March 29, 2024

IRREGULAR WARFARE TECHNICAL SUPPORT DIRECTORATE (IWTSD)

BROAD AGENCY ANNOUNCEMENT (BAA) 24S4008

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Due Date for Receipt of Phase 1 Submissions:

No Later Than April 29, 2024
All submissions are due by 3:00 p.m. U.S. Eastern Time (ET) on the above date

Advanced Analytics (AA)
Advanced Development (AD)
Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE)
Explosive Ordnance Disposal and Explosive Operations (EOD-EXO)
Human Performance and Training (HPT)
Indirect Influence and Competition (I2C)
Protection, Survivability, and Recovery (PSR)
Surveillance, Collection, and Operations Support (SCOS)
Tactical Offensive Support (TOS)

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The Broad Agency Announcement Information Delivery System (BIDS) is the system in which all submissions and communications will flow. Communications outside of BIDS may result in expulsion from the competition.

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1. INTRODUCTION.

This is an Irregular Warfare Technical Support Directorate (IWTSD) Broad Agency Announcement (BAA) issued under the provisions of paragraph 6.102(d)(2)(i) 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 Section 2701, "The Competition in Contracting Act." Awards for submissions under this BAA are planned for Fiscal Year (FY) 2025. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.

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

1.1. Approach.

A three-phased proposal selection process will be used for this BAA to minimize cost and effort for prospective offerors:

- Phase 1 will consist of the solicitation, receipt, and evaluation of a one-page Quad Chart and a one-page addendum.

- Phase 2 will consist of the solicitation, receipt, and evaluation of a White Paper 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 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 without a Phase 2 submission.

Clarifications to White Papers and Full Proposals may be requested.

1.1.1 Type of Proposals.

Firm-fixed-price proposals are preferred for all requirements published in this BAA.

1.1.2. Cost Type Contracts.

Offerors interested in cost type contracts (to include Cost Plus Fixed Fee options) must have an accounting system determined adequate by Defense Contract Auditing Agency/ Defense Contract Management Agency (reference FAR 16.301-3(a)(3)). If no determination has been made, please contact BIDSHelp@iwtsd.gov for further guidance.

1.2. Small Business Set Aside.

The Government encourages nonprofit organizations, educational institutions, small businesses, small disadvantaged business (SDB) concerns, Service-Disabled Veteran-Owned Small Businesses (SDVOSBs), Historically Black Colleges and Universities (HBCU), Minority Institutions (MI), women-owned businesses, and Historically Underutilized Business 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 (R&D) in any specific requirement area.

1.3. Limitation of Funds.

The Government intends to incrementally fund Cost Reimbursement contracts awarded from this BAA as provided by FAR 52.232-22, "Limitation of Funds." Most contracts awarded are anticipated to be 12 to 24 months in duration and at times may include additional 6 to12 month option(s). 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.

[NOTE: Based upon the availability of funding, the Government may have to partially fund Fixed Price contracts in accordance with DFARS 252.232-7007, "Limitation of Government's Obligation." In such cases, milestone payments will need to be a part of the full proposal. Applicability of this issue will be stated in the email asking for a Phase 3 proposal.]

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 contractor support personnel will have access to proprietary data and shall certify that they: (1) will not disclose any information pertaining to this solicitation including any submissions, the identity of any submitters, or any other information relative to this BAA; and (2) have no financial interest in any submissions evaluated, reviewed, and administered. Submissions and information received in response to this BAA constitutes permission to disclose that proposal data to certified evaluators under these conditions.

1.5. BAA Package Download.

This BAA Package can be downloaded electronically in its entirety from IWTSD BAA Information Delivery System (BIDS), https://bids.iwtsd.gov/, under Resources. Registration is not required to download the BAA package; however, 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 posted via either the BAA and Requirement Questions features, accessible from the BIDS homepage via Have a Question?, or emailed to BIDSHelp@iwtsd.gov. No other office personnel will acknowledge, forward, or respond to any inquiries received in any manner concerning the BAA. All questions must be received no later than 14 days after the release of the final BAA. Contractual questions and answers will be posted periodically under BAA and Requirement Questions. Offerors are encouraged to periodically review BAA Questions, accessible from the BIDS homepage via Have a Question?.

1.7. BIDS Website Help Requests.

For technical help using BIDS, submit questions to BIDSHelp@iwtsd.gov or by using the button

located under Have a Question?. Include a valid email address, your BIDS username, and a detailed description of the question or concern in the comments block. BIDS provides other valuable resources, such as Doing Business with the Government. Reference documents noted in this BAA, such as the Quad Chart Sample and IWTSD Cost Proposal Template, are available for download under Resources on the homepage menu bar.

A list of BIDS FAQs can be found in the Have a Question? section of BIDS.

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.

- All offerors must be registered in the System for Award Management (SAM) database prior to award at https://sam.gov/.

Other helpful information is provided under Doing Business with the Government on the BIDS homepage.

2.1.1. Who is eligible?

All private companies, educational institutions, non-profit organizations both large and small are able and encouraged to submit to the IWTSD BAA.

2.1.2. Federally Funded Research and Development Centers.

Only DoD-Sponsored Federally Funded Research and Development Centers (FFRDCs) can compete with commercial sector Vendor submissions and will be evaluated using the normal BAA process. For further information, reference DFARS 235.017-1.

2.1.3. Research Development and Engineering Centers (RDECs).

DoD Research Development and Engineering Centers (RDEC)s)/Labs, e.g., Naval Research Lab (NRL) may submit to the IWTSD BAA. Submissions from RDECs/DoD Labs will be evaluated only after all commercial sector Vendor and DoD-Sponsored FFRDC submissions have been evaluated and determined that such submissions did not meet the BAA requirement.

IWTSD will inform the RDECs through a BIDS notification at time of submitter registration that RDEC submissions will be reviewed last in the process, i.e., after all commercial sector Vendor and DoD Sponsored FFRDC submissions are reviewed and determined that none meet the BAA requirement. RDECs/DoD Labs will also be informed of this condition during registration in the BIDS system.

If an RDEC's/DoD Lab's submission meets the BAA requirement and all other commercial sector Vendor/DoD-Sponsored FFRDC submissions have been exhausted (i.e., post non-select), correspondence with the RDEC will occur directly (Government to Government) to establish a SOW, deliverables, and MIPR/Work Order to commence the project.

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 Contracting Officer for resolution before time and effort are expended in preparing a proposal.

2.3. Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment.

FAR provision 52.204-24 applies to all BAA requirements. The full text of FAR provision 52.204-24 is below.

52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment (Nov 2021)

The Offeror shall not complete the representation at paragraph (d)(1) of this provision if the Offeror has represented that it "does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument" in paragraph (c)(1) in the provision at 52.204-26, Covered Telecommunications Equipment or Services—Representation, or in paragraph (v)(2)(i) of the provision at 52.212-3, Offeror Representations and Certifications-Commercial Products or Commercial Services. The Offeror shall not complete the representation in paragraph (d)(2) of this provision if the Offeror has represented that it "does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services" in paragraph (c)(2) of the provision at 52.204-26, or in paragraph (v)(2)(ii) of the provision at 52.212-3.

(a) *Definitions.* As used in this provision—

Backhaul, covered telecommunications equipment or services, critical technology, interconnection arrangements, reasonable inquiry, roaming, and substantial or essential component have the meanings provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) *Prohibition.* (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered

telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(c) *Procedures*. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(d) *Representation.* The Offeror represents that—

(1) It □ will, □ will not provide covered telecommunications equipment or services to the Government in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation. The Offeror shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Offeror responds "will" in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offeror represents that—

It □ does, □ does not use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services.

The Offeror shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Offeror responds "does" in paragraph (d)(2) of this section.

(e) *Disclosures.* (1) Disclosure for the representation in paragraph (d)(1) of this provision. If the Offeror has responded "will" in the representation in paragraph (d)(1) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipment manufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(2) Disclosure for the representation in paragraph (d)(2) of this provision. If the Offeror has responded "does" in the representation in paragraph (d)(2) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.
(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the PSC of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(End of provision)

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. The Contracting Officer may challenge proprietary markings if they are not substantiated.

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

2.5.1. Procurement Integrity.

The Government shall comply with FAR 3.104 in its treatment of information submitted in response to this BAA solicitation and marked with the individual's 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 Department of Defense Federal Acquisition Regulation Supplement (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 Section 252.227-7014 (regarding

computer software and software documentation). Both clauses (DFARS sections 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 that may be included in the contract.

Table 1. Contract Clauses	
DFARS	**Title**
252.227-7013	Rights in Technical Data – Noncommercial Items
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation
252.227-7016	Rights in Bid and Proposal Information
252.227-7017	Identification and Assertion of Use, Release, or Disclosure Restrictions
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
252.227-7027	Deferred Ordering of Technical Data or Computer
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, which 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 data (report) requirements include Monthly Status Reports (MSRs), meeting minutes 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 (e.g., system specification). The Government will provide the offeror with a full listing of data deliverables (i.e., Contract Data Requirements List) in the request for Phase 3 Full Proposal. 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. Information regarding compliance requirements for using humans and animals in testing is also available on BIDS under Resources.

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 - 2159, 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 Instruction (DoDI) 3216.01, as implemented by SECNAVINST 3900.38C, 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 DoDI 3216.02 and DFARS clause 252.235-7004. If human subjects are to be used at any time during the project, the contractor shall have a Federal assurance that is acceptable to IWTSD 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 IWTSD 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 IWTSD Contracting Officer's Representative 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.

2.10. Submission Document Language.
All submission documents must be in English.

2.11. Risk Management Framework.
The DoD requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. Standards and compliance apply even if the solution is a component of a larger system. Information technology systems must be compliant with the DoD Risk Management Framework as described in DoD Instruction 8500.01. Compliance with this instruction ensures all projects account for information security from requirements gathering to implementation, maintenance and continuous monitoring.

3. PROPOSAL PREPARATION.

This section provides information and instructions for the preparation and submission of all phases 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 https://bids.iwtsd.gov/ is used: (1) to provide public access to the BAA package; (2) to collect all unclassified submissions; and (3) 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. Registrations should reflect the offeror's contracting or business authority. The username, created by the offeror, must be unique and is used for BIDS log in and submission tracking. Registration acceptance for submitters is automatic, but takes several seconds to be recognized by BIDS. A success email will be sent to indicate that the username and account are accepted. BIDS is email dependent and uses the registration email as the single point of contact (POC) for all notifications associated with the BAA. This email address should be monitored frequently during the BAA process for the notices. Submitters should periodically check status in their account, not receiving a notification email does not constitute grounds to appeal an evaluation decision. Spam blockers and other email security software may cause a notification email to be rejected; check your account. Email 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 POC, email, and password can be updated after log in. The "Forgot your password?" link on the BIDS login page allows registered users with a valid username to automatically reset a password. The system will verify the account username and email and then send a new password to that email.

3.1.3. Registration and Account Help.
BIDS help requests can be emailed to BIDS administrators at BIDSHelp@iwtsd.gov or submitted via the button located on the Have a Question? page.

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, the requirement number, the username, and a Vendor Internal Tracking (VIT) 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

CBRNE-1112-ABCCORP-10703JT-QC	
From Sample	Document Identifier Component
CBRNE	subgroup designation - from BAA
1112	requirement number - from BAA
ABCCORP	username - from BIDS registration
10703JT-QC	VIT number - any alphanumeric combination (with no special characters or spaces) created by the submitter for (submitter) tracking purposes along with the **document type suffix**

3.1.4.2. Creating Vendor Internal Tracking (VIT) Numbers.
VIT numbers are unique identifiers created by submitters and entered in the submission record during the upload process. VIT 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 VIT numbers and will not allow the submission record to be saved if the VIT number has already been used. Table 3 provides sample VIT numbering formats for each document type.

Table 3. Sample VIT Numbers for an Accepted Submission

Document Type	Auto-generated by BIDS	VIT#
Quad Chart +1-page addendum	CBRNE-1112-ABCORP	10703JT-QC
White Paper	CBRNE-1112-ABCORP	10703JT-WP
Full Proposal	CBRNE-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 VIT number formats for multiple submissions to the

same requirement.

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

Submission #	Auto-generated by BIDS	VIT# Sample 1	VIT# Sample 2*
Submission 1	CBRNE-1112-	10703JT-QC1	QC1
Submission 2	CBRNE-1112-	10703JT-QC2	QC2
Submission 3	CBRNE-1112-	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 submissions are 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 (detailed below) if applicable. In BIDS, open the submission record under **Previously Uploaded Proposals**. Only submissions with the **Update Proposal** status can be modified. Changes can be made after clicking on the submission link. Click on the trash icon to delete the old file. Use **Choose File** to select the revised document. Click **Save Proposal** to save the changes. Documents cannot be edited online through the BIDS interface. File names must contain no spaces or special characters. Ensure the file size does not exceed the prescribed limits. To completely remove a submission from consideration, select **Delete Proposal**. Changes after the submission 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 placeholder document that the submission cannot be uploaded due to classification and include the method of delivery (hand-carried, secure mail, etc.) as well as the tracking number, if applicable. 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, email: BIDSHelp@iwtsd.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 Submissions.

Offerors shall prepare and upload a one-page Quad Chart and a one-page addendum in response to Phase 1 of this BAA. All pages shall be 8 ½ by 11 inches. Use Times New Roman font size 10 point or greater. Single spacing is preferred for the addendum. If more than two pages (i.e., the Quad Chart plus the addendum) are submitted, only the first two pages will be evaluated. Phase 1 submissions 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 1500 (3:00 p.m.) U.S. Eastern Time on the date specified on the cover of this document. Likewise, classified submissions must be received by the same due date and time. Offerors must create a placeholder record in BIDS with an unclassified cover page attachment. Refer to section 3.4 of this BAA 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 and addendum shall be submitted in a single file. This file must be in Portable Document Format (.pdf). Adobe Acrobat and MS Word can generate such files. The document must be print-capable, without password, and no larger than 1024 KB. File names cannot contain spaces or special characters. Apple users must ensure the entire file name and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

[NOTE: ZIP files and other application formats, such as Microsoft Office (.docx or .pptx) are NOT acceptable.]

3.5.3. Quad Chart and Addendum 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 on BIDS under Resources.

3.5.3.1. Header Information.
Header information shall include the BAA 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 ongoing efforts. Briefly describe the tasks to be performed for each phase. A bulleted 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. Vendors shall also note the type of contract proposed (e.g., FFP, CPFF, etc.). 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, all applicable data requirements and minimum data report requirements (e.g., MSR, meeting minutes, Final Technical Report, etc.) 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 2.6. of this document. Corporate contact information shall include the submitter's company name, POC, phone number, and email address. Include any significant teaming partner (contact information) relevant to the evaluation.
[NOTE: The contact information in the BIDS registration is used for all notices and contact purposes.]

3.5.3.6. Addendum
The offeror shall use the addendum to describe the technical solution in greater detail.

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 emailed 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 emailed to the address provided in the BIDS registration. Debriefings for Phase 1 submissions 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. All Phase 1 submissions are

evaluated in accordance with Section 4, Proposal Evaluation, of this BAA.

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 outside of the BIDS system (e.g., phone, email, etc.) concerning the status of Phase 1 submissions will not be accepted. After BIDS log on, submitters are able to check the status of their submission(s) under **Previously Uploaded Proposals.**

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. The cover page template is provided at the BIDS website under Resources. The cover page is excluded from the White Paper page count. All submission pages shall be 8 ½ by 11 inches, double-spaced with Times New Roman font 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.

