AIR FORCE CRYPTOLOGIC OFFICE

COMMERCIAL SOLUTIONS OPENING

FA7037-21-S-C001

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1. INTRODUCTION AND BACKGROUND

1.1 The Air Force Cryptologic Office (AFCO) Cyberspace Intelligence Surveillance and Reconnaissance (ISR) and Multi-Domain Innovation (CM) Division provides the U.S Department of Defense's (DoD) ability to oversee ISR-Cyber and present integrated multi-domain cross functional capability for Combatant Commander (CCMD) and the air component.

1.2 AFCO-CM is looking for new and innovative capabilities in Electromagnetic Warfare (EW), Information Operations (IO), and electromagnetic digital communications. The ideal is to leverage mature technologies in novel ways for a field demonstration within a year through application of novel material approaches or innovative services.

2. PURPOSE

2.1 This Commercial Solutions Opening (CSO), in accordance with 10 USC 3458 and DFARS 212.70 Defense Commercial Solutions Opening, is a competitive solicitation of proposals focused on technologies to meet AFCO/CM's mission. AFCO/CM seeks the best approaches to meet the technology objectives within the capability areas listed below. Detailed topics associated with each capability area appear in Attachment 6.

2.2 "Innovative" means any technology, process, or method, including research and development that is new as of the date of submission of a proposal, or any new application as of the date of submission.

2. CSO APPROACH AND OVERVIEW

3.1 This CSO seeks the best commercial approaches to meet various technology objectives of AFCO/CM. All items, technologies, and services acquired using a CSO will be treated as commercial items. The Government encourages proposals that span a wide spectrum of possible technical and business solutions in response to the specific technology topics stated in Attachment 6. The Government reserves the right to award funding to any combination of proposals which offer the best overall value to the Government, and to oversee any and all processes and approaches once initiated. Awards of efforts as a result of this announcement will be in the form of contracts or other transactions (OT) as codified in 10 U.S.C. §2371b (section 2371b).

3.2 Funding for participation in this program is highly competitive and the price of proposed technologies should be considered. Awards resulting from this CSO will be made based on the evaluation results of a two-phased proposal process described in Section 5. The Government reserves the right to fund all, some, one, or none of the proposals submitted; may elect to fund only part of a submitted proposal; and may incrementally fund any or all awards under this CSO. All awards are subject to the availability of funds.

3.3 All coordination and communication between Offerors and the Government will be conducted using the Sam.Gov website and the points of contact associated with this CSO, as specified in Section 4.

4. GENERAL INFORMATION

4.1 *POINT OF CONTACTS*. Questions regarding the administrative content of this CSO must be addressed to the Contracting Office below. Questions regarding the technical content of this CSO must be addressed to the Technical Point of Contact (POC) below.

Contracting Office POC: Ms. Carissa Heuertz,
Email: carissa.heuertz@us.af.mil

Technical POC: AFCO
Email: 16AF.AFCOCM.BIZOPS@us.af.mil

4.2 *CLASSIFIED INFORMATION*. Offerors are encouraged to submit unclassified white papers to simplify and expedite reviews and response by the Government. If an Offeror deems that a white paper contains classified information refer to paragraph 5.2.1.3 for submission instructions. Classified submissions must be handled, labeled, and stored in accordance with the National Industrial Security Program (NISP) Operating Manual.

Offerors must possess all required personnel security clearances, facility clearances, and other infrastructure requirements necessary to perform any proposed classified work in accordance with the Contract Security Classification Specification (DD Form 254) without reliance on Government resources.

5. SUBMISSION INFORMATION

5.1 *SUBMISSION OVERVIEW*. Phase I submissions shall include both the Quad Charts and White Papers prepared in accordance with the formats at Attachments 1 and 2 respectively. Phase I submissions can be submitted at any time prior to the response date, but offerors are encouraged to monitor SAM.gov for any specific amendments to the CSO that may have updated information. AFCO will invite select Offerors to submit full proposals based on favorable evaluation results of Phase I submissions. Phase II submissions will be requested ONLY by the Contracting Officer and will contain separate submission instructions and timelines within the Request for Proposal (RFP) letter.

