**68 . Date: 07-01-2025General - PayloadTEKEVER Sensors to Bolster Ukraine’s Aerial DefenseURL: https://www.unmannedsystemstechnology.com/2025/01/tekever-sensors-to-bolster-ukraines-aerial-defense/**

TEKEVER is set to develop advanced sensors for the immediate detection of guided aerial bombs (GABs) in support of the “Machine Offensive 2.0” Hackathon, an initiative launched by Ukraine’s Ministry of Defence.

The company will support Challenge 3 in the Hackathon, developing radar, thermal, infrared, and acoustic sensors that can provide accurate data in real-time and enable a swift and effective response.

Hackathon invites engineers, developers, radar/sensor specialists, and technical students to create innovative solutions for detecting and countering airborne threats in real-time.

As well as countering GABs, the “Machine Offensive 2.0” Hackathon includes another challenge to develop ways to counter fibre-optic controlled drones that are immune to radio jamming. This is the second “Machine Offensive” Hackathon organized by the Ministry of Defence, after the first was launched in January.

GABs are reportedly causing widespread destruction and loss of life at Ukraine’s borders. Addressing this threat is a key priority of the Ukrainian Ministry of Defence.

Since spring 2022, TEKEVER has been a trusted partner to Ukrainian forces, providing its AR3 and AR5 unmanned aerial systems (UAS) to conduct long-range intelligence, surveillance, and reconnaissance missions. These systems are reported to have been key in enhancing Ukraine’s ability to detect and neutralize threats.

TEKEVER CEO, Ricardo Mendes, commented, “Our support for “Machine Offensive 2.0” reflects our ongoing commitment to Ukraine, safeguarding civilian lives and enhancing the country’s defensive capabilities. Innovation and problem solving is embedded in TEKEVER’s DNA. We are constantly evolving our technology to address new threats and customer needs so we’re excited to rise to this new challenge to support the Ukrainian government.”

Kateryna Chernohorenko, Ukraine’s Deputy Minister of Defence, added, “In these challenging times, the collaboration between the Ministry of Defence and TEKEVER is a shining example of how strategic partnerships become a cornerstone of strengthening Ukraine’s defence capabilities. This teamwork empowers us to address critical challenges on the battlefield and develop cutting-edge solutions that save lives. Together, we are proving that resilience and innovation are unstoppable forces, capable of shaping a brighter, secure tomorrow for Ukraine and the world.”

**69 . Date: 31-01-2025Fixed Wing - Armed ISR / ISTAR - Tactical - General - PlatformTest Flights Begin for Brazil’s ARP Albatroz DroneURL: https://www.unmannedsystemstechnology.com/2025/01/test-flights-begin-for-brazils-arp-albatroz-drone/**

Test flights for the ARP Albatroz are in progress at Portobello Farm airfield, marking a significant step forward for Brazil’s unmanned aviation sector.

This Remotely Piloted System (RPS) is said to be the first of its kind designed to deploy from the NAM Atlântico, the Brazilian Navy’s helicopter carrier, which was recently acquired from the United Kingdom.

Engineered for extended patrol and reconnaissance, the Albatroz boasts an endurance of up to 24 hours, significantly outperforming conventional helicopters that typically operate for only four. This extended operational window provides a substantial edge in missions such as search-and-rescue efforts, monitoring territorial waters, and combating illegal activities at sea.

The evaluation process began with system calibration and telemetry collection. The next stage involves comprehensive field operations to assess real-world performance, addressing any technical refinements before full deployment aboard the NAM Atlântico.

During these trials, a highly trained technical team oversees the drone using advanced telemetry systems, enabling real-time monitoring, control, and data analysis. High-resolution images and video feeds are transmitted to the naval command center, facilitating swift and informed decision-making in critical scenarios where time is of the essence.

The ARP Albatroz stands as the country’s second-largest domestically produced drone, surpassed only by the Atobá—another system developed by Stella Tecnologia. This collaboration between Stella and the Brazilian Navy underscores a shared commitment to pioneering military technology, strengthening national security, and expanding operational capabilities for future missions.

