

COMBATING TERRORISM TECHNICAL SUPPORT OFFICE

**BROAD AGENCY ANNOUNCEMENT (BAA)
09-Q-4500**

Due Date for Receipt of Phase 1 Quad Charts:

No Later Than November 5, 2008

CBRNC- Chemical, Biological, Radiological, and Nuclear Countermeasures

ED-Explosives Detection

ISF - Investigative Support and Forensics

IWS - Irregular Warfare Support Program

SCOS- Surveillance, Collection, and Operations Support

TOS - Tactical Operations Support

TTD - Training Technology Development

WAPS – Wide Area Persistent Surveillance

**All submissions are due by 1600; 4:00 p.m.
Eastern Time (ET) on the above date**

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1. INTRODUCTION.

This is a Combating Terrorism Technical Support Office (CTTSO) Broad Agency Announcement (BAA) issued under the provisions of paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR) to provide for the competitive selection of research proposals. Contracts based on responses to this BAA are considered to be the result of full and open competition and in full compliance with the provisions of Public Law (PL) 98-369, "The Competition in Contracting Act of 1984." **Awards for submissions under this BAA are planned in Fiscal Year (FY) 2009; however, some awards could be made in early FY 2010. Funds may not be available for all requirements under this BAA. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.**

1.1. Approach.

A three-phased proposal selection process will be used for this solicitation to minimize cost and effort for prospective offerors. Phase 1 will consist of the solicitation, receipt, and evaluation of a one-page Quad Chart. Phase 2 will consist of the solicitation, receipt, and evaluation of a White Paper (not to exceed 12 pages) and applies to only those submissions that have been accepted in Phase 1. Phase 3 will consist of the solicitation, receipt, and evaluation of a Full Proposal (not to exceed 50 pages) and applies to only those submissions that have been accepted in Phase 2. Based on the priority of critical requirements and the availability of funding, Phase 1 submissions can be selected for Phase 3 (Full Proposal) without a Phase 2 submission. Clarifications to White Papers and Full Proposals can be requested where a full submission or resubmission is not required.

1.2. HBCU/MI and Small Business Set Aside.

The Government encourages nonprofit organizations, educational institutions, small businesses, small disadvantaged business (SDB) concerns, Historically Black Colleges and Universities (HBCU), Minority Institutions (MI) (HBCU/MIs), women-owned businesses, and Historically Underutilized Business (HUB) zone enterprises as well as large businesses and Government laboratories to submit research proposals for consideration and/or to join others in submitting proposals; however, no portion of the BAA will be set-aside for these special entities because of the impracticality of reserving discrete or severable areas of research and development in any specific requirement area. A goal of 2.5 percent of total dollars awarded will be considered for HBCU/MI and a goal of 2.5 percent of total dollars awarded will be considered for small businesses for a total goal of 5 percent. The final determination will be made based on the individual technical merits of the proposal and budget constraints within the mission priorities. To ensure full consideration in these programs, registration in the [BAA Information Delivery System \(BIDS\)](#), described later in this document, requires the appropriate business type selection as well as accurate up-to-date information.

1.3. Limitation of Funds.

The Government intends to incrementally fund contracts awarded from this BAA as provided by FAR 52.232-22, "Limitation of Funds." Most contracts awarded are anticipated to be 6 to 24 months in duration. To facilitate incremental funding, submissions shall include the cost and schedule by a task-phased structure with clear exit criteria, and shall be inclusive of all work to complete the effort including any options. It is anticipated that the entire effort will be negotiated with the initial contract award.

1.4. Technical Evaluation Support.

It is the intent of this office to use contractor support personnel in the review, evaluation, and administration of all submissions for this BAA. All individuals in this category that will have access to any proprietary data shall certify that they will not disclose any information pertaining to this solicitation including any submission, the identity of any submitters, or any other information relative to this BAA; and shall certify that they have no financial interest in any submissions evaluated. Submissions and information received in response to this BAA constitutes permission to disclose that information to certified evaluators under these conditions.

1.5. BAA Package Download.

This BAA Package can be downloaded electronically in its entirety from www.bids.tswg.gov under [Download BAAs](#). Registration is not required to download the BAA package; however, a BIDS registration is required to upload a response to the BAA.

1.6. BAA Contractual and Technical Questions.

All contractual and technical questions regarding this BAA including the published requirements and instructions must be directed to the Contracting Officer at 09-Q-4500@tswg.gov. The program and technical staff will not acknowledge, forward, or respond to any inquiries received in any other manner concerning the BAA. Contractual questions and answers will be posted periodically under [Frequently Asked Questions \(FAQs\)](#) on the [BIDS website](#).

1.7. BIDS Website Help Requests.

For technical help using BIDS, submit questions to the BIDS administrators at bidshelp@tswg.gov or by using the [Help Request](#) link located on the BIDS Homepage. Include a valid e-mail address, your BIDS User Name, and a detailed description of the question or concern in the comments block. The BIDS website provides other valuable resources under [Online Help](#), and [Doing Business with the Government](#). Reference documents including the [BIDS Submitter Quickcard](#) and [Quad Chart Sample](#) are available for download. Information regarding compliance requirements for using humans and animals in testing is also available from BIDS.

1.8. BIDS Frequently Asked Questions (FAQs).

FAQs are a list of questions and associated responses for general and specific topics including those forwarded to the Contracting Officer for a BAA. Offerors are encouraged to periodically review [FAQs](#) located at www.bids.tswg.gov.

NOTE: Persons submitting proposals are advised that only the Contracting Officer can obligate the Government to any agreement involving expenditure of Government funds.

2. GENERAL INFORMATION.

This section includes information applicable to all awards under this BAA.

2.1. Eligibility.

To be eligible for contract award, a responsible offeror must meet certain minimum standards pertaining to financial solvency and resources, ability to comply with the performance schedule, prior record of satisfactory performance, integrity, organization, experience, operational controls, technical skills, facilities, and equipment. See FAR 9.104. Additionally, all offerors must be registered in the Central Contractor Registration (CCR) database, website www.ccr.gov, as indicated in FAR 4.1100. Contractors must complete Online Representation and Certifications (ORCA) at <https://orca.bpn.gov>. These and other helpful links are also provided on the [BIDS Homepage](#).

2.2. Procurement Integrity, Standards of Conduct, Ethical Considerations.

Certain post-employment restrictions on former federal officers and employees exist including special Government employees (Section 207 of Title 18, United States Code (U.S.C.)). If a prospective offeror believes that a conflict of interest exists, the offeror should make this known to the issuing office's Contracting Officer for resolution before time and effort are expended in preparing a proposal.

2.3. Definitions.

2.3.1. Small Business Concern (FAR 19.001).

A concern that is independently owned and operated; is not dominant in the field of operation in which it is bidding on Government contracts; and meets the size standards in FAR 19.102.

2.3.2. North American Industry Classification System.

Establishments that specialize in performing Professional, Scientific and Technical Activities for others are coded 541712 for R&D Physical Engineering and Life Sciences under the North American Industry Classification System (NAICS). The small business size standard for this classification is 500 employees.

2.4. Restrictive Markings on Proposals.

All proposals should clearly indicate content disclosure limitations. Submissions can be marked as "Proprietary" or words to that effect; however, markings such as "Company Confidential" or other phrases that could be confused with national security classifications shall not be used. All paragraphs that contain proprietary information must be clearly marked.

2.5. Submission Handling/Rights in Technical Data and Computer Software/Patent Rights.

2.5.1. Procurement Integrity.

The Government intends to comply with FAR 3.104 in its treatment of information submitted in response to this BAA solicitation and marked with the individual or company's legend.

2.5.2. Submission Information and FOIA.

Records or data bearing a restrictive legend can be included in the proposal. However, the offeror is cautioned that portions of the proposal are subject to release under the terms of the Freedom of Information Act (FOIA), 5 U.S.C. 552, as amended. In accordance with FOIA regulations, the offeror will be afforded the opportunity to comment on, or object to, the release of proposal information.

2.5.3. Rights in Technical Data and Computer Software.

Rights in technical data, and computer software and software documentation provided in the proposal are treated in accordance with the DFARS 252.227-7016, "Rights in Bid and Proposal Information." Rights in technical data, and computer software and computer software documentation in the resultant contract shall be in accordance with DFARS 252.227-7013

(regarding technical data) and DFARS 252.227-7014 (regarding computer software and software documentation). Both clauses (DFARS 252.227-7013 and 252.227-7014) will be included in any noncommercial contract exceeding the simplified acquisition threshold. Table 1 contains these and related clauses to be included in the contract.

Table 1. Contract Clauses	
DFARS	Title
252.227-7013	Rights in Technical Data – Noncommercial Items (FILL-IN)
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation (FILL-IN)
252.227-7016	Rights in Bid and Proposal Information
252.227-7017	Identification and Assertion of Use, Release, or Disclosure Restrictions (FILL-IN)
252.227-7019	Validation of Asserted Restrictions - Computer Software
252.227-7025	Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends
252.227-7027	Deferred Ordering of Technical Data or Computer Software
252.227-7028	Technical Data or Computer Software Previously Delivered to the Government
252.227-7030	Technical Data - Withholding of Payment
252.227-7037	Validation of Restrictive Markings on Technical Data

2.5.4. Patents.

Patents in existence and patent applications pending at the time of the proposal, that relate to the proposed effort, shall be identified in the White Paper and Full Proposal in accordance with the clauses above.

2.6. Product and Deliverable Requirements.

All proposal phases shall include the costs for products and data deliverable requirements. Minimum report requirements include Monthly Status Reports (MSRs) and a Final Technical Report even if the research is to be continued under a follow-on contract or contract option. MSRs document program, technical, and financial status. The Final Technical Report summarizes the project and associated tasks at the conclusion of each contract. Include MSRs, the Final Technical Report, and any products and deliverables specific to the performance of the proposed effort. Additional products and deliverables could include prototype hardware, software, or systems; test plans; test and technical reports; technical data; specifications; requirements documents; computer programs or software; user manuals; drawings; or other products and data. The number, types, and preparation instructions for products and deliverables will be specified in the contract.