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 Phase 1 Quad Chart acceptance email. Likewise, classified submissions must be received by the same due date and time; offerors must create a placeholder record in BIDS with an unclassified cover page attachment. Refer to section 3.4 of this BAA for instructions on classified submissions. BIDS does not allow proposals to be uploaded or for classified submissions 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 a single file. This file must be in Portable Document Format (.pdf). Adobe Acrobat and MS Word can generate such files. The document must be print-capable, without password, and no larger than 2048 KB. File names cannot contain spaces or special characters. Apple users must ensure the entire file name and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

[NOTE: ZIP files and other application formats, such as Microsoft Office (.docx or .pptx) are NOT acceptable.]

3.6.3. Phase 2 Document Upload.
To upload a next phase document, use the link back to BIDS provided in the acceptance email, or log in to BIDS and navigate to Requested Proposals to open the accepted record. Review the checklist then click Create Proposal 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 email 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 BIDS under Resources. The cover page includes necessary contractual information including the offeror's contracting POC (name, telephone number, email address, facsimile number, mailing address) and business information such as your Unique Entity ID issued by the sam.gov website. Include the proposed contract type, total cost, and the duration of all phases/tasks. The cover page is 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 state if none. For each phase include the exit criteria and all products and deliverables as defined in section 2.6 of this BAA. State if a phase is proposed as an option.

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 POP in months using January 30th as a notional start date through the completion date. Please address plan to ensure timely delivery of supplies in a restrictive global supply chain environment.

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 2.6. of this BAA), and other costs (e.g., subcontracts, indirect rates, profit or fee rate) for

each phase/task. Costs allocated to other organizations (e.g., Government testing) shall be clearly shown; or state if none. Changes in cost from those proposed in the prior submission shall be explained. Address any concerns regarding material that will be needed that may be associated with global supply chain delays and cost control measures to ensure contract remains within negotiated material costs.

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 submission. See section 2.5 of this BAA for additional information.

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 2.5 of this BAA for additional information.

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. State if unlimited rights in technical data are proposed. See section 2.5 of this BAA for additional information.

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. The offeror is only required to submit past performance information in response to a request for Full Proposal.

3.6.5. Phase 2 Status and Inquiries.
Phase 2 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries outside of the BIDS system (e.g., phone, email, etc.) 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 Previously Uploaded

Proposals.

3.6.6. 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 emailed 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 emailed 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. All White Papers are evaluated in accordance with section 4. Proposal Evaluation, of this BAA.

3.7. Phase 3 Full Proposal Submissions.

Offerors shall prepare and upload a Full Proposal, consisting of a Technical Proposal in Portable Document Format (.pdf), a completed IWTSD Cost Proposal template (using the Microsoft Excel format provided by IWTSD) along with a supporting Cost Narrative pdf, plus a cover page, in response to Phase 3 of this BAA. All pages shall be 8 ½ by 11 inches, double-spaced with Times New Roman font 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 Proposal 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 Cost Proposal has no page limit; however, unnecessarily elaborate or information beyond those sufficient to present a complete and effective response is not desired.

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 requirements, or any request for proposals for this solicitation, at any time prior to award and shall not be liable for any cost of proposal preparation or submission.

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 email. Likewise, classified submissions must be received by the IWTSD Security Office by the due date and time; offerors must create a placeholder record in BIDS with an unclassified cover page attachment. Refer to section 3.4 of this BAA 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 technical proposal must be submitted in **Portable Document Format (.pdf).** The IWTSD Cost Proposal Template (MS Excel) must be completed and submitted with

formulas visible and the document unlocked. A supporting cost narrative must be submitted in **Portable Document Format (.pdf).**

The document must be print-capable, without password, and no larger than 2048 KB. File names cannot contain spaces or special characters. Apple users must ensure the entire file name 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 under Requested Proposals. Review any available files (e.g., SOW, CDRLS) and the checklist, then click Create Proposal and follow the instructions.

3.7.4. Full Proposal Components.

Full Proposal shall consist of three major sections (Technical Proposal and Cost Proposal with a supporting Cost Narrative) described in this document, and can be uploaded to BIDS as three separate files each limited to 2048 KB.

- 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.

- The second section is the cost proposal, which will show a breakdown of costs by CLIN as well as phase using the Cost Proposal template. **This template is available on the Resources page of BIDS.**

    - Part of the cost proposal is a cost narrative that includes all cost data as well as an explanation of changes in cost from those proposed in the prior submission. Additionally, the offeror will include a cover page as follows:

      A cover page template is provided at the BIDS website under Reference Materials. The cover page includes necessary contractual information including the offeror's contracting POC (name, telephone number, email address, facsimile number, mailing address) and business information such as your Unique Entity ID issued by the sam.gov website.. Include the proposed contract type, total cost, and the duration of all phases/tasks.

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 submissions. The following sections and associated data are required. The offeror shall incorporate all clarification data requests in the Phase 2 acceptance email. Indicate clarification entries by footnote and reference the requested item(s) in the footer area.

3.7.5.1. Table of Contents.

The technical proposal shall include a table of contents noting the page number of

each section detailed below. The table of contents is excluded from 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. If subcontractors are proposed, include a detailed description of the effort that they will be performing in support of or in addition to the prime.

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 POP 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 2.6 of this BAA for minimum reporting 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 immediately upon execution of contract. This may range between December and March. Indicate any optional phases.

3.7.5.7. Government Furnished Equipment.
Reasonably identify all Government furnished equipment (GFE), materials, facilities, or information with the need date and suggested source at the time of proposal submission. GFE includes, but is not limited to: Government email accounts, SIPRNET access, Common Access Cards (CACs), and/or space at an IWTSD or other Government facility (e.g., permanent residence, temporary residence, or testing). Upon identifying GFE, if an offeror's proposal is selected for contract award, the proposed GFE will be identified in the resulting contract. Failure to adequately identify necessary GFE may result in contract termination due to the offeror's inability to perform under this competitive source selection. State if Government equipment, materials, facilities, or information are not required.

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 state if none.

3.7.5.11. Intellectual Property, Technical Data, and Software.

All anticipated intellectual property, technical data or software rights shall be disclosed. See section 2.5 of this BAA for additional information.

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.
State if unlimited rights in technical data are proposed. If not, 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. When less than unlimited rights are proposed, a data rights assertion table shall be provided as prescribed in DFARS 252.227-7017.

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. The cost to prepare the Transition Plan should be included in the proposed costs. The cost to prepare the Transition Plan should be detailed in the cost proposal. Additional information regarding the Transition Plan can be found in the IWTSD Technology Transition Handbook located on BIDS under Resources.

[NOTE: If the specific requirement will not reasonably result in a prototype (e.g., study, service requirement), state "Not Applicable to this Requirement" and justify why.]

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. If the phases of performance include representative user test and evaluation: (1) ensure coordination of user participation is thoroughly discussed in the technical approach; and (2) state "Representative User Participation will occur during contract performance."

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 state if none. 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 2.9, "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 $750,000 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 and each significant subcontractor, if any, shall fill out the IWTSD Cost Proposal Template (available on BIDS under Resources) and submit all supporting cost or pricing data along with any other supporting attachments. All prepared spreadsheet formulas must be accessible. As soon as practicable after agreement on price, but before contract award, the offeror shall submit a Certificate of Current Cost or Pricing Data for contracts exceeding $2,000,000 as prescribed by FAR 15.406-2.

[NOTE: To determine the reasonableness of the cost proposal, the Government may request additional supporting documentation for proposed costs.]

3.7.6.1. Cost Narrative.

Provide a narrative discussing/substantiating elements of the cost proposal. Provide a separate summary of the total cost for each phase and for the total of the entire effort proposed. Indicate optional phases. Explain changes in cost from those proposed in the previous submission. The Cost Narrative must be submitted in PDF (.pdf) format with Times New Roman font no smaller than 10 point.

3.7.6.1.1. Table of Contents.

The cost narrative shall include a table of contents noting the page number of each section detailed below.

3.7.6.1.2. Direct Labor Costs.

Detail the direct labor cost estimate by showing the breakdown of labor hours, rates, cost for each category, and furnish the basis for the estimates.

- *Labor Category*. Include a detailed description of the category.
- *Labor Hours*. Include a Basis of Estimate for the proposed hours. Detail hours to be worked by each labor category proposed per each task, per each fiscal year and cumulatively.
- *Labor Rates*. Rates shall be in accordance with established rate agreements. If no rate agreement exists, use payroll data with actual rates to substantiate the proposed rates. If fully loaded rates are proposed, the offeror shall identify the base rate and build up.
- *Escalation*. Identify the escalation rate, how the rate is applied, and provide justification for the rate used.

3.7.6.1.3. Indirect Costs.

Indicate how the offeror has computed and applied offeror's indirect costs (e.g., overhead, G&A, material burden). Indicate the rates used and provide an appropriate explanation.

3.7.6.1.4. Other Direct Costs.

Identify all other costs directly attributable to the effort and 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.

- *Travel.* The basis for travel estimates will include trip purpose, departure site and destination, number of persons traveling, number of days, ground transportation requirements, and detailed costs for airfare, hotel, rental cars, and per diem allowances per Federal Travel Regulations (FTR).
- *Materials.* Submit a detailed Bill of Materials identifying each discrete material component. Backup documentation must be submitted to explain the basis of estimate for at least 80 percent of the total material cost proposed. Backup documentation may include actual production costs, catalog listings, supplier quotes, actual invoices, or other documentation from a third-party source which verifies the proposed price.
- *Consultants.* If any consultants are to be used, the offeror shall submit consultant quotes for hourly rates, estimated number of hours required, and justification.
- *Subcontractors.* If any subcontractors are to be used, the offeror shall submit complete subcontractor quotes or proposals as part of the proposal. Subcontractor proposals will be evaluated along with the prime's proposal, and they are expected to contain the same level of detail as a prime proposal. Subcontractors providing commercial items may submit a commercial quote instead of a detailed proposal.

  [NOTE: In order to protect proprietary data, subcontractors may submit their detailed cost proposals directly to the Contracting Officer instead of submitting to the prime contractor. If this occurs, the prime is responsible for ensuring subcontractor's submission is timely and is completed in accordance with these instructions.]

3.7.6.1.5. Government Furnished or Contractor Acquired Equipment.
Identify the external property or materials required to perform the task in the summary. Separate items to be acquired with contract funds and those to be furnished by the Government. Reasonably provide the description or title and estimated unit and total costs of each item (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 of the extent to which the offeror is willing to acquire the items.

[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.]

3.7.6.1.6. Profit or Fee.
Include the profit or fee proposed for this effort. State if no profit or fee is proposed. Include a discussion, in the summary, of risk, technical

difficulty, need for management/oversight, exceptional circumstances, etc.

3.7.6.1.7. Competitive Methods.
For those acquisitions (e.g., subcontract, purchase orders, material orders) over $250,000 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)).

3.7.6.1.8. 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.

3.7.6.1.9. 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.
  [NOTE: 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.]
- 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.

3.7.6.2. 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.

3.7.6.3. 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.

3.7.6.4. Additional Information/Documents.
Additional information/documents to be included in the Cost Narrative:

- *Business/Cost Checklist*. The offeror shall complete and include a copy of the Business/Cost Checklist found at the BIDS website under Resources. Information and documents required in the Business/Cost Checklist shall be included in this proposal.
- *Terms & Conditions*. The offeror shall identify any anticipated/proposed contract terms and conditions in the proposal summary.
- *Proposal Validity*. The proposal shall remain valid for a period of no less than 180 days from submission.
- *Forward Pricing Rate Agreement*. If the offeror has an applicable rate agreement with DCAA (or another Federal Agency, e.g., HHS), please include a copy of the agreement and provide a point of contact to your cognizant DCAA office. If the offeror has not previously been audited by DCAA, the procuring office may request an audit to verify the proposal labor direct and indirect rates. This applies to both prime contractors and subcontractors.
- *ACH Form*. The offeror will submit a completed ACH Form. (Found on BIDS under Resources).
- *VETS-4212*. The offeror will submit the most recent VETS-4212 filing confirmation.
- *Subcontracting Plan*. If the offeror is a large business and work will be performed in the United States, a Small Business Subcontracting Plan shall be submitted if the contract is expected to exceed $750,000.
- *Past Performance*. The offeror shall provide information on previous Federal Government prime or subcontracts featuring endeavors relevant (i.e., within the past three years and of similar size and complexity) to the specific requirement.

3.7.7. Phase 3 Notifications to Offerors.
Notification of acceptance or rejection of a Phase 3 submission will be sent via email to the offeror's principal contact as entered in the BIDS registration. Acceptance of a Full Proposal does not guarantee a contract will be awarded. If the Government does not accept the Phase 3 proposal, the offeror may request a formal pre-award debriefing.

3.7.8. Phase 3 Protests.
Offerors are encouraged to see resolution within the agency before filing a protest. Offerors who choose to submit any protest, must do so directly to the IWTSD Contracting Officer. All such protests will be processed under procedures that depend on whether the protest is directed to the agency, or to the Government Accountability Office (GAO) or to the Court of Federal Claims. Should the offeror choose to submit a protest, the Offeror must clearly label whether such protest is to the agency, GAO or the Court of Federal Claims. The Government will deem receipt of the protest by the Contracting Officer as constituting receipt or purposes of determining timeliness. Addresses for receipt confirmation can be requested via the BIDS Help function.

3.7.9. 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 log in to the BIDS website, submitters are able to check the status of any submission under **Previously Uploaded Proposals.**

3.8. Clarification Requests.

Should the offeror be asked to submit clarifications to a Phase 2 White Paper or a Phase 3 Full Proposal, the BIDS email 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 CBRNE-1112-ABCORP–xxxx-CL; where xxxx-CL is the VIT 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., CBRNE-1112-ABCORP–xxxx-WD or xxxx-NoBid). To withdraw a submission after the due date and time, notify the contracting officer at BIDSHelp@iwtsd.gov.

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, 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 of 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 pre-coordination with all participants (including Government facilities) fully documented.

The requirement for and the anticipated use or integration of Government Furnished Equipment/Information/Property (GFE/GFI/GFP) including all equipment, facilities, and information, must be fully described including dates when such GFE/GFI/GFP 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 subcontractors. 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 email 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.
Past performance is a confidence assessment based upon the probability of successfully performing the requirement. 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. The intent of this BAA is to identify technologies and approaches that provide solutions that enhance the capabilities for DoD to conduct Irregular Warfare (which includes missions of unconventional warfare (UW), stabilization, foreign internal defense (FID), counterterrorism (CT), and counterinsurgency (COIN)) against all adversaries and to deliver those capabilities to DoD components and interagency partners through rapid research and development, advanced studies, and technical innovation.

Where noted, T = Threshold and O = Objective.

5.1. Advanced Analytics (AA)

R5031 Irregular Warfare Modeling Tool
The Joint Force requires a software tool to model and wargame the effects of irregular warfare related operations, activities, and investments (OAIs) conducted during competition. This tool will support the assessment of the effectiveness of various force configurations and capabilities both in deterring competitor actions and in achieving desired outcomes.

The primary focus of the tool is competition, predicting how OAIs conducted during this phase deter competitors. The tool should model close effects, near abroad effects, and global effects of competition related OAIs.

The outputs of this tool will inform Army Special Operations Forces (ARSOF), United States Special Operations Command (USSOCOM), Service, and Joint wargames and experiments by providing an accurate representation of irregular warfare effects. These effects include campaigning, resilience, resistance, recovery, and dislocation.

The tool will provide analytical rigor and quantitative support to decision-making both on the development of appropriate capabilities as well as the force size requirements for USSOCOM, Services, and ARSOF components.

Competitive proposals shall use an iterative or agile software development approach that allows DoD end users to test/sample milestone software releases (alpha, beta, etc.) and offer guidance on software performance and alignment with the desired end-state.

