Sources Sought

Notice Type: Sources Sought

Classification: Unclassified

Issuing Office: Air Force Life Cycle Management Center (AFLCMC), Training Directorate (WN)

NAICS Code: 334511 – Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing

Subject: Sources Sought for Development, Integration, and Production of the Advanced Radar Threat System-Variant 3 (ARTS-V3) Subscale.

Response Date: July 31, 2026

1. Description of Requirement

The United States Air Force (USAF), AFLCMC/WNR, has a requirement to develop, integrate, and produce a scaled-down version of the Advanced Radar Threat System-Variant 3 (ARTS-V3), referred to as the ARTS-V3 Subscale. This system will provide a mobile high-fidelity threat simulator to increase threat density on test and training ranges. The Government currently estimates a total production volume between 0 and 60 subscale X and C band systems, with an indeterminate quantity of each.

This Sources Sought Notice is issued for the purpose of conducting market research to identify potential sources capable of satisfying the requirement and to determine if any other sources can overcome the significant technical, schedule, and cost constraints outlined in Section 2.

The Government does not intend to award a contract based on this sources sought or to otherwise pay for the information solicited except as an allowable cost under other contracts as provided in subsection 31.205-18, Bid and proposal costs, of the Federal Acquisition Regulation. Although "proposal" and "offeror" may be used in this document, your response will be treated as information only. It shall not be used as a proposal.

1. **Core Requirements:**
   Core requirements include, but are not limited to:

1.1. The contractor must develop, qualify and deliver a subscale version of the current ARTS-V3 Design, including a ruggedized radar pedestal and all suitable equipment shared by the ARTS-V3 (e.g., common processing backend hardware and software, chiller, generator, data processors, Arbitrary Waveform Generator (AWG), power distribution, and interconnections. The system must be centered around a scaled-

down modular AESA (Active electronically scanned array) (specifically X-Band and C-Band Transmitters) and Receive Subarrays (AESA tiles)—and must utilize identical configurations to ensure complete hardware and software interchangeability across the full-scale and subscale systems. *Note: The Government will not possess the data rights to release the Technical Data Package (TDP) for AESA tiles until mid-2028*.

1.2. The entire system shall be collocated on a single, suitable palletized platform and secured on a trailer to allow for both transportation and operation.

1.3. The Government requires a single, common trailer chassis design that remains structurally and mechanically unchanged regardless of the AESA tile payload. This common chassis must act as a "plug-and-play" backbone—providing the baseline pedestal, compute, security, cooling, power and power distribution capable of supporting any payload from the minimal 4 tile AESA configuration up to a 32 tile configuration.

1.4. The system must be transportable within and outside the Continental United States (CONUS/OCONUS) via C-130 and larger aircraft, and over commercial highways and unimproved range roads, meeting mobility features generally aligned with Type III Classification of Mobility IAW SAE AS8090A. Transportation shock and vibration requirements shall be tailored from MIL-STD-810H.

1.5. The pedestal must feature an electrically driven, motorized system for transportation storage, one operational elevation angle and non-continuous azimuth rotation.

1.6. The system must provide sufficient on-board power, cooling, and margin to support mission capabilities, including the operation of 32 X-Band high duty subarrays (approx. 80dBW EiRP) or 24 C-Band subarrays (approx. 75dBW EiRP). The power distribution system must also accept shore power and include necessary power conditioning.

1.7. System Security, Cybersecurity, and Information Assurance: The system architecture must be engineered to securely store, process, and execute classified software and threat data (up to SECRET) in a mobile, open-air range environment. The design must incorporate the following security features:

1.7.1. Data at Rest (DAR) Protection: The architecture must allow for the rapid removal of all classified data (e.g., remote operations) at the end of daily operations rendering the remaining parked system unclassified.

