Special Announcement for Tactical Resupply Unmanned Aircraft System Increment II Cargo UAS Industry Demonstration – Amendment 0001

Synopsis

The Direct Reporting Portfolio Manager for Robotic and Autonomous Systems (DRPM RAS) 4.0, Air Warfare Program Management Office (DRPM RAS 4.0 Air Warfare PMO), Naval Air Station Patuxent River, Maryland, desires to accelerate the identification of unmanned aircraft systems (UAS) and enabling technologies, prototyping integration, and fielding evaluation of potential solutions for the Marine Corps Unmanned Logistics System – Air (ULS-A) logistics distribution mission.

During the weeks of 25 January through 5 February 2027, Air Warfare PMO will sponsor a technology demonstration within the continental United States. The Government requests applications from industry to participate in this demonstration; successful performance during the demonstration may subsequently result in the award of an Other Transaction (OT) Prototype Agreement in accordance with 10 U.S.C. § 4022.

Announcement Information

TRUAS Increment II is intended to provide an organic aerial distribution capability for small-unit logistics support across the last tactical mile in Expeditionary Advanced Base Operations and Distributed Operations. To encourage broad demonstration participation and identify the full spectrum of commercial innovation, the Government invites submissions from all qualified participants, including non-traditional defense contractors and small businesses, whose applications satisfy the minimum threshold requirements, specifically, preference of a Max Gross Take Off Weight (MGTOW) up to 350 lbs and Key Performance Parameter (KPP) 1 – Operational Performance and KPP 5 - Powerplant and Energy Source. See Table 1. The Government reserves the right to select any, all, or none of the applicants for participation in the demonstration.

Participants will be required to demonstrate ground set-up and flight preparation procedures for their UAS, perform refueling demonstration, and perform up to five autonomous flights. During the first flight, participating UAS must fly with a 100 lb payload a total of 40 nautical miles (nm), detach the payload (either manually or automatically), fly a return flight of 40 nm with no payload, and land at the original launch site. During the second flight, participating UAS must fly with a minimum 150 lb payload a total of 10 nm, detach the payload (either manually or automatically), fly a return flight 10 nm with no payload, and land at the original launch site. The UAS must complete each required flight without refueling. Following the two required flights, participants may be given the opportunity to perform up to three additional flights to demonstrate unique features and/or capabilities, subject to Government approval.

The UAS must transit at an airspeed no less than 50 knots and an altitude no greater than 1,000 feet above ground level (AGL). The UAS must be capable of launching and recovering without a catapult, arresting net or cable, or other mechanical launch or recovery equipment. Participants shall ensure that their UAS is equipped with a transponder with a minimum of a Mode-3/C capability.

Participants, as part of their application, will be required to provide the Government with lost-link/return-to-home procedures to support range safety requirements. Participants will also be required to provide the Government with technical information to support coordination for frequency spectrum authorization, and Government facility access, if required. Participants must provide data that validates the maximum theoretical range of their UAS with 100 lb and 150 lb payloads. The Government, with assistance of contracted support personnel, will coordinate demonstration range set-up and provide coordination assistance for airworthiness certification and frequency allocation as required.

The Government may award an OT prototype agreement to the participant(s) whose UAS capability demonstrate the most advantageous combination of the KPP and Key System Attributes (KSA) requirements outlined in Table 1 and Table 2. To be considered for the demonstration, UAS capabilities must meet threshold minimum requirements for KPP 1 and KPP 5. During evaluation for potential OT award, the Government will prioritize capabilities that achieve KPP and KSA threshold and objective requirements. Government Evaluators will record performance data for each participant's flight demonstrations. UAS will be ranked based on demonstrated ability to achieve threshold and objective requirements. The Government intends to select the highest-ranked UAS capability(ies) that offer the most advantageous utility to the Marine Corps logistical mission for potential OT prototype awards. The Government reserves the right to consider partial solutions addressing a subset of the requirements and retains the flexibility to make an award even if not all KPP and KSA thresholds and objectives are fully met, provided the proposed solution successfully satisfies the Marine Corps logistical mission. The Government reserves the right, in its sole discretion, to award zero, one, or multiple OTs following this demonstration event. Selection to participate in the demonstration does not guarantee an OT award. Selectees will be required to join the Naval Aviation Systems Consortium (NASC) in order to be eligible to receive an OT award; more information is available at www.nascsolutions.org. In accordance with 10 U.S.C. § 4022, a successfully completed prototype project may result in the award of a follow-on production agreement or contract without further competition.

In addition to the primary consideration for an OT prototype agreement, the Government will analyze flight performance data and, upon request, may share these results with the Army-managed Drones.Mil Marketplace team. The marketplace provides a streamlined, pre-vetted pathway for other Department of War (DoW) and allied partners to procure platforms.

Interested and eligible applicants must submit a 3-5 page white paper that describes their technical approach and the technical maturity of their UAS together with the completed questionnaire found at https://nascsolutions.org/project/truas-increment-ii-cargo-uas-industry-demonstration/. There are no NASC Membership requirements and no associated fees required with the application submission or to participate in this demonstration.