2.7. Distribution/Release Limitations.

The offeror should be aware that all resulting contracts or other awards will contain release limitations for all data resulting from the effort in accordance with DFARS 252.204-7000. This includes products, data, information, and services to be performed. The contractor shall protect all data and information from disclosure, and shall not release any data or information by any method of dissemination without prior Government approval.

2.8. Subcontracting.

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy.

2.9. Animal or Human Testing Compliance.

The contractor shall comply with all laws and regulations governing the use of animals or human subjects in research projects.

2.9.1. Animal Testing.

Any contract resulting from this BAA that potentially involves the testing of animals shall include the following language:

Any contractor performing research on warm blooded vertebrate animals shall comply with the Laboratory Animal Welfare Act of 1966, as amended, 7 U.S.C. §§ 2131 - 2156, and the regulations promulgated thereunder by the Secretary of Agriculture in 9 C.F.R. Parts 1 through 4, pertaining to the care, handling, and treatment of vertebrate animals held or used for research, teaching, or other activities supported by Federal contract awards. In addition, the contractor shall comply with the provisions of Department of Defense Directive 3216.1, as implemented by SECNAVINST 3900.38B, and DFARS 252.235-7002, "Animal Welfare," which is incorporated into this contract.

2.9.2. Human Subjects Testing.

Any contract resulting from this BAA that potentially involves the use of Human Subjects in the research or study shall include the following language:

The contractor shall comply with all regulations promulgated by the Office of the Secretary of Defense in 32 C.F.R. Part 219, pertaining to the protection of human subjects. In addition, the contractor shall comply with the provisions of Department of Defense Directive 3216.2. If human subjects are to be used at any time during the project, the contractor shall have a Federal assurance that is acceptable to the CTTSO before involving human subjects. Additionally, the protocol shall be approved by a Federally-assured Institutional Review Board (IRB) office named in the institution's assurance. The contractor shall prepare these documents and shall ensure that they are on file with CTTSO prior to the start of research involving human subjects. Collaborators with the contractor, to include IRBs, shall also comply with regulations to protect human subjects for both classified and unclassified research. The contractor shall report all changes in the protocol or consent form to the CTTSO Contracting Officer's Representative (COR) as they occur. Release of initial and follow-up funding will be contingent upon initial and continuing reviews, and to other IRB and component requirements.

3. PROPOSAL PREPARATION.

This section provides information and instructions for the preparation and submission of all proposals under this BAA. All submissions must meet these requirements including format, content, and structure, and must include all specified information to avoid disqualification, submission rejection, or delays in evaluation.

3.1. BAA Information Delivery System (BIDS).

BIDS at www.bids.tswg.gov is used to provide public access to the BAA package, to collect all unclassified submissions, and to collect placeholder records for all classified submissions. BIDS also provides submission progress tracking, evaluation comment collection, and results notification back to the submitter.

3.1.1. Submitter Registration.

A BIDS submitter registration is required to respond to this BAA. Existing BIDS accounts are acceptable for a new BAA *if the company contact information is the same* or is corrected. Registrations should reflect the offeror's contracting or business authority. The User Name, created by the offeror, must be unique and is used for BIDS login and submission tracking. Registration acceptance for submitters is automatic, but takes several seconds to be recognized by BIDS. A success e-mail will be sent to indicate that the User Name and account are accepted. BIDS is e-mail dependent and uses the Registration e-mail as the single point of contact for all notifications associated with the BAA. This e-mail address should be monitored frequently during the BAA process for the notices. E-mail addresses included in the submissions or any other data field in BIDS will not be used for contact and notification purposes.

3.1.2. User Accounts and Password Resets.

Registration account information such as the point of contact (POC), e-mail, and password can be updated after login. The [Forgot My Password](#) link on the BIDS Homepage allows registered users with a valid e-mail address to automatically reset a password. The system will verify the account User Name and e-mail to send a new password to that e-mail.

3.1.3. Registration and Account Help.

BIDS Help requests can be e-mailed to BIDS administrators at bidshelp@tswg.gov or submitted via the [Help Request](#) link located on the [BIDS Homepage](#).

3.1.4. Document Identifier.

The offeror shall include the document identifier in the header of each submission. Document identifiers must match the BIDS submission record and should be constructed *before* upload to BIDS.

3.1.4.1. Constructing Document Identifiers.

Document identifiers, auto-generated in part by BIDS, are based on Subgroup or Mission Area, the requirement number, the user name, and a Submitter Internal Tracking (SIT) number. The underlined portion of the sample shown in Table 2 depicts the segment automatically formed by BIDS.

Table 2. Sample Document Identifier and Components Definition

CB-1112-ABCCORP-10703JT-QC	
From Sample	Document Identifier Component
CB	subgroup or mission area designation - from BAA
1112	requirement number - from BAA
ABCCORP	user name - from BIDS registration
10703JT-QC	SIT number - any alphanumeric combination (with no special characters or spaces) created by the submitter for (<i>submitter</i>) tracking purposes along with the document type suffix

3.1.4.2. Creating Submitter Internal Tracking (SIT) Numbers.

SIT numbers are unique identifiers created by submitters and entered in the submission record during the upload process. SIT numbers can be any alphanumeric combination (no special characters or spaces) chosen by the submitter plus a suffix indicating the document type. BIDS enforces unique SIT numbers and will not allow the submission record to be saved if the SIT number has already been used. Table 3 provides sample SIT numbering formats for each document type.

Table 3. Sample SIT Numbers for an Accepted Submission

Document Type	Auto-generated by BIDS	SIT#
Quad Charts	CB-1112-ABCORP	10703JT-QC
White Papers	CB-1112-ABCORP	10703JT-WP
Full Proposals	CB-1112-ABCORP	10703JT-FP

Offerors uploading more than one submission to the same requirement shall create unique identifiers by adding a numbered sequence to the document type suffix. Table 4 offers sample SIT number formats for multiple submissions to the same requirement.

Table 4. Sample SIT Numbers for Multiple Submissions to the Same Requirement

Submission #	Auto-generated by BIDS	SIT# Sample 1	SIT# Sample 2*
Submission 1	CB-1112-ABCORP	10703JT-QC1	QC1
Submission 2	CB-1112-ABCORP	10703JT-QC2	QC2
Submission 3	CB-1112-ABCORP	10703JT-QC3	QC3

* NOTE: If the submitter does not require an internal tracking number, use the document type designation.

3.2. BIDS Security and Access Control.

All data uploaded to BIDS is secure from public view and download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. The documents can only be reviewed by the registrant, and authorized Government and contractor representatives with no conflict of interest.

3.3. Submission Changes.

Changes to uploaded responses will be permitted up to the closing date and time. If a modification is required, update the original file in the source application and save. Convert to an acceptable format if applicable. In BIDS, open the submission record, click **Edit Submission**, and update the record information. Use **Browse** to select the revised document. Select the checkbox to remove the old attachment. Click **Submit for Processing** to save the changes. Documents cannot be edited online through the BIDS web interface. File names must contain no spaces or special characters. Ensure the file size does not exceed the 500 Kb limit. To completely remove a submission from consideration, select **Delete Submission**. Changes after the requirement due date and time are not permitted.

3.4. Special Handling Procedures for Classified Information.

If a submission contains classified information, the offeror must first create a placeholder record in BIDS with an unclassified cover page attachment. Identify in the comments section of the submission record

that the submission cannot be uploaded due to classification. The BIDS Document Identifier must be clearly identified on the mailed document(s). Classified responses (up to SECRET) must be appropriately and clearly marked (including all paragraphs and pages containing the subject data), packaged, and shipped in accordance with classified material handling procedures and security regulations pertaining to the level of classification for that document.

To obtain mailing instructions for classified submissions, e-mail: TSWGsecurity@tswg.gov.

Classified submissions must be received by the applicable due date and time. Classification in no way eliminates the offeror's requirement to comply with all BAA instructions.

3.5. Phase 1 Quad Chart Submissions.

Offerors shall prepare and upload a one-page (8 ½ by 11 inches) Quad Chart in response to Phase 1 of this BAA. Use font sizes of 10 point or greater. If more than one page is submitted, only the first page will be evaluated. Quad Charts do not require a Cover Page.

3.5.1. Phase 1 Due Date and Time.

All unclassified Quad Charts must be received electronically through BIDS no later than 1600 (4:00 p.m.) Eastern Time (ET) on the date specified on the cover of this document.

Likewise, classified submissions must be received by the same due date and time. Refer to the "Special Handling Procedures for Classified Information" in this document for instructions on classified submissions. BIDS does not allow proposals to be uploaded or classified placeholders to be created after the closing date and time. Any proposal, regardless of classification, submitted by any other means, or that is late will not be considered by the Government. Avoid the last minute rush; submit early.

3.5.2. Electronic File Format.

The Quad Chart shall be submitted in Microsoft Office (Word or PowerPoint), or Adobe Acrobat (PDF – portable document format). ZIP files and other application formats are not acceptable. The document must be print-capable, without password, and no larger than 500 Kb. Filenames must contain the appropriate filename extension (.doc, .ppt, or .pdf). Filenames cannot contain spaces or special characters. Apple/Macintosh users must ensure the entire filename and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

3.5.3. Quad Chart Content.

A Quad chart conveys the essence of the proposed solution for a single requirement. When preparing a submission, the offeror shall ensure that the specific criteria of the requirement are addressed, the solution is clear, and can be accomplished with the proposed technology, cost, and schedule. The Quad Chart includes a document header and four quadrants. The Quad Chart format and sample are provided at the BIDS website under [Downloads, Reference Materials, Document Format](#).

3.5.3.1. Header Information.

Header information shall include the BAA Announcement number, the Document Identifier, and the Proposal Title. The date and company name should be included along with the appropriate document markings.

3.5.3.2. Top Left Quadrant, Graphical Depiction.

The top left quadrant is a graphical depiction, photograph, or artist's concept of the proposed solution or prototype. Include labels or brief descriptive text as needed for clarification. Ideally, this will convey the prototype concept, use, capability, and any relevant size or weight relationships based on the published requirement.

3.5.3.3. Top Right Quadrant, Operational and Performance Capabilities.

The top right quadrant contains the operational and performance capabilities summary. Describe any basic, new, or enhanced capabilities the system will provide to meet the published requirement. In bullet form, list key aspects of performance, capability, operational use, relevant software or hardware specifications, and planned interface and/or compatibility.