5.2 *TWO-PHASED SUBMISSION*. This CSO will be conducted in two phases as follows:

5.2.1 *Phase I*. Interested offerors must submit Quad Charts and White Papers in accordance with instructions provided in this CSO. Phase I submissions will be evaluated against criteria as described in Attachment 7 of this CSO. Due to the broad requirements and financial scope of this CSO, offerors must ensure that submissions are succinct yet descriptive. Proposals will not be evaluated beyond page length limitations. Proposals that lack technical depth and rigor or are not within the AFCO/CM mission will be evaluated as such.

5.2.1.1 All Quad Charts should include the information indicated on the sample template in Attachment 1.

5.2.1.2 The White Paper narrative expands on the Quad Chart presentation. Instructions for format and content are located in Attachment 2. Each offeror shall include in the white paper a preliminary Technology Readiness Level (TRL) assessment of the proposed technology that conforms to the technology objectives and an expected TRL at the conclusion of the effort. The offeror shall perform a TRL assessment according to the Department of Defense Technology Readiness Assessment Guidance. The offeror must address the overall proposed TRL for the system, application, or process – not just individual components.

5.2.1.3 White paper and quad chart submissions that are Unclassified, CUI, or PROPIN shall be sent to 16AF.AFCOCM.BIZOPS@us.af.mil for review. If there is a need for a classified white paper/quad chart submission, send an Unclassified email to 16AF.AFCOCM.BIZOPS@us.af.mil to receive instructions for classified submissions. No classified submissions to 16AF.AFCOCM.BIZOPS@us.af.mil

5.2.2 *Notification of Selection*. All offerors providing Phase I submissions will be contacted by the Government, either with an email letter informing them that the effort proposed is not of interest to the Government at this time or with a request for a formal price and technical proposal by a specific date.

5.2.3 *Phase II*. Phase II proposals will only be accepted from Offerors who upon review of Phase I submissions, are invited by the Contracting Officer to submit a full proposal. In order to be considered for award under Phase II, offerors must be registered in the System for Award Management (SAM) at www.sam.gov, be considered responsible within the meaning of FAR Part 9.1, Responsible Prospective Contractors, have a satisfactory performance record, and otherwise be eligible for award based on federal law and regulation.

5.2.3.1 *Proposal Submission*. Upon notification for a proposal by the Contracting Officer, offerors have 30 calendar days to prepare and submit a proposal in accordance with the format and instructions at Attachments 3-5. Each proposal shall include a Statement of Work (SOW) and detailed pricing. All pages shall be numbered.

5.2.3.2 *Proposal Review, Evaluation and Selection Process*. Each proposal will be evaluated by the Government and the proposal must stand on its own technical merit. Proposals will be evaluated in accordance with the evaluation criteria and process specified in Attachment 7. Pursuant to FAR 35.016(e), the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

5.3 *Rights in Technical Data, Computer Software and Computer Software Documentation.* Offerors shall mark each page of its white paper that contains proprietary information. It is the Government's intention to acquire only that necessary to satisfy agency needs and this will be negotiated on a case-by-case basis. An offeror may provide with its white paper assertions to restrict, use, release or disclosure of data and/or computer software and computer software documentation that will be provided in the course of contract performance. Rules governing these assertions are prescribed in DFARS clauses 252.227-7013, 7014, and 7017 and may be accessed at acquisition.gov

ATTACHMENT 1: QUAD CHART FORMAT

The following information must be included in the Phase I Quad Chart. Quad Charts shall not exceed 1-page in landscape view. Quad Charts must follow the formatting guidelines on the slide template below.

Project Title

Objective: Clear concise (1-2 sentence) description of the goal of the effort (≥ 12-pt font)

Description of Effort: Brief description of the technology proposed for investigations and methods to be used during the course of investigation (≥12-pt font).

Photograph or graphic illustration of concept or technology. Any text must be ≥ 12-pt font.

