

Supplemental Statement for STA File Number 0236-EX-ST-2024

Introduction

GuRu Wireless, Inc., under its current name and under the earlier name Auspion, Inc. has applied for and received experimental license grants in the past for 24 GHz ISM band wireless power transfer technology (WPT)¹. The instant application is for a short duration demonstration of a modified version of this technology to the U. S. Special Operations Command (USSOCOM) at a military test site in Florida to show the feasibility of using this technology to power Small Unmanned Air Systems (SUAS) in response to a Request for Information (RFI) to solicit technology experimentation candidates from Research and Development (R&D) organizations, private industry, and academia for inclusion in future experimentation events coordinated by the U. S. Special Operations Command (USSOCOM). This RFI is contained in the Attachment to this document. It states that the

“intent is to provide participants with the opportunity to gain Special Operations Forces (SOF) insight/perspective on participant technologies. Technical experimentation will explore emerging technologies, technical applications, and their potential to provide solutions for future SOF capabilities.”

The requested STA will be used to demonstrate WPT technology to transfer power to SUAS to maintain their operation in military operations for long periods in consistent with Section 4.8.1 of the RFI.

¹ File Number: 1526-EX-ST-2022, 0014-EX-ST-2020, 0866-EX-CN-2019, 0205-EX-ST-2019, 1375-EX-ST-2018, and 1814-EX-ST-2017

In view of the short time for a response under the RFI, we plan to demonstrate a modification of our existing 24.125 GHz that we have been using indoors in downward pointing directions under previous FCC licenses. While this demonstration will be indoors, the power transmission will be a high elevation angles. We are seeking an authorization only for a 5 day period, 1 April - 5 April 2024, and we ask that the Commission and its coordination of this license with NTIA focus on the long standing fundamental issue in experimental licensing that the decision to grant should be based only on the issue of whether the requested experiment will cause harmful inference to allocated spectrum users at the time and location of the requested authorization and not address the more general issue of whether this is an acceptable long term use of spectrum.

Federal Agency Requesting this Demonstration.

The RFI in the Attachment specifies the point of contact for “Solicitation Number: USSOCOM RFI TE 24-2 Intelligence, Surveillance, Reconnaissance (ISR) and Tactical Communications Integration” at USSOCOM as:

Contracting Office Address:
7701 Tampa Point Blvd
MacDill AFB, Florida 33621-5323
Primary Point of Contact:
tech_exp@socom.mil

Interference Issue of the Instant Application

The center frequency and almost all of the power emitted in this proposed experiment lie within the 24.0-24.250 ISM band defined by ITU Radio Regulation 5.150 that states

Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.

ITU Radio Regulation 15.13 then states:

Administrations shall take all practicable and necessary steps to ensure that radiation from equipment used for industrial, scientific and medical applications is minimal and that, outside the bands designated for use by this equipment, radiation from such equipment is at a level that does not cause harmful interference to a radiocommunication service and, in particular, to a radionavigation or any other safety service operating in accordance with the provisions of these Regulations.

While this technology complies with FCC’s out-of-band emission limits of § 18.305(b)² for out-of-band emissions/OOBE in bands near the center frequency. *Some* of the harmonics *may* exceed the § 18.305(b) limits although GuRu is trying to reduce them but may not be able to do so before this test. The harmonics of 24.125 GHz are:

Harmonic	Frequency	Present Allocations
1	48.250 GHz	FIXED FIXED-SATELLITE (Earth-to-space) US156 US297 MOBILE US264
2	72.375 GHz	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) US38
3	96.5 GHz	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554 US342

Table 1: Harmonics of transmitted signal

The antennas used in this test will be multiple element antennas similar in appearance to the MIMO antennas used in the cellular industry. However, the control of the amplitude and phases in each antenna element is very different than in MIMO antennas on order to have a focal point at the SUAS antenna a finite distance from transmitter’s antenna. While a dish antenna or a horn