Proposals shall explain how the software tool will develop a range of quantifiable effects for special operations forces irregular warfare campaigns during competition, encompassing the full spectrum of irregular warfare OAIs.

The proposals shall include an example of how the software tool provides a means to assess effects for a Special Operations Task Force (SOTF) including deployed forces, partners, irregulars, and reach-back/over-the-horizon technologies/capabilities.

The initial capabilities of the software tool will enable future SOF force design by modeling units of action with the capabilities required for irregular warfare OAIs; and account for effects

generated throughout the competition cycle, including integrated deterrence, crisis, conflict, and return to competition.

The tool will provide objective outcomes based on specified geographic, cultural, religious, and political factors. Vignette-driven semi-automated adjudication will use military, social, behavioral, and historical measures of effectiveness.

The tool must adjudicate effects on adversary tactical and operational units, leadership, and strategic adversary and neutral military and civilian audiences.

The tool must be usable on a standalone system operable on DoD common computers requiring minimal user training for DoD end users.

The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

Deliverables Base Contract:

- Deliver a unified Irregular Warfare Modeling Tool ready for operational testing and evaluation (OT&E).
- Support an additional three (3) months of operational test and evaluation with U.S. Army Special Operations Command (USASOC), or other selected DoD end users, to correct underperforming features, resolve software stability issues, and issue software patches.

Contract Options:

- Additional twelve (12) months of support for maintenance and necessary software patching.
- Receive accreditation and deploy production prototype software with Authority to Operate on an Impact Level 4 (IL-4) DoD end user selected enclave (e.g., Government network, cloud, or enterprise server).
- Receive accreditation and deploy software with Authority to Operate on an Impact Level 6 (IL-6) selected DoD enclave (e.g., Government network, cloud, or enterprise server).

Developers shall provide end user training on all systems delivered.

The Government will provide an influence-based correlation of forces and means table and an existing model platform with a user interface.

The Government requests Government Purpose Rights to all deliverables and unlimited rights to technical data and training data.

A firm-fixed-price proposal with a base contract period of performance of less than eighteen (18) months is preferred.

R5035 Defense Analysis and Planning Support Environment (DAPSE) (Automated)
The Joint Force requires an enterprise tool for developing competitive strategies and plans that support ongoing, integrated campaigns designed to deter aggression and provide the United States with influence, advantage, and leverage to secure strategic objectives. To be effective, joint planning processes require practitioners to consider a vast number of factors and actors all with distinct roles, interests, and objectives. It also requires deep consideration of human factors (cognitive and decision calculus) that go far beyond "Order of Battle" analysis (e.g., force disposition and capabilities). Further, successful competitive strategies require integrated approaches that reach across multiple domains and geographies, and which leverage the strengths of U.S. allies and all the elements of national power.

To address this requirement, the DoD conducted research and development to create a decision analysis and planning tool for multi-actor, competitive environments below the level of armed conflict. The resulting DAPSE tool is intended to support distributed, multi-organization collaboration by providing a common framework for planning and assessing influence and deterrence operations in highly complex, multi-actor competitive environments. As such, the tool allows users to address simultaneous challenges from multiple actors and the full range of influence levers available across the Joint Force, U.S. Government, and allies and partners. The current instantiation of the DAPSE tool resides in Microsoft Office applications as a guided analytical process, workbook, and associated reference material.

The specific goal of this requirement is to transition the existing DAPSE tool into a user-friendly, interactive, web application with sequential navigation windows, navigation menu, embedded references, embedded aids, embedded graphics, savable data, pop-ups, and mouseover dialog boxes.

The application shall feature a strong Structured Query Language (SQL) relational database to facilitate data entry and mapping, as well as the ability to pull data from queriable databases of stored information. At a minimum, data inputs into the relational database shall be derived from two sources:

1. user-sourced materials such as actor interest tables and other human-analog analyses to bootstrap subsequent analyses and
2. external event databases (e.g., START Global Terrorism Database, GDELT, etc.).

The application shall include user authentication, Secure Socket Layer (SSL) compatibility, user-specific case management, and editing functionality. The application must include fillable forms that dynamically adapt to information entered in previous steps/sections and allow rapid editing of reference information. The application must also allow for user customization of the interface.

Competitive proposals shall use an iterative or agile approach to development that allows DoD end users to test/sample milestone software releases (alpha, beta, etc.) and offer guidance on software performance and alignment with the desired end-state.

Deliverables Base Contract:

- Phase 1: Deliver a production prototype DAPSE software with supporting documentation.

- Phase 2: Support three (3) months of operational testing and evaluation (OT&E) with selected DoD end users to support enhancement of underperforming features, resolve software stability issues, and issue software patches.

Contract Options:

- Deploy production prototype software with Authority to Operate on an Impact Level (IL)-4 DoD end user selected enclave (e.g., Government network, cloud, or enterprise server).
- Deploy production prototype software with Authority to Operate on an IL-6 DoD end user selected enclave (e.g., Government network, cloud, or enterprise server).

The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

The Government shall provide Government Furnished Information (GFI) in the form of a user guide and standard operating procedure for the existing DAPSE analog process (e.g., the DAPSE tool that resides in Microsoft Office applications as a guided analytical process, workbook, and associated reference material) to developers who are selected to provide white papers in Phase 2 of the solicitation (see Section 3.6.3).

Developers shall provide end user training on all systems delivered. The Government requests Government Purpose Rights to all deliverables and unlimited rights to technical data and training data.

A firm-fixed-price proposal with a base contract period of performance of less than eighteen (18) months is preferred.

R5037 BLACK LIGHT

The Department of Defense and interagency community requires a software tool to enhance data breach detection and response capabilities, mitigating the impact of these incidents on individuals and organizations. The successful development of the tool will occur through research of previous breaches, followed by development of a tool to assist with providing an early warning of breaches followed by analysis techniques to mitigate the impacts of data breaches. The proof of concept will need to be hosted in the cloud (e.g., Amazon Web Services, Microsoft Azure).

Competitive proposals shall use an iterative or agile approach to development that allows DoD end users to test/sample milestone software releases (alpha, beta, etc.) and offer guidance on software performance and alignment with the desired end-state. The base contract will have a two-phase approach.

Phase 1 will include an analysis of past breaches with a focus on early indicators that could have signaled their occurrence. Offerors will be required to evaluate a baseline on data leaks and breaches, causes, and potential indicators of impending breaches; and assess commercial-off-the-shelf (COTS) systems designed to hunt for and predict/interdict online data

breaches, with a focus on surface and dark webs. This assessment should look at the strengths and weakness of each of the highlighted COTS product and make recommendations about which should be explored further and or experimented with. Phase 1 would end with a detailed plan for the delivery of Phase 2 specifying the example architecture which Phase 2 will follow.

Phase 2 will develop an early warning system capable of triggering alerts when prevention fails and search for compromised data including: identification of relevant surface and dark web sources; automated scanning of identified sources; analysis techniques to identify data dump locations; alerting tools for new or likely data dumps; potential methods for data dump removal; consideration of additional techniques providing advanced warning of data breaches. Offerors shall design and generate a proof of concept capable of scraping the dark web for indicators of an imminent data breach. Web scraping should be performed in an obfuscated manner, identify new potential data drop links or locations, and utilize contextual analysis leveraging both standard processing and machine learning techniques. The Phases will allow both defensive and offensive postures to be undertaken and allow work to be undertaken at Controlled Unclassified Information (CUI) and higher classifications.

Key performance indicators include: implementing an automatic pipeline for the initial assessment of data dumps; efficient triage and extraction of potential entities, their types, and possible relationships; refine areas of the dark web to look into identifying marketplaces or forums where individuals boast about leaking sensitive information; tooling to establish the lineage of captured dataset or common characteristics of data dump posters; reliability and speed of the web scrape and analysis components.

The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

Base Contract Deliverables:

- Phase 1: Research and analysis of past tools and breaches. Concurrently work up a detailed plan and architecture for Phase 2.
- Phase 2: Deliver a production prototype of software.

Contract Options:

- Support an additional three (3) months of operational test and evaluation with USASOC or other selected DoD end users and the United Kingdom (UK) Ministry of Defence or selected UK Government end users to support enhancement of underperforming features, resolve software stability issues, and issue software patches.
- Provide an additional 12 months of support for maintenance and necessary software patching.
- Receive accreditation and deploy production prototype software with Authority to Operate on an Impact Level four (4) (IL-4) DoD end user selected enclave (e.g., Government network, cloud, or enterprise server).
- Deploy production prototype software with Authority to Operate on an IL-6 DoD

end user selected enclave (e.g., Government network, cloud, or enterprise server).

Developers will be required to provide end user training on all systems delivered. The Government requests Government Purpose Rights to all deliverables and unlimited rights to technical data and training data.

A firm-fixed-price proposal with a base contract period of performance of less than twelve (12) months is preferred.

R5048 Early Airborne Ground Layered Evaluation (EAGLE)
1st Special Forces Command (Airborne) (1stSFC(A)) requires a forward deployed threat detection system to support detection of relevant enemy radio frequency (RF) targeting and tracking capabilities. Special Forces detachments require distributed RF sensors to provide ubiquitous electronic warfare (EW)/ electromagnetic intelligence (EMINT) sensing and geolocation. Preparation of the environment will be a critical task to enable effective crisis response against high threat systems which remain inactive to conceal their nature and location.

This requirement will develop, test, and evaluate a low size, weight, and power (SWaP), uncrewed aerial vehicle (UAV) payload-capable network of RF sensors that is capable of utilizing a systems of systems approach to detect and geolocate enemy RF targeting and tracking capabilities (e.g., X band radar) as it relates to threats for the Joint Force. Mobile ARSOF elements will employ these sensors as part of the STORM architecture to better integrate and inform EW/cyber/intelligence systems of the Joint Force and to maximize situational awareness.

Deliverables Base Contract:

- Deliver a production, technology readiness level (TRL) 7 working prototype hardware and software system for operational test and evaluation (OT&E). The TRL 7 working prototype software will be capable of detecting enemy RF targeting and tracking capabilities in a simulated tactical environment via a low SWaP form factor.

Contract Options:

- Support three (3) months of OT&E with 1st SFC(A) or other selected DoD end users to enhance under-performing features, resolve software stability issues, and deploy software patches based on end user feedback.
- Support transition to a Program of Record under PEO SOF Warrior as identified by a USSOCOM partner.
- Software deliverables will be accredited to run on the USSOCOM Information Environment for DoD end users and Authority to Operate (ATO).

The Government requests Government Purpose Rights to all deliverables and unlimited rights to technical data and training data.

A firm-fixed-price proposal with a base contract period of performance of no more that eighteen (18) months is preferred.

5.2. Advanced Development (AD)

R000-AD-FY25 Unspecified Requirement
The Irregular Warfare Technical Support Directorate's (IWTSD) Advanced Development subgroup seeks advanced cybersecurity defenses through artificial intelligence/machine learning (AI/ML)-driven solutions for proactive threat neutralization and resilient network infrastructure. This includes enhancing real-time information sharing and collaboration using advanced networking technologies, automating cybersecurity processes to improve efficiency, and rigorously evaluating the impact of disruptive technologies on critical infrastructures.

This unspecified requirement seeks innovative solutions, new or improved technologies, or emerging capabilities pertaining to Advanced Development that may be of interest to IWTSD. Proposed projects shall be timely, relevant, and support operations. These projects shall advance high-technology readiness level (>TRL 6) prototypes and demonstrate new concepts and solutions. Areas of particular interest include tools, technologies, and capabilities that:

- Develop AI/ML-driven cybersecurity solutions for proactive threat detection, neutralization, and network defense.
- Create smart networks for automatic vulnerability repair and cyber resilience.
- Support resilient network infrastructure and enable secure scaling and modular growth by developing hardened baseline containers, operating systems, common software applications, web services, etc. that can be rapidly integrated and deployed on development and production environments (on-premise and/or cloud based).
- Enhance cyber information sharing, collaboration, and development of cyber threat intelligence through advanced networking technologies to identify and mitigate risks effectively and efficiently.
- Refine and improve cybersecurity processes, services, and capabilities through automation.
- Create automated methods of testing risks and opportunities of critical and emerging technology against critical infrastructure (both digital and physical).
- Enable non-intrusive threat and vulnerability discovery for critical Operational Technology (OT) systems that are in air-gapped environments. This may include capabilities to (a) map out a digital map of the various nodes in an air-gapped OT environment, (b) identify underlying software components and dependencies of the nodes in an automated manner, and (c) apply techniques or algorithms to prioritize remediation for any threats and vulnerabilities identified.

All submissions shall identify the anticipated U.S. DoD end user and/or endorsing organization. Any proposed project that leverages information technology to transmit, process, and/or store government data shall comply with DoD Instruction 8510.01, Risk Management Framework (RMF) for Department of Defense systems, and integrate cybersecurity principles into the overarching systems engineering process. See section 2.11 of this BAA for more information.

A firm-fixed-price proposal with a base contract period of performance of six (6) to eighteen (18) months is preferred.

Note: Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them.

Quad charts submitted in response to a subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that subgroup's focus areas.

5.3. Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE)

R5054 High Sensitivity Explosive and Drug Vapor Detector
Develop a field-portable instrument for non-contact vapor detection of trace levels of explosives and drugs, at ambient temperature and pressure, in concentrations of 9 parts-per-trillion or lower. The instrument shall be able to detect target materials during point monitoring of cargo, personnel, personal property, and luggage as a screening tool, as well as during continuous air monitoring missions such as with an air duct or open space. The system shall be portable, so sample collection and analysis can be completed on location rather than transporting samples offsite for analysis. It is also desired that the system have modular attachment(s) to allow for the introduction of samples from vapor or particle collection material into the instrument (Objective). The system shall minimize the use of consumables (i.e., internal calibrants, carrier gases) requiring replacement no more than once a month. The system shall utilize standard 110 – 115 Volts AC power and be able to continuously operate solely on battery power for more than 1 hour. The instrument shall be able to positively detect a minimum of 10 (Threshold) different manufactured or homemade explosive molecules rather than their taggants or precursors, but at least 20 (Objective) is desired. The threshold list of detectable explosives shall include:

- Royal Demolition Explosive (RDX)
- Compound C4 (98% RDX + Plasticizer)
- Pentaerythritol tetranitrate (PETN)
- Trinitrotoluene (TNT)
- Triacetone triperoxide (TATP)

The objective list of detectable drugs and explosives shall include:

- Potassium perchlorate
- Ammonium nitrate mixtures
- Fentanyl
- Carfentanil
- Acetylfentanyl

The instrument shall also meet the following specifications:
- Weigh less than 50 lbs (Threshold), but less than 10 lbs (Objective) is desired.
- False alarm rate shall not exceed 5% (Threshold), but less than 2% (Objective) is desired.

- The instrument shall take no longer than 45 minutes (Threshold) to calibrate whenever it is moved, but less than 10 minutes (Objective) is desired.
- Analysis time shall take less than 30 seconds (Threshold), but less than 10 seconds (Objective) is desired.
- Time to cleardown the system following an alarm shall not exceed 2 minutes (Threshold), but less than 1 minute (Objective) is desired.
- The instrument shall not use radioactive sources.
- The instrument shall be as small as possible and not exceed 8 ft^3 in volume.

Contract Deliverables:
- Deliver two (2) prototypes for operational test and evaluation plus consumables and material support for 1 year of system operation under the base contract.
- Include five (5) options, each for one (1) additional prototype plus consumables and material support for 1 year of system operation.

A firm-fixed-price proposal with a base contract period of performance of twenty-four (24) months or less is preferred.