3.5.3.4. Bottom Left Quadrant, Technical Approach.

The bottom left quadrant contains the proposed technical approach. Specifically, describe the technology involved, how it will be used to solve the problem, actions done to date, and any related on-going efforts. Briefly describe the tasks to be performed for each phase. A bullet list is acceptable.

3.5.3.5. Bottom Right Quadrant, Cost and Schedule.

The bottom right quadrant contains the Rough Order of Magnitude (ROM) and Schedule, Products and Deliverables, and Corporate Contact Information. ROM and Schedule shall be proposed by phase and include the cost, period of performance (POP), and exit criteria for each phase. A total cost and POP that combines all phases shall also be included. Products and Deliverables shall include, by phase, a list of all prototype hardware and software along with the required data as described in "Product and Deliverable Requirements" in section 2 of this document. Corporate Contact Information shall include the submitter's company name, point of contact, phone number, and e-mail address. Include any significant teaming partner (contact information) relevant to the evaluation. (Note that the contact information in the BIDS registration is used for all notices and contact purposes.)

3.5.4. Phase 1 Notification to Offeror.

The Government will notify the offeror when a submission has been accepted or rejected. Notification of acceptance with a request to submit the next phase document will be e-mailed to the offeror's contracting authority as entered in the BIDS registration and will indicate the next submission type, clarification requests, and due date and time. Likewise, rejection notifications will be e-mailed to the address provided in the BIDS registration. Debriefings for Quad Charts will not be conducted due to the nature of BAAs. In general, submissions are not considered for further review when they do not meet the basic requirement, are too costly, or do not fit the mission.

3.5.5. Phase 1 Status and Inquiries.

Phase 1 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries by phone concerning the status of Quad Charts will not be accepted. After login to the BIDS website, submitters are able to check the status of their submission(s) under **My Submissions**.

3.6. Phase 2 White Paper Submissions.

Offerors shall prepare and upload a White Paper with no more than twelve (12) pages plus a cover page in response to Phase 2 of this BAA. All submission pages shall be 8 ½ by 11 inches, double-spaced with fonts no smaller than 10 point; all margins shall be one inch. Each page of the submission shall contain the document identifier in the document header. If the White Paper contains more than 12 pages including tables, charts, and figures only the first 12 pages will be evaluated. All White Paper submissions must include a cover page. The cover page template is provided at the BIDS website under [Downloads, Reference Documents, Document Format](#). Cover pages are excluded from the White Paper page count.

3.6.1. Phase 2 Due Date and Time.

All unclassified White Papers must be received electronically through BIDS no later than the due date and time specified in the acceptance e-mail. Likewise, classified submissions must be received by the same due date and time. Refer to the "Special Handling Procedures for Classified Information" in this document for instructions on classified submissions. BIDS does

not allow proposals to be uploaded or classified placeholders to be created after the due date and time. Any proposal, regardless of classification, submitted by any other means, or that is late will not be considered by the Government.

3.6.2. Electronic File Format.

The White Paper shall be submitted in Microsoft Office (Word or PowerPoint), or Adobe Acrobat (PDF – portable document format) format. ZIP files and other application formats are not acceptable. The document must be print-capable, without password, and no larger than 500 Kb. Filenames must contain the appropriate filename extension (.doc, .ppt, or .pdf). Filenames cannot contain spaces or special characters. Apple/Macintosh users must ensure the entire filename and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

3.6.3. Phase 2 Document Upload.

To upload a next phase document use the link back to BIDS provided in the acceptance e-mail, or login to BIDS under **My Submissions** to open the accepted record. Select **Create Next Submission** and follow the instructions.

3.6.4. White Paper Content.

White Papers shall provide a description of the technical approach, the specific tasks and deliverables by phase, schedule and cost estimate by phase, intellectual property and government rights, transition planning for production, and a capability statement. The offeror shall incorporate all clarification data requests from the acceptance e-mail into the submission. Indicate clarification entries by footnote and reference the requested item(s) in the footer area. The following White Paper sections and details are required.

3.6.4.1. Cover Page.

A cover page template is provided at the BIDS website under [Downloads, Reference Documents, Document Format](#). The cover page includes necessary contractual information including the offeror's contracting point of contact (name, telephone number, e-mail address, facsimile number, mailing address) and business information (Data Universal Numbering System (DUNS) number, business type). Include the proposed contract type, total cost, and the duration of all phases/tasks. Cover pages are excluded from the page count.

3.6.4.2. Technical Approach.

Describe the proposed solution relative to the requirement. Focus content on operational capabilities required to address the problem, the underlying theory that supports the operational capability, and suggested concept of operations. Identify end users that could be interested in the proposed solution and describe how the solution will be a benefit. Include drawings, diagrams, charts, and tables needed to explain the effort. Describe if, and where, the proposed technology/solution has been, or is being used. Identify sponsoring agency and funding resources; or if none, so state.

3.6.4.3. Tasks and Deliverables.

Identify the proposed tasks by phase in the order of occurrence. A phase must have clear exit criteria to serve as a "go" or "no-go" decision point to proceed to the next phase. Identify work that will be performed by other organizations or agencies. Identify anticipated technical risks along with planned mitigation efforts. Indicate any Government furnished material (GFM), equipment (GFE), or information (GFI) that will be required with the task and need date; or if none, so state. For each phase include the exit criteria and all products and deliverables as defined in "Product and Deliverable Requirements" in section 2 of this document. If a phase is proposed as an option, so state.

3.6.4.4. Schedule.

Develop a master project schedule preferably in Gantt chart format. The schedule shall indicate the planned start and stop point for each phase with top level subordinate tasks, estimated delivery dates, and completion dates. Indicate the total project period of performance in months using January 2nd as a notional start date through the completion date.

3.6.4.5. Cost.

Provide the proposed, task-phased budgetary estimate inclusive of any proposed options. At a minimum, this estimate shall detail estimated labor hours and costs, anticipated material costs, product and deliverable costs (see section 2 General Information, "Product and Deliverable Requirements" in this document) and other costs (e.g., subcontracts, indirect rates, fee rate) for each phase/task. Costs allocated to other organizations (e.g., Government testing) shall be clearly shown; or if none, so state. Changes in cost greater than 10 percent from those proposed in the prior submission shall be explained.

3.6.4.6. Intellectual Property, Technical Data, and Software.

Disclose/discuss all intellectual property, technical data, and/or software rights that are intended to be used in connection with this contract effort. See section 2 General Information, "Submission Handling/Rights in Technical Data and Computer Software/Patent Rights" in this document.

NOTE: This disclosure requirement is to ensure that any Intellectual Property in existence prior to the contract is recognized and understood by both parties. Ownership of Intellectual Property almost always belongs to the originating organization unless there is an overwhelming reason for the Government to take possession.

If Government funding is involved in the development of the Intellectual Property, then the government obtains a nonexclusive, royalty-free license to use the Intellectual property. The type of rights provided to the government in technical data and software depends on the amount of government funding involved in the development. See DFARS 252.227-7013 and DFARS 252.227-7014 for specifics. The government may or may not exercise its rights to use the data and/or software depending on the nature of the project.

In many cases it is not necessary to exercise these rights and actually order data and software as deliverables, because the Government will most likely encourage the developer to transition and commercialize the results of the project. This can be either via the developer's own venture efforts or through licensing or partnering with a third party. For additional information on this topic, see the DOD Intellectual Property Guide, available for download on the Technology Transition web page at www.cttso.gov.

3.6.4.6.1. Patents and Patent Applications.

Identify any existing, applied for, or pending patents that will be used in the conduct of this effort. Provide patent number with date of issue and title or patent application number with filing date and title. Any patent or patent application that resulted from prior government funding should be identified. If no patents or patent applications are relevant, so state. See section 2 General Information, "Submission Handling/Rights in Technical Data and Computer Software/Patent Rights" in this document.

3.6.4.6.2. Rights in Technical Data and Software.

Identify any technical data and/or computer software that will be delivered with less than unlimited rights as prescribed in DFARS 252.227-7013 and DFARS 252.227-7014. If unlimited rights in technical data are proposed, so state. See section 2 General

Information, "Submission Handling/Rights in Technical Data and Computer Software/Patent Rights" in this document.

3.6.4.7. Transition from Prototype to Production.

Describe the overall strategy to transition the results of this development effort to production once the funded effort is concluded. Briefly describe the overall strategy for transition, potential partners, transition issues to include any obvious regulatory, liability, interoperability, or financing issues. Discuss the interaction with representative users and the concept for test and evaluation by those users and follow on support of a product resulting from this effort.

3.6.4.8. Organizational Capability Statement.

Describe the offeror's capability and/or experience in doing this type of work. Identify technical team members or principal investigators and associated expertise. If applicable, include a description of co-participants' capabilities and/or experience. State whether an agreement has been reached (or not) with the co-participants.

3.6.5. Phase 2 Notifications to Offeror.

The Government will notify the offeror when a submission has been accepted or rejected. Notification of acceptance with a request to submit the next phase document will be e-mailed to the offeror's contracting authority as *entered in the BIDS registration* and will indicate the next submission type, clarification requests, and due date and time. Likewise, rejection notifications will be e-mailed to the address provided in the BIDS registration. **Debriefings for White Papers will not be conducted due to the nature of BAAs.** In general, submissions are not considered for further review when they do not meet the basic requirement, are too costly, do not fit the mission, or funding is not expected.

3.6.6. Phase 2 Status and Inquiries.

Phase 2 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries by phone concerning the status of White Papers will not be accepted. After login to the [BIDS website](#), submitters are able to check the status of their submission(s) under **My Submissions**.

3.7. Phase 3 Full Proposal Submissions.

Offerors shall prepare and upload a Full Proposal with a separate detailed cost proposal in response to Phase 3 of this BAA. All pages shall be 8 ½ by 11 inches, double-spaced with fonts no smaller than 10 point; all margins shall be one inch. Each page of the submission shall contain the document identifier in the document header. The technical portion must be no more than 50 pages including tables, charts, and figures. If the document contains more than 50 pages, only the first 50 pages will be evaluated. All paragraphs containing proprietary information must be clearly marked. The cover page and the detailed cost proposal are excluded from the Full Proposal page count.