² 47 CFR § 18.305(b)

antenna can have roughly comparable gains for OOB as for the primary center frequency the emissions outside the 24 GHz ISM band (24-24.25 GHz³) has much lower gains for OOB and for harmonics because the power in each antenna element is not phase coherent outside a bandwidth given by the phase noise in each element's frequency synthesizer, in this case 10 kHz. These are no interference concerns for the harmonics shown in Table 1 at this time except for possibly the FIXED-SATELLITE (Earth-to-space) allocation at 48.250 GHz. We do not believe this allocation is presently used in the US but would be glad to accept a license condition requiring us to assure that a specific orbit ephemeris is not exposed above a specified EIRP.

We are aware from discussions in ITU-R WP1A of controversy about whether large scale deployment of this type of technology might eventually cause harmful interference to passive satellites operating in the Earth Exploration-Satellite (passive)/EESS(p) band in 23.6-24.0 GHz. But that should not be an issue before the Commission in this very limited application involving only one transmitter at one location for 5 days. Table 2 of Recommendation ITU-R RS.2017-0 (08/2012), "Performance and interference criteria for satellite passive remote sensing"⁴ gives "Interference criteria for satellite passive remote sensing up to 1 000 GHz". For the case of the 23.6-24.0 GHz band the limit is stated as "0.01 %". One system running in Florida will keep the interference time (even if it happens) below this limit.

The Communications Act of 1934, as amended, contains provisions in § 303(g) that have not been changed in the 90 years since its enactment:

(T)he Commission from time to time, as public convenience, interest, or necessity requires, shall ... Study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest;

³ ITU Radio Regulation 5.150

⁴ https://www.itu.int/dms_pubrec/itu-r/rec/rs/R-REC-RS.2017-0-201208-I!!PDF-E.pdf

A grant of the request short term STA for this one location on a military test range would be fully consistent with the historic goals of § 303(g). The issue of whether large scale outdoor use of this technology on 24.125 GHz would interfere with another radio service should **not** be decisional in the review of this application. If this technology performs a useful function for the US military, there will be an opportunity to review the interference issues of large scale outdoor use and decide whether the 24 GHz ISM band the current implementation of this technology uses is appropriate for this particular military application. The basic technology is not specifically tied to this particular frequency of 24.125 GHz although additional costs may be necessary if new components need to be developed for an alternative band that does not have a nearby EESS(p) band. Indeed, if USSOCOM or any other US military organization decides to develop and operate this technology NTIA would have prime responsibility for deciding which band could be used for this military application under the terms of §§ 305,902⁵. This application is addressed to FCC at the request of USSOCOM which could have requested similar authority from NTIA. This application deals only with very brief operation of a modification of a commercial technology to demonstrate whether such technology, **not this particular frequency**, would add new capabilities to US military systems.

STOP BUZZER Contact

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(310) 800-2347

⁵ 47 USC §§ 305,902

Attachment

Solicitation Number: USSOCOM RFI TE 24-2 Intelligence, Surveillance, Reconnaissance (ISR) and Tactical Communications Integration

Notice Type: Special Notice

TYPE: A–Research and Development

NAICS: 541715 Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

Publish Date: 08 December 2023

Response Date: 08 January 2024, 12:00 Noon Eastern Standard Time (EST)

Synopsis:

A. INTRODUCTION: Technical Experimentation (TE)

This Request for Information (RFI) is NOT a solicitation for proposals, proposal abstracts, or quotations. The purpose of this RFI is to solicit technology experimentation candidates from Research and Development (R&D) organizations, private industry, and academia for inclusion in future experimentation events coordinated by the U. S. Special Operations Command (USSOCOM). USSOCOM invites industry, academia, individuals, and Government labs to submit technology experimentation nominations addressing innovative technologies identified in paragraph 4 below. The intent is to provide participants with the opportunity to gain Special Operations Forces (SOF) insight/perspective on participant technologies.

Technical experimentation will explore emerging technologies, technical applications, and their potential to provide solutions for future SOF capabilities.