R5057 Cell-free Toxin Activity Assay
Develop a cell-free biological toxin activity assay. The assay shall be able to detect a wide range of toxins and their activity with differing mechanisms of action, be operable by minimally trained staff, and operate within a forward deployed lab. The total time of sample preparation to activity read-out shall be 24 hours or less (Threshold) and it is desired to be less than 2 hours (Objective). The assay shall be shelf stable at room temperature for 6 months (Threshold) and it is desired to be over a year (Objective). The sample preparation shall minimize the use of consumables (i.e., reagents, tubes) and require minimal human involvement. The output from this technology shall be easily interpretable and use either current lab equipment (i.e., self-contained spectrophotometer) or provide alternative instruments (i.e., an adapter for smart phone). The assay shall detect at least one toxin from each column of the table below. It is desired to have multiplexed assay and detection of additional listed toxins (Objective).

Column 1	Column 2	Column 3
• BoNT/A	• Aflatoxin	• Saxitoxin
• BoNT/B	• T-2 mycotoxin	• Palytoxin
• BoNT/F	• Conotoxin (all classes)	• Tetrodotoxin
• BoNT/E		• Domoic acid

Contract Deliverables:
- 400 assays
- Option for additional assay up to 500
- 5 instruments (If using alternative instruments.)
- Option for 5 additional instruments

- Operating procedures, user manual, and reagents developed, or sourcing of commercial reagents required.

A firm-fixed-price proposal with a base contract period of performance of less than twenty-four (24) months is preferred.

R5058 Mobile Interior Decontamination of Sensitive Platforms
If aircraft are used by contaminated or potentially contaminated forces, the aircrew would be expected to use full personal protective equipment until decontamination can occur. This creates an excessive burden on the aircrew and reduces their performance. Our forces require a system that can quickly return aircraft to service.

Develop a ruggedized mobile decontamination system that shall decontaminate the interior of aircraft including V-22, CH-47, AC-130, MC-130J, MH-47G, MH-60M, MH-60M DAPs, U-28, C-146, CV-22, OA-1K, and MC-12 from secondary transfer contamination without damaging the electronics, aircraft topcoat, Chemical Agent Resistant Coating, aircraft nylon webbing, stainless steel, LEXAN™ polycarbonate, and styrene-butadiene rubber within the aircraft.

The system shall be designed to withstand a Logistic Transit Drop Test from MIL-STD-810H (Threshold) and Tactical Transport Drop Test from MIL-STD-810H while in its transport case (Objective).

The system will be compatible with existing approved Department of Defense decontaminants; however, removing the surfactant from the approved decontaminants is acceptable. Incorporation of novel decontamination solutions with better performance, such as more effective decontamination of threats including fentanyl and fentanyl analogs, is desired (Objective).

Full decontamination of the aircraft within 24 hours is required (Threshold) and 12 hours to reach AEGL-1: 0.001 mg/m^3 (8 hr) is desired (Objective). The system shall not degrade the performance of the applied decontamination solution under normal use with the same dwell time (Threshold).

The system shall take an hour or less to set up (Threshold), with 30 minutes or less desired (Objective).

The system shall be operable by 4 people (Threshold), with 2-person operation being desired (Objective).

The system shall weigh no more than 100 lbs (Threshold), with less than 50 lbs desired (Objective).

The system shall have the capability to be powered by shore, generator, and battery power. One battery charge shall power at least one decontamination cycle. Use of commercial-off-the-shelf or military-off-the-shelf batteries is desired. The system shall not be powered by any aircraft power.

System training, including operating maintenance training, shall not exceed a half day.

Contract Deliverables:

- Deliver two (2) prototypes for operational test and evaluation under the base contract.
- Include five (5) options, each for one (1) additional prototype.

A firm-fixed-price proposal with a base contract period of performance of twenty-four (24) months or less is preferred.

R5059 Scalable Tactical Assault Respirator (STAR)

Ensuring the respiratory protection of our warfighters is paramount. The STAR shall be ergonomic and provide protection from oronasal and ocular hazards during training and real-world, live fire range operations. The STAR shall enable warfighters to operate and communicate in multi-domains including breaching by open-air exothermic cutting operations in dense, urban, and subterranean environments.

Develop a tactical respirator system that is modular, ergonomic, that meets the following requirements:

- The respirator system (oronasal and ocular protection) shall provide protection factor (PF) of at least 250 (Threshold), with a desired PF of 1000 (objective).
- The respirator filters shall be designed to meet the National Institute of Occupational and Safety Health (NIOSH) 42 CFR 84 P100.
- The respirator shall allow operator to safely hot-swap filters in contaminated environments without exposure, using a self-sealing mechanism.
- In addition to P100, the respirator shall protect against:
    - Gases, fumes, and particulates associated with breaching by exothermic cutting, and gunshot residue including:

Hazard	**Hazard**	**Hazard**
Acetone	Cobalt	Nitroglycerin
Aluminum	Copper	Nickel oxide
Antimony	Diphenylamine	NOx
Ammonia	Formaldehyde	Ozone
Arsenic	Hydrogen cyanide	Potassium sulfate
Barium	Iron	Sulfur dioxide
Benzene	Iron oxide	Toluene
Carbon monoxide	Lead	Xylene
Chromium	Manganese	Zinc
	Nickel	

    - Fentanyl (covered by NIOSH P100)
    - Riot control agents: CS (chlorobenzylidenemalononitrile), CN (chloroacetophenone), and OC (oleoresin capsicum) gas (aerosol concentration between 20 and 40 mg/m^3 with a Mass Median Aerodynamic Diameter of 0.4 – 0.6 microns)

- Regardless of the number and type of filters developed to meet the above-mentioned hazards, each must meet P100 standards at a minimum and in the smallest form factor possible. The aim is to meet the highest level of protection with the minimum number of filters in the smallest form factor possible.
- Respirator System shall not exceed inhalation airflow resistance of 35 mm H2O at a constant flow rate of 85 lpm (Threshold); 15 mm H2O at 85 lpm (Objective).
- Respirator System shall not exceed exhalation airflow resistance of 25 mm H2O at a constant flow rate of 85 lpm (Threshold); 10 mm H2O at 85 lpm (Objective).
- The respirator's filters shall be capable of a least one (1) hour of continuous protection (Threshold), longer durations are desired (Objective).

The STAR system shall meet the following compatibility and operational requirements:

- The respirator's weight shall not exceed 3 lbs (Threshold), with a desired weight of no more than 2 lbs (Objective) while in operational use.
- The respirator system shall be compatible with current Special Operations Forces Equipment Advanced Requirements (SPEAR) equipment program of record.
    - Operator shall be able to wear the respirator with or without their helmet.
    - Operator shall be able to mount the respirator to their program of record helmet rail system without removing or adjusting their helmet or headsets.
    - The respirator shall integrate with current program of record communications systems, headset, and accessories.
- The respirator shall be compatible with, and seamlessly integrate into, currently issued SOF man-portable hydration systems as per military specifications. The use of adapters is permissible to ensure interoperability with diverse hydration systems.
- The respirator system shall include eye-protection that eliminates fogging and can be worn both as a standalone goggle and integrated with the respirator and offer a field of view equivalent to currently utilized ballistic goggles.
- The respirator system's eye-protection googles shall be compatible with military issue corrective eyewear/optical inserts.
- The respirator system's eye-protection shall meet ANSI z87.1-2015 requirements for optics and non-ballistic impact and provide ballistic impact protection consistent with MIL-PRF-32432A for Class 1 spectacles and Class 2 goggles.
- The respirator system shall be compatible with, and seamlessly integrate into, existing SOF Powered Air-Purifying Respirators (PAPRs) system as per military specifications. The use of adapters is permissible to ensure interoperability with PAPRs.
- The respirator design shall allow for unhindered target engagement for operators and shall enable proper cheek-to-stock weld contact for both left-handed and right-handed shooters. It is preferred that the product does not require distinct respirators or items for right-handed and left-handed operators to achieve this, ensuring universal compatibility and promoting ease of use across various operational scenarios.
- The respirator shall have a shelf-life of 10 years (Threshold) in controlled storage conditions (storage temperature range is −28 °C to 50 °C at up to 95% relative humidity), with ideal candidates providing a shelf-life of 20 years (Objective).
- The filter component(s) shall have shelf-life of 10 years (Threshold) in sealed, controlled

storage conditions, with ideal candidates providing a shelf-life of 20 years (Objective).
- The respirator shall be designed to meet DoD MIL-STD-810H standards for the following specifications:
    - Operational temperature range is −32 °C to 49 °C at up to 95% relative humidity.
    - Storage temperature range is −28 °C to 50 °C at up to 95% relative humidity.

The STAR system deliverables shall include:

- 50 full respirator systems of the same size (includes 5 full sets of consumables per mask).
- Conduct 1 train-the-trainer event on the east coast, at a location of the Government's choosing, to include procedures for inspection, set-up, maintenance/cleaning, troubleshooting, and logistical support.

- 3 options for 50 full respirator systems of an additional size (includes 5 full sets of consumables per mask).
- 5 options, each for 100 additional respirator systems (includes 5 full sets of consumables per mask).
- An option to obtain NIOSH certification.

A firm-fixed-price proposal with a base contract period of performance of eighteen (18) months or less is preferred.

5.4. Explosive Ordnance Disposal and Explosive Operations (EOD-EXO)

R5050 Adaptive Artificial Intelligence (AI) Powered Kits
Develop an effective means by which to conduct electronic circuit exploitation on first-seen ordnance and improvised explosive devices containing electronic circuitry. This system shall be lightweight, secure, and adaptive AI-powered exploitation kit that assists EOD forces with real time identification and mitigation of potential hazards.

This system will use a field-programmable gate array (FPGA) architecture and AI algorithms to scan, copy, analyze, and identify circuits in real time, as well as manipulate circuit functionality after analysis. This will allow EOD technicians in disarming, disabling, and rendering safe conventional ordnance and improvised explosive devices with greater degrees of certainty.

Deliverables:

- Five (5) kits for operational test and evaluation.
- Two (2) CONUS train-the-trainer events to include procedures for set-up, maintenance, troubleshooting, and logistical support at locations of the Government's choosing.
- One (1) set of Technical and User Manuals per kit.
- One (1) year of technical/operational support during operation test and evaluation (OT&E).

Options:

- Two (2) options for one (1) year each of technical/operational support to include software updates and system modifications if required.

Any proposed project that leverages information technology to transmit, process, and/or store government data shall comply with DoD Instruction 8510.01, Risk Management Framework (RMF) for Department of Defense systems and integrate cybersecurity principles into the overarching systems engineering process. The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

The Government requests Government Purpose Rights to all technical data and training materials and a firm-fixed-price proposal with an 18-month period of performance preferred.

R000-EOD-EXO-FY25-ERW Explosive Remnants of War Clearance
Joint Service EOD personnel require efficient and effective means for conducting post-conflict, wide area remediation and clearance of landmines, unexploded ordnance, bulk explosives, improvised explosive devices (IEDs), and other explosive remnants of war (ERW). Novel tools and solutions will greatly increase the safety and survivability of teams conducting these operations. Technologies considered under this requirement will directly address post-conflict wide area remediation of explosive remnants of war, and enhance end user capabilities for locating, identifying, rendering safe, and disposing of ordnance, both surface and sub-surface to around 18 inches deep.

Preference will be given to proposed technologies that use Artificial Intelligence (AI) algorithms to identify ERWs in real time and provide operational personnel with information regarding potential hazards associated with items identified.

Base contract deliverables:

- Ten (10) kits for operational test and evaluation.
- One (1) year of technical/operational support during OT&E.
- Two (2) train the trainer events at locations of the Government's choosing.
- One (1) set of Technical and User Manuals per kit.

Options:

- One (1) option for ten (10) additional kits, to include one (1) year of technical/operational support.
- One (1) option for one (1) additional year of technical/operational support for kits delivered under the base contract.

Any proposed project that leverages information technology to transmit, process, and/or store government data shall comply with DoD Instruction 8510.01, Risk Management Framework (RMF) for Department of Defense systems and integrate cybersecurity principles into the overarching systems engineering process. The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See

section 2.11 of this BAA for additional information.

The Government requests Government Purpose Rights to all technical data and training materials, and a firm fixed-price contract with an 18 month or less period of performance of is preferred.

Note: Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them. Quad charts submitted in response to a subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that subgroup's focus areas.

5.5. Human Performance and Training (HPT)

R5038 Broken Arrow
Special Operations Forces (SOF) require a communications training course for warfighters deployed worldwide. The modern irregular warfare environment has become heavily reliant on technology. U.S. adversaries and partners embroiled in conflicts around the world are adapting rapidly and implementing cheap, readily available commercial-of-the-shelf (COTS) equipment to communicate securely, battle track their forces and enemies, direct and utilize their uncrewed systems, and conduct reconnaissance. Current communications training within the U.S. is often disjointed, based on information that has become outdated, provided on an ad-hoc basis through external entities, has limited availability and resourcing, and often does not address SOF-specific needs and/or capabilities.

This effort is to design, develop, evaluate, and deliver a program of instruction (POI) comprised of two (2) instructor-led courses of instruction (COIs) to educate and train operators on SOF-centric communications. A third course will focus on evaluating the ability for a schoolhouse to run an existing non-standard communications COI that is non-native to the schoolhouse. The solution will need to analyze the gaps in current training/equipment, establish best practices, and develop courseware addressing specific technologies employed across the joint SOF. Courses will be titled as:

> **Course 1 – Electromagnetic Spectrum Operations (EMSO)** focused on the fundamentals of the electromagnetic spectrum, building knowledge and proficiencies within multiple EMSO disciplines (i.e., electromagnetic warfare, SOF cyber operations, signal intelligence, digital force protection). The course will enhance understanding of EMSO effects on each domain — air, land, maritime, cyberspace, and space. USSOCOM components will learn to effectively employ EMSO capabilities and other technologies, including COTS devices, in support of SOF and the Joint Force, providing integrated cross-domain effects in tactical environments. This course is intended for SOF Components as an introductory course for follow-on courses.
>
> **Course 2 – Expeditionary Infrastructure Development (EID) Course** to develop skills

and tactics, techniques, and procedures to support the resourcing and implementation of low-cost, expendable, COTS networking, surveillance, and digital communications technology to enable special operations.

Course 3 – Non-Standard Communications (NSC) focused on utilizing COTS and government-off-the-shelf (GOTS) tools to communicate in a contested environment while minimizing signature.

The offeror will deliver no less than three (3) iterations each for Courses 1 and 2 for evaluation. A culminating exercise (CULEX) is required for each iteration of Course 2 to assess learning outcomes and demonstrate the students' ability to create an expeditionary infrastructure that supports a mission based on recent real-world vignettes. At the conclusion of each iteration, the offeror will be responsible for gathering feedback from students, subject matter experts, instructors, and other U.S. Government customers.

For Course 3, the COI evaluation will determine what deficiencies, if any, exist at the schoolhouse for advanced training on the use of non-standard communications methods, technology, and equipment.

For all courses, Government feedback will be used to refine and make improvements to the COIs, training aids, equipment list, training environment, and evaluation methods. Courses and CULEX shall take place at a Government-approved location on the east coast of the U.S. The offeror will be responsible for evaluating and refining the POI in accordance with Government feedback throughout the project lifecycle. The POI shall be developed using the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) or equivalent instructional systems design framework. Offers should provide information on current experience in POI development, training in electromagnetic spectrum operations, standard and non-standard communications, and possess experience developing under the ADDIE framework. Curricula will include unclassified and classified information elements. Developed courseware will be at the SECRET//NOFORN level. The offeror must possess a TS/SCI clearance and approved facilities to perform this work.

