

**Sources Sought and Request for Information (RFI)  
for  
Aerial Targets Branch (EBAY) Future Targets Command & Control System (FTCS)**

**DESCRIPTION:**

FA8678-23-TCS-R0003 – Future TCS (FTCS)

Air Force Life Cycle Management Center (AFLCMC), Aerial Targets Branch

Classification Code: 59 -- Electrical and electronic equipment components

NAICS Code: 334 -- Computer and Electronic Product Manufacturing/334511 -- Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing

PSC: 5895 – Miscellaneous Communication Equipment

**SOURCES SOUGHT and REQUEST FOR INFORMATION (SS/RFI) for the Aerial Targets Branch (EBAY) Future Targets Command and Control System (FTCS)**

**1.0 Description**

The Air Force Life Cycle Management Center (AFLCMC), Aerial Targets program office (AFLCMC/EBAY) is conducting market research to identify interested vendors with mature technical solutions and the resources to meet present and future mission objectives/capabilities of the FTCS. The mission of the Aerial Targets Branch is to enable realistic air-to-air and surface-to-air tests in support of development, United States Code (USC) Title 10 Live Fire Test & Evaluation (LFT&E), and Weapons System Evaluation Program (WSEP) assessment. The EBAY program office is issuing this Sources Sought and Request for Information (SS/RFI) in an effort to understand market availability and maturity of potential solutions to current identified capability gaps. The Government is interested in understanding the potential benefits and challenges associated with leveraging the legacy TCS (e.g., current Air Force system) versus developing new systems. This understanding will inform an acquisition strategy that will enable innovation and competition within the industrial base.

**1.1 THIS IS A REQUEST FOR INFORMATION (RFI) ONLY**

This is a Sources Sought and Request for Information notice for market research purposes to determine the availability of qualified sources only. This SS/RFI is for informational planning purposes ONLY and is not to be construed as a commitment by the Government for any actual procurement of materials, machinery, products, or services. This notice does not constitute a solicitation or a promise of a solicitation in the future. The Government encourages all responsible businesses, to include small businesses, joint ventures, and teaming arrangements to respond to this SS/RFI; however, the Government is not liable and will not pay for any costs incurred by any respondent to prepare and/or submit its response to this SS/RFI. All costs associated with responding to this SS/RFI are solely at the responding party's expense.

Respondents are solely responsible for properly marking and clearly identifying any proprietary information or trade secrets contained within their response. The Government will not be liable for or suffer any consequential damages for any proprietary information not properly marked or clearly identified. Proprietary information received in response to this SS/RFI will be safeguarded and handled in accordance with applicable Government regulations.

This SS/RFI does not constitute a request for proposal; submission of any information in response to this market research request is voluntary; the Government assumes no financial responsibility for any cost incurred. In accordance with Federal Acquisition Regulation (FAR) 15.201(e), responses to this notice are not offers and will not be accepted by the Government to form a binding contract or agreement. The Government will not accept unsolicited proposals. The Government will not be obligated to pursue any particular alternative because of this SS/RFI. Responses to this SS/RFI will not be returned. Not responding to this SS/RFI does not preclude participation in any future solicitation, if one is issued. Specific responses to the approaches will not disqualify or have an impact on participation and evaluation on future solicitations, if issued.

It is the responsibility of potential offerors to monitor the SAM.Gov website for additional Government information pertaining to the EBAY FTCS effort.

**2.0 Background Information**

The legacy Target Control System (TCS) delivers command and control of full scale (QF-16) and subscale (BQM-176A) aerial targets with onboard threat representative Electronic Attack (EA) payloads to enable realistic air-to-air and surface-to-air tests in support of DoD advanced weapon systems development, USC title 10 Section 2366 major weapon system survivability and lethality tests (LFT&E), and WSEP assessment of fielded weapon systems.

Presently, the TCS provides the capabilities to track and control 6 unmanned aerial targets (QF-16 and BQM-167A), and track: shooters, missiles and, as applicable, airborne platforms (for over-the-horizon target C2) and support aircraft (e.g. for gathering information on boat traffic).

The legacy TCS is a System of Subsystems that consists of Advanced Airborne Threat Target Control System (AATTCS), 915 MHz Datalink Subsystem Replacement (DLS-r), and 915 MHz Datalink Test Set (915DTS). The AATTCS subsystem is a hardware (HW)/software (SW) resource comprised of control consoles (display monitors, control sticks, and push button controls), primary servers, and backup servers. The subsystem enables aerial target track and control, to include remote, manual operator target control and autonomous take-off/landing, maneuvers, and waypoint navigation.