Applications will be scored in accordance with the TRUAS Increment II Application Evaluation Rubric, which is available for download at https://nascsolutions.org/project/truas-increment-ii-cargo-uas-industry-demonstration/. To ensure an eligible score for demonstration selection, applicants are encouraged to review this rubric and address eligibility criterion within their white paper and/or questionnaire response.

Applications for participation will be submitted to nascopportunities@nascsolutions.tech and accepted until 2359 EST on 30 November 2026. The Government may, but is not required to, seek clarifications or additional information from applicants regarding their application.

Notification to selected participant(s) will be issued via e-mail no later than 2359 EST on 18 December 2026; information regarding the demonstration venue will be provided within selection email.

Submit technical questions to nascopportunities@nascsolutions.tech by 13 November 2026. Technical questions and answers related to the demonstration will be posted and updated on https://nascsolutions.org/project/truas-increment-ii-cargo-uas-industry-demonstration/.

TERMS AND CONDITIONS FOR THE DEMONSTRATION

The following terms and conditions apply to all applicants/participants.

Agreement to Terms. By responding to this announcement, the participant agrees to comply with and be bound by the terms and conditions (subsequently know as terms) of this demonstration and the

decisions of the Government. Terms and decisions are binding and final in all matters relating to this demonstration.

Security Requirements. By responding to this announcement, the participant agrees to comply with the DoDM 5200.01 (all volumes) and NIST SP 800-88, and any revisions to those manuals.

Participation by Consortium Management Group (CMG; manages the NASC) and Government Support Contractors. The Government will be solely responsible for determining which applicants will be extended an invitation to participate in the technology demonstration, and the Government will be solely responsible for selecting which, if any, applicants will receive OT awards. However, CMG and Government Support Contractors may assist in the review of any data provided by applicants. Both CMG personnel and the support Contractors have entered into Non-Disclosure Agreements (NDAs) with the Government, which precludes them from disclosing any proprietary data outside of the Government. If applicants desire a separate NDA with CMG personnel and Government support Contractors, applicants should submit an NDA form, along with instructions, to the POC listed at the end of this announcement at the time of their application. Even if applicants choose not to submit an NDA form for completion, their submission of a response to this announcement constitutes consent that the CMG NASC Consortium and support Contractors will have access to their proprietary information.

By participating in this Demonstration, each individual (whether participating individually or in a group) warrants and assures the Government that any data used for the purpose of submitting an entry for this demonstration, were obtained legally through authorized access to such data.

Eligibility Requirements. Only U. S. citizens or permanent residents are eligible to participate. Only U.S. companies, or companies with U.S. based offices are eligible to participate.

All applicants and participants shall be U.S.-based and U.S.-owned companies utilizing only U.S. manufacturing and repair facilities, or otherwise affirmatively demonstrate strict compliance with 10 U.S.C. § 4881 (formerly Section 848 of the FY2020 National Defense Authorization Act [NDAA]) and the American Security Drone Act (ASDA) of the FY2024 NDAA, regarding the prohibition on the operation or procurement of foreign-made unmanned aircraft systems (UAS).

Federal employees, including NAVAIR employees, and NAVAIR support contractors acting within the scope of their employment are not eligible to participate in the demonstration. Likewise, members of their immediate family (spouses, children, step-children, siblings, step-siblings, parents, step-parents), and persons living in the same household, whether or not related, are not eligible to participate in any portion of this Demonstration. Federal employees and contractors acting outside the scope of their employment should consult their ethics official and appropriate management before participating in the demonstration.

Individuals and organizations that are funded by NAVAIR to support AIR PMO including, but not limited to, any Federally Funded Research and Development Centers and University Affiliated Research Centers (UARCs), or private-sector personnel whose scope of work includes Tactical Resupply UAS technical development or administrative support are not eligible to participate in the demonstration.

Government Right to Cancel, Suspend or Modify Demonstration. The Government reserves the right, in its sole discretion, to cancel, suspend or modify the demonstration. These terms may be changed without prior notice, and all participants should monitor https://nascsolutions.org/project/truas-increment-ii-cargo-uas-industry-demonstration/ for the latest information.

Decision Authority. The AIR PMO Program Manager will be the final decision authority for all matters concerning the demonstration.

Cooperative Research and Development Agreement. Upon invitation to participate in the technology demonstration event, and prior to said participation, all non-Government participants will be required to execute a Cooperative Research and Development Agreement (CRADA) with the Government.

Responsibility for Costs Incurred. All costs incurred as a result of submitting an application or participating in the technology demonstration, are the sole responsibility of the participant and the Government will not reimburse any participants for any costs associated with their participation in the demonstration. Nothing in these terms, to include information on the websites publicizing the event, may be interpreted as authorizing the incurrence of any costs on behalf of the Government, or modifying the statement of work or authorizing work outside the terms and conditions of any existing agreements or contracts with the Government.

Release of Claims. The participant agrees to release and forever discharge any and all manner of claims, equitable adjustments, actions, suits, debts, appeals, and all other obligations of any kind, whether past or present, known or unknown, that have or may arise from, are related to or are in connection with, directly or indirectly, this demonstration or the participant's submission.