The Government will provide students, operational subject matter experts, and necessary Government Furnished Information/Government Furnished Equipment, as available, throughout the effort to guide development and transition of the courses to an established Government training activity. At the conclusion of the contract, the POI, all equipment, training materials, and training aids required to plan, run, support, implement, and further develop the courses shall be transitioned to the Government.

Offerors must reference the above course titles in their response. Offerors may submit a proposal that addresses a technical solution for a singular course or for all three (3) courses as described above.

The U.S. Government must receive full unlimited technical data rights for all products developed during this project.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5039 Multi-Domain Operations (MDO) Battle Lab
Special Operations Forces (SOF) must affect the operational environment by leveraging capabilities in all domains and protect themselves from similar capabilities. To succeed in an active theater, tactics, techniques, and procedures (TTPs) must be developed through training. Current training sites and facilities on major installations which host SOF lack Multi-Domain Operations (MDO), subterranean, and dense urban terrain assets for operators and are unable to provide a comprehensive training environment that considers all characteristics of urban terrain to replicate the battle space. The training fixtures most notably will need to emphasize the electromagnetic spectrum in the subterranean, ground, and above ground levels of a city. SOF requires cost-effective and highly customizable unit home station training fixtures capable of replicating multiple physical and electromagnetic environments to support training progression and standard operating procedure development, an "MDO Battle Lab."

This effort is to design, develop, test, and deliver training fixtures and peripheral equipment that would support the Battle Lab. These fixtures and equipment will be deployed in physically reconfigurable spaces (e.g., adaptable interior walls and doors) and allow for integration of multiple layers of electromagnetic spectrum inputs which SOF could encounter in modern dense urban terrain and hardened secure facilities, including deeply buried substructures and civil works. The MDO Battle Lab will provide operators and instructors a means for research, development, testing, and evaluation, along with skill development and TTP refinement at home station prior to validation exercises or deployments. These fixtures will provide a scalable and tailorable level of difficulty between the suite of electromagnetic spectrum-based capabilities through its adaptable physical and electromagnetic configuration.

The training fixtures and equipment will need to replicate the effects of persistent surveillance, ubiquitous sensors, and denied communications which SOF could realistically encounter in large-scale combat operations, close-quarters battle, space-cyber hybrid warfare, subterranean, and electromagnetic warfare (EW). They will also need to allow for employment of uncrewed aerial systems (UAS), red teaming, passive and active electromagnetic collection and defense, and denied communications. The solution will need to develop fixtures to support training in a facility that possesses the following characteristics:

- Multiple stories incorporating the range of subterranean, ground, and above ground levels.
- Configurable interior spaces, including a simulated sensitive compartmented information facility (e.g., Faraday cage) and separate wing/tunnel capable of withstanding exothermic and explosive breaches up to a 20 lbs net explosive weight.
- Ability for units to overcome denied communications, practice space-cyber-EW tasks, deploy organic small UAS, and account for persistent intelligence, surveillance, and reconnaissance through a system capable of sending multiple live video feeds.
- Possess interior workable doors and panels that are easily replaced in a frame that allows breaching via hacking of a magnetic lock system or mechanical breaching.
- Escape routes in case of medical emergency.

- The solution shall employ an isolated cyber environment which does not connect to the broader internet or telecommunications channels.
- The exterior walls shall be capable of permitting or resisting electromagnetic spectrum signals.

In addition to the fixtures, this effort will need to identify and assess CONUS training locations and scenario planners to support test and evaluation of the MDO Battle Lab in the context of up to three (3) Government identified and approved training exercises.

The Government will provide participants, operational subject matter experts, and necessary Government Furnished Information/Government Furnished Equipment, as available, throughout the effort to guide development and transition of the training fixtures to the Government.

The U.S. Government must receive unlimited technical data rights for all products developed during this project.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5040 Centralized Mobile Device Tracking

Military services and their training centers are charged with preparing operators to address strategic and operational challenges, while arming them with the ability to think through problems with knowledge, insight, and foresight. As more technology is deployed to support training there is more data collected to help analyze operator effectiveness. Training centers and instructors must manage and analyze large amounts of data to support realistic training scenarios and effective feedback to help build operator capability. Current instruction relies heavily on manual human processes to analyze the data captured during training exercises which can affect the availability and timeliness of the analysis.

This effort is to design, develop, test, evaluate, and deliver a centralized tracking system for the management and analysis of large amounts of data collected from mobile devices and identify anomalous data. The tracking system will:

- Ingest and analyze data stored on a DoD Impact Level 4 (IL 4) network as well as generate data derived from commercially available near real-time information (e.g., advertising technology).
- Analyze and visualize data onto a geolocated map system.
- Process and analyze the data via a cloud-based system, whereas instructors/operators will need to access and visualize the analyzed data via a web-based system.
- Allow instructors/operators to visualize analyzed data, highlighting anomalies from single or multiple source(s).
- Utilize artificial intelligence/machine learning to identify anomalous data and attempt to identify potential future locations the device(s) might visit.
- Support the tracking of multiple (Threshold = 65, Objective = 120) Government-issued devices in near-real time.
- Be capable of integrating into other unclassified DoD systems.

The Government will provide participants, operational subject matter experts, and necessary Government Furnished Information/Government Furnished Equipment, as available, throughout the effort to guide development and transition of the tracking system to the Government.

The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

The offeror must propose personnel with the ability to be briefed at the TS/SCI level to perform this work.

The U.S. Government must receive unlimited technical data and computer software rights of all products developed during this project.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5041 Special Operations Forces (SOF) Cyber Foundational Tool Kit

As Special Operations Forces (SOF) operators prepare to shift focus away from the counter violent extremist organization fight and into the cyberspace domain, the tool kits utilized will need to be flexible. Currently, most operators are taught using open-source software (e.g., Metasploit or Cobalt Strike) to understand the capabilities and skills they may need to support operations. While open-source tools provide a great foundation for the full cyber kill chain, having a tool kit that is owned and vetted by SOF will provide more realistic and standardized training across SOF components.

This effort is to design, develop, test, evaluate, and deliver a tool kit that can be used in place of open-source software. The tool kit will be used to teach the full cyber kill chain methods in a classroom environment with a combination of virtualized and physical hardware. The solution will give operators practical use of a tool kit they will use during operations improving their effectiveness.

The tool kit will:

- Utilize Docker repositories and containers (with the final deliverable being a Docker image and the source code).
- Be shared with and run in training environments.
- Be Linux and Windows compatible.
- Be controlled and issued through role-based access controls (RBACs).
- Provide tools for students to practice the full cyber kill chain methodology.
- Include academic and practical skills with applications/labs and knowledge tests to measure student progress and proficiency of the tool kit's function. (e.g., preconfigured virtual machines (VMs), instructions to build labs, compatible with VMware and Virtual Box software).
- Include end user training, support, and integration of the tool kit in support of the course instructor.

The offeror must possess a TS/SCI clearance and approved facilities to perform this work. The Government will provide participants, operational subject matter experts, and necessary Government Furnished Information/Government Furnished Equipment, as available, throughout the effort to guide development and transition of the tool kit to the Government.

The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

The U.S. Government must receive unlimited technical data and computer software rights of all products developed during this project.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5042 Chili Dog/Military Working Dog Extreme Environments Survival Study

As large-scale combat operations move into new domains it is imperative to understand how existing resources and systems operate in these potentially extreme environments. Currently, there is little information on the effects of Military Working Dogs (MWDs) ability to execute their trained mission (detection, patrol, tracking, and search & rescue) in extreme environmental conditions. There are no effective items within the inventory to protect MWDs against extreme temperatures or to maximize MWD's performance. The need to understand what equipment is required to support kennel facilities, transportation of MWDs, provide protective measures to increase performance and sustain MWDs in these environments is vital.

This effort is to design, collect, analyze, and report the findings of field research to determine, in extreme conditions, 1) the effects of arctic and extreme heat conditions on an MWD's ability to execute their mission, 2) identify ways to maximize MWDs performance in their current and future operational requirements and 3) determining the types of protective measures and equipment required to support extended-duration missions. This effort will study the effects of extreme low (sub-zero) and extreme high temperatures and associated conditions on MWDs. The study will inform:

1. Arctic environment physiological effects on performance and wellness of MWDs.
2. Extreme cold temperature effects on the ability of MWDs to detect target odors.
3. Extreme hot temperature effects on the ability of MWDs to detect target odors.
4. Specific arctic condition effects on the ability of MWDs to detect target odors.
5. Specific hot weather condition effects on the ability of MWDs to detect target odors.
6. MWD work-rest cycles at given temperatures (130 °F, 120 °F, 100 °F, 90 °F, 20 °F, 0 °F, −20 °F, −40 °F).
7. MWD acclimation requirements to the extreme environments.
8. Performance by canine breeds in extreme conditions:
    a. Identify specific risks by breed.
    b. Include canine breeds that are not traditional MWD breeds.
9. Protective equipment to optimize MWD's performance, survivability, transportation, and housing in extreme weather and environmental conditions.

Any testing with active MWDs will be subjected to the DoD Institutional Animal Care and Use Committee for review and approval of Animal Use Protocol procedures.

The Government will provide access to military facilities, plus MWDs and handlers. Government Furnished Information and Government Furnished Equipment will be provided, as available, throughout the effort.

The U.S. Government must receive unlimited technical data rights of all products developed during this project.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5043 Tactical Counter UAS Development Training Course
Uncrewed Aerial Systems (UASs) or "drones" have entered the commercial marketspace and are readily available for consumers to purchase at affordable prices. The ease of use and accessibility to this powerful technology has drawn attention to the potential harmful uses of UASs against U.S. interests. Technologies have been successfully developed to detect, identify, and mitigate these commercially available threats. As drones with greater sophistication, speed, and size become more prevalent, it is imperative to Special Operations Forces (SOF) operators to stay abreast of the current threats. Currently, operator training is done at the controlled unclassified information (CUI) level by contracted support in a systemic methodology that covers usage and training of Program of Record (PoR) systems. This effort will focus on non-PoR, foreign, and/or non-original equipment manufacturer (OEM) systems integration and maintaining relevant adversary and peer tactics, techniques, and procedures.

This effort is to design, develop, and deliver a program of instruction (POI) with material and range support for specialized tactical counter-uncrewed systems (C-UXS) training. This POI will allow SOF to effectively incorporate organic C-UXS equipment as intended. It will expose operators to allied and adversarial C-UXS equipment as employed by those forces and will incorporate material above the CUI level. The training program will provide a variety of tactical courses to cater to the distinct mission needs of SOF on OEM and foreign C-UAS equipment, to support training partner forces with non-OEM/foreign C-UAS equipment. Knowledge of non-OEM/foreign C-UXS systems is critical as some OEM equipment is not International Traffic in Arms Regulations (ITAR) compliant and cannot be shared with foreign partners.

In addition to the above, the role of C-UAS equipment for special insertion requirements (such as waterborne infiltration, airborne, and freefall missions) will be addressed. Offerors shall have the capability of replicating the Forward Area Air Defense Command and Control (FAAD C2) system, either actual or simulated, to mimic real C-UAS currently in use operationally. The POI will be adaptable and tailorable when appropriate to align with the specific requirements of the users' ever-changing mission and threat environment. The POI must include hands-on/practical exercises where equipment is fully employed and includes force on force execution.

The offeror will be responsible for evaluating and refining the POI in accordance with Government and end user feedback. The POI shall be developed using the Analysis, Design,

Development, Implementation, and Evaluation (ADDIE) or equivalent instructional systems design framework.

Offerors should provide information on current experience with non-OEM/foreign C-UXS, POI development, training users in UAS and C-UXS capabilities, and possess experience developing POIs under the ADDIE framework.

Courses shall take place at a training location identified by the offeror and approved by the Government. Proposed training locations must facilitate full mission profiles.

The offeror must possess the necessary clearances to perform this work. The offeror must have approved facilities to perform work at the SECRET//NOFORN level and propose personnel with the ability to be briefed at the TS/SCI level.

The Government will provide students, operational subject matter experts, and necessary Government Furnished Information/Government Furnished Equipment, as available, throughout the effort to guide development and transition of the courses to an established Government training activity. At the conclusion of the contract, the POI, all equipment, training materials, and training aids required to plan, run, support, implement, and further develop the courses shall be transitioned to the Government.

The U.S. Government must receive unlimited technical data rights of all products developed during this project.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R000-HPT-FY25 Unspecified Requirement
The Human Performance and Training (HPT) subgroup focus is to address the most challenging problem sets associated with developing knowledge, skills, and abilities to deter, defeat, prevent, protect against, mitigate, and respond to irregular warfare, combating terrorism, and national security threats. This unspecified requirement (R000) seeks solutions to enhance the operational capabilities of our U.S. military, federal law enforcement, and interagency customers involved in combating U.S. adversaries by optimizing performance for significantly improved readiness and mission execution. All submissions shall identify the anticipated end user and/or endorsing organization.

Key overarching areas of interest based on HPT's focus areas are:

1. Technology that allows a learner to seamlessly interact with and become immersed in a learning environment. Tools, technologies, and techniques for improving the design and validation of interactive and immersive learning technology.
2. The full range of performance gaps and interventions to improve and sustain human performance. Methods, technologies, and programs based on cognitive and physiological principles that will optimize operator training, enhance mental and physical skills, and improve mission performance.

3. Training and educational programs that employ novel instructional design, delivery methods, and concepts to accelerate and enhance learning.

More specific areas of interest include:

- Virtual firearms instructor that utilizes artificial intelligence (AI) to provide corrective actions to students.
- Monitoring and exploiting human performance data (e.g., physiological state) within a training environment.
- Human performance data analytics, predictive modeling, and AI/ML algorithms.
- Wearable technology for operator state assessment.
- Measuring and mitigating stress and mental workload.
- Novel applications of immersive technology including virtual reality, augmented reality, and mixed reality.
- Natural language processing (e.g., conversational interaction) within immersive, simulation-based training technology.
- Cognitive skills development and assessment for those encountering complex problems and making high-risk decisions.
- Human factors/usability for operational systems.
- Human-machine teaming.
- Application of neuroscience, non-invasive methods, and innovative neurotechnology to optimize cognitive function and human performance in stressful and extreme environments (e.g. neuroplasticity).

Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that Subgroup's focus areas.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

5.6. Indirect Influence and Competition (I2C)

R5060 Assessment, Monitoring and Evaluation
CAPABILITY GAP: Information forces require enhanced ability to assess, monitor, and evaluate the information targets, objectives, and effects of influence activities. Combatant Commands (CCMDs) and organizations at lower echelons require novel means and approaches for rapid sensemaking of the information environment and assessing friendly, adversary, or neutral operations in the information environment (OIE).

DESCRIPTION: Conduct RDT&E that supports users' capability to assess, monitor, and evaluate information and influence operations more effectively. This focus area specifically addresses the ability to conduct formative and post-campaign/event/intervention assessments, monitoring and evaluation in varied operational environments, domains, and conflict conditions. The I2C subgroup and its end users are interested in innovative solutions addressing any one or more of the following gaps and needs:

- Discovery, access, and collection of relevant Publicly Available Information (PAI) and Commercially Available Information (CAI).
- Multi-modal media summarization including audio, text, video, and user-generated content (video games, social media). Scalable analytics more robust and nuanced than 'sentiment,' based in psychology and natural language processing concepts.
- Forensic capability to conduct detection, characterization, and attribution of adversary information techniques and population segmentation.
- Techniques and technologies to evaluate the comparative effectiveness of influence tools and methodologies prior to putting them into operation.
- Innovative approaches to assessing the perception of friendly forces' activities footprint, enabling a self-assessment at units/formations from tactical to strategic.
- Map allied informational impact on adversary behavior globally and dynamically – and vice versa. Identify and assess correlation and causation between adversary actions and world events.