This RFI is for TE 24-2. This event will occur over the period of one week as shown below.

Dates/Theme/Location:

1 April - 5 April 2024: ISR and Tactical Communications Integration – at Avon Park Air Force Range, FL.

B. OBJECTIVE:

1. Technology experimentation events provide an opportunity for technology developers to interact with operational personnel to determine how their technology development efforts and ideas may support or enhance SOF capability needs. The environment facilitates a collaborative relationship between Government, academia, and industry to promote the identification and assessment of emerging technologies.

2. The deadline for nomination package(s) is **08 January 2024 at 12:00 Noon EST**. After review of the TE nomination submissions, the Government may invite select candidates to demonstrate their technologies at the USSOCOM sponsored TE event. Experiments will be conducted from 1 April – 5 April 2024, at Avon Park Air Force Range, FL. and will explore emerging technology solutions and revolutionary

improvements in relevant technologies. Materiel solutions brought to the event should be between a Technology Readiness Level (TRL) of 3 and 6. Proposed experiments may be conducted between a half day and two days in duration and may be conducted in unimproved expeditionary-like conditions. There is no intention on the part of USSOCOM to purchase or procure equipment based solely on participation in the TE.

3. Experimentation Focus: The primary intent of this event is to highlight technologies that support the integration of ISR and tactical communications technologies.

4. Technology areas to explore during the event include the following:

4.1. Radio signal surveillance technologies.

4.1.1. Software defined radios.

4.1.1.1 Readily programmable and reconfigurable (to include remotely) radio frequency (RF) sensing receivers.

4.1.1.2 Security features for unattended operation.

4.1.1.3 Full RF spectrum capabilities and processing against all known signals of interest.

4.1.1.4 Frequency agile signals used in communication and surveillance.

4.1.1.5 Improved sensitivity and efficiency.

4.1.1.6 Modularity and open standards that permit combinations from a variety of providers.

4.1.2. Advanced antennas for receive (RX) and transmission (TX).

4.1.2.1 Both passive and active.

4.1.2.2 Both omnidirectional and directional beam steering through mechanical steering, phased arrays, interferometry, and other techniques.

4.1.2.3 Multiple bands supported through single connections or via one connect.

4.1.2.4 Meta-material solutions.

4.1.2.5 Camouflaged.

4.1.3. Reduce Operator Workload

4.1.3.1 Machine Learning of signals so that they can be automatically recognized later.

4.1.3.2 Tools to manage quality control of tagged signals and models that have been learned in the past.

4.1.3.3 Create baselines of an RF environment and report deviations as they occur in real time.

4.1.3.4 Human language technology (speaker, gender, language, voice identification).

4.1.3.5 Advance data analytics (near real time and post processing).

4.1.3.6 Improved Signals Intelligence (SIGINT) two-way tipping, cueing, and advanced fusion with other intelligence disciplines.

4.1.4. Locating Radio Frequency Sources

4.1.4.1 Single-station geolocation.

4.1.4.2 Cooperative geolocation using Time Distance of Arrival (TDOA) or Frequency Difference of Arrival (FDOA) methods.

4.1.4.3 Improved fusion of different techniques.

4.2 Non-Overt Forensic Collection. USSOCOM seeks non-overt capabilities applicable to the submission of Collected Exploitable Material. Capabilities must be a TRL-three (3) or higher as stated in paragraph 2. Capabilities should include an intuitive data visualization and current or future compatibility with the Tactical Android Kit product lines (<https://tak.gov/products.com>) where applicable. Capabilities of interest include, but are not limited to:

4.2.1. Human signature collection, analysis, identification against authoritative databases.

4.2.2. Identification of unknown secondary substances and geographical markers).

4.2.3. Non-destructive exploitation and basic analysis of commercial off the shelf (COTS) and non-standard autonomous small Unmanned Multi-domain Systems (sUMS) that operate in air, land, and/or sea to include any removable media and/or internal controllers.