If invited to participate in the technology demonstration, the participant agrees not to file any claims against the U.S. Government, or any of its authorized agencies or personnel, or otherwise seek any form of reimbursement for the use, or compensation for the loss, damage to, or destruction of the product displayed or demonstrated during the technology demonstration. The participant agrees to release and hold harmless the United States, the Department of the Navy, and all their employees and Contractors, from any and all claims or demands resulting from any loss, damage, death, or injury that may arise from the setup, demonstration, display, or teardown of the participant’s property.

Liability. By participating in this demonstration, the participant agrees to enter into a CRADA that will document appropriate liabilities pending acceptance into the demonstration.

Indemnification. The participant indemnifies the Government and its affiliates, directors, officers, employees against all liabilities, damages, losses, costs, fees (including legal fees), and expenses relating to any allegation or third-party legal proceeding to the extent arising from:
(a) The participant's acts or omissions in relation to the application and or demonstrations); and
(b) The participant's submissions violating any rights of any other person or entity or any obligation the participant may have with them.

Compliance with Laws. The participant agrees to follow and comply with all applicable federal, state and local laws, regulations and policies.

Disclaimers. All content provided by the Government is provided on an "as is" and "as available" basis. The Government disclaims all representations and warranties (express or implied), including any warranties of merchantability and fitness for a particular purpose. The Government is not responsible for any incomplete, failed, or delayed transmission of application information or submissions due to the internet, including interruption or delays caused by equipment or software malfunction or other technical problems. Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by the United States Government.

Severability. If any term (or part of a term) of these terms is invalid, illegal or unenforceable, the rest of the terms will remain in effect.

Translations. All technology demonstration submittals will be in English. In the event of any discrepancy between the English version of these terms and a translated version, the English version will govern.

Governing Law. This demonstration is subject to all applicable federal laws and regulations. All claims arising out of or relating to these terms will be governed by the federal laws and regulations of the United States of America.

Key Performance Parameters

Threshold (T) and objective (O) requirements

Table 1:

ID	Requirement
KPP 1 - Operational Performance	
1.1	Under no-wind conditions, conduct a mission with a 100-pound payload and a 40 nautical mile (NM) combat radius: 40 NM outbound with payload and 40 NM return empty (threshold).
1.2	Under no-wind conditions, conduct a mission with a 150-pound payload and a 10 NM combat radius: 10 NM outbound with payload and 10 NM return empty (threshold).
1.3	Operate at 4,500 feet density altitude (threshold) and 8,000 feet density altitude (objective).
1.4	Achieve 50 knots indicated airspeed (threshold) and 150 knots indicated airspeed (objective).
1.5	Operate with winds and crosswinds up to 20 knots (threshold) and 30 knots (objective).
KPP 2 - System Survivability	
2.1	Provide radio encryption compliant with Federal Information Processing Standard (FIPS) Publication 140-3 Level 2 and self-zeroization for encrypted systems on the UAS (threshold).
2.2	Support mission-plan upload from the Universal Common Control (UCC) over the air and by hardwire; conduct autonomous missions without electromagnetic-spectrum communications in degraded or emission-control environments using preprogrammed GPS or Alternative Position, Navigation, and Timing (Alt PNT) waypoints (threshold).
2.3	Meet MIL-STD-461G, MIL-STD-464C, DoDI 3222.03, and other applicable electromagnetic interference control requirements; incorporate SAASM or next-generation technology when available (threshold).
2.4	Provide flexible electromagnetic-spectrum access, resilient Alt PNT in GPS-degraded or denied conditions, and Low Probability of Detect/Low Probability of Intercept datalinks (threshold).
KPP 3 - System Readiness	
3.1	Sustain operational readiness with minimal reliance on external maintenance resources (threshold).
3.2	Achieve a Mean Time Between Failure (MTBF) of at least 30 flight hours (threshold) and 90 flight hours (objective).
3.3	Achieve operational availability of at least 80 percent (threshold) and 90 percent (objective) over a typical 30-day operational period, including maintenance, supply, and logistics downtime in the calculation.
3.4	Support preventive, organizational-level, and intermediate-level maintenance by operators or Marine maintainers. Field-level Mean Time To Repair (MTTR) shall not exceed 15 minutes (threshold) or 30 minutes (objective), under typical field conditions, using on-hand SL-3 spares and tools organic to an infantry battalion.
3.5	Provide SL-3 parts packages for light, medium, and heavy mission sets; enable minimum-effort component replacement; and incorporate onboard diagnostics, virtual-reality support, digital twinning, and model-based predictive maintenance (threshold).
KPP 4 - Autonomous Operations	
4.1	Conduct autonomous low-altitude flight at 50 feet above ground level, day and night, while maintaining 30 knots, with autonomous detection and avoidance of terrain, trees, man-made objects, and potential threats (threshold).
4.2	Autonomously assess the landing zone before and during landing, day and night, and detect and avoid personnel, equipment, structures, excessive slope, and other terrain hazards (threshold).