A firm-fixed-price proposal with a base contract period of performance of less than 24 is preferred.

R5061 Develop and Deliver

CAPABILITY GAP: Information forces require enhanced ability to develop and deliver information effects against targets, and on objectives in support of DoD strategies. Combatant Commands (CCMDs) and organizations at lower echelons require novel means and approaches for rapid development of information payloads tailored for specific target audience segments and influence objectives. Operators also require new ways of delivering information effects in a contested or denied battlespace.

DESCRIPTION: Conduct RDT&E that supports users' capability to more effectively develop information, content and narratives that enable targeted engagement of foreign audiences in support of specific mission objectives. The I2C subgroup and its end users are interested in innovative solutions addressing any one or more of the following gaps and needs:

- Low-cost, disposable, precise delivery of small non-kinetic physical payloads (e.g., handheld radio, pamphlets, etc.) for information effect in an electronically contested environment.
- Processes and procedures related to new technical capabilities for instilling informational ambiguity around unit, organization or campaign intent and disposition to deny adversary sense-making of friendly forces vulnerabilities.
- Technology and tools that may enhance key steps in the deception process, such as

information conduit mapping and analysis.
- Synchronized delivery of information effects across physical, informational, and cognitive dimensions with unified messaging without physical presence in the target area.
- Dynamic polling system capable of rapid audience access and dissemination within contested networks and which compiles response data on a secured network.
- Tool to synthesize detailed and flexible adversary activity by designated size and capabilities to include administrative, digital, logistical requests, and pseudo publicly available information (PAI) to simulate realistic digital adversary actions.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5062 Concept Development and Integration
CAPABILITY GAP: Information forces require novel concepts and enhanced integration of information related capabilities (IRCs) in support of DoD strategies. Combatant Commands (CCMDs) and organizations at lower echelons require novel means and approaches for operationalizing all existing IRCs in creative and more effective ways to maintain relevance with the dynamic information environment.

DESCRIPTION: Develop future information and influence capabilities and concepts, integrate existing information related capabilities and technology to enhance operations from tactical through strategic level. Conduct OT&E and experimentation to validate novel capabilities. The I2C subgroup and its end users are interested in innovative solutions addressing any one or more of the following gaps and needs:

- Rapid, in-stride legal & ethics assistance for the Planner during operational planning
- Architecture that provides a repository for Government owned data-sources, models, and methodologies for use in influence activity training and operational environments
- Intelligence Support to Influence Activities
- Concept development for training to deceive, from tactical to the strategic
- Concept development for operating to deceive, from tactical to the strategic
- Next-generation concepts and approaches to Public Affairs for the contemporary and future information environment
- Exportable electromagnetic spectrum operations (EMSO) and other OIE capabilities
- Future information environment threat and countermeasure forecasting

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

5.7. Protection, Survivability, and Recovery (PSR)

R5065 Man-portable Mobile Airborne High Powered Microwave (HPM) Effector
Special Operations Forces conduct missions in small teams without the ability to carry larger kinetic effectors that are provided at fixed-site locations. The application of a small form factor High Powered Microwave (HPM) carried by a Group 1 or 2 Uncrewed Aerial System (UAS) provides an organic tactical capability for defeating UAS swarms or UAS operating by

alternative Command and Control (C2) methods. The requirement is valid across the Special Operations Command (SOCOM) enterprise and likely has universal applicability for small units operating outside of range of fixed-site capabilities.

Develop a low size, weight, power, and cost (SWaP-C) localized counter UAS swarm directional energy attack capability that disables or destroys primary components of UAS threats.

The system shall:

- Be man portable by an individual operator.
- Be delivered by Group 1 or 2 small Uncrewed Aerial Systems (sUAS).
- Have engagement range between 3 km – 12 km.
- Have a modular payload and be UAS agnostic.

The overall system shall have the following characteristics:

- Have a pulse effective defeat range of 25 m single pulse (T), 100 m multiple pulse return (O).
- Payload Weight: 8 pounds (T), 3 pounds (O).
- Flight Range: 3 km (T), 12 km (O).
- Flight Endurance: 15 minutes (T), 30 minutes (O).

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R5607 Counter-Uncrewed Aerial Systems (C-UAS) Edge Threat Matrix Application
Special Operations Forces (SOF) and tactical units have capability gaps in the discernment and classification of Uncrewed Aerial Systems (UAS). SOF units need the means to accurately determine if a UAS is postured to conduct surveillance operations or kinetic operations. This lack of situational awareness inhibits their ability to respond with targeted countermeasures rapidly and precisely against these UAS threats. The proliferation of UAS across the battlespace, encompassing both friendly and hostile systems, presents a formidable challenge for warfighters, demanding sophisticated and technologically advanced solutions to effectively mitigate this evolving threat landscape.

Develop a solution that accurately determines the nature of small UAS' intent (e.g., hobbyist, surveillance, or kinetic operations). The solution must use machine learning algorithms and data fusing from any combination of radio frequency (RF), radar, electro-optical (EO) / infrared (IR), and electronic warfare (EW) sensors in order to process information at the periphery (edge) of the network. The solution shall prioritize small UAS threats in a congested small UAS environment and leverage artificial intelligence (AI) to coordinate C-UAS engagements based on a threat profile. The threat profile shall incorporate data related to small UAS intent and to the extent possible, the small UAS intended target. The solution shall incorporate historical C-UAS data in support of pattern of life algorithms. However, UAS data shall not be retained beyond 180 days. The solution must recommend the most appropriate mitigation response in varying EW environments.

A firm-fixed-price proposal with a base contract period of performance of less than 18 months is preferred.

FY25 PSR Unspecified Requirements

Submissions to PSR's unspecified requirements must be of interest to the governments of the United States and Israel. Contracts awarded shall be conducted in a manner that appropriately protects sensitive technology and information and the national interests of the United States and Israel. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that Subgroup's Focus Areas.

A firm-fixed-price proposal with a base contract period of performance of less than 24 months is preferred.

R000-PSR-FY25-C-UXS Counter-Uncrewed System (C-UXS) Technologies
The scope of Uncrewed Systems (UXS) covers many types, including Uncrewed Aerial Systems (UAS), Uncrewed Ground Systems (UGSs), and maritime platforms — specifically, Uncrewed Surface Vehicles (USVs) and Uncrewed Underwater Vehicles (UUVs).

Current C-UAS solutions are air domain centric, and do not address the proliferation of technology extending into the multi-domain arena. As UXS develop greater sophistication, speed, and size in their ecosystem, it is imperative to stay ahead of the threat by developing new detection and mitigation technologies and delivering new capabilities to U.S. and Israeli warfighters.

Develop novel solutions to enhance C-UXS systems to improve detection, identification, tracking, and mitigation against UXS threats. These solutions must minimize collateral damage to citizens, property, or commercial electronic spectrum in the immediate area of the mitigation of the threat UXS. Specific areas of interest are listed below but not limited to:

- Counter-autonomy, artificial intelligence (AI), and swarming technology across the current C-UAS kill chain (Detect/Track/Identify & Classify/Defeat).
- Counter the ability of UXS to detect personnel, equipment, critical infrastructure across domains (e.g., visual, electronic) using camouflage, concealment, and decoys.
- Fuse multiple sensors across domains into a single common operating picture (COP) and use AI to assist in the identification, prioritization, and mitigation of threat UXS.
- Multi-domain detection (Detect/Track/Identify & Classify) systems (e.g., acoustic, electronic, radar, emissions, visual).
- Multi-domain mitigation systems (i.e., kinetic & non-kinetic).
- Ability to detect, track, identify, and defeat in an urban environment.
- Ability to defeat a UXS prior to the UXS becoming operational.

R000-PSR-FY25-C-UAS-AA Counter Uncrewed Aerial Systems (C-UAS) Advanced Ammunition / Propelled Munitions Technologies

The exponential growth of small Uncrewed Aerial Systems (sUAS) creates new risks for the DoD. Technology trends are dramatically transforming legitimate applications of sUAS while simultaneously making them increasingly capable weapons in the hands of state actors, non-state actors, and criminals. sUAS may also pose hazards to DoD operations in the air, land, and maritime domains when controlled by negligent or reckless operators. The Department must protect and defend personnel, facilities, and assets in an environment where increasing numbers of sUAS will share the skies with DoD aircraft, operate in the airspace over DoD installations, and be employed by our Nation's adversaries.

Develop novel solutions to enhance advanced ammunition/propelled munitions systems to improve the mitigation effects on adversary UAS Groups 1-3. Specific areas of interest are listed below but not limited to:

- Reduce the cost-per-kill of munitions solutions to defend against UAS.
- Integrate with current and future C-UAS layered defense solutions.
- Novel ammunition that has the ability to split/separate in order to create fragments to effectively destroy Group 1-3 UAS.
- Propelled Munitions / Precision Munitions to ensure Assured Position, Navigation, and Timing (A-PNT) Precision and Conventional Fires in Global Positioning System (GPS) Degraded/Denied Environments.
    - Assured Precision Weapons and Munitions (including A-PNT, M-Code GPS).
    - Network Assisted A-PNT (NA2), AltNav and non-GPS solutions.
- Pre-fragmented, programmable, proximity-fused ammunition that can be programmed in six different function modes to provide optimized effect against any aerial, surface, or shore targets.

R000-PSR-FY25-C-UXS-DE Directed Energy (DE) Weapons for Countering Uncrewed Systems (C-UXS)

Current Counter-Uncrewed Aerial System (C-UAS) capabilities are designed for countering single or limited quantities of Uncrewed Aerial Systems (UAS) using specific navigation modalities, i.e., Radio Frequency (RF)/ Global Positioning System (GPS). These capabilities have limited effects, if any, on autonomous UAS operating via different navigation modes or in swarms. Additionally, the low cost and relatively low barrier of entry for outfitting commercial-off-the-shelf (COTS) UAS with hazardous payloads causes a significant drain on the number of kinetic countermeasures available, and an unsustainable cost per kill solution over time. Directed Energy (DE) weapon systems offer unique advantages for kinetic engagements to include low cost per shot, unlimited and speed-of-light engagements, and reduced risk of collateral damage over certain munitions.

Develop novel DE weapon systems for defeating or degrading UAS capabilities for use in various environments while minimizing collateral damage and size, weight, power, and cost (SWaP-C). Specific areas of interest are listed below but not limited to:

- DE solutions for protection of mobile and fixed sites.

- DE solutions that can track and defeat multiple UAS rapidly or simultaneously.
- High Powered Microwave (HPM) systems that maximize mitigation effects on Group 1, 2, and 3 UAS and minimize impacts of collateral damage.

All systems shall have the capability to track and traverse through 360-degree rotating coverage.

R000-PSR-FY25-C-Swarms Countering Uncrewed Aerial System (UAS) Swarms
An Uncrewed Aerial System (UAS) swarm is a group of UAS that demonstrates coordinated behavior to achieve a common objective.

The use of multiple UAS working in coordination (e.g., swarms) has been demonstrated at events such as the opening ceremony at the Tokyo Olympics. The nefarious use of swarms can cause significant disruption due to their ability to overwhelm Counter-Uncrewed Aerial Systems (C-UAS) systems and operators.

Develop novel solutions to enhance C-UAS systems to detect, identify, track, and mitigate multiple UAS threats simultaneously at varying altitudes and distances. Specifically, increase capabilities in areas against multi-UAS threats. Specific areas of interest are listed below but not limited to:

- A threat decision matrix that incorporates UAS information such as speed, distance, payload capacity, size, etc.
- Prioritizing engagement order by level of threat to reduce the cognitive burden on the operator.
- Determining UAS swarm characteristics. Examples include topology, mesh network, follow-the-leader, semi-autonomous, and autonomous.
- Identifying if UAS swarm has a single operator or multiple operators.
- Determining if a UAS is carrying a payload.
- Identifying of host drone in a single operator multi-drone swarm.
- Mitigating/Disrupting a UAS swarm.

R000-PSR-FY25-UAS-ADV-DET Uncrewed Aeriel Systems (UAS) Advanced Detection and Defeat of UAS and Geolocate Operator
The development and implementation of 5G/Dark network technologies, including beamforming and side-linking, significantly improves the capabilities of adversaries performing drone operations beyond line-of-sight. Many commercially available drones use a direct radio link, often Wireless-Fidelity (Wi-Fi). These point-to-point connections require a relatively uninterrupted line-of-sight between the drone and its controller, thereby limiting the range at which the drone can operate. Cellular infrastructure supports connections that span the globe, but these connections are not yet suitable for use with drones. 5G/Dark UAS, the next generation cellular network standard, implements several technologies that will allow operators to fly drones from anywhere in the world.

Develop novel solutions to enhance Counter-UAS systems to detect and defeat 5G/Dark UAS. Specific areas of interest are listed below but not limited to:

- Advanced techniques for detecting drones based on identifying the communication traffic sent between a drone and its controller.
    - The ability to accurately classify, identify, track, and mitigate.
    - The ability to geolocate and identify the operator.

R000-PSR-FY25-C-PNT Counter-Uncrewed Aerial System (C-UAS) Position, Navigation, Timing (PNT) Resilience Technologies
Many Counter-Uncrewed Aerial System (C-UAS) systems rely on navigational satellites (e.g., Global Positioning System (GPS), Global Navigation Satellite System (GNSS), etc.) for proper system operations. Various methods exist to disrupt or interfere with these systems, leading to degraded operations.

- Develop solutions to improve resilience of C-UAS communication protocols against disruptive effects (e.g., jamming and interference) on selected air and ground platforms designed around the C-UAS mission capabilities.
- Develop solutions to support C-UAS platform's ability to detect and discriminate against spoofing measures consistently across multiple signal types/frequency bands.

5.8. Surveillance, Collection, and Operations Support (SCOS)

R5027 Automated Digital Automobile Classification System (ADACS)
Law enforcement and intelligence analysts often examine video and image files to acquire information about the motor vehicles within the files. Determining the manufacturer, make, model, and year of a vehicle provides key information for an analyst and can lead to gathering other valuable information. Presently, there is no automated application available that can detect vehicles in video and image files and determine their manufacturer, make, model, and year. This limits the intelligence that can be exacted from these files and causes analysts to expend considerable hours trying to make manual determinations of this information.

This requirement seeks the development of a software application that can search image and video files either singly or contained in large data files to detect automobile and motor vehicle images depicted in the files and then perform analysis to determine the manufacturer, make, model, and year of the vehicle. The software application shall be able to group together all images within the dataset that appear to depict the same model vehicle based upon previous end user determination and input of the model of interest. The system shall include the training data and reference files to make the analyses and determinations in addition to any models developed from the training data. The application shall be able to ingest any video file and then identify the passenger vehicles in the file and provide a determination of each vehicle's make, model, and year (or year range), without relying on or using any outside references, databases, or other applications. Vehicle classifications shall be limited to passenger vehicles (cars, pickup trucks, SUVs) and excludes the need to classify motorcycles, dump trucks, 18-wheeled trucks, and similar type large vehicles. The application shall be developed so that it can be incorporated into large scale processing systems. The application shall be optimized for OpenMPF and JanICE application programming interfaces (APIs) used by the Department of Defense, Federal Bureau of Investigation, Department of Homeland Security, and other federal agencies. The developer shall be responsible for acquiring and including all images and data needed in the reference

database to make the analyses and determinations. The application shall be usable in any region of the world for classification of vehicles specific to those regions.