4.2.4. Other novel forensic material collection, analysis and/or identification capabilities.

4.3. Hostile Forces – Tagging, Tracking, Locating (TTL) technologies.

4.3.1. Tags that integrate microelectromechanical systems (MEMS) to supplement GPS when spoofed or jammed with the ability to operate autonomously on vehicles and dismounted personnel.

4.3.2. Systems that employ low signature signals for ranging/locating tags able to operate from an Unmanned Air System (UAS).

4.3.3 Frequency agile tags that make use of Software Defined Radios while maintaining minimal size, weight, and power (SWaP).

4.3.4. Capabilities for tracking and locating vehicles leveraging infotainment systems organic to a vehicle or hosted by phone.

4.3.5. Capabilities to extract Position Location Information (PLI) from phones through remote means.

4.3.6 Tags/systems that take advantage of existing satellite constellations for Precision Navigation and Timing (PNT) independent of GPS.

4.3.7 Tags/systems that take advantage of multiple Global Navigation Satellite Systems (GNSS) for PNT simultaneously.

4.3.8 Systems that leverage signals of opportunity for tracking/locating (i.e., Automatic Dependent Surveillance-Broadcast, Wi-Fi, Cell).

- 4.3.9 Small tags/systems that allow for tracking in subterranean environments independent of GPS, radio frequency, body mechanics, visual sensors, or user input while conducting tracking missions.
- 4.3.10 Capabilities to track and locate people, places, objects, or activities independent of Radio Frequency (RF). These could include, but not exclusive to, optical taggant, big data analytics, or other novel approaches.

4.4. Tactical Video Systems/Reconnaissance, Surveillance, Target Acquisition

- 4.4.1. Small, low-profile, cost-effective pan-tilt-zoom camera systems.
 - 4.4.1.1 Easily programmable and reconfigurable (to include remotely) via both embedded Line of Sight (LOS) radio frequency and Internet Protocol (IP) hard-wire ports for wireless control.
 - 4.4.1.2 Systems should have bi-directional Command and Control (C2) as well as a video feed through both direct hard-wired and wireless input/output to the system.
 - 4.4.1.3 Systems should include a hand-held video viewing, recording, still capture, C2 controller and be able to remotely accomplish the same tasks using wireless connectivity between the systems and the hand-held controller, as would be if the hand-held controller was directly connected to the system through hard wire with no RF emissions.
 - 4.4.1.4 Video imaging apparatus should be a minimum of High Definition (HD) color for daytime operations and up to HD low-light/night in mid-wave infrared (MWIR), long-wave infrared (LWIR), short-wave infrared (SWIR) with applicable illuminator, or other technology that equates to an operator's discernment of personnel activity within 1,000 meters between emplaced system and that activity.

4.5 Sensor Data Exfiltration (Exfil)

- 4.5.1 Intermittent exfil to include sensor hit info, still images, radio frequency detections and video clips.
- 4.5.2 Requires signature minimalization for use in high threat areas.
- 4.5.3 Both LOS and Over the Horizon (OTH) options are desired.
- 4.5.4 Preference is for systems not dependent on 3rd party infrastructure.
- 4.5.5 All interfaces are public or have government rights with a preference for the use of open standards. Hardware should be addressable over a hardware IP port for ease of integration.
- 4.5.6 Capability is small (including antenna), low power (long duration battery powered), cost effective and a modular add on to other systems.

4.5.7 Low bit rate systems may be acceptable provided small still images are transferred in near real time.

4.5.8 Optical or RF long range and low profile/signature exfil capabilities with data throughput of at least 2 Mbps.

4.6 Ground Intelligence Surveillance Reconnaissance (ISR) systems. USSOCOM is seeking long-range, ultra-high resolution, image stabilized, electro-optical/infrared and thermal imaging ground ISR systems with long-range standoff in a single man-portable, low SWaP package.