Disclaimer - To minimize the cost and effort for submitters, Phase 3, Full Proposals, will only be requested for qualifying solutions that have a high probability of award; however, the Government reserves the right to cancel any request for proposal for this solicitation prior to award.

3.7.1. Phase 3 Due Date and Time.

All unclassified Full Proposals must be received electronically through BIDS no later than the due date and time specified in the acceptance e-mail. Likewise, classified submissions must be received by the due date and time. Refer to the "Special Handling Procedures for Classified Information" in this document for instructions on classified submissions. BIDS does not allow proposals to be uploaded or classified placeholders to be created after the due date and time. **Any proposal, regardless of classification, submitted by any other means, or that is late will not be considered by the Government.**

3.7.2. Electronic File Format.

The Full Proposal shall be submitted in Microsoft Office (Word or PowerPoint), or Adobe Acrobat (PDF – portable document format). The cost proposal may be submitted in Microsoft Office (Excel) format. ZIP files and other application formats are not acceptable. The document must be print-capable, without password, and no larger than 500 Kb. Filenames must contain the appropriate filename extension (.doc, .ppt, .xls, or .pdf). Filenames cannot contain spaces or special characters. Apple/Macintosh users must ensure the entire filename and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

3.7.3. Phase 3 Document Upload.

To upload a next phase document, locate and open the accepted record in BIDS and select **Create Next Submission**.

3.7.4. Full Proposal Components.

Full Proposals shall consist of two major sections described in this document, and can be uploaded to BIDS in two separate files each limited to 500 Kb each. The first section is the Technical Proposal and shall include all information related to the proposal as specified in this BAA including figures, charts, and tables plus the cover page. Second is the Cost Proposal to include all cost data as well as an explanation of changes in cost greater than 10 percent from those proposed in the prior submission.

3.7.5. Technical Proposal Content.

The Technical Proposal shall provide a technically detailed solution of the problem addressed in the requirement and fully expand the technology proposed in the prior submission. The following sections and associated data are required. The offeror shall incorporate all clarification data requests in the acceptance e-mail. Indicate clarification entries by footnote and reference the requested item(s) in the footer area.

3.7.5.1. Cover Page.

A cover page template is provided at the BIDS website under [Downloads, Reference Documents, Document Format](#). The cover page includes necessary contractual information including the offeror's contracting point of contact (name, telephone number, e-mail address, facsimile number, mailing address) and business information (Data Universal Numbering System (DUNS) number, business type). Include the proposed contract type, total cost, and the duration of all phases/tasks. Cover pages are excluded from the page count.

3.7.5.2. Abstract.

The abstract is a one page (or less) synopsis of the proposal that includes the title and the basic approach to satisfy the requirement. Describe the overall scope of work to be performed for the entire period of performance inclusive of options. The abstract shall stand alone and be suitable for release under the Freedom of Information Act, 5 U.S.C. 552, as amended.

3.7.5.3. Executive Summary.

An executive summary is a concise description of the technology and solution being proposed. Include key information that demonstrates how the proposed solution meets the published requirement. The executive summary should not introduce any new information not covered in the subsequent content.

3.7.5.4. Technical Approach.

Describe the technical approach for the proposed solution to meet the requirement. Include technical details of the solution and fully expand the technology proposed in the prior phase submission. Include the methodology, underlying theory, system components, and

operational scenario for the intended users. Include drawings, diagrams, charts, and tables needed to explain the effort. Describe relevant prior application of the proposed technology and/or solution, how it is being used, and by whom. Identify sponsoring agency and funding resources; or if none, so state.

3.7.5.5. Project Plan.

The project plan shall be organized by phase and describe the work to be performed along with all associated requirements to successfully complete the proposed effort. Include a summary of the individual phases to follow.

3.7.5.5.1. Phases.

Phases shall be defined by the subset of tasks to be performed, phase objectives to be accomplished, and the required period of performance to completion. Phases shall be listed in order of occurrence. Identify phases that are optional. Each phase must contain clear exit criteria that is measurable evidence of completion and serves as a “go” or “no-go” decision point. Each phase shall include a total cost.

3.7.5.5.2. Tasks within a Phase.

For each task, provide a detailed description of the work to be performed. Identify any work that will be performed by other organizations or agencies; or if none, so state. Indicate if an agreement is in place for the resources.

3.7.5.5.3. Products and Deliverables.

Identify all deliverables - products as well as documentation and reports - for each Task/Phase. Refer to section 2 of this document “Product and Deliverable Requirements” for the minimum report requirements, and additional products and deliverables in performance of the effort proposed.

3.7.5.6. Master Schedule.

Develop a master project schedule that includes phase start and stop dates as well as major milestones, critical tasks, and report and product delivery dates. Assume a start date of June 2nd. Indicate any optional phases.

3.7.5.7. Government Furnished Equipment.

Identify all Government furnished equipment, materials, facilities, or information with the need date and suggested source. If Government equipment, materials, facilities, or information are not required, so state.

3.7.5.8. Project Risks and Mitigation.

Identify anticipated technical and management risks along with planned mitigation efforts. Indicate the risk assessment as high, medium, or low.

3.7.5.9. Organizational Capability Statement.

Include a brief description of the offeror’s organization. Describe the offeror’s capability and/or experience in doing the type of work being proposed. If applicable, include a description of co-participants’ capabilities and/or experience. State whether an agreement has been reached with the co-participants. Provide at least three references, to include points of contact, for like or similar work.

3.7.5.10. Organizational Resources.

Identify key technical personnel and principal investigator(s) including alternates and co-participants, if applicable. Include a brief biography, relevant expertise, and a list of recent publications for each. Identify any team members with potential conflicts of interest. Possible conflicts of interest include personnel formerly employed by the federal Government within the past two years from the date of proposal submission. Provide name, duties,

employing agency, and dates of employment; or if none, so state.

3.7.5.11. Intellectual Property, Technical Data and Software.

All anticipated intellectual property, technical data or software rights shall be disclosed. See section 2 General Information, "Submission Handling/Rights in Technical Data and Computer Software/Patent Rights" in this document.

3.7.5.11.1. Patents and Patent Applications.

Identify any existing, applied for, or pending patents that will be used in the conduct of this effort. Provide Patent number or application number and title. Any patent that resulted from prior government funding should be identified. State if no patents or patent applications are relevant.

3.7.5.11.2. Rights in Technical Data.

Identify any technical data and/or computer software that will be delivered with less than unlimited rights as prescribed in DFARS 252.227-7013 and DFARS 252.227-7014. State if unlimited rights in technical data are proposed.

3.7.5.12. Transition from Prototype to Production.

Describe the approach and issues related to transition or commercialization of the results of this effort to an operationally suitable and affordable product for the intended users to include the following. A Transition Plan should be included in the proposed costs.

3.7.5.12.1. Transition Strategy.

Provide the overall strategy for transition to production (licensing, partnering, or venturing) along with the associated timelines for actions associated with the transition. Describe the roles of current development partners, subcontractors, or other organizations that will be leveraged. If the offeror is not a commercial entity, indicate if a commercial partner has been identified. Discuss barriers to commercialization, such as anticipated regulatory issues (such as environmental, safety, health, and transportation), liability issues, interoperability, and financing, and planned steps to address these barriers.

3.7.5.12.2. Transition Approach.

Describe the type and level of effort envisioned to take the technology from its state at the end of the development effort to a production ready, affordable, operationally suitable product (such as size and/or weight reduction, packaging, environmental hardening, integration, additional test and certification). Provide an estimate of any costs to transition the prototype to low rate initial production. Provide the estimated production unit price for the end users.

3.7.5.12.3. Test and Evaluation.

Describe the plan to involve representative users during the design and development process and the general plan for test and evaluation by representative end users.

3.7.5.12.4. Operational Support.

Describe the estimated level of training needed to prepare users to utilize the product in an operational environment. Discuss the anticipated support concept such as level(s) of repair, spare parts, warranties, operation and maintenance technical manuals, simulators, and other logistics considerations.

3.7.5.13. Human Subjects and Animal Testing.

The proposal shall provide a statement regarding the anticipated use of human subjects or animals in testing; or if none, so state. If yes, procedures for complying with all laws and regulations governing the use of animals or human subjects in research projects shall be included in the technical proposal. See section 2 General Information, "Animal or Human

Testing Compliance” in this document for details.

3.7.5.14. Environmental Impact.

The proposal shall provide a statement regarding the impact of the work proposed on the environment. State if no impact exists.

3.7.5.15. Classification and Security.

If the offeror is proposing to perform research in a classified area, indicate the level of classification of the research and the level of clearance of the potential principal investigator and all proposed personnel. The contractor shall include facility clearance information. Also, the contractor shall indicate the Government agency that issued the clearances. State if the proposed effort is unclassified.

3.7.5.16. Subcontracting Plan.

If the total amount of the proposal exceeds \$550,000 and the offeror is not a small business, the offeror shall submit a subcontracting plan for small business and small socially and economically disadvantaged business concerns. A mutually agreeable plan will be included in and made a part of the resultant contract. The contract cannot be executed unless the contracting officer determines that the plan provides the maximum practicable opportunity for small business and small disadvantaged business concerns to participate in the performance of the contract. The Subcontracting Plan/information is excluded from page count.

3.7.6. Cost Proposal.

The offeror shall prepare and submit cost or pricing data, and supporting attachments in accordance with Table 15-2 of FAR 15.408. Submission of the Cost Proposal in Microsoft Office (Excel) format expedites processing by the reviewers. As soon as practicable after agreement on price, but before contract award, the offeror shall submit a Certificate of Current Cost or Pricing Data as prescribed by FAR 15.406-2 for cost type contracts exceeding \$650,000.

3.7.6.1. Cost Summary.

Provide a summary of the total cost for each phase and the total for the entire effort proposed. Indicate optional phases. Explain changes in cost greater than 10 percent from those proposed in the previous submission.

3.7.6.1.1. Other Funding Sources.

The proposal shall provide the names of other federal, state, or local agencies, or other parties receiving the proposal and/or funding or potentially funding the proposed effort. State if no other funding sources or parties are involved.

3.7.6.2. Detailed Cost Estimate.

Provide, in table format, a detailed cost breakdown by phase, of all items identified in the technical portion of the proposal for the following cost elements. Include all options.