1.7.2. Physical Access Controls & Tamper Detection: To protect classified data while the system is powered on and operating, the system enclosures and all external interconnecting classified data conduits or cabling must incorporate robust physical locking mechanisms and Intrusion Detection Systems (IDS) or tamper-switches that alert operators to unauthorized physical access attempts.

1.7.3. Memory Sanitization: The system must be designed to ensure all volatile memory (e.g., RAM, cache) is automatically cleared/sanitized upon normal system power-down or unexpected power loss, preventing data persistence in accordance with NIST SP 800-88 Rev. 1.

1.7.4. RMF & TEMPEST: Risk Management Framework (RMF) and TEMPEST considerations must be integrated into the system design, including hardware port control, configuring equipment IAW DISA STIGs, and ensuring hardware compatibility with continuous software patching requirements.

1.8. Government-Furnished Equipment (GFE) Integration

1.8.1. The contractor must fully integrate GFE into their subscale design, utilizing Government drawings and specifications to extrapolate configurations, supply powers, and other supporting systems validated in the full-scale ARTS-V3 design. This includes the integration of government-provided cryptographic hardware.

1.9. Integration and Test of the following Government Furnished Information (GFI):

1.9.1. Radar software: All software including translation layers.

1.9.2. LMOC (Live Mission Operation Capability)

1.9.3. ARTS-V3 Application (VAPP): The Command and Control (C2) user interface.

1.9.4. Software & Interfaces: The Software Development Kit (SDK), threat behavior software, and all associated Interface Control Documents (ICDs).

1.10. The contractor shall extrapolate a new SysML model (Cameo NoMagic) with high reuse from the current SysML model that fully traces to the Government Reference Architecture (GRA) model. The system architecture model must include, at a minimum: all derived requirements, Verification and validation methods, internal/external interfaces, system behaviors, and the complete physical architecture for all hardware and software.

1.11. The contractor shall support completion of government acquisition milestones, building to deliver a complete Production Level Technical Data Package (TDP) IAW MIL-STD-31000B and all other relevant data, including physics-based radar models and 3D model files.

2. Program Background and Significant Constraints: Lockheed Martin Rotary Mission Systems is the Original Equipment Manufacturer (OEM) and developer of the ARTS-V3 system, from which the ARTS-V3 Subscale will be derived. The Government has identified significant barriers to competition for the ARTS-V3 Subscale requirement. Respondents to this Sources Sought must explicitly demonstrate how they can overcome the following constraints without causing unacceptable schedule delays or a substantial duplication of cost to the Government:

2.1. Proprietary Architecture and Data Rights Limitations Currently, the Government possesses only Limited Rights to critical AESA tile hardware components. The Government will not take ownership of the finalized Allocated and Product Baselines until Q3 FY28 (for X-Band) and Q2 FY29 (for C-Band). Because the Government lacks full Data Rights and a finalized technical baseline at the time of the anticipated contract award (May 2027) and production of 24 months after award, the Government is legally precluded from distributing key data to third-party vendors.

2.2. Multi-Party Integration: This program requires immediate, highly specialized, and continuous technical integration with external government and academic stakeholders, including Aviation and Missile Systems (AMS), the Georgia Tech Research Institute (GTRI), and Space Dynamics Labs (SDL). Please describe your experience and approach to executing complex engineering tasks in a multi-party, multi-organizational environment. Specifically, how will your firm establish collaborative workflows to ensure seamless technical exchange and integration with these established partners?

2.3. Hardware and Software Reuse: to maintain tactical relevance and logistical supportability, the subscale system design must maximize the reuse of already proven components and software from the ARTS-V3 baselines and its parent systems. Please describe your technical approach to integrate with these existing hardware assets. Specifically, detail your methodology for adoption into the ARTS V-3 interfaces.

2.4. Substantial Duplication of Cost: The current system utilizes a highly integrated, validated radar backend, control software, and system architecture. Please describe your technical approach to executing this requirement without necessitating a ground-up redevelopment. Specifically, detail how your firm would transition or integrate into the existing architecture while preventing a substantial duplication of costs.