4.6.1 Evaluation criteria:

4.6.1.1 Conduct positive identification of man-sized targets from 4 km to over 10 km both day and night.

4.6.1.2 Conduct positive identification of vehicle targets from 6 km to over 12 km both day and night.

4.6.1.3 Operate and view the sensor feed from 500m to over 1 km away via hard data transfer in a RF denied environment.

4.6.1.4 Operate and view the sensor feed from 5 km to over 10 km away via RF data transfer with no degradation in signal quality at remote viewing location.

4.6.1.5 Conduct remote targeting using on-board range finding and geolocation.

4.6.1.6 Open standards for data feed use by the intelligence community.

4.6.1.7 Capable of unattended/remote operation for 24 continuous hours or 24 intermittent hours in a duty cycle or trigger mode on an external battery.

4.7 Automated persistent ISR coverage with small to micro unmanned drones and multi-int sensors coverage.

4.7.1 Smart platforms that are resilient, self-aware, self-healing or can replace themselves without human intervention.

4.7.2 Smart platform that can adjust focal area based on identified activity, while simultaneously coordinating secondary coverage of the original area.

4.8 USSOCOM is seeking unmanned solutions for remote capability operations. These unmanned solutions should provide ISR with persistence and survivability in contested environments. Unmanned solutions should enable placement of intelligence gathering or detection devices and associated data retrieval options.

4.8.1 EOTACS

4.8.1.1 Small Unmanned Air Systems (SUAS) Charging Hives.

4.8.1.2 Operate within SUAS to/from target range.

4.8.1.3 Solar/wind/hydro/combustion powered recharging capability.

- 4.8.1.4 Security features for concealment/defense.
- 4.8.1.5 SUAS battery life extensions.
- 4.8.1.6 SUAS durable and efficient solar power options.
- 4.8.1.7 Lighter-than-air SUAS augmentation.
- 4.8.1.8 More efficient battery types.
- 4.8.1.9 SUAS operations without conventional RF communications.
- 4.8.1.10 Visible/infrared communications for UAS operations.
- 4.8.1.11 Acoustic communications for UAS operations.
- 4.8.1.12 SUAS operations without conventional RF navigation.
- 4.8.1.13 Magnetic steering.
- 4.8.1.14 Astronomic steering.
- 4.8.1.15 SUAS employment (Infil/placement/exfil) of payload and payload data.
- 4.8.1.16 Carrying, deployment, retrieval mechanisms.
- 4.8.1.17 Automated intercept/retrieval of payload data.
- 4.8.1.18 Tethered SUAS -- reliable and mission effective.

4.8.2 SUAS Autonomous Navigation

- 4.1.1.1 Navigate to a fixed or transient point(s) of interest without relying upon Global Positioning Systems (GPS) or continuous operator control.
- 4.1.1.2 Identify a landing zone and autonomously land to maintain observation of the point of interest (POI).
- 4.1.1.3 Navigate around obstacles.
- 4.1.1.4 Navigate to an alternative location or return to initial launch point for recovery.
- 4.1.1.5 Use of Navigation Algorithm(s) in a GPS-Denied Environment.
 - 4.1.1.5.1 Non-cooperatively use RF signals of opportunity from space based or terrestrial emitters for alternative position fixing.
 - 4.1.1.5.2 Visual-Based Navigation (VBN).
 - 4.1.1.5.3 Vision-Aided Navigation (VAN).
 - 4.1.1.5.4 Terrain Referenced Navigation (TRN).
 - 4.1.1.5.5 Visual Inertial Odometry (VIO).
 - 4.1.1.5.6 Simultaneous Localization and Mapping (SLAM).

- 4.1.1.5.7 Magnetometry.
- 4.1.1.5.8 Light Detection and Ranging (LiDAR).
- 4.1.1.5.9 Radio Detection and Ranging (RADAR) Navigation.
- 4.1.1.5.10 Inertial Navigation System / Inertial Measurement Unit.