Benefits: Brief statement that identifies the net advantages of the proposed technology over current practices and competing technologies (≥ 12-pt font)

Challenges:

- Bulleted list of technical or scientific challenges (≥ 12-pt font)

Maturity of Technology: Description of the current maturity of the proposed technology with respect to the Technology Readiness Level (≥12-pt font).

Major Goals and Milestones by Fiscal Year (FY):

- Bulleted list (≥ 12-pt font)
- Deliverables: (e.g., study, written reports, prototype device, or proof of prototype testing)

Proposed Funding ($K):

Year 1	Year 2	Total
$000	$000	$000

Period of Performance: (≥12-pt font).

Contact Info: Name, email, phone (≥12-pt font).

ATTACHMENT 2: PHASE I WHITE PAPER FORMAT

The White Paper narrative expands on the Quad Chart presentation, and must be 8.5 x 11 inches with one-inch margins, no longer than two pages, single-spaced, with text in Times New Roman, no smaller than 12 point font. All white papers must specify a project title, the Offeror's organization, and the specific topic number associated with the proposal (see Attachment 6). Pages in excess of the page limitation will not be read or evaluated. White Papers must not exceed a file size of 10 MB.

The White Paper must be limited only to further explanation of the information conveyed in the Quad Chart, as deemed necessary by the Offeror. The information should provide sufficient information on the research being proposed (e.g. the hypothesis, theories, concept, approaches, data measurements, and analysis, etc.) to allow for an assessment by a technical expert. Expand as deemed necessary on the following sections of the Quad Chart: Objective; Description of the Effort; Benefits of the Proposed Technology; Technical Challenges; Technology Readiness Level (TRL) of the technology at project start and planned TRL at project completion; Major Goals/Milestones by Government fiscal year. Do not include corporate or personnel qualification, past experience or any supplemental information not requested in the Quad Chart.

White paper and quad chart submissions that are Unclassified, CUI, or PROPIN shall be sent to 16AF.AFCOCM.BIZOPS@us.af.mil for review. If there is a need for a classified white paper/quad chart submission, send an Unclassified email to 16AF.AFCOCM.BIZOPS@us.af.mil to receive instructions for classified submissions. No classified submissions to 16AF.AFCOCM.BIZOPS@us.af.mil

ATTACHMENT 3: PHASE II TECHNICAL PROPOSAL FORMAT

The Technical Proposal portion of the Phase II submission shall not exceed 10 pages, excluding cover page and table of contents. Any pages submitted in excess of the 10-page limit will not be considered or evaluated.

Suggested page limitations for individual sections are listed below; however, these are guidelines not strict limits.

I. ABSTRACT. *[1 page suggested.]*

II. SCOPE. This proposal is submitted in response to the Air Force Cryptologic Office (AFCO) Commercial Solutions Opening (CSO) on….. *[Cite the Project Title. 8 pages suggested.]*

a. Objective. *[A clear and concise description of the objective of the proposed project.]*

b. Background. *[Provide the necessary technical and scientific background to support the scientific and technical merits of the proposed project.]*

c. Programmatics. This effort will support the AFCO-CM initiative *[topic number]* aimed at developing *[capability area or topic title]* technologies or methodologies. *[Describe the Offeror's management plan for the proposed project; list supporting and collaborating organizations and subcontractors; clearly identify roles and responsibilities of each organization and subcontractor supporting the project].*

d. Relevance. *[Describe the relevance of the proposed project in terms of AFCO-CM mission, end-user needs and the technology maturity of the proposed project.]*

III. CREDENTIALS. *[Describe the Offeror's qualifications to perform the proposed work. Summarize the relevant credentials of the primary performing center, and supporting academic and industrial partners. Describe specific examples of similar work performed, and equipment and/or facilities available to perform the proposed work. List summary qualifications of the Key Personnel. Focus on information directly relevant to the proposed work. 4 pages suggested.]*

a. Summary of Credentials.
b. Summary of Qualifications for Key Personnel.
c. Summary of Facilities to Perform the Proposed Work.