3.7.6.2.1. Direct Labor.

Provide a list of the applicable labor categories or positions showing the breakdown of labor hours, rates, cost for each category, and furnish the basis for the estimates. Clearly indicate fiscal year rate changes and associated labor rate escalation calculations as applicable.

3.7.6.2.2. Indirect Costs.

Indicate how the offeror has computed and applied offeror’s indirect costs. Indicate the rates used and provide an appropriate explanation.

3.7.6.2.3. Other Costs.

List all other costs not included in other sections (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework) and provide the basis for pricing.

3.7.6.2.4. Materials.

Provide a consolidated price summary of individual material quantities included in the various tasks and the basis for pricing (such as vendor quotes and invoices). Include new materials, parts, components, assemblies, and services to be produced or performed by others. For all items proposed identify the source, quantity, and price. Upon request, the offeror shall provide all backup and source data used for the basis for pricing.

3.7.6.2.5. Government Furnished Equipment.

List the property or materials required to perform the task. Separate items to be acquired with contract funds and those to be furnished by the Government. When possible, the description or title and estimated or known unit and total costs of each item should be shown (i.e., manufacturer, catalog price, or previous purchase price). When such information on individual items is not available, the items should be grouped by class and estimated values indicated. In addition, the offeror shall include a statement as to why it is necessary to acquire the property with contract funds, and if applicable, express in writing his unwillingness or financial inability to acquire the items with his own resources. NOTE: The FAR generally prohibits providing an industrial contractor with facilities (including plant equipment and real property) with a unit acquisition cost of less than \$10,000.

3.7.6.2.6. Fee.

Include the fee proposed for this effort. State if no fee is proposed.

3.7.6.2.7. Competitive Methods.

For those acquisitions (e.g., subcontract, purchase orders, material orders) over \$100,000 priced on a competitive basis, also provide data showing degree of competition and the basis for establishing the source and reasonableness of price. For inter-organizational transfers priced at other than cost of the comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, explain the pricing method (See FAR 31.205-26(e)).

3.7.6.2.8. Established Catalog or Market Prices/Prices Set By Law or Regulation.

When an exemption from the requirement to submit cost or pricing data is claimed, whether the item was produced by others or by the offeror, provide justification for the exemption.

3.7.6.2.9. Noncompetitive Methods.

For those acquisitions (e.g., subcontract, purchase orders, material orders) over \$650,000 priced on a noncompetitive basis, provide certified cost or pricing data showing the basis for establishing the source and reasonableness of price. For standard commercial items fabricated by the offeror that are generally stocked in inventory, provide a separate cost breakdown if price is based on cost. For inter-organizational transfers priced at cost, provide a separate breakdown of cost by elements.

3.7.6.2.10. Royalties.

If more than \$250 provide the following information on a separate page for each separate royalty or license fee:

- Name and Address of Licensor

- Date of the License Agreement (*See Note 1 below.*)
- Patent numbers, Patent Application Serial Numbers, or other basis on which the royalty is payable
- Brief description (including any part or model numbers of each contract item or component on which the royalty is payable)
- Percentage or dollar rate of royalty per unit
- Unit price of contract item
- Number of units
- Total dollar amount of royalties

Note 1: A copy of the current license agreement and identification of applicable claims of specific patents shall be provided upon request by the contracting officer. See FAR 27.204 and FAR 31.205.37.

3.7.6.2.11. Facilities Capital Cost of Money.

When the offeror elects to claim facilities capital cost of money as an allowable cost, the offeror must submit Form CASB-CMF and show the calculation of the proposed amount. See FAR 31.205-10.

3.7.7. Phase 3 Notifications to Offerors.

Notification of acceptance or rejection of a Phase 3 submission will be sent via e-mail to the offeror's principal contact as entered in the BIDS registration. If the Government does not accept the Phase 3 proposal, the offeror may request a formal debriefing in accordance with FAR 15.5.

3.7.8. Phase 3 Status and Inquiries.

Phase 3 is complete when the Government concludes technical evaluations of all submissions and awards any contracts considered under this BAA. Inquiries by phone concerning the status of Full Proposals will not be accepted. After login to the BIDS website, submitters are able to check the status of any submission under **My Submissions**.

3.8. Clarification Requests.

The offeror can be asked to submit a clarification to a Phase 2 White Paper or a Phase 3 Full Proposal that does not require a complete submission or re-submission. The BIDS e-mail from the Contracting Officer will contain instructions on the specific request and associated requirements. BIDS will use CL (Clarification) instead of WP (White Paper), or FP (Full Proposal) as the Document Identifier designation (e.g., **CL** CB-1112-ABCORP-xxxx-CL; where xxxx-CL is the SIT entered by the submitter). The request will contain the due date and time and *can be less than the standard 30-day response* time depending on the nature of the request.

3.9. Instructions for Offeror "No-bid" and Submission Withdrawal.

From time to time an offeror decides not to submit a subsequent Phase 2 or Phase 3 submission. If this is the case, the offeror shall indicate in BIDS that they are not providing the subsequent submission. The offeror shall follow the steps identified in BIDS to upload a submission and attach a document to indicate the withdrawal of the previous submission(s) and the intent to not participate in further submissions. If possible, the Document Identifier should reflect the submission status (e.g., CB-1112-ABCORP-xxxx-WD or xxxx-NoBid). To withdraw a submission after the due date and time, notify the contracting officer at the BAA e-mail address.

4. PROPOSAL EVALUATION.

This section describes the criteria that will be used to evaluate each submission. The phase of the submission will determine the extent that each criterion applies based on the information requirements described in Section 3. Criteria are not weighted or scored, and submissions are not ranked.

4.1. Evaluation Criteria.

The criteria used to evaluate and select proposals for projects are described as follows. Each proposal will be evaluated on its own merit and relevance to the program requirements rather than against other proposals in the same general research area.

4.1.1. Basic Requirement.

The proposed solution must meet the letter and intent of the stated requirement; all elements within the proposal must exhibit a comprehensive understanding of the problem and the requirements of intended end users. The proposed solution must meet multiple user (U.S. Government or commercial) needs and be fully compliant with all elements of the solicitation including format, content, and structure as well as all BAA instructions.

4.1.2. Technical Performance.

The proposed technical approach must be feasible, achievable, complete, and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements are to be complete and in a logical sequence. All proposed deliverables must clearly define a final product that meets the requirement and can be expected as a result in the award. The proposal must identify and clearly define technical risks and planned mitigation efforts. Those risks and the associated mitigation must be defined, feasible and reasonable. The roles of the prime and other participants required must be clearly distinguished and precoordination with all participants (including Government facilities) fully documented. The requirement for and the anticipated use or integration of GFM including all equipment, facilities, and information, must be fully described including dates when such GFM will be required. Intellectual property ownership and the planned transition to production must be adequately addressed, including a support concept for the product described. Similar efforts completed by the offeror in this area must be fully described including identification of other Government sponsors.

4.1.3. Cost.

The proposed costs must be both reasonable for the work proposed and achievable. The proposal must document all anticipated costs including those of associate, participating organizations. The proposal must demonstrate that the offeror has fully analyzed budget requirements and addressed resulting cost risks. The proposal must indicate all cost-sharing and leveraging opportunities explored and identified and the intellectual property expectations associated with that cost-sharing. Other sponsors who have funded or are funding this offeror for the same or similar efforts must be identified by agency, program manager name, phone number and e-mail address.

4.1.4. Schedule.

The proposed schedule must be reasonable, achievable, and complete. The proposal must indicate that the offeror has fully analyzed the project's critical path and has addressed the resulting schedule risks.

4.1.5. Contractor Past Performance.

The offeror's past performance in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance requirements within the proposed budget and schedule. The proposed project team must have demonstrated expertise to manage the cost, schedule and technical aspects of the project.

5. TECHNOLOGY DEVELOPMENT REQUIREMENTS AND OBJECTIVES.

This section provides the requirement descriptions and overall technical objectives. CTTSO is interested in proposals in the following mission areas of combating terrorism. The intent of this BAA is to identify technologies and approaches that provide near-, mid-, and long-term solutions that enhance the capabilities of the U.S. Government to combat or mitigate terrorism. The main objective is to provide rapid prototype development focused on current and future critical multi-agency counterterrorism and antiterrorism requirements. The level of detail and order of appearance for a given requirement are not intended to convey any information regarding relative priority.

5.1. Chemical, Biological, Radiological, and Nuclear Countermeasures (CBRNC)

Mission: Identify, prioritize, and execute interagency chemical, biological, radiological, and nuclear combating terrorism requirements and deliver technology solutions for detection, protection, decontamination, mitigation, containment, and disposal.

2439 Advanced Personal Cooling System for CBRN Response

Develop a cooling system for efficient cooling of core temperature when the system is applied to locations on the human body where there is a network of veins and capillaries close to the skin's surface. The cooling system shall be used while wearing a National Fire Protection Association 1991, Class 1 ensemble without interfering with responder performance. Alternatively, solutions that address cooling during the rehabilitation cycle will be permitted. The overall reduction in core temperature must be greater than the correlated increase in core temperature due to increased physiological load on the wearer. Human subject testing will be required for validation of technique. Cooling vest systems and physical immersion systems are not desired for this requirement. The system shall be lightweight, require less than two minutes to achieve desired operating temperature, and be cost effective. The system can be either disposable or reusable. If reusable, the system must be capable of undergoing standard decontamination measures.

2440 Respiratory Protection for Medical Personnel

The first part of this requirement is to perform a needs analysis with medical personnel to determine the specific attributes necessary to perform patient care while wearing respiratory protection. The second part of this requirement is to develop respiratory protection for use by medical personnel while performing routine tasks in which there is a suspicion of a chemical, biological, or radiological hazard. The system shall enable the user to perform medical procedures and allow for clear communications with patients while in operation. The system shall allow wearers to hydrate while wearing the system, even while in a "hot" zone. The expected wear time for the mask will be four to eight hours. The viewing area shall have the following attributes: anti-fog, scratch-resistant, built-in UV protection (but NOT be tinted) and shall be available in multiple sizes. The mask shall have a maximized field of view (a minimum average visual field score of 90 (in accordance with National Institute for Occupation Safety and Health Standard for a CBRN Full Facepiece air purifying respirator (APR)) and accept optical inserts for corrective lenses or have visual correction built into the lens of the facepiece. The system shall be able to be stored over extended periods of time (minimum of four years shelf life) and under extreme temperature, humidity, salinity, and UV conditions. Developer must collaborate with respiratory standards organizations to ensure that equipment will be certifiable to national standards. Submissions should be limited to APR, Powered APR and hood solutions.