4.8.3 Small uncrewed ground systems

- 4.8.3.1 Robust person packable and portable robotic systems.
 - 4.8.3.1.1 Multipurpose legged robotic systems.
 - 4.8.3.1.2 Wheeled robotics for ISR.
 - 4.8.3.1.3 Uniquely designed robotics for subterranean or complex navigation.
- 4.8.3.2 Ground robotics payloads
 - 4.8.3.2.1 Mapping payloads for subterranean operations.
 - 4.8.3.2.2 Communications technology for subterranean operations.

4.8.4 Multi-mission Tactical Uncrewed Air systems

- 4.8.4.1 Air vehicle survivability.
 - 4.8.4.1.1 Safely land/recover Group 3 air vehicle with inadvertent or unintended propulsion failure.
 - 4.8.4.1.2 Condition actuated parachute/parafoil deployment.
 - 4.8.4.1.3 Condition actuated landing cushion deployment.
 - 4.8.4.1.4 Coordinated, autonomous alternative flight control.
 - 4.8.4.1.5 Magnetic steering.
 - 4.8.4.1.6 Astronomic steering.

4.8.5 Machine Learning and cooperation/collaboration

- 4.8.5.1 Optimized air/vehicle/vessel engagement.
- 4.8.5.2 Cooperative re-tasking and decision support.
- 4.8.5.3 Launch, recover, cooperate with UAS.
- 4.8.5.4 Unmanned system networking.

4.8.6 Antenna technology

- 4.8.6.1 Slew to cue directional antennas.
- 4.8.6.2 Auto-switching omni and directional antennas.
- 4.8.6.3 Aircraft battery technology.

4.8.7 Auxiliary/backup and rechargeable power solutions. Renewable energy power cell technology.

4.8.8 Aircraft propulsion technology

4.8.8.1 Alternative fuel propulsion

4.8.8.2 Low acoustic signature/energy conserving propulsion.

4.8.9 Data collection, storage, processing, fusion, dissemination, visualization, and communication.

4.8.9.1 Data system that ingests various sensor data in a wide variety of format, size, media, for fusion processing.

4.8.9.2 Data system that processes data, develops optimized solutions, provides predictive analysis, and dynamically updates upon new data ingestion.

4.8.9.3 Collaborative smart, adaptive sensor network systems that dynamically shares knowledge/status, provides optimized solutions, and has the ability task/communicate to other sensor nodes.

4.8.9.4 Integration of multiple sensor systems to process multiple data/sources and display to a Common Operating Picture/Common Intel Picture. Capable of further integrating with other Defense Intelligence Community data systems and networks.

4.8.9.5 Secure, accredited cross domain solutions both high-to-low and low-to-high through various architectures, media, and networks.

4.9 Transport solutions

4.9.1 Satellite Deployable Node (SDN)

4.9.1.1 Client based Transmission Control Protocol/Internet Protocol. acceleration.

4.9.1.2 Reduced signature waveforms

4.9.1.3 Beyond line-of-sight small form factor SATCOM terminals.

4.9.1.4 SATCOM on the Move (SOTM).

4.9.1.5 Automated PACE/transport aggregation.

4.9.1.6 Video transcoding.

4.9.2 Tactical Local Area Network (TACLAN)

4.10 Tactical communications

4.10.1 Next generation tactical communications

- 4.10.1.1 Non-radio frequency capabilities (i.e., optical communications).
- 4.10.1.2 Signature management advances (power, thermal, physical).
- 4.10.1.3 Resilient communications technologies (waveforms, networking).
- 4.10.1.4 End User Devices – wearable technologies.
- 4.10.1.5 Power advancements (new materials, charging capabilities).
- 4.10.2 Radio Integration System
 - 4.10.2.1 Platform power amplifier improvements (SWaP, efficiencies, max power out).

5. Security/Classification Requirements: Respondents shall not submit classified information in the technology experimentation nominations.