**70 . Date: 18-02-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - General - Engine / PowersourceHydrogen Fuel-Cell Powered VTOL UAV IntroducedURL: https://www.unmannedsystemstechnology.com/2025/02/hydrogen-fuel-cell-powered-vtol-uav-introduced/**

BlueBird Aero Systems has unveiled a field-proven operational Vertical Takeoff and Landing (VTOL) UAV, powered by a new PEW Fuel-Cell Technology developed by H3 Dynamics.

The WanderB-VTOL Mini-UAS is designed for rapid deployment and operation in any environment. Combat-proven, it can effectively function in GPS-denied and spoofed conditions. This innovative technology provides a sustainable energy solution, resulting in an electric VTOL UAV with advanced reliability and a flight endurance of over 6 hours.

The hydrogen fuel-cell powered WanderB-VTOL has accumulated a considerable number of flight-hours that validated the system’s performance, including continuous operation for over six hours.

BlueBird Aero Systems’ diligent testing has demonstrated reliability and mission readiness. The fuel-cell enables up to 1000 operational hours (until maintenance round) and requires easy maintenance. BlueBird Customers will be able to experience this extended endurance by upgrading their WanderB-VTOL systems with the new Fuel-Cell power source.

The WanderB-VTOL specifications:

• Maximum Takeoff Weight (MTOW): 18kg

• Flight Endurance: Over 6 hours

• Flight Ceiling: 16,000 feet

• Payload Capacity: 1.5kg

Operational Advantages of Fuel-Cells vs. Lithium Batteries

The fuel-cell provides a higher energy-density than Lithium Batteries, allowing the UAV to stay on target for significantly longer durations at the same weight, with significant operational advantages: reducing takeoffs and landings cycles to reduced strain and maintenance cost, longer and more efficient missions, less “dead” time on the way to the target’s area. For example, a mapping flight powered by a fuel-cell can cover a much larger area.

A Smarter, Greener Energy Solution

At the core of this system lies a hybrid solution, combining a hydrogen fuel-cell with a backup battery. The fuel-cell provides a continuous, clean power source, generating electricity through an electrochemical reaction between hydrogen and oxygen, with water as the only byproduct. The backup battery ensures additional energy when needed and acts as an emergency source of energy.

BlueBird’s solution enhances sustainability in UAV operations, ensuring that environmental responsibility meets high performance. This breakthrough not only offers a step forward in energy efficiency and mission longevity but also sets new standards for eco-friendly innovation.

With its high performance, high availability and comprehensive customer-support, BlueBird’s fuel-cell powered WanderB-VTOL is tailored to meet the demands of both military and civilian markets.

Ronen Nadir, Founder and CEO of BlueBird Aero Systems, commented, “Bluebird is already leading the VTOL UAV market with battle-proven, reliable and capable UAVs, and now, with WanderB-VTOL powered by Fuel-Cell, even more capable with unmatched endurance for a more effective missions.”

**71 . Date: 11-02-2025Fixed Wing - ISR / ISTAR - MALE - General - PayloadIMSAR & TEKEVER Partner to Enhance UAS with Advanced SAR TechnologyURL: https://www.unmannedsystemstechnology.com/2025/02/imsar-tekever-partner-to-enhance-uas-with-advanced-sar-technology/**

IMSAR, a U.S.-based developer of Synthetic Aperture Radar (SAR), has signed a two-year agreement with TEKEVER, a European leader in Unmanned Aerial System (UAS), to integrate advanced SAR technology into TEKEVER’s drone platforms.

This partnership focuses on enhancing intelligence, surveillance, and reconnaissance (ISR) capabilities by combining TEKEVER’s UAV expertise with IMSAR’s high-performance radar systems, creating a more powerful and efficient airborne monitoring solution.

Under the terms of the partnership, TEKEVER will work closely with IMSAR to refine operational tactics and capabilities, drawing insights from real-world deployments, including frontline experiences in Ukraine.

The teams will also explore new approaches to streamline hardware integration and software compatibility, ensuring IMSAR’s radar technology is seamlessly incorporated into TEKEVER’s current and next-generation UAS designs. Additionally, IMSAR will provide preferred partner support, volume-based pricing, and joint marketing initiatives to maximize the combined value of both companies’ solutions.