The application shall have the following features and capabilities:

1. Be able to search images or video files in large data sets (e.g., ~100,000 images and 10,000 videos, total volume of approximately 2 terabytes).
2. Download any video file from formats used in the commercial or Government environment.
3. Use an automated process to search all images, frames, and fields within a video file.
4. Detect passenger vehicles depicted within the video regardless of the camera angle of the exterior of the vehicle with no open hoods, trunks, doors, mud, debris, or snow covering the car.
5. Determine the make, model, and year (or year range) of the vehicle when the image or combination of images provides an 80-180 pixel wide image and with multiple limiting imaging conditions.
6. Be able to determine the make, model, and year (or year range) of passenger vehicle images present during daylight and nighttime conditions regardless of the weather conditions such as sunny, cloudy, rainy, snowy, and sleeting and when the images have limited lighting, blurred focus, and compression.
7. Conduct accurate analysis when the vehicle image is occluded up to 20%
8. Classify vehicle images of 180 pixels and greater with an accuracy of 95% and vehicle images of between 80 and 180 pixels with limiting image conditions at an accuracy of 75% using native resolution and not being resized.
9. Provide a level of confidence for the determination of the make, model, and year (or year range).
10. Process, analyze, and make determinations of input image formats BMP, TIF, JPG, PNG, AVIF, and HEIF and input video formats MP4, AVI, MKV, MOV, WMV, and 3GP.
11. Determine the makes, models, and years of vehicles manufactured in North America, Latin America, Europe, and Asia from 1990 to the present.
12. Include a labeled reference dataset of at least 3,100 vehicle makes/models and be able to distinguish between 3,100 plus vehicle makes/models. This shall include vehicles from North America, Latin America, Europe, and Asia with the regional parameter being selectable to improve detection accuracy.
13. Report at a minimum the make/model/year determination, pixel dimensions of the classified vehicle, an image of the selection area used for making the determination, any image conditions that limited the determination, and the confidence score.
14. Save and export the determinations, results, and confidence score as a PDF file.
15. Be capable of leveraging GPU and CPU hardware; however, the developer does not have to provide any hardware as a final deliverable.
16. Integrate the capabilities of the application with OpenMPF by developing and including an OpenMPF analytic component.
17. Function completely without relying on internet connectivity.
18. Be compatible with Linux and Microsoft systems. The analytic must be compatible with Docker as well as interoperable with leading AI/ML frameworks including pyTorch,

TensorFlow, TensorRT, and Keras, providing a capability that can be integrated into existing processing environments.
19. Process 40 frames per second (fps) on NVIDIA Titan RTX GPU (or comparable hardware) and 10 fps on CPU hardware—end-to-end including any preprocessing and feature extraction needed on videos containing 10 or fewer vehicles per frame.
20. Enable users to add any images and associated data of new vehicles relating to any new makes, models, or years in both a singular manner and a large batch process to the application's reference databases and models. In addition, manual updates to confidence scores shall be possible if ground truth for a particular input image becomes known. The manual updates shall allow for optimizing the training model. Instructions on the procedures to add these images and data to the application and database shall be included.
21. Develop an automated process for inputting new data and to train the application to recognize and classify new makes, models, and years of vehicles to make determinations that are more accurate.

The developer shall provide a comprehensive, easy-to-read user manual in digital format within the application and as a standalone document. The developer shall conduct extensive testing to verify that the application can perform all required capabilities and has all required features. The application shall be provided to Government end users for a 60-day period for Government testing. The developer shall include this period in the project schedule. The developer shall use the test results and end user feedback to fix and modify the final deliverable to meet all required capabilities and features.

No Government equipment, information, images, or other items will be provided to the developer during the project.

Proposed Deliverables:
1. Kickoff Meeting and associated design documentation.
2. System Requirements Review (SRR) and associated design documentation.
3. Preliminary Design Review (PDR) and associated design documentation.
4. Critical Design Review (CDR) and associated design documentation.
5. Test Readiness Review (TRR) and associated design documentation.
6. Prototype development and demonstration acceptance testing.
7. Delivery of ten (10) fully functional applications.

The vendor shall deliver to the Government ten fully functional applications of the Automated Digital Automobile Classification System with all required images, data, and reference databases with one copy of the source code and with, at a minimum of Government purpose rights.

Risk Management Framework (RMF): The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See section 2.11 of this BAA for additional information.

Data Rights: The Government seeks unlimited rights.

Contract Vehicle: The Government seeks a firm-fixed-price proposal. IWTSD is looking for solutions with periods of performance from 12 to 24 months.

R5029 Virtual Waveforms for Satellite Communications
The DoD and IC are seeking a ground-based platform to virtually, rapidly, and flexibly deploy various waveforms in support of satellite communication operations globally.

Currently, multiple physical modems and systems are employed to provide the required waveform diversity needed to conduct satellite operations. As new military and commercial waveforms are developed, the increase in hardware costs and equipment sustainment further burdens the end user. Having the ability to deploy waveforms on a virtual platform will streamline requirements needed for missions. Thus, reducing the amount of hardware needed and increase the overall ability to rapidly build and deploy new waveforms to a single platform. This project will save development time, procurement cost, and enhance operational capabilities.

Key objectives of this effort will enable a unique set of operational scenarios by meeting the following specifications:

Operating Band(s)	System shall be interoperable with Government and commercial Super High Frequency (SHF) architectures L band 950 MHz -2159 MHz	T
Virtual environment	System shall run in a microservices environment	T
Waveform deployment	Waveforms shall be able to be deployed virtually as applications without major host/firmware changes	T
Waveform storage	System shall allow storage and onload/offload of multiple waveforms	T= 4 waveforms O= 6 waveforms
Size	System shall be in a small form factor	T= 17″ × 10″ × 4″ O= 12″ × 8″ × 3″
Weight	System shall be lightweight	T= < 30 lbs O= < 20 lbs
Electromagnetic radiation hazard	System shall be electromagnetic Hazards of Radiation to Personnel (HERP) safe in accordance with MIL-STD-464	T
Environmental	System shall withstand impact and vibration while in transport; withstand sand/dust, high humidity and salt fog exposure, and be rust and corrosion resistant.	T
Power requirements	AC/DC power adaptable shall conform to STANAG 4133 (NATO) standards: 110/220VAC, 50/60 Hz	T
Bias and reference	Systems shall support BIAS power and 10 MHz reference to SSPA and LNO, as well as the ability to turn it off.	T

Orbit	System shall be able to work on low earth orbit, medium earth orbit, geostationary orbit satellite constellations.	T
Data rate	The system shall simultaneously transmit and receive high data rates.	T= >TX: 400mbs RX: 400mbs O=>TX: 1gbs RX: 1gbs
Ports	The system shall have receive port, transmit port, and monitor port with N type connector.	T
Spectrum monitoring	The system shall have built-in spectral monitoring capabilities.	T
Waveforms	The system shall have a number of waveforms virtualized and ready to use.	T= EBEM/EDIM, DVB-S2X, Comtech DSSO= UBDM
Certification	The system shall be capable of meeting modem certification testing standards in accordance with wideband global SATCOM(WGS) certification requirements.	T
Micro Services	The system shall be containerized/Kubernetes.	T
Trade Agreement Compliant (TAA)/889 Compliant	All physical hardware must be TAA/889 compliant.	T

Proposed Deliverables:

1. Kickoff Meeting and associated design documentation.
2. System Requirements Review (SRR) and associated design documentation.
3. Preliminary Design Review (PDR) and associated design documentation.
4. Critical Design Review (CDR) and associated design documentation.
5. Test Readiness Review (TRR) and associated design documentation.
6. Prototype development and demonstration acceptance testing.
7. Delivery of up to three (3) prototypes.

The developer shall thoroughly and comprehensively test the prototype in realistic scenarios. Additionally, the prototype shall be provided to end users for at least a minimum 60-day testing period before final delivery. The developer shall use its own as well as the end users' test data, feedback, evaluations, and test results to make modifications to improve the prototype's performance and to ensure conformance to all standards, features, and capabilities in the SOW before final delivery.

The Irregular Warfare Technical Support Directorate (IWTSD) expects this to be a phased effort with meaningful gates. The final deliverable is up to three (3) prototypes. All information and prototypes will transition to the IC for further technical evaluation. The Government seeks at a minimum Government purpose rights of technical data and software.

Risk Management Framework (RMF): The Department of Defense requires all solutions that use information technology to follow current best practices for maintaining cybersecurity. See

section 2.11 of this BAA for additional information.

Data Rights: The Government seeks unlimited rights.

Contract Vehicle: The Government seeks a firm-fixed-price proposal. IWTSD is looking for solutions with periods of performance from 12 to 24 months.

5.9. Tactical Offensive Support (TOS)

R5025 Extreme Sniper Strike Operations (ESSO) Armor Piercing Incendiary (API) Ammunition

ESSO API Ammunition will develop a 375 EnABELR Armor Piercing Incendiary (API) round capable of meeting or exceeding the penetration and pyrophoric performance of currently fielded heavy anti-materiel ammunition while achieving the extended extreme range and accuracy with the reduced weight, recoil, signature, and overpressure characteristic of the 375 EnABELR Extreme Sniper Strike Operations (ESSO) Advanced Sniper Rifle (ASR) developed by IWTSD for SOF.

ESSO API Ammunition submissions shall feature the following system performance specifications:

1. The ESSO Armor Piercing Incendiary (API) ammunition developed under this project shall be standard cartridge projectile direct fire type. The armor penetration requirement shall be tested against an armor plate in accordance with MIL-A-12560, Class 3, (341-388 Brinell Hardness Number), nominal thickness 0.417 inch ± 0.024 inch, shall be placed at 110 yards (T); 150 yards (O) ± 3 yards from the muzzle of the test weapon at an angle 40 degrees to 45 degrees. ESSO API shall be validated to perform against barriers at 2,000 meters, 1,000 meters and 300 meters: 3/8″ AR500 Equivalent and 8″ × 16″ CMU block wall 4′ × 4′ filled with medium sand (¼ mm – ½ mm) mortar venire (T).

2. ESSO API rounds shall have a Muzzle Velocity Standard Deviation, using an average of three (3) ten (10) round samples, of 7 feet per second (FPS) (T), less than 4 FPS (O).

3. The Ballistic Coefficient (BC) shall not exceed a 1.5% (T); 0.5% (O) Standard Deviation when fired from a broken in, conditioned barrel using an average of three (3) ten (10) round samples.

4. The Precision of a five (5) round group over five (5) iteration average Extreme Spread dispersion from a broken in, conditioned test barrel shall not exceed 2.0 Minute of Angle (MOA) at 100 meters (T); 1.0 MOA at 100 meters (O).

5. Upon impact normal to the surface (0 degrees) at 190 yards ±10 yards, the munition shall break into minimum of eight (8) penetrating fragments on witness panel (T=O) over an average of 10 shots.

6. Upon impact normal to the surface (0 degrees) at 190 yards ± 10 yards, the incendiary

composition of the projectiles shall ignite and produce an incandescent flash within twenty-four (24) inches (T); six (6) inches (O) after penetrating the target panel over an average of 10 shots.

7. All ammunition shall be tested, following the procedures outlined in ANSI/SAAMI Z299.4 – 2015 (T); MIL-STD-1461E, MIL-STD-1168, MIL-STD-709D, and MIL-STD-636 specifications (O).

8. All ammunition shall fulfill the following production, safety, and maintenance parameters (T=O):

    a. The ammunition shall be produced in the United States.
    b. Shall pass the forty (40) foot drop test.
    c. Shall pass the "Jolt & Jumble" testing.
    d. Shall pass the Muzzle and Drop Sensitivity testing.
    e. Shall be corrosion resistant.
    f. Shall be able to be submerged in twelve (12) inches of water for at least ten (10) minutes without a change in the mass of the cartridge.
    g. Shall be loaded with reduced flash and temperature stable propellant.
    h. Shall be loaded with a non-toxic primer.
    i. Shall contain markings to include caliber, year of manufacture, and manufacturer identification.

Deliverables:

- Base Contract: eighteen (18) month or less Period of Performance (PoP)- develop and deliver 17,000 prototype rounds.

- Contract Options: six (6) month or less PoP - deliver up to an additional ten thousand (10,000) prototype rounds for expanded OT&E (4 CLINs of 2,500 rounds each)

A firm-fixed-price proposal is preferred; eighteen (18) months or less base contract PoP; six (6) months or less contract options PoP.

Responses to this requirement shall include a proposed post-development end-unit ROM cost.

R5030 New Advanced 7.62mm Minigun Weapon System
Belt-fed Electric Advanced Weapon – Organic Lethality & Fire Superiority (BEAWOLFS)
Small Tactical Teams require a New Advanced 7.62mm Minigun Weapon System that is effectively suppressed, quick-detach (QD) enabled inside and out, easier to maintain and sustain in the field with minimal tools and training, and lighter than currently fielded systems. The BEAWOLFS will provide tactical unit operators with immediate organic firepower superiority when conducting Irregular Warfare and large-scale combat operations.

The New Advanced 7.62mm Minigun Weapon System BEAWOLFS shall provide Small Tactical Team operators an organic, suppressed, multi-barrel, rotor-driven, platform-mounted, belt-fed

weapon system to gain immediate fire superiority once in contact. The BEAWOLFS will have a minimum effective firing rate of 1,000 rounds per minute, capable of up to 3,000 rounds per minute, and be easy to disassemble and maintain. When deployed, it shall be lighter weight, highly modular, and easier to operate, maintain, and sustain than currently fielded systems. It shall function on both platform direct power supply and external rechargeable battery. The New Advanced 7.62mm Minigun Weapon System will provide operators with the necessary organic effects to rapidly suppress Great Power Adversaries in Irregular Warfare Combat environments.

BEAWOLFS submissions shall feature the following system performance specifications:

1. Shall be a Quick-Detach (QD) system, externally for rapid installation on / removal from any SOF Mobility Platform and internal to the weapon platform for ease of maintenance with minimal tools (T=O).

2. Shall utilize an electrically powered, motor-driven, rotor-cycling system operated by a Gun Control Unit (GCU) similar in design and function to the legacy M134 minigun weapon system (T=O).

3. Shall be assembled of components interchangeable with the legacy M134 minigun weapon system of record, retaining at a minimum the original serial-numbered end item (O).

4. Shall operate from both a legacy direct-plug power source and a detachable 24-volt rechargeable battery (T=O).

5. Detachable battery shall be capable of firing 35,000 rounds (T); 75,000 rounds (O) before needing to be recharged.

6. Shall have a fixed forward weight of 45 lbs (T); 40 lbs (O).

7. Shall have a crew served weight of 70 lbs (T); 60 lbs (O). The crew served weight shall be fully operational and include the GCU, portable battery, and suppressor.

8. Shall have an overall fixed forward length of equal to or less than 34 inches (T); 30 inches (O).

9. Shall have an overall crew served length of equal to or less than 42 inches (T); 36 inches (O).

10. Shall have a sustained fixed rate of fire (ROF) 3,000 Rounds Per Minute (RPM) (T=O) and a variable rate of fire at 1,000 - 3,000 RPM (T=O).

11. Shall have a maximum effective range at Point targets of 800 meters (T); 1,000 meters (O).

12. Shall have a maximum effective range at Area targets of 1,400 meters (T); 2,000 meters (O).

13. Shall shoot 7.62 × 51mm NATO (T); shall have the capability of interchanging calibers including but not limited to 6.8 × 51mm and 6.5mm Creedmoor with minimal tools and armorer credentials (O).

14. Shall be capable of mounting visual augmentation systems (VAS) including but not limited to magnified optics, range finders, and illuminators (T=O).

15. Shall meet the current performance specifications for safety, durability, and endurance of the M134 minigun weapon system measured as a function of cumulative life cycle rounds fired; crush, drop, shock force; and environmental (temperature, moisture) exposure (T); shall exceed the current performance specifications for safety, durability, and endurance of the M134 minigun weapon system by 25% measured as a function of cumulative life cycle rounds fired; crush, drop, shock force; and environmental (temperature, moisture) exposure (O).