6. Safety Requirements: All respondents shall review the TE Safety Guide (RFI Notice Attachment 3). Those respondents who are invited to demonstrate their technologies must complete a Deliberate Risk Assessment Worksheet (Department of Defense Form 2977) (RFI Notice Attachment 4) in accordance with MIL-STD-882E and the Department of the Army Techniques Publication No. 5-19 (ATP 5-19). Risk assessments shall be emailed directly to the tech_exp@socom.mil by **16 Feb 2024**. Respondents should include instructions that describe the safe operation of the device nominated for the experiment.

7. Frequency Requirements: If your experiment will be radiating on a given frequency or frequency band, you must have prior approval to transmit on that frequency. Prior approval includes compliance with Federal Communications Commission (FCC) Title 47, Part 15, or a **Special Temporary Authority (STA) from the FCC**. You must have National Telecommunications and Information Administration (NTIA) frequency approval if your experiment includes Government-owned equipment, and you will be operating within a Federal Band. **Respondents are advised to not wait for confirmation of selection/invitation to the event before requesting a STA from the FCC.** Your authority to radiate must be emailed directly to tech_exp@socom.mil by **4 March 2024**. All frequency questions shall be directed to the USSOCOM Technical Experimentation team at the email above.

8. Human Subjects. It is not anticipated that activities being conducted in this TE event will require the use of research or experimentation involving human subjects. Technology experiment submissions will be reviewed for potential research or experimentation involving human subjects. Any submission that is determined to potentially include research or experimentation involving human subjects will be required to adhere to DoD Instruction 3216.02 "Protection of Human Subjects and Adherence to Ethical Standards in DoD Supported Research" and ensure appropriate Institutional Review Board and DoD Human Research Protections Office approvals prior to conducting those activities.

9. Other Special Requirements: **DO NOT SUBMIT PROPOSALS OR MARKETING DEMONSTRATIONS. SUBMIT TECHNOLOGY EXPERIMENTATION NOMINATIONS**

ONLY. EXPERIMENTATION NOMINATION SUBMITTALS FOR THIS RFI WILL ONLY BE ACCEPTED UNTIL THE CLOSING DATE OF **08 January 2024, 12:00 Noon EST**, for the requirements stated above. No contracts will be awarded based solely on this announcement or any subsequent supplemental RFI announcements.

C. SUBMISSION INSTRUCTIONS:

Technology experimentation nominations shall be submitted electronically by creating a Scout Card in the Vulcan system at: vulcan-sof.com by the respective deadline. **Scout Cards should be created within the TE 24-2 Technical Experimentation: Intelligence, Surveillance, Reconnaissance (ISR) and Tactical Communications Integration** collection. The Vulcan system is best accessed by using Firefox or Google Chrome browsers. Associated technology experiments with distinctly different uses or applications should have a separate nomination submitted by each respondent. USSOCOM personnel will review submissions to determine whether an experiment submission will be accepted for invitation to attend the TE event.

A complete submission consists of:

- Creating a Scout Card in the Vulcan system as described above.
- Completely filling in the Supplemental Information Sheet (RFI Notice Attachment 2) and attaching it to the Scout Card. Supplemental Information Sheets are a MANDATORY requirement for ALL respondents.
- Devices with radio frequency emissions must state the intended frequency or frequencies used by the device(s).
- An FCC STA, Experimental License, or NTIA document (for developmental radio frequency emitting devices). If neither is available at the time of submission, provide status of your FCC/NTIA request.
- Instructions on how to safely use the technology (as needed).
- If applicable, a picture of the device with a short description of the size (shows the dimensions or places the device next to a ruler, currency, or man-sized object for comparison).
- A signed Photo Release (RFI Attachment 5).

Selected respondents will be invited to participate in USSOCOM experiments. USSOCOM shall provide venues, supporting infrastructure, and assessment (operational and technical, based on availability of resources and written request as discussed above) personnel at no cost to invited respondent(s). **All respondents' submission costs, travel costs, technology experiments, and experimentation associated costs will be at the respondents' expense.** The TE venue will only provide basic access to training areas or ranges (if approved and applicable) to conduct experiments, a facility to connect to the internet, basic venue infrastructure including frequency coordination/deconfliction, and shore power. Invited respondents must be prepared to be self-sufficient during the execution of their experiments and not dependent on venue resources.