2441 Wet Chemistry/Colorimetric Kit for Detection and Identification of HME Precursors

Develop a low-cost, wet chemistry or colorimetric based kit for the detection and identification of homemade explosive (HME) precursor chemicals. **The classes of chemicals to be targeted include acids, bases, alcohols, aldehydes, ketones, chlorates, nitrates, hydrides, anhydrides, flammable liquid solvents, metals, and others that can be used in the HME synthetic process.** The kit(s) shall be no larger than 3 inches x 6 inches x 2 inches in size (to fit in cargo pocket). The kit(s) must be simple to use, inexpensive, and have less than a 3% rate of false positives. The kit(s) must detect in less than 5 minutes (required) and 1 minute (desired).

The components of the kit(s) must be non-toxic, capable of being shipped via air, and capable of being stored in austere environments to include high temperature (<125 °F) and high humidity (up to 100%). Multiple kit solutions may be included. **This is a joint requirement between the Chemical, Biological, Radiological, and Nuclear Countermeasures and Explosives Detection subgroups.**

5.2. Explosives Detection (ED)

Mission: Identify, prioritize, and execute research and development projects that satisfy interagency requirements for existing and emerging technologies in explosives detection and diagnostics. Emphasis is placed on a long-term, sustained approach leading to new and enhanced technology for detection and identification of improvised explosive devices, including vehicle borne devices.

2441 Wet Chemistry/Colorimetric Kit for Detection and Identification of HME Precursors

See description above. **This is a joint requirement between the Chemical, Biological, Radiological, and Nuclear Countermeasures and Explosives Detection subgroups.**

2446 RASCO Cargo Test Bed

The Remote Air Sampling for Canine Olfaction (RASCO) process involves collecting air samples from air cargo containers and presenting the samples to specially trained canines. The canines are used to further investigate the samples for evidence of the presence of explosives. This evidence will most likely be in the form of trace explosives particles or associated vapors collected on an adsorbent material.

The performing organization will be required to design, develop and operate a RASCO test-bed for air cargo screening. This test-bed shall be a model of activities of an air-cargo facility which has deployed the RASCO screening process. A warehouse where cargo can be assembled into air shipping configurations and then arranged for sampling will be required. The warehouse shall also have a separate area for canine interrogation of the samples. The test-bed shall have separate storage areas for used and unused commodities and shall have storage facilities for bulk amounts of explosives. The investigating entity shall be fully licensed to receive, store, handle and ship bulk explosives. (This can happen up to two months after award if necessary). The site shall have the capability to accept and ship large amounts of air cargo commodities in their shipping configuration or broken down as required. The contractor shall have knowledge of U.S. air cargo screening requirements. The contractor shall procure and train canines to detect trace amounts of explosives using a government furnished protocol. Canines must be maintained for long periods of time at a location remote from explosive storage. It is noted that the training procedures for RASCO may not be the same as for other types of canine detection. These training procedures will be provided by the government. The training aids used shall be fabricated by the performer using established procedures. Adequate facilities shall be available for the formulation of training aids. The procedures for fabrication will be supplied by the government. The option to use the test-bed as a permanent facility for training and testing is desirable. Authentic air cargo samples must be taken and used for training purposes. The awardee must be able to supply these samples to the test-bed. A location near an air cargo hub is desirable.

5.3. Investigative Support and Forensics (ISF)

Mission: Identify, prioritize, and execute research and development projects that satisfy interagency requirements for criminal investigation, law enforcement, and forensic science technology applications in terrorism related cases.

2442 Certification Program for Argument Mapping Skills

Develop, test, and validate a set of tests to certify argument mapping skills in intelligence analysts. The goal is to enable intelligence analysts to demonstrate competence in argument mapping (a technique for creating visual representations of the structure of reasoning). The

certification program must be comprised of six objective (multiple-choice) question tests on argument mapping, drawn from a stratified battery of questions. The stratification should be in terms of specific skill tested and difficulty. The total number of questions should be 300.

Every test question should involve reasoning about issues related to national security and/or intelligence analysis, using hypothetical examples. The following skills and abilities must be among those assessed:

- Correctly use the principle of abstraction.
- Correctly distinguish co-premises from independent reasons.
- Correctly identify missing premises.
- Correctly identify the best argument map based on a piece of prose.
- Correctly evaluate an argument map.

2444 Scientific Review of Friction Ridge Examination Protocols and Procedures

Conduct a comprehensive scientific review of friction ridge examination protocols and procedures. Study the efficiency of current protocols and procedures for friction ridge examination (e.g., evidence examination methods, blind verification models, etc.). Determine the effects, if any, of bias on examination processes. Develop standardized guidelines to promote consistent implementation of industry-accepted scientific standards to the examination of friction ridge evidence. The final deliverable must include a professionally written report including a full explanation and listing of the methodology, tests, summary of data, data samples, results, statistical tests, conclusions and findings and will be the basis for publication in a peer-reviewed journal.

2445 Personnel Selection and Evaluation Tools for Forensic Science Managers

As the scientific, technical and legal aspects of forensic science continue to become more complex, forensic science managers require tools and methods to effectively identify qualified personnel with the unique set of knowledge, skills and abilities fundamental to job success. This research will result in scientifically-validated personnel selection methods that 1) will improve a forensic science manager's ability to profile, assess and measure required competencies and 2) are useful for predicting job performance of applicants and existing personnel. The final deliverable must include a professionally written report including a full explanation and listing of the methodology, tests, summary of data, data samples, results, statistical tests, conclusions and findings and will be the basis for a publication in a professional peer-reviewed journal.

The contractor must conduct literature review and job analysis, identify competencies that are important to effective task performance and likely useful in the selection and development of forensic science personnel, construct measurement methods and tools and assess their validity and operational potential.

Targeted forensic disciplines include: friction ridge examination, impression evidence (e.g., firearms/toolmarks, footwear impressions, tire impressions), questioned documents, drug chemistry, trace and fire debris analysis.

5.4. Irregular Warfare Support (IWS)

Mission: Develop adaptive and agile ways and means to support irregular warfare in the current and evolving strategic environments. IWS supports joint, interagency, and international partners who conduct irregular warfare through indirect and asymmetric approaches, though they may employ a full range of military and other capabilities, in order to erode an adversary's power, influence, and will. IWS solutions include material and nonmaterial operational analysis, concept development, and delivery of capabilities, to defeat the motivations, sanctuaries, and enterprises of targeted state and nonstate actors.

000-IWS Unspecified Operational Analysis, Concept, and Capability Development

The Government seeks concepts for the following operational communities: Special Operations

Forces, Host-nation Security Forces, General Purpose Forces, US Government Interagency, and Allies. Concepts should advance the 2006 Quadrennial Defense Review and the 2010 - 2015 Guidance for the Development of Forces. Other documents for consideration include National Security Presidential Directive/NSPD-44, and DOD Directive 3000.05. Submit under this number and title any operational or tactical concepts that will enhance United States and Partner Nation capability to conduct Irregular Warfare.

Unspecified requirements (R000) are for proposing unique innovations that have not yet been identified by the program. Submissions against an unspecified requirement should be relevant to that program's mission. Funds are not budgeted for unspecified requirements. If the evaluation team determines that an unspecified requirement submission is promising enough to merit pursuing, funds may be identified at that point. Because proposed capabilities from the unspecified requirements will be competing against proposed capabilities for identified and prioritized interagency requirements, the program may be unable to make any awards against the unspecified requirements.

5.5. Surveillance, Collection and Operations Support (SCOS)

Mission: Identify, prioritize, and execute research and development projects that satisfy interagency requirements supporting intelligence collection and special operations directed against terrorist activities.

2436 Forensic Language Tools

While current forensic tools have a fairly robust capability to display and manage text, images, audio, and video media, they are still very limited in analytics. In addition, the processing and analysis of such media becomes even more challenging when the data is in a foreign language or in multiple languages and from varied sources. The objective then is to develop and/or integrate language processing and analytical tools within the forensic applications. The processing should address clustering data, deduplication, filtering by external and internal content metadata that will enable users with a range of language and nonlanguage skills to triage data in the field. The software tools need to operate on laptops and/or handheld forensics devices. The focus is on software tools that can handle extraction and translation of nontraditional types of communications including informal types of language content (i.e. such as messaging, casual conversations, etc.). Individual tools that can be inserted into existing systems as well as integrated solutions are sought. The languages of immediate interest are Arabic dialects, Dari, Farsi, Pashtu, and Urdu. Proposals that include teaming between forensics application providers and analytics tools developers are encouraged.

2437 Tools for Language Professionals

Web-enabled and/or light-weight hand held mobile solutions are needed to support the sustainment of language professionals. Human translators and those who use language in their day-to-day job need easy access to customized tools to fit their operational mission. The need is for software tools and content that can expand cultural knowledge and language skills in specialized domains. The government is seeking thesauri, terminology dictionaries, references, and a variety of assistive tools to improve, sustain and support users who need to use foreign languages to do their work. These tools are not necessarily restricted to a learning environment but need to be flexible to adapt and be used in improving quality and productivity in the work place. The languages of immediate interest are Arabic dialects, Dari, Farsi, Pashtu, and Urdu and the domains of interest are military, scientific, slang, idiomatic, cultural expressions and references. The software should be easy to integrate in existing applications and/or have a documented application programming interface.

2448 Tactical Technical Surveillance Operator's Course

Design and develop training modules for tactical technical surveillance operations in order to train operators in the planning and execution of the most challenging tasks in support of military operations.

Conduct an initial needs analysis followed by development of basic and advanced skills modules that focus on the elements of technical surveillance. In particular, the basic module should focus on the theory and application needed for the advanced modules and include introduction to technical surveillance; theory of radio frequency, antennae, power and batteries, electronics; soldering; fabrication and concealment techniques. Advanced modules should provide in-depth training on concepts introduced in basic module with each advanced module focusing on one or more of the following topics – Tagging, Tracking, and Locating (TTL); audio and video surveillance; and tactical site exploitation.