A key focus of this initiative is the fusion of IMSAR’s Lisa3D mission management suite with TEKEVER’s ATLAS web-based UAV Mission Enhancer. This integration will create a unified operator interface, improving workflow efficiency throughout maritime surveillance missions.

IMSAR’s radar systems excel in wide-area vessel detection and tracking moving targets over long distances, feeding real-time targeting data to onboard electro-optical and infrared sensors for precise identification. By synchronizing platforms, sensors, and advanced analytics, TEKEVER’s UAS will deliver next-level situational awareness, extending operational reach and optimizing intelligence gathering across vast land and maritime environments.

This partnership strengthens an already successful collaboration, exemplified by recent flight tests featuring IMSAR’s NSP-5 Synthetic Aperture Radar aboard TEKEVER’s AR5 UAS. The results demonstrated a significant force-multiplier effect, with the AR5 detecting a higher volume of targets per hour and increasing EO/IR engagement time beyond any comparable UAS in its category.

TEKEVER CEO, Ricardo Mendes, said, “The partnership with IMSAR is a game-changer, propelling us to the forefront of radar innovation. By combining IMSAR’s cutting-edge technology with our UAS capabilities, we’re pushing the boundaries of surveillance and reconnaissance missions and preparing for future radar integrations. This partnership also positions us to meet the growing demand for advanced solutions in complex and dynamic mission environments, such as military operations and border surveillance.”

By combining expertise in radar technology and UAS innovation, TEKEVER and IMSAR are aiming to redefine airborne surveillance, ensuring enhanced mission effectiveness and greater intelligence capabilities for defense and security operations worldwide.

**72 . Date: 27-02-2025H-Rotary - Armed ISR / ISTAR - Tactical - Partnership - PayloadMeteksan Radars to Integrate into Tactical UASURL: https://www.unmannedsystemstechnology.com/2025/02/meteksan-radars-to-integrate-into-tactical-uas/**

ADASI has signed a contract to integrate MILSAR radars from Meteksan Defence, one of the largest defense companies in Türkiye, into the GARMOOSHA unmanned aerial system (UAS).

Signed at the International Defence Exhibition & Conference 2025 (IDEX 2025), the contract will enable ADASI to offer the GARMOOSHA UAS with a new, fully integrated non-kinetic payload featuring versatile moving target indication modes for detection and tracking of potential targets.

The MILSAR radar will also provide end-users of the GARMOOSHA with a synthetic aperture radar mode for high resolution and all-weather imagery, target classification, and ground mapping.

The GARMOOSHA is an advanced rotary-wing UAS designed for tactical intelligence, surveillance, and reconnaissance (ISR) missions. Developed and manufactured by ADASI, the GARMOOSHA is the first entirely UAE-made UAS in its class.

ADASI is a regional leader in autonomous systems and services within EDGE, one of the world’s leading advanced technology and defense groups.

**73 . Date: 19-02-2025MarketRed Cat Secures Financing to Accelerate Drone Production for U.S. DoDURL: https://www.unmannedsystemstechnology.com/2025/02/red-cat-secures-financing-to-accelerate-drone-production-for-u-s-dod/**

Red Cat Holdings, Inc. has entered into an agreement with institutional fund manager The Lind Partners, securing up to $20 million in debt financing to support the ongoing development of its Arachnid Family of Systems.

The investment is reportedly expected to provide Red Cat with the working capital needed to scale up production and the ongoing development of its Arachnid Family of Systems, which includes Black Widow™, Edge 130, and a new line of FANG™ First-Person View (FPV) drones.

The goal of the Family of Systems is to meet the needs of the U.S. Department of Defense and NATO allies for drone systems that are low-cost, portable, field repairable, and recoverable.

In addition, Red Cat has applied for $58 million in debt financing from the Department of Defense Office of Strategic Capital (OSC). OSC implements strategies and partnerships to accelerate and scale private investment in critical supply chain technologies needed for national security.

Jeff Thompson, Red Cat CEO, commented, “The recent financing will allow us to expedite and expand the Edge 130 factory and build-out and ramp up mass production of the Black Widow. As a company focused on technology that advances the Department of Defense capabilities, we are a strong candidate for the Office of Strategic Capital’s low-cost debt program. The potential total financing of $93 million is the least dilutive option for our shareholders.”