Time and space will be made available for technology developers to conduct real-time modifications and updates to technologies. **Technology developers are advised to bring all tools and equipment necessary to present/operate their technology at the event.**

D. BASIS FOR SELECTION TO PARTICIPATE:

Selection of respondents to participate shall be based on the extent to which the technology represents a potential capability increase to SOF.

Other considerations include:

- Technical maturity
- Relevance of or adaptability to military operations/missions
- Relevance to current operational needs
- Relevance to Event Focus Area

E. ADDITIONAL INFORMATION: All efforts shall be made to protect proprietary information that is clearly marked in writing. Lessons learned by USSOCOM from these experiments may be broadly disseminated, but only within the Government. If selected for participation in Technical Experimentation, developers may be requested to provide additional information that will be used in preparation for the experiments.

Future TE events with TENTATIVE themes/focus areas, locations, ANTICIPATED dates and RFI open periods are as follows:

Number	Theme/Focus Area	Location	Event Dates	RFI Open Period
TE24-3	Human Machine Teaming	Red Springs, NC	3-7 June 2024	January 2024
TE25-1	TBD	TBD	TBD	TBD

Technology developers invited to this event are encouraged to contact each other using the social media through USSOCOM Technical Experimentation. While USSOCOM Technical Experimentation has access to several social media, the preferred collaboration social media link is LinkedIn www.tinyurl.com/LinkedIn-SOCOMTE.

F. USE OF INFORMATION: The purpose of this notice is to gain information leading to Government/Industry collaboration for development of USSOCOM technology capabilities and to assist in accelerating the delivery of these capabilities to the SOF warrior. All proprietary information contained in the submission and technology experimentation shall be appropriately marked. The Government will not use proprietary information submitted from any one firm to establish future capability and requirements. During the event USSOCOM may broadcast technology experiments via video-conference back to USSOCOM and/or their operational components. Respondents

to this RFI shall review and submit the photography approval form at Attachment 5.

G. SPECIAL NOTICE:

1. Federally Funded Research and Development Centers (FFRDCs) or contractor consultant/advisors to the Government will review and provide support during evaluation of submittals. When appropriate, non-Government advisors may be used to objectively review a particular functional area and provide comments and recommendations to the Government. All advisors shall comply with procurement integrity laws and shall sign non-disclosure statements. The Government shall take into consideration requirements for avoiding conflicts of interest and ensure advisors comply with safeguarding proprietary data. Submission in response to this RFI constitutes approval to release the submittal to approved Government support contractors.

2. There will be foreign attendees (military, government, or industry partners), who are interested in the capabilities being demonstrated at the TE event. Respondents are ultimately responsible for complying with all International Trafficking in Arms (ITAR) /Export Administration Regulations (EAR) requirements associated with their equipment. Before declaring their ITAR/EAR status, respondents to this RFI should verify the ITAR/EAR status of their technology by visiting the US Department of State Directorate of Defense Trade Controls (ITAR) website at: (https://www.pmddtc.state.gov/ddtc_public) and the US Department of Commerce Bureau of Industry and Security website (<https://www.bis.doc.gov/>) for more information on Export Administration Regulations (EAR). USSOCOM event organizers will restrict access as necessary to assist in protecting ITAR/EAR related technology demonstrations.

H. Per Federal Acquisition Regulation (FAR) 52.215-3, Request for Information or Solicitation for Planning Purposes (Oct 1997):

1. The Government does not intend to award a contract based on this RFI notice or to otherwise pay for the information.

2. Although "proposal" and "respondent" are used in this RFI, your responses will be treated as information only. It shall not be used as a proposal.

3. In accordance with FAR 15.209(c), the purpose of this RFI is to solicit technology experimentation candidates from research and development organizations, private industry, and academia for inclusion in future experimentation events coordinated by USSOCOM.

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