The DLS-r subsystem is: 1) comprised of a Message Processing Unit (MPU)/Radio Frequency Transponder Unit (RFTU), Power Supply Unit (PSU), and Uninterruptible Power Supply (UPS); 2) used to deliver Radio Frequency (RF) uplink/downlink data messages between the AATTCS subsystem and mission aerial targets via 915MHz datalink; 3) connected to RF antennas placed on range sites (i.e., towers and/or buildings) in and around designated Major Range and Test Facility Base (MRTFB) ranges.

The 915 MHz Test Set, is used to verify the Data Link Subsystem Replacement (DLS-r) and other 915 MHz AATTCS communications equipment in compliance with the Data Link Format Specification.

The datalink requires line of sight coverage (from range sites to aerial targets) for target C2 and an airborne relay for over-the-horizon mission requirements. The TCS system utilizes multilateration to triangulate target position based on time of arrival of messages between the target and the range sites. As well, the TCS system ingests and displays certain external data inputs that provide situational awareness (e.g., weather, boat, and video) for mission participants.

The existing TCS HW/SW (source and executable code) are owned and maintained by the Government. The SW is continuously developed following agile practices with multiple version releases per year. The Government has both unlimited rights and Government purpose rights to the technical data packages (TDP) associated with the TCS subsystems.

Independent of the TCS subsystems, but integral to the success of EBAY USC Title 10 LFT&E and WSEP objectives, are the following companion DoD systems:

1. Aerial targets (QF-16 and/or BQM-167A, with on-board threat representative EA payloads) that emulate real-world, enemy aerial targets/threats via aircraft performance, signatures, and/or countermeasures.
2. On-board aerial target flight termination resources that ensure required range safety (i.e., aircraft destruct for full-scale aerial target operations and parachute deploy for subscale aerial target operations).
3. On-board aerial target missile track and scoring resources.
4. Supporting range infrastructure.

Problem: The FTCS must support future (5<sup>th</sup>/6<sup>th</sup> GEN) LFT&E requirements and growth in DoD Major Range and Test Facility Base (MRTFB) usage. There is a need to modernize the TCS and reduce the reliance of range infrastructure to support the rapidly advancing DoD weapon systems requirements. Capability gaps have been identified reflecting performance, management, and adaptability shortfalls. Please see attached SS-RFI Capability Requirements Matrix for Vendors for a detailed list of identified capabilities which serve as the Government's top-level priority FTCS capability requirements.

To satisfy the Targets C2 System Top-Level Capabilities, Respondents may consider a wide range of approaches including, but not limited to:

- Developing an FTCS, with a design that utilizes mature technology (hardware and software), with a TDP that provides the Government with Government Purpose Rights, at a minimum. However, specifically negotiated rights inclusive of the opportunity for the Government to utilize the aforementioned in future

competitions may also be considered. Please indicate if specifically negotiated rights would be required, and if so, why, and address any potential limitations.

- Leveraging the legacy TCS to include teaming with the Government SW support agency to meet capability needs, with a TDP that provides the Government with Government Purpose Rights, at a minimum. However, specifically negotiated rights inclusive of the opportunity for the Government to utilize the aforementioned in future competitions may also be considered. Please indicate if specifically negotiated rights would be required, and if so, why, and address any potential limitations.
- Pursue a hybrid/blend of the above two approaches.

The Government may consider a phased approach in the delivery of FTCS capabilities, with final fielding of all capabilities NLT 2030.

#### **Supplemental Documents:**

1. Technical Library (Ref: 6.0 Summary section for description)
2. RFI Tech Library Access via ATIMS Instructions (Ref: 6.0 Summary section for description)
3. SS-RFI Capability Requirements Matrix for Vendors

### **3.0 Requested Information**

#### **Submission Details:**

AFLCMC/EBAY requests white paper responses not to exceed 30 pages. Respondents should ensure submissions address the following:

- A. Describe your FTCS approach to include but not be limited to the top-level capabilities listed within the attached SS-RFI Capability Requirements Matrix for Vendors. Complete the referenced Capability Requirements Matrix to include your ability to fulfill specified capabilities. For those capabilities you annotate as “able to fulfill”, provide a brief overview of your proposed approach to meet/deliver those capabilities, to include any projected “phased” delivery timeline of capabilities or anticipated subcontractor support.
- B. Provide a technical system description of your proposed approach. Identify any applicable ideas, technologies/approaches, and/or collaboration/partnerships between Industry (e.g., subcontractors) and the Government. Identify specific experience with previous/existing programs which could/would be leveraged for developing the FTCS. Include Technology Readiness Level (TRL)/Manufacturing Readiness Level (MRL) of technical approach as defined in <http://acqnotes.com/acqnote/tasks/technology-readiness-level>). For those with a TRL/MRL of 6 or less, provide a description and timeline of your approach to achieve TRL 7.
- C. Describe experience with development, manufacturing, delivery, fielding, and sustainment of datalink hardware, software, & firmware. Include contract numbers, a brief description of the work performed (to include reliability/serviceability/repairability/repair turn-time statistics on your existing systems), period of performance, agency/organization supported, disposition on data rights provisions (i.e., willingness to provide data rights and/or to provide data rights for item/system performance), and individual point of contact (Technical and Contracting) as a prime or subcontractor/vendor.
- D. Describe experience (serving as either a prime or subcontractor/vendor) and proposed approach to include implementing tools for agile development, digital engineering, Model-Based System Engineering (MBSE), Open System Architecture (OSA), and/or Modular Open Systems Approach (MOSA) to provide continuous competitive technology insertion, and to provide speed and clarity of communication between Government and contractor.
- E. Describe your approach to delivering capabilities such as autonomy (i.e. automatic, no man-in-the-loop target control), Artificial Intelligence (AI), Satellite Communications (SATCOM), and reduced infrastructure.
- F. Describe if your approach will leverage existing Government resources (i.e. legacy system, SW support, Government Reference Architecture (GRA), etc.).

- G. Provide a schedule from contract award to fielding to include major milestones such as Systems Requirement Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), hardware/software testing, Production Readiness Review (PRR) and production delivery/fielding.
- H. The Government desires Unlimited Rights or Government Purpose Data Rights for data and physical hardware included in the proposed solution; within the whitepaper submission, include costs associated for these rights, and assert any exception and/or compliance with this request.
- I. A Rough Order of Magnitude (ROM) cost estimate in total and by fiscal year (Oct 1 – 30 Sept) to deliver the above defined FTCS to include rationale for ROM, i.e., costs of similar services/systems/subsystems, or other factors deemed relevant **(For budgetary and informational purposes only)**.
- J. Identify potential cost, schedule, performance, and integration risks as applicable and proposed mitigation approach to reduce risk.
- K. Identify business practices or approaches to encourage rapid acquisition, faster adoption of technology, agile development, and bring creative and non-traditional approaches into the solution space. Specifically speak to the potential suitability of the solution to Middle Tier of Acquisition (DoD Instruction 5000.80) rapid prototype and/or rapid field capabilities under a new pathway, distinct from the traditional acquisition system.

#### **4.0 Government's Requirements**

- 4.1 Interested parties are requested to submit a white paper not to exceed 30 pages (single-sided, single-spaced pages, 12-point font, and ¾ inch margins, in Microsoft® Word). The White Paper shall provide administrative information, and shall include the following:
  - Name of Company
  - CAGE code
  - SAM unique EID
  - Mailing address and/or overnight delivery address (if different from mailing address)
  - Phone number and fax number
  - Both unclassified and SIPRNet email
  - Point of contact for further clarification or questions
  - Background/Brief history highlighting past relevant experience on similar systems
- 4.2 In addition to the white paper, you may provide up to 25 (twenty-five) PowerPoint slides or similar graphical charts to further explain your concepts and an operational view (OV-1) that provides a high level graphical and textual description of your system design and/or operational concept.

#### **5.0 Industry Discussions**

Armament Directorate representatives may or may not choose to meet with Responders. Such discussions would only be intended to get further clarification of potential capability to meet the requirements.

Questions regarding this announcement shall be submitted **NLT 25 September 2023, 4:00pm Central Daylight Time** in writing via email to the PCO, Ms. Marlisa Price at [marlisa.price@us.af.mil](mailto:marlisa.price@us.af.mil) and the Contract Specialist 1st Lt Cameron Newton at [cameron.newton.2@us.af.mil](mailto:cameron.newton.2@us.af.mil). Verbal questions will NOT be accepted. In turn, the Government will reply to all respondent questions by **2 October 2023** via SAM. Accordingly, questions shall NOT contain proprietary or classified information. The Government does not guarantee that questions received after **25 September 2023, 4:00 PM Central Daylight Time** will be answered.

Final respondent white papers and related graphical/textual descriptive data should be submitted to the Government **NLT 11 October 2023, 4:00 PM Central Daylight Time**.