**74 . Date: 06-02-2025Hybrid Rotary / Fixed Wing - Cargo - PartnershipVolatus Aerospace Partners to Introduce Heavy-Lift Hybrid-Electric DroneURL: https://www.unmannedsystemstechnology.com/2025/02/volatus-aerospace-partners-to-introduce-heavy-lift-hybrid-electric-drone/**

Volatus Aerospace has partnered with Dufour Aerospace to expand its unmanned cargo and aerial services, marking a significant step in expanding Volatus’ offerings in the unmanned aerial vehicle (UAV) sector.

Swiss drone manufacturer Dufour Aerospace’s partnership with Volatus Aerospace will introduce and commercialize the Aero2, a long-endurance, heavy-lift hybrid-electric drone designed by Dufour for diverse global operations.

The Aero2 features a unique tilt-wing design, meaning it can take off and land vertically like a helicopter but fly as fast and energy-efficient as an airplane. With a payload capacity of 40kg (88lbs) and a range of 400km (249 miles) in its standard configuration, the Aero2 is ideal for remote operations in regions like Canada and Africa. It supports applications such as aerial surveillance, intelligence operations, and time-sensitive medical deliveries.

Volatus’ services gain flexibility and efficiency while maintaining the highest safety standards at low operating costs due to Aero2’s capacity for vertical takeoffs and high-speed cruise flight transitions.

Glen Lynch, CEO of Volatus Aerospace, commented, “Recently, we announced operational enhancements gained in partnering with DroneUp. Building on this momentum, the introduction of Dufour’s Aero2 hybrid-electric VTOL aircraft into our expanding fleet allows us to significantly expand our operational scope and commercial focus.

“My confidence in the technology not only comes from having seen the Aero2 in action but, even more importantly, having met the brilliant team of professionals behind the technology. Adding the Aero2 to a growing fleet of larger, more capable drones extends our capabilities and accelerates the commercialization of our Operations Control Center and remote operations capabilities.”

Sascha Hardegger, CEO of Dufour Aerospace, also stated, “We are thrilled to partner with Volatus Aerospace, a collaboration that aligns Dufour’s advanced VTOL technology with Volatus’ extensive operational expertise and global reach. This strategic partnership enables us to harness Volatus’ strong market presence to bring our innovative Aero2 aircraft to more challenging and underserved areas worldwide, particularly remote communities. By combining our efforts, we’re not only expanding our operational horizons but also enhancing our collective ability to deliver efficient, sustainable, and critical aerial solutions on a global scale.”

**75 . Date: 13-03-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - PitchAI-Enhanced UAS Platforms Support Special Operations ExerciseURL: https://www.unmannedsystemstechnology.com/2025/03/ai-enhanced-uas-platforms-support-special-operations-exercise/**

TEKEVER has successfully completed an operational exercise with U.S. Special Operations Command (USSOCOM) at Camp Roberts, California. The exercise demonstrated the effectiveness of TEKEVER’s cutting-edge technology in supporting special operations missions.

The exercise highlighted the advanced capabilities of TEKEVER’s UAS platforms, combining highly reliable hardware with state-of-the-art artificial intelligence (AI) algorithms. This combination ensures superior situational awareness, rapid responsiveness, and enhanced resilience, even in highly contested electronic environments where secure communications and continuous intelligence gathering are critical.

At the centre of the successful demonstration was the TEKEVER AR3 UAS, whose Vertical Take-Off and Landing (VTOL) capability allows it to operate without the need for additional launch or recovery equipment.

This unique feature makes it particularly well-suited to supporting discreet, high-impact operations in remote and austere environments. With a low acoustic and visual signature, the AR3 ensures effective, covert surveillance and reconnaissance.

The AR3’s interchangeable multi-sensor payload, which includes electro-optical/infrared (EO/IR) cameras, radar, and Signals Intelligence (SIGINT) capabilities, provided real-time intelligence gathering across a wide range of operational scenarios. This flexibility ensures that forces on the ground receive actionable intelligence in even the most complex environments.