The training program shall consist of modules of training that include classroom and realistic scenario based exercises. The length of instruction for each module should be between one and two weeks duration. Modules will not focus on particular TTL or audiovisual (A/V) equipment. The government shall provide the required TTL and A/V equipment for effective support of the course module. The vendor will be required to integrate and use this equipment during the course.

Interactive scenario exercises with scoring systems, goals, objectives, tasks, user feedback, are expected from the course.

The offeror shall have subject matter expertise in the modules presented. Offerors are not required to propose all modules but may propose on only the modules where they have special expertise or team with other providers for a comprehensive program.

Deliverables shall include Program of Instruction course materials including instructor notes, PowerPoint briefings and student handouts, and the execution of at least two pilot classes on each module for refinement of final course modules. **Both personnel and facility** must have an active SECRET security clearance in order to receive award for this requirement.

000-SCOS Unspecified Requirement

Develop enhanced techniques or improvements to algorithms, tools, and technologies to assist in identifying, verifying, and tracking persons of interest without direct physical interaction in the most challenging conditions. Technologies may include: biometrics, covert sensing and tagging, unattended sensor networks, and interoperable communications systems.

Unspecified requirements (R-000) are for proposing unique innovations that have not yet been identified by TSWG. TSWG does not budget funds towards unspecified requirements. If TSWG evaluators determine an unspecified requirement submission is sufficiently promising to merit pursuing, funds may be identified at that point. Since proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may not make any awards against the unspecified requirements.

5.6. Tactical Operations Support (TOS)

Mission: Identify, prioritize, and execute research and development projects that satisfy Department of Defense interagency user requirements for equipment and systems to support specialized force offensive operations directed against terrorist activities and groups. The use of nonsensitive prototype hardware for state and local law enforcement agencies is considered for product transition and commercialization.

2228 High Intensity Tactical Vehicle Infrared (HITIR)

Develop a high-intensity tactical infrared (HITIR) replacement light for the existing blackout drive light on military tactical vehicles. Infrared (IR) illumination provided at night must supply adequate illumination out to a minimum of 400 feet to support driving speeds not to exceed 65 mph when the driver is wearing night vision goggles. The primary deliverable from this development effort shall be 10 functioning prototype HITIR replacement lights for the blackout drive light complete with mounting hardware.

Desired Characteristics:

- Integrate into current military tactical vehicles (i.e., HMMWVs) with no modification required using the existing vehicle wiring harness;
- Have the same form and fit as the existing blackout light assembly;
- Mount into the vehicle in the same location using the same or similar mounting hardware as the existing blackout light assembly;
- Use existing blackout drive switch to include a positive control for switching between white light and IR light. This switch should prevent inadvertent activation of the white light from IR position without a positive action by the vehicle operator. To the maximum extent possible, the master control switch should be common to all U.S. Military vehicles; and
- Be replaceable and maintainable at the operator level.

5.7. Training Technology Development (TTD)

Mission: Identify, prioritize, and execute projects that satisfy interagency requirements for the development and delivery of combating terrorism related education, training, and mission performance support products and technologies.

2447 Optical Imaging Equipment Training

Design and develop scenario-based refresher training for optical imaging equipment in order to maintain the skill levels of the equipment operators. The training shall allow equipment operators to practice setting up the equipment, monitoring an entry control point, and maintaining the equipment during a military operation with the goal of preventing a possible suicide bomber attack. The goal of this requirement is to provide refresher training that allows equipment operators to practice using optical imaging equipment through scenario-based training that shall include, but is not limited to: providing images as seen through the equipment of person(s) wearing and not wearing IEDs, as well as, persons demonstrating the typical human behavior associated with a suicide bomber.

The training program shall consist of two modules, shall not exceed 75 total minutes in duration, and shall be created using Adobe Flash. The first module shall be unclassified and shall not exceed 45 minutes. This module shall include virtually setting up, maintaining, and servicing the equipment. Additionally, the first module shall display persons demonstrating the typical human behavior associated with a suicide bomber and black and white images as seen through the equipment. The goal will be to have operators train on monitoring/screening a simulated entry control point using unclassified data. The second module shall be classified SECRET (i.e., accessible over SIPRNET) and shall not exceed 30 minutes. The goal of this module will be to have operators train on monitoring/screening a simulated entry control point using classified data (i.e., seeing images that would be seen on the actual equipment).

Interactive scenarios with scoring systems, goals, user feedback, etc. are anticipated. Web/computer-based modules shall include instruction, assessments and the ability to track student's progress (i.e., certificates, LMS, etc.). The offeror shall have subject matter expertise with using optical imaging equipment and training domains, or partner with someone who does. At the white paper solicitation stage, vendors who produce the necessary documentation to verify **both personnel and facility** security clearance status will be provided more information on the equipment.

000-TTD Unspecified Requirement

Develop training technologies to increase mission readiness and enhance the operational capabilities of all elements, to include both military and civilian communities, involved in combating terrorism and consequence management. The technologies shall provide valuable knowledge, skills, and abilities in order to deter, defeat, prevent, protect, mitigate, and respond to terrorist threats. This includes the development of new or improved computer-based combating terrorism training courses, advanced programs of instruction, delivery architectures, training aids,

devices, and simulations. These training technologies shall support the life cycle of research and development to include: analysis, research, design, development, implementation, evaluation, verification and validation testing, and technology transition. Additionally, all proposed computer-based training solutions shall prototype and establish state-of-the-art Advanced Distributed Learning delivery systems that are Shareable Content Object Reference Model conformant for military and civilian personnel involved in combating terrorism and emergency response.

Unspecified requirements (R-000) are for proposing unique innovations that have not yet been identified by TSWG. TSWG does not budget funds towards unspecified requirements. If TSWG evaluators determine an unspecified requirement submission is sufficiently promising to merit pursuing, funds may be identified at that point. Since proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may not make any awards against the unspecified requirements. Proposed technologies, models, architectures, software, hardware, tools, and other applications not directed towards a training need are not desired and will be rejected without consideration or comment.

5.8. Wide Area Persistent Surveillance (WAPS)

This section specifically addresses the requirements and overall technical objectives of the WAPS area of focus. CTTSO is interested in proposals that address WAPS exploitation challenges. The intent of the advertised requirements is to identify technologies and approaches that provide near-, mid-, and long-term solutions that enhance the capabilities of the U.S. Government to combat or mitigate terrorism. The main objective is to provide innovative approaches, tools and techniques for improving WAPS exploitation and analysis capabilities that can be rapidly transitioned into operational use.

Background

The WAPS enterprise is expanding to include data from many sensors and sources. Electro-Optical (EO) motion imagery from Constant Hawk and Light Hawk, and Ground Moving Target Indicator (GMTI) data from Joint Surveillance Target Acquisition Radar System (JSTARS) and Littoral Surveillance Radar System (LSRS) are the primary data sources of interest. The volume and complexity of WAPS data represents a challenge for human analysts to manage large datasets, integrate data from multiple sources, identify activity of interest, isolate it from background activity, and derive useful intelligence in a timely manner.

BlueGrass Experiment

The Government previously conducted the BlueGrass experiment to build data sets representative of real world WAPS challenges. The BlueGrass dataset contains coincident coverage from two GMTI sensors (JSTARS and LSRS), and two wide area EO sensors (Constant Hawk and Light Hawk). A variety of scripted, operationally relevant, activities and behaviors were executed in support of this effort. The data contains a wide range of both naturally occurring (illumination, cloud cover, cloud shadow, haze) and man-made (traffic density, occlusion) environmental conditions and backgrounds in urban, suburban and rural settings.

BlueGrass data sets will be provided to submitters selected to submit Full Proposals as the basis for developing solutions to the requirements described below. Prior to receiving data sets, proposers are required to sign privacy and nondisclosure statements. EO sensor data is FOUO; however GMTI data is classified SECRET and will be restricted to those proposers with active personnel and facility clearances.

Example cases for activity detection and challenge problems derived from the BlueGrass data will be provided including varying degrees of detection difficulty due to target type/size, background contrast, environmental and background conditions, and image quality. A diversity of sun angle, occlusion, shadowing, traffic density and landscape (urban, suburban, rural) conditions will be included to the greatest extent possible. Data sets will be customized to include a subset of analyst vetted human activities representing the challenge and will include:

- a specified geographical area (bounding box);
- EO and GMTI data (formats including natoex, stanag4670, JPEG 2000 (JP2), and shape files) for the time range of the example; and
- limited GPS “ground truth” data of vehicle and personnel movements within the specified geographical areas during the time of interest.

Additional BlueGrass data sets will be withheld and used by the Government for independent evaluation and verification of developed capabilities and approaches, which shall be delivered in a form that allows the Government to replicate contractor test results.

Scope

Fundamentally new strategies and methodologies to leverage wide area EO and GMTI data to detect, characterize, track and analyze moving entities and patterns of behavior are sought. The key interest and focus is on improving performance of WAPS analysts. In particular, efforts shall focus on:

- software automation tools to improve user experience and productivity;
- advanced hardware to accelerate data playback and visualization;
- algorithms for automated detection, tracking, characterization and alerting to activity of interest in WAPS datasets;
- enhanced methods for visualization of WAPS datasets;
- product production and storyboarding methods; and
- tasking workflow and analysis task management.

Hardware, software, algorithmic, preprocessing, enhanced visualization, and other novel solutions may be applied individually or in conjunction with new or existing WAPS applications and infrastructure. Component capabilities that characterize discrete activity of individual entities should allow for aggregation to represent complex interactions, behaviors, associations and hierarchies of groups of entities within or across data types. Algorithms shall discriminate between human generated effects and environmental or processing artifacts (such as wind-blown objects, solar reflections, processing effects, storms and terrain effects) with the goal of developing the ability to characterize regular movements, patterns and schedules.

Proposals shall address the ability to perform functions automatically, semi-automatically or provide tools for humans to detect, identify, track and analyze activity in persistent surveillance data sets. Successful capabilities will increase the overall efficiency, accuracy and yield of intelligence information derived from WAPS datasets. Current human analyst exploitation efficiency and accuracy are the baseline to which improvements will be compared. Proposals are sought to address four general research development, test, and evaluation (RDT&E) thrusts. Proposals need not address every requirement in the four general RDT&E requirements, but rather may include innovative proposals for one or more individual elements in the requirement.