IV. WORK TO BE PERFORMED. *[Provide details of the work to be performed by task and subtask. 9 pages suggested.]*

a. General. *[Provide an overview.]*

b. Detailed Tasks. *[Describe the details of all tasks needed to perform the proposed work. Clearly distinguish base period tasks and option tasks as appropriate.]*

i. BASE PERIOD (YEAR 1)

1. Task 1: Task Title 1 *[Describe what will be accomplished, how the task will be performed, the resources allocated to the task (personnel, hours, materials, etc.), appropriate metrics to measure progress, and deliverables from the task. Describe applicable subtasks. Ensure task description clearly identifies why the task is necessary to accomplish project objectives. Do not include pricing details here.]*

2. Task 2: Task Title 2

3. Task N: Task Title N *[Define as many tasks as necessary to achieve the stated objective(s).]*

ii. OPTION 1 (YEAR 2) *[Define as many Option Periods as necessary to achieve the state objective(s). Proposed work shall not exceed 5 years.]*

1. Task N+1: Task Title N+1

2. Task N+2: Task Title N+2

3. Task N+M: Task Title N+M

V. PERFORMANCE SCHEDULE. *[Depict the tasks and sub-tasks and the duration of performance of each in a Gantt chart or other suitable chart. Briefly describe the proposed period of performance. 2 pages suggested.]*

VI. REFERENCES. *[List any relevant documents used to develop the technical approach. 1 page suggested]*

ATTACHMENT 4: PHASE II PRICE PROPOSAL FORMAT

The price proposal must include pricing information sufficiently detailed for meaningful evaluation of the proposal. Since the CSO is limited to commercial solutions, detailed costs will not be required. For pricing purposes, Offerors should assume a contract or agreement start date of approximately ninety (90) days after submission of the proposal.

Since all proposals must offer commercial items, technologies, or services, the requirements of the Truth in Negotiations Act (TINA) are not applicable. However, if the Contracting Officer determines necessary to support a determination of a fair and reasonable price, other than certified cost and pricing data may be requested.

The responsibility for providing adequate supporting data and attachments lies solely with the Offeror. Further, the Offeror must also bear the burden of proof in establishing reasonableness of proposed prices; therefore, it is in the Offeror's best interest to submit a fully supportable and well-prepared price proposal.

The Offeror shall prepare the Price Proposal (with the exception of the narrative information described below) using Microsoft Excel format, but shall merge all Price Proposal documents into one Adobe PDF file for ultimate proposal submission. Include the Topic Number and the Project Title on all pages. The Offeror shall retain the Excel version of all Price Proposal documents for subsequent submission to the Government should the Offeror's proposal be selected for award.

a. Format. Price proposals shall be formatted as follows.
   (1) Paper Size – 8.5 X 11-inch paper
   (2) Margins 1-inch
   (3) Spacing – single
   (4) Font – Times New Roman, 12 Point
   (5) Electronic Software: Microsoft Word, Excel, or Adobe Acrobat

b. Additional Information: The following information should be contained in a cover sheet attached to the price proposal:

   (1) Full company name and address

   (2) CSO number submitting proposal against

   (3) Point of contact, name, title, and phone and fax number

   (4) CAGE code

   (5) DUNS number

   (6) Will you require the use of any Government property in the performance of this

work? If yes, identify.

NOTE: If an Offeror takes exceptions to the requirements called out in the announcement, the exceptions should be clearly stated in the price proposal.

ATTACHMENT 5: PHASE II STATEMENT OF WORK (SOW) FORMAT

A SOW must be included in with the full proposal as part of the Phase II submission. The SOW does not have a page limit, but should be approximately 3–5 pages in length and must be a separate and distinct document suitable for incorporation into the procurement instrument. Do not include proprietary data or markings in the SOW. Pages should be numbered and the initial page should have a date (document date) shown under the title.