Reflecting on the successful completion of the exercise, Paulo Ferro, TEKEVER Strategic Development Director, highlighted the company’s continued focus on innovation and operational excellence:

“By combining cutting-edge AI with highly reliable and field-proven hardware, TEKEVER provides special operations forces with the best tools to enhance their decision-making and effectiveness in the most challenging environments.

“This exercise demonstrated our ability to operate in electronically contested environments while ensuring reliable intelligence and secure communications at all times.”

**76 . Date: 13-03-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Micro - General - PlatformAscent AeroSystems Launches AI-Enabled Sub-250g Coaxial Nano UAVURL: https://www.unmannedsystemstechnology.com/2025/03/ascent-aerosystems-launches-ai-enabled-sub-250g-coaxial-nano-uav/**

Ascent AeroSystems, a developer of coaxial UAV technology, has expanded its portfolio with the introduction of HELIUS™, the company’s first sub-250g unmanned aerial system.

Known for its expertise in compact, high-performance coaxial drones, the company is now bringing its advanced engineering to the lightweight drone market.

Unveiled at VERTICON (formerly HAI Heli-Expo) in Dallas, Texas, HELIUS is an American-made, NDAA-compliant UAV designed to provide an affordable, AI-enabled solution for law enforcement, emergency response, government agencies, and industrial enterprises. The drone offers a reliable and capable alternative for operators seeking to upgrade or replace existing systems while ensuring compliance with regulatory and security requirements.

Peter Fuchs, Co-founder and CEO of Ascent AeroSystems, said, “Bringing our coaxial propulsion technology to a sub-250g platform while maintaining the durability, performance, and reliability Ascent products are known for has been one of the most rewarding challenges we’ve undertaken.

“HELIUS delivers unmatched capability in its class at a competitive price. It is the drone we’ve wanted to make from the beginning; small enough to fit in your pocket but powerful enough to meet the rigorous demands of public safety, emergency response, and critical industrial missions.”

David Smith, CEO of Robinson Helicopter Company, added, “We know that the future of aviation isn’t about choosing between crewed and uncrewed systems—it’s about teaming. Our acquisition of Ascent AeroSystems was a strategic move to lead that evolution, HELIUS is a key step in realizing that vision.”

Fuchs added, “HELIUS expands our growing product line and sets a new benchmark for compact UAVs. For operators demanding durability, portability, and next-gen technology in a secure, American-Made sub-250g platform, this is the solution.”

Ascent’s HELIUS Features

• Ultra-portable, ultra-light weight airframe

• 4G/LTE connectivity

• AI-enabled obstacle avoidance & object tracking

• 4K, 12.3MB Electro Optical, Ultra-low-light sensor with digital tilt, pan and zoom

• Field-swappable, rechargeable batteries

• Up to 45mph max speed

• 30+ min endurance

**77 . Date: 20-03-2025General - PayloadNew Payload Command and Control Introduced by GA-ASIURL: https://www.unmannedsystemstechnology.com/2025/03/new-payload-command-and-control-introduced-by-ga-asi/**

General Atomics Aeronautical Systems, Inc. (GA-ASI) has released its latest evolution of the company’s payload command and control (C2), and tactical situational awareness software called TacSit-C2®.

The new version builds on GA-ASI’s more than 25 years of experience in developing and deploying C2 for various payloads that are integrated onto GA-ASI’s world-leading Unmanned Aircraft Systems (UAS). TacSit-C2 is part of General Atomics’ Quadratix software enterprise.

TacSit-C2 provides tactical situational awareness so that UAS operators can plan and execute missions. Operators will use TacSit-C2 to view all sensor data concurrently, allowing them to cross-cue payload capabilities. GA-ASI’s development team of experienced payload C2 veterans used intuitive user experience (UX) to simplify payload operations. The new version of TacSit-C2 is expected to be fielded before the end of the year.

“As part of the Quadratix set of software solutions, TacSit-C2 seamlessly integrates Multiple Intelligence Signal Processing (Multi-INT) C2 into a single application that includes radar, Electronic Intelligence (ELINT), Communications Intelligence (COMINT), and Electro-optical/Infrared (EO/IR) sensors,” explains Darren Moe, GA-ASI senior director for Automation, Autonomy and Artificial Intelligence. “We anticipate that implementation of TacSit-C2 will significantly reduce manpower requirements.”