ID	Requirement
4.3	Provide organic airborne sense-and-avoid capability for manned and unmanned aircraft at cruise speed, with performance comparable to a human pilot operating under Visual Flight Rules and sufficient reaction time for collision avoidance (threshold).
4.4	Incorporate resilient Alt Position, Navigation, and Time (APNT) technologies for operation when GPS is unavailable or unreliable (threshold).
KPP 5 - Powerplant and Energy Source	
5.1	Use heavy fuels such as JP-5, JP-8, or diesel, or a hybrid fuel-battery system, to achieve the operational characteristics and other KPPs (threshold).

Key System Attributes

Table 2:

ID	Requirement
KSA 1 - Command and Control Communications	
(a) Compatibility with the Marine Air Ground Task Force (MAGTF) Agile Network Gateway Link (MANGL) and the USMC Unmanned Common Controller (UCC) initiative	
1a.1	TRUAS shall be MANGL compliant, per CD&I Policy Letter 2-25 (T).
1a.2	TRUAS shall be compliant with Marine Corps UCC policy, per CD&I Policy Letter 1-25 (T).
(b) Communications/Information Systems Support	
1b.1	TRUAS shall use line-of-sight (LOS) and beyond-line-of-sight (BLOS) data links to exchange information between the AV and UCC to include airborne health and status, Command and Control (C2) of the AV, PPLI, and updated commands from the UCC, with a reliable bandwidth and data transfer rate for effective communication, for both LOS and BLOS operations (T).
1b.2	TRUAS shall also be able to transmit its position via the Tactical Assault Kit (TAK) utilizing cellular technology or other means to ensure the operator knows the AV’s location while airborne or on the deck (O).
(c) Line-of-Sight (LOS) Data Link - Latency and Feedback	
1c.1	The TRUAS datalink shall provide constant or near-constant communication between the AV and UCC to ensure operator situational awareness and control (T).
1c.2	Datalink latency for operator-critical parameters (e.g., those necessary to detect off-normal or dangerous situations) and moving map updates shall be greater than 1 Hz (T).
1c.3	The system and LOS datalink shall provide operator feedback within 50 milliseconds (ms) for any user-initiated action or system response (T).
1c.4	For actions or responses exceeding 50 ms but less than two seconds, the system shall display a dynamic progress indicator, such as a progress bar tied to a measured event or a rotating icon (T).
1c.5	For processes exceeding two seconds, the system shall provide continuous feedback to the operator (T).
(d) Beyond-Line-of-Sight (BLOS) Data Link - Performance and Feedback	
1d.1	TRUAS shall utilize a BLOS datalink to transmit AV flight parameters to the operator and enable operator interaction with the AV, including mid-mission parameter updates (T).
1d.2	The BLOS datalink shall provide AV data updates greater than 0.25 Hz for operator-critical parameters and moving map updates (T).
1d.3	The BLOS datalink shall provide operator feedback within four seconds for any user-initiated action or system response (T).

ID	Requirement
1d.4	While awaiting feedback within the four-second window, the system shall display a dynamic progress bar to the operator (T).
1d.5	For actions or responses exceeding four seconds but less than six seconds, the system shall display a dynamic icon (e.g., rotating circle, hourglass) (T).
1d.6	For processes exceeding six seconds, the system shall provide continuous feedback to the operator (T).
(e) Lost Link Procedures - Mission Continuation or Return-to-Base	
1e.1	TRUAS shall have a programmable option available during mission planning to select either a Return-to-Base (RTB) or Continue Mission procedure in the event of a lost link situation (T).
(f) UCC Radio Antenna - Remote Positioning	
1f.1	TRUAS operations require extended LOS radio communication range. The UCC antenna shall have the capability to be remotely positioned away from the main UCC unit (T).
1f.2	This remote positioning shall enable placement in locations that enhance LOS radio frequency communication with the AV, such as elevated platforms or open areas (T).
KSA 2 - System Functionality	
(a) Mission Planning and Control	
2a.1	The TRUAS UCC display's primary interface shall be uncluttered with a focus on simplicity and intuitiveness, showing only relevant flight and mission profile data (T).
2a.2	Further, flight logs, mission data, system performance indicators, and historical records shall be readily available to the operator or maintainers in subsequent display windows in a format easily comprehended by the users; this data shall be readily exportable to Marine Corps Enterprise Network (MCEN) devices (T).
2a.3	The system shall have the ability to import DTED into the UCC utilizing the MCEN (T).
2a.4	The UCC mission planning software shall be able to utilize DTED to optimize mission planning (T).
2a.5	The UCC shall have the ability to export DTED to the AV (T).
2a.6	The AV shall utilize DTED during operations in conjunction with other obstacle avoidance enabling technologies during flight to determine optimum excursions from the original flight plan based on changing conditions (i.e. reroute, RTB, etc.) (T).
2a.7	The TRUAS UCC shall be compatible and interoperable with the TAK (T).
2a.8	TRUAS shall utilize TAK as its single mission planning software (T).
2a.9	TAK shall be utilized as the interface for MANGL to provide a COP regarding the location of the TRUAS being operated and other friendly and hostile units (T).
2a.10	MCEN computers shall be able to mission plan utilizing TAK and be able to port those files (e.g. overlays, routes, waypoints, etc.) to the TRUAS UCC via hardwire (T).
2a.11	The TRUAS UCC and AV shall employ AI-driven mission planning software that generates multiple route options for a given mission, considering factors such as AV range, DTED, imagery, optical sensor feeds, and other relevant data (T).
2a.12	The AI-assisted mission planning software shall provide the operator with the ability to select the optimal route from the generated options based on mission needs and risk assessment (T).
2a.13	The TRUAS shall be capable of dynamic re-tasking, allowing for in-flight mission plan adjustments based on real-time data and leveraging the onboard AI-assisted mission planning capability (T).
2a.14	Dynamic re-tasking shall include, at minimum, the ability to reroute the AV to a new destination, adjust waypoints, and alter altitude based on emerging threats or changes in mission priorities (T).