#### **6.0 Summary**

All respondents are requested to indicate in Section A, if they are a US company, large business, small business, or small disadvantaged business IAW section 8(a) of the Small Business Act, as amended (15 U.S.C. 637(a)), or women-owned small business as describe by NAICS code 334511. Please address what portion (type / percentage) of work would be subcontracted, including portions intended for socio-economic concerns of interest to the Government.

Respondents are further requested to indicate in Section A their status as a Foreign-owned/Foreign-controlled firm and any contemplated use of foreign national employees on this effort. Those desiring to do business with the Air Force must be registered in the Government's System for Award Management (SAM) located at <https://www.sam.gov>. Consequently, it is the responsibility of potential offerors to monitor their email for information pertaining to the FTCS effort and to submit any corresponding responses/requests via email to the Government.

White papers which meet the desired characteristics of the FTCS (mentioned above) and include the Submission Details (also mentioned above) are due no later than **30 days after RFI release, 11 October 2023, 4:00 PM Central Daylight Time**. Unclassified responses shall be submitted via secure email only to the Procuring Contracting Officer (PCO), Ms. Marlisa Price at [marlisa.price@us.af.mil](mailto:marlisa.price@us.af.mil), or Contract Specialist, 1st Lt Cameron Newton at [cameron.newton.2@us.af.mil](mailto:cameron.newton.2@us.af.mil). Interested companies MUST have an active SECRET facility clearance and storage to participate. Unclassified responses are encouraged to the maximum extent practicable; however, if brief, classified support is viewed as critical, please contact the Government for a SIPRNET address. Format instructions apply to any SIPRNET responses, and such submissions will be included in the page limitation.

Proprietary information if any, MUST BE CLEARLY MARKED on the outside container and on the materials inside. The Government shall not be liable for or suffer any consequential damages for release of any proprietary information not properly identified. Please be advised that all submissions become Government property and will not be returned. All information received in response to this RFI that is properly marked as "Proprietary" will be handled accordingly.

The Government has established a Technical Library for interested respondents which contains technical data, inclusive of Government Purpose Rights and Government Owned data, to promote a clearer understanding of the TCS program and solicitation requirements. In order to obtain access to the Technical Library the respondent must review, sign, and return the attached Non-Disclosure Agreement (NDA) to the PCO and Contract Specialist. Access to the Technical Library will not be granted without a completed and signed NDA in accordance with DFARS 227.7103-7. Admission of a respondent to the Technical Library does not relinquish any existing Government data right assertions.

The technical library will be hosted on the Government's Automated Technology Information Management System (ATIMS) and will contain the following documents:

- 1.1 EBAY Systems Overview
- 1.2 EBAY Systems Datalink General Descriptions

Respondent access to the Technical Library on ATIMS can be established via the instructions detailed within the "[RFI Tech Library Access via ATIMS Instructions](#)", attached. Please note that access to ATIMS requires a DoD Common Access Card (CAC). Respondents unable to access ATIMS should contact the PCO, Ms. Marlisa Price at [marlisa.price@us.af.mil](mailto:marlisa.price@us.af.mil) and the Contract Specialist 1st Lt Cameron Newton at [cameron.newton.2@us.af.mil](mailto:cameron.newton.2@us.af.mil).

Respondents are advised that technical and cost/price data submitted to the Government in response to this SS/RFI may be released to Government contracted advisors for review and analysis. Should there be an objection to this envisioned disclosure of white paper information, please contact the PCO immediately in writing with the basis of the objection. If you do not contact the PCO, you understand technical and cost/price data submitted to the Government in response to this SS/RFI may be released to Government contracted advisors and consent to the release of any proprietary, confidential, or privileged commercial or financial data provided in response to this SS/RFI for Government contracted review and analysis.

Governing support contracts include DFARS clause 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restricted Legends. Accordingly, said contractors are considered Covered Government support contractors and will only access information for the sole purpose of furnishing independent and impartial advice or technical assistance to the Government. Similarly, the support contractor will take all reasonable steps to protect the sensitive data from unauthorized release or disclosure.

**THIS IS A REQUEST FOR INFORMATION ONLY** to understand potential industry solutions. The U.S. Government has made no final solicitation decision regarding eventual procurement or by what means such a solicitation, if any, would be handled (FAR based procurement or other transactions). The information provided in this SS/RFI is subject to change and is not binding upon the U.S. Government. The U.S. Government has not made a commitment to procure any of the items discussed, and release of this SS/RFI should not be construed as such a commitment or as authorization to incur costs for which reimbursement would be required or sought. All submissions become U.S. Government property and will not be returned.

**Primary Point of Contact:**

Ms. Marlisa Price

Procuring Contracting Officer (PCO)

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OR

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