TacSit-C2 features GA-ASI’s Multi-Mission Controller (MMC), which enables one user to control multiple heterogeneous unmanned vehicles at the same time.

TacSit-C2 is scalable, easily accommodating the addition or removal of workstations depending on the mission. The system runs on commercial off-the-shelf (COTS) computer hardware from a laptop to a server. TacSit-C2’s Software Development Kit (SDK) empowers third parties to add additional capabilities such as new payloads.

**78 . Date: 01-04-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Mini - General - PlatformExtended-Endurance Tactical sUAS Unveiled for ISRURL: https://www.unmannedsystemstechnology.com/2025/04/extended-endurance-tactical-suas-unveiled-for-isr/**

Quantum Systems, a leader in electric vertical take-off and landing (eVTOL) aerial intelligence solutions, has unveiled Vector AI, a next-generation, AI-powered, extended-endurance tactical sUAS.

Designed for frontline forces operating in dynamic and contested environments, Vector AI supports advanced intelligence, surveillance, and reconnaissance (ISR) capabilities with autonomous mission execution, superior electronic warfare (EW) resilience, and real-time AI-driven situational awareness.

These capabilities ensure warfighters maintain a decisive intelligence advantage in high-tempo operations. “This platform is designed to meet the evolving needs of allied forces for software defined defense. It delivers advanced ISR capabilities in the most challenging battlespaces. Its interoperability and seamless battlefield integration provide a decisive advantage to forward-deployed military units and operational superiority during complex missions,” said Sven Kruck, Co-CEO at Quantum-Systems GmbH.

Dave Sharpin, CEO of Quantum-Systems Inc. added, “Vector has already proven itself in global military operations, and this latest iteration builds upon those battlefield insights to deliver the most capable midrange eVTOL sUAS available today. With extended endurance, AI-driven mission autonomy, and modular, MOSA-compliant design Vector AI provides unmatched flexibility and adaptability for modern military forces operating in dynamic and contested environments.”

Designed for maneuver forces conducting reconnaissance, surveillance, and target acquisition (RSTA) missions, Vector AI introduces significant advancements over previous generation sUAS:

Hardened Against GPS and Communications Denial Visual Inertial Odometry (VIO) and Silvus Technologies’ Spectrum Dominance capabilities equips users with resilient navigation and command and control in contested environments, strengthening operational resilience and mission success even in GPS and communications-denied areas.

Mission-Adaptable with Modular Payload Integration MOSA (Modular Open Systems Approach) compatible, the enhanced Ethernet-based, openarchitecture payload bay seamlessly integrates third-party ISR, SIGINT, and EW sensors, enabling rapid mission customization and future-ready scalability.

Autonomous AI-driven ISR Dual onboard NVIDIA Jetson Orin processors enable real-time object recognition, automated target tracking, and adaptive mission execution, reducing operator workload and increasing mission effectiveness.

Seamless Multi-Domain Interoperability Vector AI is fully compatible with ATAK (Android Tactical Assault Kit), Cursor-on-Target (CoT), and leading battlefield management systems (BMS), ensuring real-time situational awareness and coordinated targeting across joint and coalition forces.

Extended Endurance for Greater Time on Station A redesigned eVTOL power system and advanced energy management enable over three hours of continuous flight, ensuring longer ISR coverage with fewer system swaps, keeping operators focused on the mission.

Built for rapid deployment and sustained operations in austere environments, Vector AI delivers AI-powered ISR at the tactical edge. Its compact, lightweight airframe facilitates ease of transport and deployment, while its enhanced autonomy enables warfighters to focus on the mission- not the system.

**79 . Date: 11-04-2025H-Rotary - ISR / ISTAR - Tactical - GeneralSwissDrones Delivers VTOL UAV to Enhance RPAS CapabilitiesURL: https://www.unmannedsystemstechnology.com/2025/04/swissdrones-delivers-vtol-uav-to-enhance-rpas-capabilities/**

SwissDrones has delivered an additional SDO 50 V3 Remotely Piloted Aircraft System (RPAS) to Xplorate, further expanding its operational fleet of long-range, uncrewed aerial systems.

