participate in contract performance consistent with its efficient performance.

This assertion will be reviewed to ensure that it supports this policy by providing meaningful subcontracting opportunities. The statement should be submitted as a part of the proposal package and will not be included in the page count.

**3. Options -**

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 the period of performance.

**4. 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. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. 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 -**

- North American Industry Classification System (NAICS) code - The NAICS code for this announcement is "541712" with a small business size standard of "500 employees".
- System for Award Management (SAM): All Offerors submitting proposals or applications must:
  - a. be registered in the SAM prior to submission;
  - b. maintain an active SAM registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and

- c. provide its DUNS number in each application or proposal it submits to the agency.

The System for Award Management (SAM) is a free web site that consolidates the capabilities you used to find in CCR/FedReg, ORCA, and EPLS. Future phases of SAM will add the capabilities of other systems used in Federal procurement and awards processes.

SAM may be accessed at <https://www.sam.gov/portal/public/SAM/>

- Access to your Grant, Cooperative Agreement, Other Transaction and Contract Award

Effective 01 October 2011, hard copies of award/modification documents are no longer be mailed to Offerors. All Office of Naval Research (ONR) award/modification documents will be available via the Department of Defense (DoD) Electronic Document Access System (EDA).

## **EDA**

EDA is a web-based system that provides secure online access, storage, and retrieval of awards and modifications to DoD employees and vendors.

If you do not currently have access to EDA, complete a self-registration request as a "Vendor" via <http://eda.ogden.disa.mil> following the steps below:

Click "New User Registration" (from the left Menu)  
Click "Begin VENDOR User Registration Process"  
Click "EDA Registration Form" under Username/Password (enter the appropriate data)  
Complete & Submit Registration form

Allow five (5) business days for your registration to be processed. EDA will notify you by email when your account is approved.

Registration questions may be directed to the EDA help desk toll free at 1-866-618-5988, Commercial at 801-605-7095, or via email at [cscassig@csd.disa.mil](mailto:cscassig@csd.disa.mil) (Subject: EDA Assistance)

## **VII. OTHER INFORMATION**

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

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 submitting proposals for contracts, cooperative agreements and Other Transaction Agreements should indicate in the Technical

Proposal Template, Section II, Blocks 8 and 9, which of these facilities are critical for the project's success. Offerors submitting proposals for grants should address the need for government-furnished facilities in their technical proposal.

## **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. Normally, work done under a grant does not require access to classified material. If it is determined that access to classified information will be required during the performance of an award, a Department of Defense (DD) Form 254 will be attached to the contract; and FAR 52.204-2 - Security Requirements will be incorporated into the contract. The Offeror must clearly identify such need by completing Section II, Block 11, DD 254 – Security Classification Specification, of the Technical Proposal Template.

If it is determined that access to classified information will be required during the performance of an award, a Department of Defense (DD) Form 254 will be attached to the contract; and FAR 52.204-2 – Security Requirements will be incorporated into the contract.

ONR does not provide access to classified material under grants.

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

RESERVED

## **4. Recombinant DNA**

RESERVED

## **5. Use of Arms, Ammunition and Explosives**

RESERVED

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

RESERVED

## **7. Organizational Conflicts of Interest**

All Offerors and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In

accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests or do not have acceptable plans to mitigate identified conflicts will be rejected without technical evaluation and withdrawn from further consideration for award. Additional ONR OCI guidance can be found at <http://www.onr.navy.mil/About-ONR/compliance-protections/Organizational-Conflicts-Interest.aspx>. If a prospective offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with ONR by sending his/her contact information and a summary of the potential conflict by e-mail to the Business Point of Contact in Section I, item 7 above, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively avoided, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

## **8. 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.

## **9. Executive Compensation and First-Tier Subcontract Reporting (APPLIES ONLY TO CONTRACTS)**

The FAR clause 52.204-10, "Reporting Executive Compensation and First-Tier Subcontract Awards," will be used in all procurement contracts valued at \$25,000 or more. A similar award term will be used in all grants and cooperative agreements.

## **10. Military Recruiting On Campus (APPLIES ONLY TO GRANTS & COOPERATIVE AGREEMENTS)**

RESERVED

## **11. Combating Trafficking in Persons (APPLIES ONLY TO CONTRACTS)**

Appropriate language from FAR Clause 52.222-50 will be incorporated in all awards.

## **12. Updates of Information regarding Responsibility Matters (APPLIES ONLY TO CONTRACTS)**

FAR clause 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matter, will be included in all contracts valued at \$500,000 where the contractor has current

active Federal contracts and grants with total value greater than \$10,000,000.

**13. Employment Eligibility Verification (APPLIES ONLY TO CONTRACTS)**

As per FAR 22.1802, recipients of FAR-based procurement contracts must enroll as Federal Contractors in E-verify and use E-verify to verify employment eligibility of all employees assigned to the award. All resultant contracts from this solicitation will include FAR 52.222-54, "Employment Eligibility Verification." This clause will not be included in grants, cooperative agreements, or Other Transactions.

**14. Central Contractor Registration (CCR) (APPLIES ONLY TO CONTRACTS)**

FAR 52.204-7 Central Contractor Registration and FAR 52.204-13 Central Contractor Registration Maintenance are incorporated into this BAA, and FAR 52.204-13 will be incorporated in all awards.

**15. Other Guidance, Instructions, and Information**

None