ID	Requirement
2a.15	The operator shall retain the ability to override or adjust AI-generated mission plans and dynamic re-tasking recommendations through the UCC and AV interfaces (T).
2a.16	The TRUAS UCC shall feature a user-friendly interface that prioritizes clarity, ease of understanding, and intuitive operation (T).
2a.17	The UCC's design and functionality shall align with the generational familiarity that young Marines have with smartphone technology and consumer applications (T).
2a.18	Operating the TRUAS UCC shall be comparable in terms of ease and intuitiveness to common smartphone tasks, such as ordering food delivery or ride-sharing services (T).
2a.19	The UCC shall present information in a clear and concise manner, minimizing the cognitive burden on the operator and reducing the potential for errors (T).
2a.20	The UCC tablet shall display clear and understandable error and emergency messages to enhance operator situational awareness, support effective decision-making, and increase the safety of flight (T).
(b) Geofencing and Airspace Management	
2b.1	The UCC shall be able to program and activate multiple geofences in “keep-in” or “keep-out” modes (T).
2b.2	The software shall forward updated mission parameters and geofence data to TRUAS before executing a new flight (T).
2b.3	TRUAS flight data and location information shall be visible to airspace controllers (Multifunction Air Operations Center [MAOC], Navy Tactical Air Control Center (TACC), and/or Forward Air Controllers) (T).
2b.4	TRUAS shall have the capability to maintain geofence parameters utilizing GPS or alt PNT navigation (T).
(c) Software Updates and Cybersecurity	
2c.1	The TRUAS UCC and AV shall be able to receive software, firmware, and security patch updates over the MCEN (T).
2c.2	TRUAS shall incorporate cybersecurity measures designed to prevent or mitigate the effects of cyberattacks, including those originating from novice, commercially available, and sophisticated peer or near-peer adversaries (T).
2c.3	In the event of a cyber event, the system shall maintain sufficient functionality to enable either mission completion or a safe RTB (T).
(d) Operator Training and Proficiency	
2d.1	The TRUAS UCC contains a simulation application that meets the currency and proficiency requirements for the operator (T).
2d.2	The simulation application shall meet the standards to restore TRUAS operator currency and proficiency (regardless of lapse duration) by offering tailored recertification options for operators who are current, or have lapsed within 30, 90, 180, or 365 days (T).
(e) Payload Management	
2e.1	TRUAS shall be capable of autonomously sensing and calculating the weight of the payload (T).
2e.2	The calculated payload weight shall be displayed on the UCC (T).
2e.3	If the detected payload weight exceeds the maximum allowable limit, an error message shall be displayed on both the UCC and the airframe, preventing launch (T).
2e.4	The operator shall have the ability to override the launch restriction imposed by an overweight payload detection, but this action must be explicitly confirmed and logged by the system (T).