The proposed SOW must accurately describe the work to be performed. The proposed SOW must also contain a summary description of the technical methodology as well as the task description, but not in so much detail as to make the SOW inflexible. The SOW template should include the following sections and specifically respond to the Statement of Objectives (SOO) the Government provided with the Request for Proposal (RFP):

1. *OBJECTIVE*. This section is intended to give a brief overview of the project and should describe why the work is being pursued and what the Offeror intends to accomplish.

2. *SCOPE*. This section includes a statement of what the SOW covers. This should describe the capability area (CSO topic) to be investigated, goals, and milestones for the effort.

3. *BACKGROUND*. The Offeror must identify appropriate documents that are applicable to the effort to be performed. This section includes any information, explanations, or constraints that are necessary to understand the project tasks and requirements. This section should describe the effort's relationship to previous and ongoing efforts.

4. *TASKS AND TECHNICAL REQUIREMENTS*. This section contains the detailed description of tasks that are necessary to perform the proposed work. These tasks will represent the work to be performed in any potential contract award, and, thus, shall be considered contractually binding. This section should be developed in an orderly progression and presented in sufficient detail to establish the feasibility of accomplishing the overall program goals. This section should clearly distinguish base period tasks from option tasks. The sequence of performance must be presented by fiscal year and task order, as in Section IV of the Technical Proposal. The SOW must contain every task to be accomplished. Note that the Government reserves the right to modify and negotiate the language in the SOW prior to any potential contract award.

   4.1. Task descriptions must be definite, realistic, and clearly stated. Use the phrase "the contractor shall" whenever the work statement expresses a provision that is binding. Use "should" or "may" whenever it is necessary to express a declaration of purpose. Use "will" in cases where no Offeror requirement is involved (e.g., power will be supplied by the Government. Use active voice in describing work to be performed.

4.2. Do not use acronyms or abbreviations without first defining them. Place abbreviations and acronyms in parentheses following the first usage of the spelled-out phrase.

4.3. If presentations and meetings are identified in the Offeror's schedule, the Offeror must include the following statement in the SOW: "Conduct presentations and meetings at times and places specified in the contract schedule."

4.4. The desired project structure consists of base period tasks, focused on demonstrating the feasibility of the technology, and option tasks, which cover design, fabrication, testing, and evaluation of the final product. Execution of option tasks will be dependent upon and determined by the contractor's performance during and the results produced from the base period tasks.

ATTACHMENT 6: SOLICITATION TOPICS

The AFCO/CM Division is interested in innovative technologies and services related to the areas of mission or technical interest listed below. Submissions should identify novel solutions that fill capability needs related to the development of AFCO-CM Electromagnetic Warfare (EW), Information Operations (IO), electromagnetic digital communications, and multi-domain innovation. These capabilities sought are near term leverage of mature technologies in novel ways for what is ideally a field demonstration in less than a year or leverage of innovative services. The level of detail provided for each topic or the order in which they appear is not intended to convey any information regarding relative priority.

There are no specific Technology Readiness Level (TRL) requirements for proposed projects. However, proposed prototypes or solutions should be sufficiently mature to enable the assessment of the viability, technical feasibility, application, or military utility of the proposed solution and support a field demonstration within a year, as an ideal. For proposed projects that will require longer than a year to support a field demonstration, proposals need to provide sufficient justification such as long lead times, or other substantiation.

Where applicable, proposed projects shall support, enable, and/or leverage open architecture approaches such as Sensor Open Systems Architecture (SOSA), Open Mission Systems / Universal Command and Control Interface (OMS/UCI), containerization / microservices, and modular hardware and software to include rapid software portability and distribution to support a tactical, software-defined capability customizable to the host hardware. Proposed projects that do not support or leverage an open architecture approach or transfer of a non-PROPIN, US Government rights technical data package for interfaces (physical, logical, electrical, application programming, or in cases the source code) must supply sufficient justification to be considered.