2.5. Unacceptable Delays: The current system utilizes a complex, proprietary architecture requiring close coordination across multiple development and integration partners without a centralized, public technical baseline. Please describe your transition strategy to manage these complexities without causing schedule delays. Specifically, explain how your organization would execute the necessary multi-party development and integration efforts rapidly enough to avoid impacting urgent warfighter training schedules.

2.6. Sustainment: The Government is committed to a unified "Family of Systems" (FoS) sustainment strategy to minimize Total Ownership Cost (TOC) over the system's lifecycle. Please describe how your firm would support this strategy for the subscale variant. Specifically, how would you ensure your solution does not create isolated logistical pipelines or bifurcated training pipelines, and what specific steps would you take to keep long-term lifecycle costs aligned with the existing FoS baseline?

3. Instructions for Interested Parties: Interested parties who believe they have the capability to meet the requirements described herein are encouraged to submit a capability statement. This statement must be submitted electronically to the Points of Contact listed below by 4:00 PM Mountain Daylight Time (MDT) on 31 July 2026.

The capability statement must, at a minimum, include the following:

3.1. Company name, address, CAGE code, UEI, and business size status under NAICS 334511.

3.2. A detailed technical narrative demonstrates the offeror's ability to meet the technical requirements in Section 1 and satisfy the schedule.

3.3. Specific Engineering Plan for Integration: Provide specific evidence and a detailed plan explaining how your company would overcome the lack of a finalized technical baseline and available data prior to the FY28/FY29 timelines. Respondents must explain how they will successfully integrate GFI into a new radar pedestal design without access to the proprietary data at the time of award.

3.4. A credible plan and schedule demonstrating how your company would independently execute the reuse, integration, and qualification to deliver a qualified asset IAW DoDI 5000.88, MIL-STD 464, MIL-STD-461, MIL-STD-810H and without incurring schedule delays or duplicating development costs. To adequately address this requirement, respondents must provide:

3.4.1. Notional Schedule & Milestones: A high-level milestone schedule (e.g., Gantt format) identifying timelines for major engineering and test events, including Critical Design Review (CDR), Test Readiness Review (TRR), and Physical Configuration Audit (PCA).

3.4.2. Reuse & Baseline Strategy: Identification of specific Commercial Off-The-Shelf (COTS), Military Off-The-Shelf (MOTS), or previously developed Government Off-The-Shelf (GOTS) components targeted for reuse, including an assessment of current Technology Readiness Levels (TRL).

3.4.3. Integration & Test Capability: A description of organic or partnered facilities available to independently execute necessary integration and qualification testing (e.g., environmental shock/vibration, electromagnetic interference) to achieve a qualified asset.

3.4.4. Cost & Schedule Risk Mitigation: A narrative detailing how the proposed reuse strategy explicitly avoids duplicated engineering efforts (NRE) and mitigates supply chain or integration risks that typically drive schedule delays.

3.5. Past performance information on contracts of similar scope and complexity (specifically ground-based AESA radar systems) within the last five years.

3.6. Demonstrate organizational competency in Model-Based Systems Engineering (MBSE) by providing specific examples of complex, system architectures successfully modeled in Cameo NoMagic SysML that have been delivered to and accepted by a DoD Program Office within the last three years.

3.7. Detail your software engineering and configuration management plan to ensure the subscale system's software remains 100% common and synchronized with the parent full-scale system's block upgrades, noting that the parent software is continuously updated on a separate contract by the OEM. Explain how your company will execute these updates without access to the OEM's software development environment or source code

3.8. A generic marketing brochure will not be considered a sufficient response.

4. Government Point of Contact

All correspondence shall be directed to:

Name: William Weiss
Title: Contracting
Email: william.weiss.1@us.af.mil

Name: Reece Packard
Title: Program Manager
Email: reece.packard@us.af.mil