ID	Requirement
(f) Multi-Vehicle Control	
2f.1	The TRUAS system shall enable a single operator to control and monitor up to four (4) AVs simultaneously (T).
2f.2	The mission planning software integrated with the UCC shall allow for the pre-planning and dynamic modification of mission parameters for multiple AVs under a single operator's control utilizing one UCC (T).
2f.3	Each AV shall possess a level of autonomy that minimizes operator intervention during routine mission phases, enabling the operator to focus on higher-level tasks and exception handling (T).
2f.4	The AV's autonomous capabilities shall encompass the same level of self-management and decision-making expected of a manned aircraft, including autonomous navigation and route following, obstacle and collision avoidance, automated system health monitoring and fault mitigation, and dynamic reaction to changes in airspace conditions and mission parameters (T).
(g) Human-Machine Interface (HMI)	
2g.1	The in-flight HMI display shall present information and symbology necessary for safe and effective AV operation and flight planning (T).
2g.2	The Moving Map display shall depict the AV position with control measure overlays, launch point, destination point, and planned route (T).
2g.3	Indicated Airspeed (IAS), Calibrated Airspeed (CAS), True Airspeed (TAS) and Indicated Groundspeed (IGS) shall be displayed in knots (T).
2g.4	Altitude shall be displayed in both feet Above Ground Level (AGL) and Mean Sea Level (MSL) (T).
2g.5	Remaining power (Battery, Fuel, or Hybrid) shall be displayed in hours and minutes of estimated remaining flight time (T).
2g.6	The operator shall have the ability to select between degrees magnetic and true (T).
2g.7	The UCC shall be fully operational in bright daylight conditions, ensuring operator and maintainer visibility and effective use (T).
2g.8	The UCC shall have adjustable lighting controls to manage display brightness for optimal viewing in varying light conditions (T).
2g.9	The UCC display shall be compatible with night vision devices (NVDs), enabling operation during night missions without compromising operator effectiveness (T).
2g.10	TRUAS shall be equipped with a conversational human-machine interface (CHMI) capability that enables the operator to interact with the AV using natural language voice commands (T).
2g.11	The CHMI system shall accurately interpret and translate voice commands into actionable instructions for the AV, including, but not limited to change heading, fly to a specified point and hold, and change altitude (T).
(h) Operating Frequency Selection	
2h.1	TRUAS shall provide the operator with a user-friendly interface on the UCC to change the AV's operating radio frequency during flight operations, including time-constrained situations (T).
2h.2	The UCC interface shall clearly display the AV's currently selected operating frequency (T).
2h.3	The AV shall transmit its currently selected operating frequency to the UCC for display and confirmation (T).
2h.4	The AV shall also display its own currently selected operating frequency to the operator (e.g., on the AV's control panel or display) (T).

ID	Requirement
(i) Transponder	
2i.1	TRUAS shall be equipped with a transponder that integrates with the Air Traffic Control Radar Beacon System (ATCRBS), Identification Friend or Foe (IFF), Mark XII/XIIA, Systems (AIMS) 17-1000 box level certification for Modes 1, 2, 3/A, C, S Elementary Surveillance (ELS), Automatic Dependent Surveillance – Broadcast (ADS-B) Out, and Mode 5 L1/L2 operation (T).
2i.2	The transponder shall be optionally mounted externally (T).
KSA 3 - Operational Resilience	
3.1	TRUAS shall incorporate cybersecurity measures designed to prevent or mitigate the effects of cyberattacks, including those originating from novice, commercially available, and sophisticated peer or near-peer adversaries (T).
3.2	In the event of a cyber event, the system shall maintain sufficient functionality to enable either mission completion or a safe RTB (T).
3.3	TRUAS shall be capable of conducting missions worldwide in the presence of electromagnetic interference and potential attacks (T).
3.4	The system shall employ secure and resilient waveform technologies for flight control and communication to maintain operational integrity during normal flight operations (T).
3.5	TRUAS shall possess electromagnetic survivability measures, including spectrum protection for GPS, to mitigate the effects of electromagnetic attacks, such as electromagnetic pulses (EMP) (T).
3.6	TRUAS shall be able to complete missions in a GPS denied/degraded environment (day/night) (T).
3.7	TRUAS shall be frequency agile within its designated frequency bands, allowing for operator-selectable frequency adjustments prior to or during flight to counter interference or jamming (T).
3.8	TRUAS shall support multi-band and worldwide frequency usage, configurable for the specific operational environment (T).
3.9	The system shall enable signature management strategies to minimize the risk of the UCC and operator being targeted based on RF emissions (O).
3.10	TRUAS shall optimize spectrum efficiency, which includes one or more of the following EMS/data resources: dimensions of frequency, time, energy, physical space (longitude, latitude, and altitude), data efficiency, compression, and pre-processing to immediately transmit usable information, such as AV tracks and usable information, vice raw data (O).
3.11	The combination of these features allows TRUAS to be multi-functional with the ability to switch between mission functions without the requirement to be on the ground for manual configuration (O).
KSA 4 - Logistics and Support	
(a) Spare Parts Availability	
4a.1	Spare parts essential for TRUAS maintenance and repair shall be readily available through the Defense Logistics Agency (DLA) supply system used by ground units (T).
4a.2	This availability shall be maintained at a level that prevents degradation of mission availability (T).
(b) Transportability and Containerization	
4b.1	The complete TRUAS system (including all essential components for operation) shall be packaged within a single, ruggedized container designed for transport by dismounted infantry (T).
4b.2	The container shall not exceed the following dimensions: four feet length x three width feet x two feet height (T).
4b.3	The fully loaded container shall not exceed a weight of 150lbs (T).