AFCO-CM intends to fund successful efforts with periods of performance in the range of 1-5 years. Exceptions may be considered for individual projects based on technological maturity or operational need. Individual contracts are expected to be funded in the range of $50,000-$50,000,000 over the full period of performance, yet these numbers should not be considered strict limits. Proposals aimed at the higher end of this funding range will only be accepted if they demonstrate the ability to deliver capable, innovative solutions that directly impact the AFCO-CM mission and offer cost savings or improved efficiencies with dramatic improvements to operational effectiveness in as well as improved in current processes or procedures. Proposals aimed at the higher end (i.e. greater than $15,000,000 must include phased option(s) that support incremental funding. The Government reserves the right to fund all, some, one or none of the proposals submitted; may elect to fund only part of a submitted proposal; and may incrementally fund any or all awards under this CSO. All awards are subject to the availability of funds.

TOPIC: AFCO-CM-001, ELECTROMAGNETIC WARFARE (EW)

AFCO-CM seeks innovative and novel material solutions for EW. EW includes electromagnetic attack (EA), electromagnetic warfare support (ES), and electromagnetic protection (EP). All three contribute to operational success across the operational environment. Proper employment of EW capabilities produces the effects of detection, denial, deception, disruption, degradation, exploitation, destruction, and protection. Topics sought include and are not limited to EW data fusion, advanced signal processing, cognitive techniques such as artificial intelligence (AI)/machine learning (ML), EA waveform generation, EW battle management (BM), Cognitive EW, and other advanced concepts.

TOPIC: AFCO-CM-002, INFORMATION OPERATIONS (IO)

AFCO-CM seeks innovative and novel material solutions for IO. This topic includes: the ability to affect adversary and potential adversary decision making with the intent to ultimately affect their behavior in ways that help achieve friendly objectives. The decision-making process exists within the information environment and consist of three targetable dimensions: 1) informational, 2) physical, and 3) cognitive. The information environment spans the content and delivery of the information used by the decision maker. Within the context herein, data becomes information once someone applies meaning to any data element. Advanced concepts may include generative AI or autonomous AI, or both at the same time.

TOPIC: AFCO-CM-003, Electromagnetic Digital Communications

Electromagnetic digital communications encompass free space propagation of information and data elements through air and/or space, that may transition to terrestrial ground links. Ideally the offeror would propose a method to achieve universal access through a material solution given basic information regarding the network's physical configuration and protocol. Offerors may also propose methods for positively or negatively affecting (i.e. deny, disrupt, degrade, deceive, destroy) electromagnetic digital communications. Ideally the offeror would propose novel or innovative approaches to access, placement, persistence, proximity, with extensibility as opposed to specificity.

TOPIC: AFCO-CM-004, Multi-Domain Innovation

AFCO-CM seeks innovative and novel material solutions for innovation in integrated multi-domain operations. This topic includes multiple systems in one domain generating effects and/or supporting operations in another domain. For the purposes of this CSO for AFCO/CM, multi-domain operations capitalize on deep integration of EW, cyberspace, ISR, and Information Operations to generate effects within the tactical environment that result in operational and strategic results. Multi-domain operations often rely heavily on automated functions and managers due to the tight synchronization required for successful execution to present multiple dilemmas to overwhelm an adversary at multiple levels from machine to higher leadership that requires seamless, dynamic and continuous integration of capabilities generating effects in and from all domains.

ATTACHMENT 7: EVALUATION CRITERIA AND SELECTION PROCESS

The Government will review each Quad Chart/White Paper (Phase I) and select the offerors that have the greatest potential to meet the needs of AFCO-CM technology requirements based on the topic areas stated in Attachment 6. Initially, a determination will be made if each offeror is technically qualified and has a comprehensive understanding to undertake the development of the technology based on the information stated in the Quad Chart/White Paper. The offeror is advised that only Firm Fixed Price (FFP) or Fixed Price Incentive (FPI) contracts may be awarded while executing these innovative efforts. The Government will determine the most technically competent and capable of the qualified offerors using the criteria below.

- Criteria (Factors) for Selecting Quad Chart/White Paper for Full Proposal Submission:
    - Technical merit/applicability,
    - Importance to AFCO/CM mission, and
    - Fund availability
- Relative Importance: All Factors are of equal importance
- Method of Evaluation: Peer or scientific review