Arcane Thunder 27 (AT27) Request for Information (RFI); Assess Technology to Create Effects in All-Domains

CUI Version of this RFI is available on Vulcan SOF

https://vulcan-sof.com/login/ng2/collection/51d80662-c987-451a-a375-7b6661d6fe25

A. INTRODUCTION.

This is a Request for Information (RFI). This is NOT a solicitation for proposals, proposal abstracts, or quotations. The purpose of this RFI is to gain information leading to Government/Industry collaboration at Arcane Thunder 27 (AT27) to demonstrate concepts, prototypes, and emerging technologies that will support rapid advancement and enable the Operational Force to build capabilities in reconnaissance, target development, and precision targeting operations in support of theater contingency and operational plans.

The US Army invites Industry, Academia, individuals, and laboratories to submit responses addressing innovative technologies and capabilities in multiple categories that can be used in challenging environments (detailed list below).

The US Army focuses on maintaining domain superiority by synchronizing precision effects in time and space to create a compounding effect against adversaries in multiple domains simultaneously to enable Joint freedom of action. To synchronize its efforts, the US Army requires a complex network architecture with the ability to receive and distill raw data from multiple sensors. This architecture must also have edge computing capabilities, data transport, and storage capabilities, and the ability to transfer unclassified data to higher classification domains virtually.

We aim to identify, co-develop, and integrate capabilities that enable decision dominance and convergence of kinetic and non-kinetic effects across all domains.

Our focus is placed on resilient, adaptive, and modular solutions that can dynamically respond to mission requirements in permissive, semi-permissive and non-permissive environments where all warfighting functions are invariably challenged. Submissions must account for constrained placement and access, operating in denied/disrupted/intermittent/limited (DDIL) environments, emission control (EMCON), signature management, and integration with Tactical Assault Kit (TAK) ecosystem to support data flow from unclassified edge nodes to higher classification networks and systems for intelligence enrichment and additional targeting support.

Through a campaign of experimentation and assessments, Operational units will gain an understanding of how and when to employ and maximize their superiority across all-domains.

After reviewing the technology submissions, the Government may invite select candidates to participate in AT27 field-based demonstration, validation, & communication exercise (COMMEX) events (see RFI Schedule in Section B) in which the Government will evaluate the technological capability as applied to the Warfighter and its technical limitations and vulnerabilities through multiple perspectives. Our expectation is that technologies will be able to integrate with each

other. **To participate in AT27, all selected technologies must work with government staff to support the Interim Authority To Test (IATT) and Technology Validation (TECHVAL) processes.**

These assessments will provide the submitter an opportunity to interact with the Warfighter, the Department of Defense (DoD) Science and Technology community, Academia, Combatant Commands (COCOMS), Theater Commands, and other Government Agencies (OGA) for the purpose of assessing potential impact of emerging technology solutions on missions and capabilities.

Submissions and Verification of Submissions will be made through the Vulcan-SOF website, as described in Section 3.

B. OBJECTIVE.

Support the Multi-Domain Command – Europe (MDC-E) Mission: Increase situational awareness and real-time intelligence & support to multi-domain operations (MDO).

(1) Background:

The US Army's DEVCOM C5ISR Center conducts field experiments/assessments to support the vulnerability identification and system limitation in contested environments for emerging capabilities in an operationally relevant venue. These assessments are conducted with representatives from Government Research and Development (R&D) organizations, Academia, and Industry. These events provide an opportunity for technology developers to interact with operational personnel and determine how their efforts might support military capability gaps and high priority mission deficiencies. The environment facilitates a collaborative working relationship between Academia, Government, and Industry and supports identification, assessment, and dissemination of emerging and mature technology information and the acceleration of delivering capabilities to the Warfighters and those they support.

Arcane Thunder 27 will be executed in two main efforts: (1) a CONUS-based COMMEX, validation and training events involving full participation of invited technologies, full Military unit participation, realistic red teaming and execution of multi-domain mission threads, and (2) an OCONUS demonstration/partner engagement with select technologies from the CONUS iteration. Selection for the JELC event will not be performance-based, but rather based on classification, country considerations and applicability to the Concept of Operations (CONOP).

(2) Technology Assessment Focus and Submission Timeline:

a. RFI Submission Deadline: 22 May 2026 – All respondents to the submission will be notified by the Government of initial down-select decisions NLT 30 September 2026.