ID	Requirement
4b.4	The container shall be designed for transport on the Joint Light Tactical Vehicle (JLTV) Utility Role Mission Variant, JLTV Trailer, and standard military pickup trucks (T).
4b.5	The fully loaded container shall not exceed a weight that prevents a four-person lift to shoulder height, in accordance with MIL-STD-1472H (T).
(c) Maintenance - Tool Compatibility	
4c.1	TRUAS requires maintenance or repair at the organizational level (O-level). All TRUAS maintenance tasks performed at the O-level shall be achievable using tools and equipment organic to an infantry battalion found within the following standard tool kits with the following Table of Authorized Materiel Control Numbers (TAMCN): C79152B, D00012BA, D00062B, D00192BA, D04752E, E00832B, E01052B, E01062B, E01162M, E01352B, E12552E, E28272B, E28292E, E79007B, E79012B, H72552BA, H72992BA, and J31872BA (T).
4c.2	No specialized or unique tools, beyond those found in the organic tool kits, shall be required for O-level maintenance of TRUAS (T).
KSA 5 - Contingency Management	
5.1	At a minimum TRUAS shall provide the operator with the following contingency management commands that allow the operator to initiate immediate actions as required (T).
5.2	These commands include Land Immediately, Land as soon as Possible, Wave off, Hold, Resume, Loiter, Jettison Payload, and Return (T):
(a) LAND IMMEDIATELY	
5a.1	TRUAS shall land immediately at manufacturer’s maximum descent rate and autonomously evaluate the landing site to avoid people and infrastructure to land in the least destructive manner (T).
(b) LAND AS SOON AS POSSIBLE	
5b.1	TRUAS shall evaluate possible landing sites to land at the nearest site where a safe landing can be made clear of obstacles and personnel (T), if overwater and unable to reach land, TRUAS shall perform a water ditching procedure clear of floating objects and in a controlled manner that facilitates its recovery (T).
(c) WAVEOFF	
5c.1	The WAVEOFF shall give the operator three options WAVEOFF AND PROCEED, WAVEOFF AND 2ND ATTEMPT, and WAVEOFF AND HOLD. TRUAS shall calculate its ability to execute each of the wave off functions based on remaining range available at the time the command is received, if the range available is insufficient to execute the wave off command TRUAS shall decide on the best available option (i.e., continue mission, Return To Launch [RTL], land at an alternative landing site, etc.) (T).
1. WAVEOFF AND PROCEED	
5c.2	TRUAS shall cancel current landing/drop and continue with mission (T).
5c.3	If the mission was to return to base, it would return to base (T).
5c.4	If the mission was to proceed to a secondary land/drop site, it would continue to the secondary site (T).
2. WAVEOFF AND 2ND ATTEMPT	
5c.5	TRUAS shall immediately climb then enter a downwind for a second attempt at landing in the original LZ (T).
3. WAVEOFF AND HOLD	
5c.6	TRUAS shall immediately climb then fly to a designated holding area in the same manner specified for the HOLD command (T).

ID	Requirement
5c.7	TRUAS mission planning software shall include a grid coordinate for the holding area to be entered by the operator if one has been designated, if a holding area has not been designated the mission planning software shall recommend options to the operator during mission planning (T).
(d) HOLD	
5d.1	During the Takeoff and Landing phases of flight TRUAS shall come to a hover at its current position (T).
5d.2	During the inflight phase of flight, TRUAS shall hold in a standard racetrack pattern utilizing current position as the hold point indefinitely (until RESUME, or until failsafe condition such as low—battery or bingo fuel reserve is reached) (T).
(e) RESUME	
5e.1	TRUAS resumes flight plan from a HOLD command (T).
(f) LOITER	
5f.1	TRUAS shall hold around a current GPS position with a standard racetrack pattern at best endurance airspeed for a pre-set amount of time (user defined, with default setting of 30 seconds) (T).
5f.2	TRUAS shall hold around a current Alt PNT position with a standard racetrack pattern at best endurance airspeed for a pre-set amount of time (user defined, with default setting of 30 seconds) (O).
(g) JETTISON PAYLOAD	
5g.1	TRUAS immediately initiates drop mechanism (T).
5g.2	Upon receiving the JETTISON PAYLOAD command, TRUAS shall calculate using onboard sensors where the payload would land and decide upon the optimal point to release the payload based upon avoiding damage to people and structures (T).
(h) RETURN	
5h.1	TRUAS shall initiate a smart RTL, backtracking mission path/waypoints (T).
5h.2	TRUAS shall plot the optimum RTL route, based on obstacles, threats and remaining flight time (T).
KSA 6 - Cargo Handling and Transport	
6.1	TRUAS shall accommodate payload dimensions of three feet x two feet x two feet (T) and up to five feet in length, with a cross-section of one foot x one foot (T).
6.2	The cargo transport configuration shall not negatively impact operational performance (T).
6.3	TRUAS shall recognize its own state and adjust operating parameters to ensure mission accomplishment (e.g., ability to weigh cargo, measure its center of gravity, etc.) (T).
6.4	TRUAS shall provide a secure means of attaching or containing cargo within an internal cargo bay or dedicated space, or externally, via a secure connector or rigging system (T).
6.5	The airframe or cargo attachment mechanism shall be adjustable to facilitate the stowage or attachment of cargo with varying dimensions (T).
6.6	TRUAS shall be capable of transporting sling-loaded cargo (T).
6.7	The height of the payload may limit attachment to the airframe. TRUAS height above ground shall be adjustable to allow for different sized payloads (O).
6.8	TRUAS shall be capable of conducting airdrops of cargo without requiring the aircraft to land (T).
6.9	TRUAS shall have the ability to factor in environmental data and provide an optimum release point to enhance airdrop accuracy (O).