2429 Large Data Storage, Searching, Integration and Reporting

Wide area persistent surveillance yields unusually large and complex datasets from different sources, presenting a challenge for storing, retrieving, and integrating information in a meaningful and timely manner. Sophisticated architectures and tools are required to manage these datasets and allow analysts to quickly search massive data from disparate sources.

Specific project areas of interest include:

- Storage, Handling and Dissemination - developing a system that allows ingest of WAPS data at rates of 10+ Terabytes per day, online storage of recent missions (< 90 days old) and nearline storage of older mission data (90+ days old). The system shall support high speed random access to online data and be capable of retrieving nearline storage on demand within minutes. The architecture must support 100+ simultaneous client workstation connections with imagery playback speeds > 50x real time. The system

must provide fault tolerance for network latency and the ability to work in a communications degraded mode. Custom compression schemes and approaches may be incorporated. Cost per byte of data stored and scalability of the solution are key metrics.

- Data Searching and Discovery Services - developing capabilities to process and index massive (multipetabyte) data holdings to enable rapid search and retrieval of data. This includes implementing database architectures and web-service front ends that allow remote client workstations to access archived information and generate filtered data packages to support analysis over standard communications and networking connections. The user interface must include user definable geographic and time window constraints to reduce the volume of image data returned. Independent components of an overall system design include server hardware, database schema, metadata tagging, partitioning, query logic and data filtering solutions. Search improvements are required in the following areas:

Metric	Threshold	Objective
Time to Execute	Common analyst queries Queries complete in < 5 min	Common analyst queries Queries complete in < 1 min
Accuracy	Results contain activity of interest > 50% of the time	Results contain activity of interest > 90% of the time
Volume	Spatial, temporal, and activity image filtering reduces query return volume by > 90%	Spatial, temporal, and activity image filtering reduces query return volume by > 99%

- Multisource Integration - developing algorithms, tools and techniques to perform multisource integration. Required capabilities include geospatial and temporal registration, bias adjustments for geospatial and temporal calibration, and rendering information such that analysts can identify correlations and nonobvious relationships within and across datasets.
- Complex Activity Illustration and Reporting - creating tools, techniques and procedures to quickly generate products and presentation materials that illustrate complex interactions between and amongst multiple entities over time for dissemination to customers. Special customized products and presentation materials are required to accurately and concisely convey the spatial and temporal context and details.

2430 Activity Detection

Develop algorithms, tools and techniques to detect, identify and discriminate human activity including movement of vehicles of any size, motorcycles/bicycles, individual people (dismounts), and animals within a predefined area of interest (AOI) during a specified time period. This challenge represents the operational application of sensors for monitoring a denied or restricted area, a suspect site, curfew monitoring, border security, or facility surveillance. Systems must alert the analyst in real time, near real time, or forensically. Movement can be detected without tracking. AOIs typically range in size from a single commercial or residential lot to a city block or more.

Specific project areas of interest include:

- General Activity Detection - developing the capability to detect and identify all activity within an AOI during a specified time period. The ability to discriminate human activity of

interest from background activity is important.

- Start/Stop Detection - developing the capability to detect and identify only the activity originating or ending within an AOI. Persistent background activity which does not represent motion in or out of the AOI should be rejected. Vehicle traffic that passes through but does not stop or start within the AOI should be rejected as well. Tracking the activity outside the AOI is not required.

2431 Track Continuity and Handoff

Develop algorithms, tools, and techniques to maintain track continuity and positive identify within and outside of a predefined specified AOI during a specified time period. Continuous tracking becomes increasingly difficult with changes in entity behavior, varying environments, and cross-over into different sensor coverage areas. Temporal and spatial alignment as well as geolocation and time stamp errors within different data types and mission segments can prohibit efficient and effective data integration. Track handoff is necessary when a track cannot be continued in one data source due to lack of coverage, obscuration, shadow, activity density or other difficulties.

Specific project areas of interest include:

- Entity Tracking - tracking activity beyond the AOI to its initial starting or final stopping location, through different environments including varying levels of traffic density, entity behavior (pauses, extended stops, turns, U-turns), obscuration, and environmental and image conditions. Activity tracks of varying degrees of detection difficulty will be provided as examples. The objective is to continuously track vehicles traveling through a city for 5-10 minutes or longer.
- Dismount Tracking - developing the capability to detect and identify cases where vehicles stop outside the AOI and passengers dismount and walk back into the AOI.
- Cross Sensor Track Handoff - correlating tracks in overlapping sensor coverage areas and performing hand-offs to maintain track continuity and positive identity. Of specific interest is the ability to track entities from EO imagery to GMTI coverage and vice versa. Wide area EO imagery is typically used for urban coverage and GMTI for rural coverage. Tracking vehicles moving from urban to rural areas, and vice versa, requires handoff between the two data types. **As such, only proposers with active personnel and facility clearances will be considered to submit Full Proposals for this specific portion of the requirement. Proposers without active personnel and facility clearances are still eligible to receive awards for solutions that meet one or more other specific portions of this requirement.**

2432 Relationship and Pattern Identification

Once activity of interest has been detected, tools are required to distinguish between typical activity patterns and anomalous activity, and identify relationships between areas of interest. Tools must be able to reliably identify such activity and relationships over time. Manually created tracks may be used as a basis to test advanced pattern identification solutions.

Specific project areas of interest include:

- Anomalous Activity Identification and Alerting - identifying and alerting analysts of anomalous activity amongst typical background activity (such as traffic) in real time, near real time, or forensically. Anomalous activity can include extreme changes in traffic volume, traffic jams, sudden traffic disruptions due to accidents or attacks, traffic fleeing from a site, rerouting of traffic, and smoke plumes (detected as a moving feature). Additional indicators can include vehicles avoiding specific areas such as checkpoints, Blue Force locations, or suspected hazardous locations.

- Nodal and Relationship Analysis - determining which locations are associated with a given point of interest based on movement patterns, and the relative strength of the association based on movement patterns and frequency. Methods should distinguish between significant nodes (such as meeting houses) and insignificant nodes (such as a post office). Schemes for prioritizing and visualizing nodal relationships, strengths, and confidence of associations should be considered, in addition to methods for extracting, organizing, and storing.
- Patterns of Life - identifying repetitive behaviors, or patterns of life, associated with specific points of interest. Characterize activity including arrival and departure times and locations, number and size of entities, and movement direction to assist analysts in identifying deliveries, security patrols, daily work commutes, and weekly/monthly meetings. By accurately tracking these movements over an extended period of time, routine spatial and temporal patterns and schedules can be established. Tools must be capable of reliably detecting such activity from many days worth of EO imagery and/or GMTI data with varying conditions and quality. Automated methods for establishing normalcy based on content (time of day, day of week, weather) are desired.
- Nefarious/Suspicious Activity - identifying and alerting analysts of human behavior indicative of nefarious or suspicious activity such as coordinated vehicle movements (convoys, group meetings, brush passes, etc.), unusual stops, and surveillance or counter-surveillance tactics. Tools must be able to identify such activity amongst normal traffic with a high probability of detection/identification and a low probability of false alarm.

ATTACHMENT A – ACRONYMS AND ABBREVIATIONS.

ADL	Advanced Distributed Learning	HITIR	and Universities/other High-Intensity Tactical Infrared
AOI	Area of Interest	HME	Homemade Explosive
APR	Air Purifying Respirator	HUB Zone	Historically Underutilized Business Zone
A/V	Audiovisual	IC	Intelligence Community
BAA	Broad Agency Announcement	IR	Infrared
BIDS	BAA Information Delivery System	IRB	Institutional Review Board
C.F.R.	Code of Federal Regulations	ISF	Investigative Support and Forensics
CASB-CMF	Cost Accounting Standards (CAS) Board - Cost of Money Factors	JAUS	Joint Architecture for Unmanned Systems
CBRNC	Chemical, Biological, Radiological, and Nuclear Countermeasures	JP2	JPEG 2000
CCR	Central Contractor Registration	JPEG	Joint Photographic Experts Group
COR	Contracting Officer's Representative	JSTARS	Joint Surveillance Target Acquisition Radar System
CTTSO	Combating Terrorism Technology Support Office	Kb	Kilobyte(s)
DFARS	Defense Federal Acquisition Regulation Supplement	LSRS	Littoral Surveillance Radar System
DOD	Department of Defense	MBITR	MultiBand Inter/Intra Team Radio
DUNS	Data Universal Numbering System	Mbps	Megabit per Second
ED	Explosives Detection	MI	Minority Institutions
EO	Electro-Optical	MSR	Monthly Status Report
ET	Eastern Time Zone	NAICS	North American Industry Classification System
FAQ	Frequently Asked Question	NSPD	National Security Presidential Directive
FAR	Federal Acquisition Regulation	NVGs	Night Vision Goggles
FOIA	Freedom of Information Act	ORCA	Operational Requirements-Based Casualty Assessment
FOUO	For Official Use Only	PDF	Portable Document Format
FP	Full Proposal	PL	Public Law
FY	Fiscal Year	POC	Point of Contact
GFE	Government Furnished Equipment	POI	Point of Interest
GFI	Government Furnished Information	POP	Period of Performance
GFM	Government Furnished Material	RASCO	Remote Air Sampling for Canine Olfaction
GMTI	Ground Moving Target Indicator	RCVs	Remotely Controlled Vehicles
GPS	Global Positioning System	RDT&E	Research Development, Test, and Evaluation
HBCU	Historically Black Colleges and Universities Minority Institutes	R&D	Research and Development
HBCU/MIs	Historically Black Colleges	ROM	Rough Order of Magnitude
		SCORM	Shareable Content Object Reference Model
		SCOS	Surveillance, Collection and Operations Support
		SDB	Small Disadvantaged Business

SECNAVINST Secretary of the Navy
Instruction
SIT Submitter Internal Tracking
(Number)
TOS Tactical Operations Support
TSWG Technical Support Working
Group
TTD Training Technology
Development
TTL Tagging, Tracking, and
Locating
U.S. United States
U.S.C. United States Code
UV Ultraviolet
WAPS Wide Area Persistent
Surveillance
WP White Paper