Participants will be notified of final invitations to participate in AT27 NLT **30 September 2026.**

RFI Schedule:

3QFY2026 (22 May – June 2026):

- **RFI Closes**
- Initial Planning Conference

4QFY2026 (Sep – Dec 2026) (Workload Est – 3 Weeks):

- Notification of initial invited participants
- Interviews with technologies of interest
- Notification of final invited participants and AT27 CONOP presentation
- Final Rough Order of Magnitude (ROM) submitted to US Army
- Pre-Deployment Site Survey (PDSS) OCONUS (Europe)
- Mid-Planning Conference (MPC) OCONUS (Europe)

1QFY2027 (Jan – Mar 2027) (Workload Est – 2 Weeks):

- Final Planning Conference (FPC) at OCONUS location
- Vendor Site Risk Reduction Events

2QFY2027 (Apr – Jun 2027) (Workload Est – 7 Weeks):

- CONUS-based Communications Exercise (COMMEX), Validation, and Training events with 2d MDTF
- OCONUS- Exercise
- AAR

b. Details: During these experiments, the US Army will conduct Multi-Domain Operations (MDO) in several environments and locations while an increasingly adaptive enemy disrupts and denies specific capabilities such as open maneuver, communications, and resupply. The Warfighters will use the technologies in a realistic, austere environments where factors regarding technological performance, systems integration, logistics, training, and adaptability are examined. The demonstration will incorporate Red Team adversaries (when applicable) and stress the dominance of the technologies in all domains to force the Warfighters to innovatively identify solutions.

Focus Areas for Experimentation:

i. Decision-Centric Warfare and AI-Augment Command and Control:

Objective: Accelerate operational tempo and increase precision by integrating machine-speed analytics and automated decision-support tools.

ii. Cyber-EW-Information Convergence:

Objective: Deliver scalable non-kinetic effects across the information, electromagnetic, and cyber spectrum in synchronization with kinetic effects.

iii. Multi-Domain Sensing and Targeting:

Objective: Fuse data from distributed sensors to deliver real-time targeting and collection support across all domains.

iv. Resilient Communication and Network Autonomy:

Objective: Ensure data continuity and enable spectrum agility through decentralized, resilient communication systems.

v. Autonomy, Robotics, and Swarming:

Objective: Distributed robotic and autonomous platforms capable of intelligence teaming, single-operator control, and adaptive swarming.

vi. Additive Manufacturing and Edge Modularity:

Objective: Enable on-demand mission adaptation and field repair through expeditionary additive manufacturing and modular payload design.

vii. Operational Integration and Effects Simulation:

Objective: Simulate and rehearse effects delivery in real time using interoperable Live, Virtual and Constructive, and digital twin environments.

(3) Field Validation / Demonstration Focus - The following technical areas are of particular interest:

a. General Capabilities (as applicable to each focus area):

- Modular Payload Compliant
- Desired Operation in GNSS Denied Environments
- Network: TCP/Multicast/Unicast and Cursor on Target (Data Format)
- US Made ADSB / Position Location Indicator (PLI) Components
- Autonomous Systems and Software
- AI / ML Waveform Classification and Identification

b. Platforms:

i. High Altitude Platforms / Balloons (Short and Long Duration):

ii. VTOL and/or Fixed Wing Long Duration Unmanned Aerial System (UAS):

iii. Unmanned Aerial System (UAS) Interceptors:

c. Payloads (UAS, HAP, and/or HAB)

d. Counter Unmanned Aerial Systems

e. Munitions (Ground / Air - Launched Effect, Glide, Loitering)

f. Defensive Cyber Operations (DCO)

g. Network (Joint All-Domain Command and Control (JACD2) / Mesh Networks / Modular "Sensor Gateway Node" that provides a secure, scalable edge solution to aggregate and forward traffic from distributed ground sensors to hybrid cloud and C2 systems using encrypted tunnels)

i. Signature Reduction (Personnel, Vehicles, Equipment, and Operations)

j. Threat Replication

(4) Security Requirements: The submittal process under this RFI is intended to be as streamlined as possible in order to allow the Government to leverage technology solutions capable of meeting urgent Warfighter needs. Respondents should NOT submit classified information in the submission. International Traffic in Arms Regulations (ITAR) restrictions, Export Administration Regulation (EAR) restrictions, and Office of Foreign Assets Control (OFAC) restrictions should be clearly listed.

(5) Other Special Requirements: **DO NOT SUBMIT PROPOSALS. SUBMIT TECHNOLOGY SCOUT CARDS ONLY.** In your Scout Card please provide accurate specifications to include spectrum, power draw, SWaP, and infrastructure requirements. Instructions and templates can be found at the Vulcan submission (link below). This RFI may result in follow-on contracting actions.