ID	Requirement
6.10	TRUAS shall minimize the time required to descend from cruise altitude to the LZ to enhance survivability by reducing the window for hostile detection (T).
6.11	The TRUAS descent rate shall be no more than 30 seconds per 100 feet Above Ground Level (AGL) (T), 15 seconds per 100 feet AGL (O).
KSA 7 - Environmental Adaptability	
7.1	TRUAS shall be marinized using corrosion resistant material to protect the system while operating in maritime or littoral environments (T).
7.2	TRUAS shall be capable of continuous operation in extreme natural environmental conditions, including snow, rain, fog, sand, dust, saltwater spray, and battlefield obscurants and contaminants (T).
7.3	TRUAS shall be capable of operating effectively in hot, cold, and maritime environments, encompassing all phases of operation: storage, transport, ground run-up, takeoff, and landing (T).
7.4	TRUAS storage and transportation shall not require environmentally controlled containers (T).
7.5	All electrical components of the TRUAS shall be weatherized to achieve an Ingress Protection (IP) rating of at least IP-56, as defined by standard EN 60529 (T).
7.6	All mechanical components of the TRUAS shall be able to operate in an IP-56 environment, as defined by standard EN 60529 (T).
7.7	TRUAS shall be designed and constructed to ensure this IP-56 rating is maintained throughout the system's operational life and exposure to anticipated environmental conditions (T).
KSA 8 - Autonomous Airspace Integration and Control	
8.1	TRUAS shall integrate with the Multifunction Air Operations Center (MAOC), the Marine Corps' primary airspace control agency, to receive airspace clearances and deconfliction instructions and provide autonomous system responses (T).
8.2	The TRUAS operator shall plan missions using the UCC, and the UCC shall automatically transmit the planned route and mission parameters to the MAOC for approval (T).
8.3	The MAOC shall have the authority to approve, disapprove, or modify TRUAS mission plans, including granting or denying launch authorization, assigning time windows for launch, and directing alternate routing which will then need to be accepted by the TRUAS operator (T).
8.4	By default, TRUAS shall not be capable of launching without explicit mission approval from the MAOC (T).
8.5	An override feature shall be provided for a designated TRUAS operator supervisor to override the requirement for MAOC approval in situations where airspace control authority has not been established or communication with the MAOC is not possible (T).
8.6	TRUAS shall use MANGL, or the current Program of Record (POR), to transmit its position and flight data to relevant stakeholders, including the MAOC, manned aircraft, and Ground Combat Element (GCE) Air Shops (T).
8.7	TRUAS shall meet the same sense-and-avoid requirements as manned aircraft, ensuring safe airspace deconfliction (T).
KSA 9 - Advanced Capabilities	
(a) Data Sharing and Network Interoperability	
9a.1	TRUAS shall have the capability to share sensor data (e.g., imagery, video) and location information with adjacent or higher echelon command and control (C2) networks, including both aviation and ground-based systems (O).

ID	Requirement
(b) Modular Open Systems Approach (MOSA)	
9b.1	TRUAS shall be designed and developed using a Modular Open Systems Architecture (MOSA) approach (T).
9b.2	This MOSA framework shall facilitate the rapid and cost-effective integration of future technology upgrades and capability enhancements, ensuring TRUAS remains adaptable to evolving mission requirements (T).
(c) Electromagnetic Spectrum (EMS) Compliance	
9c.1	TRUAS shall utilize portions of the electromagnetic spectrum (EMS) authorized and accessible for unmanned aircraft system (UAS) operations (T).
9c.2	TRUAS shall be fully compliant with all applicable Department of Defense (DOD), national, and international regulations governing the use of the EMS (T).
(d) Meteorological and Oceanographic (METOC) Data Integration and Utilization	
9d.1	TRUAS shall be capable of autonomously receiving, processing, and integrating METOC data products from existing Marine Corps Enterprise Network (MCEN) systems to the UCC (T).
9d.2	The UCC shall incorporate this METOC data into mission planning calculations and assessments, providing the operator with weather impacts on TRUAS flight performance (T).
9d.3	TRUAS shall be capable of receiving updated METOC data while in flight via its datalink (T).
9d.4	TRUAS shall autonomously adjust its flight plan in response to updated METOC data to enhance flight safety and mission effectiveness (T).
9d.5	TRUAS shall be fielded with either stand-alone or onboard sensors capable of determining local wind conditions, pressure altitude, and temperature; if utilizing a stand-alone system, it shall autonomously update the UCC (T).
(e) Rapid Deployment and Repacking	
9e.1	The maximum allowable time to emplace TRUAS from its transported configuration to a ready-for-launch state shall be 20 minutes (T).
9e.2	The maximum allowable time to relaunch TRUAS following the completion of a flight, including any required maintenance or refueling, shall be 20 minutes (T).
9e.3	TRUAS shall be designed for rapid repacking and breakdown to a transportable configuration, enabling units to quickly displace as tactical situations dictate (T).