The Signature Reduction Attachment (SRA) for BEAWOLFS shall feature the following system performance specifications:

1. Shall provide the capability of easily attaching and detaching a signature-reduction attachment (SRA) to each muzzle in the cluster with minimal tools (T=O).

2. Shall remain attached to the weapon under extremely stressful conditions (repetitive fire, blunt impact) (T); can be removed for weapon maintenance (O).

3. The BEAWOLFS enabled with SRA shall demonstrate the following optimized performance:

    - Minutes of Angle (MOA) shift
        - Must be repeatable at 1.0 MOA (T), 0.5 MOA (O).
        - Must remain 0.5 MOA or less at 100 meters (T=O).
    - Base weapon performance
        - Precision of the base weapon unaffected (T=O)
    - Flash suppression, measured from first shot five (5) times at the end of the suppressor under limited visibility:
        - Is < 3 lux (T), is <1 lux (O)
    - Sound suppression:
        - Is <=150 db (T); 130 db (O) at shooters ear
    - Recoil reduction (impulse rate):
        - > 40% (T); > 50% improvement (O)
    - Gas/Particulate Blowback reduction toward Operator:
        - > 40% (T); > 50% improvement (O)

4. The SRA for BEAWOLFS shall be caliber agnostic (T=O). While the adjunct of function-specific modules is permitted, they must not constitute a fundamental change to the functioning of the basic module.

5. The SRA for BEAWOLFS shall meet (T) or exceed (O) the life cycle of the barrel cluster, measured in rounds fired.

The Contractor shall provide the following ancillary equipment, training, and services:

1. The Contractor shall develop and deliver live-fire training to include operational overview and specifications, installation instructions, maintenance, and troubleshooting for final delivery.

2. Each BEAWOLFS shall be provided with a Storage Case and 7.62mm Field Cleaning Kit.

3. Each BEAWOLFS shall be provided with New Equipment Training, Operations and Maintenance Manuals, Training POI, Sustainment Training Video, and Quick Reference Card in the English language in hard copy and PDF (T=O).

4. Each kit shall be provided with a two (2) year full component warranty and field service assistance.

Deliverables:

- Base Contract – Nine (9)-month Period of Performance (PoP) – Develop and provide Live Fire Demonstrations of Platform Mounted BEAWOLFS with ammunition at an industry -provided range.

- Option 1 – Nine (9)-month PoP – Provide two (2) prototype systems and ammunition for Government Performance Verification and Limited Safety Release Testing and Approval.

- Option 2 – Nine (9)-month PoP – Deliver up to Twelve (12) prototype systems for OT&E (6 each CLINs of 2 prototypes each with training).

- Option 3 – Three (3)-month PoP – Deliver up to 2,400,000 rounds of ammunition for OT&E (6 each CLINs of 400,000 rounds each).

Responses to this requirement shall include a proposed post-development end-unit ROM cost.

R5032 Next Generation Lightweight Machine Gun Tripod (LMGT)
LMGT will equip and enable tactical unit operators that conduct target engagement with reduced operational load, rapid emplacement, and increased accuracy in training and when conducting Irregular Warfare and large-scale combat operations.

The Next Generation Lightweight Machine Gun Tripod (LMGT) is required to improve the

performance, durability, and load of the medium machine gun support platform while accommodating both the legacy M240-B and L variants chambered in 7.62 × 51mm NATO and the forthcoming .338 Norma Magnum (.338NM) Lightweight Medium Machine Gun (LWMMG). Infantry Unit machine gunners require optimized tripods to mount medium machine guns in order to effectively engage enemy targets in support of maneuvering assault forces.

The currently fielded M192 Lightweight Ground Mount for Machine Guns was designed 20 years ago. While it was a welcomed improvement, lighter than the legacy M122 and an FY2021 modification addressed Soldier concerns with pintle height, various ergonomic and functional deficiencies remain. For instance, the traversing and elevation mechanism (T&E) is manufactured with a high degree of "play," resulting in imprecise and delayed transition between targets. Under the duress of repeated use, the T&E interface is known to deteriorate even further and its aluminum components to snap, adversely affecting the lethality of the element employing it.

LMGT's design shall leverage modern standards of materials engineering, using AI-derived structural efficiency, additive manufacturing, and ballistic capability to help optimize stability, transition speed, and accuracy of the machine guns it supports. Once developed, LMGT will improve Small Tactical Team Lethality when deployed on Irregular Warfare missions throughout all terrestrial environments, including but not limited to urban, mountain, jungle, and desert battlefields. LMGT will help to improve unit readiness for these operations during training cycles by reducing human error and potential injury alongside system durability and maintenance requirements.

Next Generation Lightweight Machine Gun Tripod (LMGT) shall:

1. The LMGT shall weigh 10.5 lbs (T); 7 lbs (O).

2. The LMGT length shall be 24 inches when stowed and 32 inches when extended, ± three inches variation.

3. The LMGT width shall be 11.5 inches when stowed.

4. The LMGT height (flat hard surface) shall be 10.5 inches when extended, with the ability to adjust front leg height to accommodate micro-terrain.

5. The LMGT shall mount machine gun to tripod through the use of the external bracket with pintle (T); legacy single point pintle (O).

6. The LMGT shall mount via a single point with single hand release (T); via a dual point with single hand release (O).

7. The LMGT pintle receiver shall be constructed with a 45-degree bevel ±5-degree variation. (T=O)

8. The LMGT traverse and elevation (T&E) mechanism attachment method shall be

integrated (T=O). The (T&E) mechanism shall have quick blow out ports with screw plugs (T); all weather enclosed, self-cleaning (O).

9. The LMGT T&E mechanism shall be easily adjustable by the operator in 1 milliradian (mils) increments. (T=O)

10. The LMGT free elevation shall be 375 mils (T); 475 mils (O). T&E engaged elevation 235 mils (T); 300 mils (O).

11. The LMGT free gun traverse shall be 6400 mils (T); 8000 mils (O). T&E engaged traverse 900 mils (T); 1125 mils (O).

12. The LMGT shall accommodate weapon platforms and system accessories weighing up to 40 pounds capable of a cyclic rate of fire up to 1000 rounds per minute.

13. The LMGT shall exceed the current performance specifications for durability and endurance over the M192 tripod by 25%, measured as a function of cumulative life cycle shock force and rounds fired. (T=O)

14. The LMGT form factor, including ground points of contact on a variety of surfaces, shall be optimized for rapid establishment of a stable firing position and relocation in all operating environments. (T=O)

15. The LMGT shall include packaging for tactical transport, compatible with the USSOCOM Special Operations Forces Personal Equipment Advanced Requirements (SPEAR) program of record with a stowed form factor optimized for movement in rugged operating environments. (T=O)

Deliverables:

- Base Contract: twelve (12) or less month Period of Performance (PoP)- develop and deliver twelve (12) LMGT prototypes with training compatible with current and future machine gun platforms.

- Contract Options: four (4) month or less PoP- deliver up to an additional forty (40) LMGT prototypes with training for expanded OT&E and Combat Evaluations (CV).

- Base Contract and Options will provide New Equipment Training, Operations and Maintenance Manual, Quick Reference Card and Video Sustainment Training.

A firm-fixed-price proposal is preferred; twelve (12) months or less base contract PoP; four (4) months or less contract options PoP.

Responses to this requirement shall include a proposed post-development end-unit ROM cost.

R5033 Controller-Operated Direct Action Quadruped (CODiAQ)
A Controller-Operated Direct Action Quadruped (CODiAQ) with state-of-the-art hybrid technologies integrated into a single, small tactical team organic system, must be developed to provide U.S. and Allied Forces a force multiplying, weaponized device that can operate from a safe stand-off in a direct action role against hardened targets and enemy personnel when conducting Irregular Warfare Operations.

The CODiAQ platform will provide Small Tactical Team Operators organic, remote direct fire and ballistic breaching capabilities by fully integrating multi-barrel 40mm and 12-gauge weapon payloads mounted on Unmanned Ground Vehicle (UGV) systems operated by a single handheld remote controller. Leveraging current quadruped projects successfully demonstrated, which integrated small-arms weapons with onboard targeting optics and enhanced ballistic computer technologies, the CODiAQ will identify and track threats, and deliver operator-selected deliberate fires from a safe standoff at targets. CODiAQ will be used in both indoor and outdoor environments, engaging targets from close to mid-range, lessening the operator's repeated exposure to enemy fires during direct action operations, increasing mission success and soldier survivability.

CODiAQ will be a NDAA compliant, cyber-hardened offensive UGV that can move, identify, and destroy enemy personnel and targets in direct support of Small Tactical Teams, minimizing risk to friendly forces from current and evolving urban defenses that are prolific in most battlefields. Advanced system attributes shall include assured navigation and obstacle avoidance, reliable network communications, automatic target recognition, and integrated AI. It shall be scalable with operator selectable autonomy, be payload re-loadable/platform re-usable against enemy troops in the open and in defilade, vehicles, and buildings. Base UGV weight shall not exceed 110 pounds and have a 10-kilometer range, with a 3-hour run time. CODiAQ shall be modular, allowing the incorporation of multiple user-provided MANET/MIMO radios, targeting optics, ballistic weapon systems, and be easily configured by a trained operator in the field.

Important Note: The Government is seeking an ***INDUSTRY PARTNER TEAM*** capable of comprehensively designing, developing, integrating, testing, optimizing, training, and rapidly delivering the Controller-Operated Direct Action Quadruped with the following key performance parameters:

CODiAQ submissions shall feature the following system performance specifications:

1. CODiAQ shall be able to traverse moderately undulating terrain, including shallow water, during day and night, and in all weather conditions. It shall be able to navigate semi-autonomously in a GPS-denied environment along a pre-determined route, or to a designated point, using onboard sensors and obstacle-avoidance software. CODIAQ shall be modular, allowing easy mounting and dismounting of select weapons systems that are automatically integrated with onboard optics and targeting software, by a trained operator in the field. (T=O)

2. CODiAQ bare (slick) weight shall not exceed 110 pounds (T=O).

3. CODiAQ shall have a maximum payload weight of twenty (20) pounds (T); thirty-five (35) pounds (O).

4. CODiAQ shall have a minimum continuous operating (run) time (with payload) of three (3) hours (T); five (5) hours (O).

5. CODiAQ shall have a top speed of 10 feet per second (T); 15 feet per second (O).

6. CODiAQ shall integrate AI for enhanced ground maneuver and control, automatic target recognition, and operator selectable target engagement (T=O).

7. CODiAQ shall include an Electronic Safe and Arm Device (ESAD) (T=O).

8. CODiAQ shall allow the mount and control of either a 40mm multiple grenade launcher weapon system or a 12-gauge selectable multi-shot weapon system individually (T), or both simultaneously (O), with all associated components using existing standard and special purpose ammunition.

9. CODiAQ shall integrate weapons with onboard optics and targeting systems for wireless stand-off employment and be operated by a single user-defined handheld remote controller, monitor weapon round count and clear stoppages remotely (T=O).

10. CODiAQ shall allow for quickly removing and switching between 40mm and 12-gauge weapon system payloads using universal quick detach (QD) hardware and cable connectors (T=O).

11. Using integrated 40mm Multiple Grenade Launcher (MGL) weapon system payload, CODiAQ shall effectively engage stationary point targets in confined spaces from 30 to 150 meters (T); 250 meters (O), and vehicle or area targets out to 200 meters (T); 350 meters (O). 40mm MGL shall hold 5 standard or special purpose ammunition rounds and allow the operator to select between rounds as desired (T=O).

12. Using integrated 12-gauge selectable multi-shot weapon system payload, CODiAQ shall effectively engage stationary targets in confined spaces from 0 to 50 meters (T); 0 to 100 meters (O). 12-gauge multi-shot weapon shall hold 9 standard or special purpose ammunition rounds and allow the operator to select between rounds as desired (T=O).

13. CODiAQ shall support detection and tagging of a single target and tracking multiple moving targets during day out to 400 meters (T); 600 meters (O); during night out to 200 meters (T); 300 meters (O).

14. CODiAQ shall quickly and effectively engage targets during day and night with a high level of accuracy based on platform pitch control/fine motor movements (T=O).

15. CODiAQ shall be developed with rugged materials that would minimize damage during tactical operations (T=O).

16. CODiAQ handheld controller shall allow for manual fire mode and ability to zero reticle remotely (move point of aim to point of impact using controller) (T=O).

17. Be able to integrate multiple user-defined MANET/MIMO radios via ethernet port connectors to allow communication with and control from remote user interface (T=O).

18. Remote handheld controller shall integrate with multiple user-defined MANET/MIMO radio via ethernet port connector to allow communication with dedicated individual control of the (1) CODiAQ platform and (2) weapon system payloads (T=O).

19. CODiAQ shall be battery operated and use rechargeable lithium batteries and battery chargers that are Department of Defense (DoD) qualified/compliant (T=O). A fully depleted CODiAQ battery shall fully charge within 10 hours (T); 6 hours (O).

20. CODiAQ Cyber hardening; shall pass DoD Cyber Vulnerability Assessment (CVA) (T=O).

21. CODiAQ ESAD components shall be shielded against Electromagnetic Interference (EMI) (T=O).

22. CODiAQ shall utilize GPS, INS, and Visual Reference recognition software for navigation (T=O).

23. CODiAQ shall utilize onboard EO/IR optics and sensors for platform navigation (T=O).

24. CODiAQ shall be capable of accurate navigation in automated travel mode; semi-autonomous navigation in GPS denied environments (T=O).

25. CODiAQ shall possess the capability to operate in day/night conditions within a temperature range of negative forty degrees (-40°) Fahrenheit to one hundred thirty degrees (130°) Fahrenheit (T=O).

26. CODiAQ shall possess an Ingress Protection Rating (IP rating) of IP67 (T=O).

27. CODiAQ software shall be compatible with existing C5ISR software and integrated into existing communication suites. It should also be compatible with other United States Special Operations Command (USSOCOM) and FBI-HRT C5ISR systems and existing electronic countermeasures systems (T=O).

28. CODiAQ shall be ATAK compatible for use across multiple domains and operational units (T=O).

29. CODiAQ and all system components shall be compliant with American Security Drone Act (ASDA) and Department of Defense Instructions (DoDIs) (T=O).

30. CODiAQ shall be operated with minimal support equipment and personnel. It shall be

designed to require no special tools to operate and maintain at the tactical level. CODiAQ system shall include built in tests (BIT) that can be performed prior to execution and reuse by a trained operator in the field to ensure all components and the entire integrated system is functioning (T=O).

31. CODiAQ system live-fire training shall include operations and maintenance manual with troubleshooting, quick reference card, new equipment hands-on training, and video sustainment training (T=O).

32. Each kit shall be provided with a two (2) year full component warranty and field service assistance.

Deliverables:

- Base Contract: 9-month PoP – Develop, deliver, and live-fire demonstrate two (2) each CODiAQ fully integrated, weaponized UGV prototype kits (complete) and ammunition on an industry-provided range.

- Option 1: 9-month PoP - Deliver Two (2) each CODiAQ prototypes (complete) for Government Environmental, Performance Verification and Limited Safety Release Testing and Approval.

- Option 2: 9-month PoP – Deliver and live-fire train up to twenty (20) each CODiAQ prototypes (complete) (10 CLINs of 2 prototypes each) for OT&E and potential Combat Evaluations (CVs).

Firm-fixed-price proposals are preferred with nine (9) month or less Base Contract period of performance, nine (9) month or less Contract Option periods of performance. Base contract and options may be exercised concurrently by the Government.

Responses to this requirement should include a proposed post-development end-unit ROM cost for follow on deliverables.