C. SUBMISSION INSTRUCTIONS.

Submission Deadline: **30 June 2026.**

If you wish to submit a technology for consideration for AT27, Respondent must be registered with the Vulcan website: https://www.vulcan-sof.com.

A complete submission includes a Scout Card for each technology. Respondents are required to submit all information prior to the submission deadline to be considered for the event. Should Respondent wish to submit multiple technologies for consideration, separate submissions are required for each technology.

(1) Required Documents:

a. Vulcan Scout Card

b. AT Technology Quad Chart and Details (template provided in Vulcan)

- Note: Upon notification, respondents MUST use the provided and approved formats to submit the AT Technology Running Estimate. Failure to use approved formats may result in rejection of technology from all events listed on RFI Schedule.

(2) Vulcan Registration Instructions: Please give yourself enough time to create account and be verified for a Vulcan account before creating your Scout Card.

a. Visit https://www.vulcan-sof.com and click Request Access

b. Follow the on-screen instructions

c. Vulcan access questions, please email contact@vulcan-sof.com

(3) Submission Instructions: (Scout Card can be created on the submissions)

a. Navigate to the Submission Page: https://vulcan-sof.com/login/ng2/collection/51d80662-c987-451a-a375-7b6661d6fe25

- For new Scout Cards: Fill in all areas of the card and include as much detail as possible. At the bottom of the page, select Tab 3 (Submit a New Card). Follow the instructions to include watching the video to complete your Scout Card submission. The aforementioned Quad Chart should be attached to the last page of the Scout Card submission.
- For existing Scout Cards: At the bottom of the page, select Tab 2 (Submit Existing Card). You will see a list of your organizations previously submitted Scout Cards for inclusion in this submission. The aforementioned Quad Chart should be attached to the last page of the Scout Card submission.
- For already submitted Scout Cards: At the bottom of the page, select Tab 1 (Already Submitted) to see a list of Scout Cards your organization has previously submitted to this call.

b. If you experience issues with the Vulcan website, contact the Vulcan Help Desk at contact@vulcan-sof.com.

c. You will receive on screen confirmation of a successful submission.

d. Vulcan Submission Tips:

- If your organization has already submitted to this RFI, you will be able to see it under "Submitted".
- If your technology already has a Scout Card in Vulcan but has not yet submitted to AT27, you may click "Select Existing" to quickly add it.
- If you are submitting a new technology into Vulcan, then click "Create New Scout Card". Please watch the tutorial video and proceed.

D. SELECTION TO PARTICIPATE.

Selection of Respondents to participate will be based on the extent to which the technology represents a particular category, class, or level of capability that can be provided to the DoD. Other considerations include:

- Relevance of or adaptability to military operations/missions
- Relevance to current operational needs
- Breadth of application

- Technical maturity
- Available time

Selected Respondents will be notified in writing prior to event execution for the selected Technology Assessment events specified in paragraph B.(2).

E. ADDITIONAL INFORMATION.

All Respondents shall clearly identify and mark in writing all proprietary information provided on all documents. Technical lessons learned by Government assessments may be broadly disseminated within the Government and Government support contractors. Respondents must provide information that clearly asserts rights in technical data if developed exclusively or partially at private expense in order to claim any restrictions. Developed exclusively at private expense means development was accomplished entirely with costs charged to indirect cost pools, cost not allocated to a government contract, or any combination thereof. Identification of the data or software must have enough specificity to support the respondent's assertion is important for the parties to avoid misunderstanding during the information gathering assessment activities.

F. USE OF INFORMATION.

The purpose of this notice is to gain information on technologies for possible inclusion in Army Experimentation. All proprietary information contained in the response shall be separately identified and marked. Any proprietary information contained in response to this request will be properly protected from any unauthorized disclosure. **ANY INFORMATION THAT IS RELEASABLE TO NATO MUST BE MARKED ACCORDINGLY.**

G. DATA OWNERSHIP.

All data transmitted, received, and stored during the conduct of these experiments are the property of the US Government. Press releases and public announcements based on attendance are not permitted unless permission is obtained in writing from the US Government (USG).

H. INTENT.

The Government does NOT intend to award a contract on the basis of this RFI Notice or to otherwise pay for the information solicited.

I. POINTS OF CONTACT.

Questions on the objectives or preparation of technical documents should be addressed to:

C5ISR-Experimentation@army.mil, and the **Subject Line must be titled**: AT27 QUESTION(s) for CONUS/OCONUS Experimentation.