Engineered in Switzerland, the SDO 50 V3 is designed for demanding environments and extended-duration missions. Its helicopter-style flight characteristics, such as precise hovering, vertical take-offs, and landings, offer operational flexibility in environments where traditional fixed-wing UAVs may be less effective. This versatility supports complex mission profiles without compromising safety or efficiency.

With the addition of another SDO 50 V3, Xplorate is positioned to:

• Scale aerial services while maintaining data quality

• Conduct operations in remote or high-risk areas with enhanced safety

• Rapidly adapt to changing mission requirements with flexible sensor payloads

The delivery comes at a time when industries worldwide are increasingly seeking reliable, high-performance RPAS platforms to support large-scale infrastructure monitoring. With the capability to carry multiple payloads, maintain stable hover in adverse conditions, and operate effectively Beyond Visual Line of Sight (BVLOS), the SDO 50 V3 is well-positioned to address these evolving operational demands.

As global demand for uncrewed aviation capabilities continues to rise, SwissDrones and Xplorate remain focused on advancing RPAS solutions tailored to critical infrastructure needs. By emphasizing reliability, operational performance, and environmental considerations, both organizations contribute to ongoing innovation in aerial monitoring, inspection, and beyond.

Ronnie Fahy, CEO of Xplorate, commented, “The SDO 50 V3 is the perfect RPAS for linear infrastructure missions. Its multi-mission payload capability, endurance, and reliability make it ideal for powerline, pipeline, and environmental corridor work, especially in remote and high-risk areas.”

**80 . Date: 01-04-2025Component - General - PayloadTrillium Engineering Unveils the HD40-LVV for Advanced ISR OperationsURL: https://www.unmannedsystemstechnology.com/2025/04/trillium-engineering-unveils-the-hd40-lvv-for-advanced-isr-operations/**

Trillium Engineering introduces the HD40-LVV, a lightweight imaging system enhancing ISR with EO/IR imaging, AI tracking, and geolocation for medium- and long-range reconnaissance (MRR, LRR) and launched effects.

Engineered for advanced object identification and optimized Size, Weight, Power, and Cost (SWaP-C), the HD40-LVV delivers enhanced electro-optical/infrared (EO/IR) imaging in a compact 750-gram (1.6 lb) package, with a narrow field of view (nFOV) down to 0.3°. Featuring 360° continuous pan, advanced onboard tracking, and real-time geolocation accurate to within 6 meters, it enhances intelligence, surveillance, and reconnaissance (ISR) operations with exceptional precision and efficiency.

With upgraded processing power, the HD40-LVV supports an open architecture, enabling customer-directed artificial intelligence (AI) and machine learning (ML) for enhanced autonomous capabilities and data analysis.

Now available for key customers, the HD40-LVV is designed and manufactured in the USA, meeting the highest standards of quality, reliability, and performance for mission-critical ISR operations.

Matt Carreon, Vice President of Business Development, stated, “The HD40-LVV was built to provide best-in-class object identification while maintaining a lightweight, low-power design. Its combination of EO/IR imaging, AI driven tracking, and geolocation makes it an ideal solution for next-generation ISR applications.”

**81 . Date: 10-04-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - General - PlatformV-BAT UAV Upgraded With Heavy Fuel Engine & Advanced AutonomyURL: https://www.unmannedsystemstechnology.com/2025/04/v-bat-uav-upgraded-with-heavy-fuel-engine-advanced-autonomy/**

Shield AI has unveiled the latest evolution of its combat-proven V-BAT.

The latest iteration of the UAS (unmanned aerial system) offers Group 4 and 5 capabilities in a Group 3 package, and is purpose-built to solve the most challenging operational problems facing the U.S. and its allies, including finding and targeting threats in GPS- and communications-denied environments, securing borders, and enabling persistent maritime surveillance.

V-BAT now utilizes a heavy-fuel engine optimized for JP-5, the most common maritime aircraft fuel, extending its endurance beyond 13 hours while ensuring seamless compatibility with naval and expeditionary operations. Enhancing its unmatched versatility, V-BAT now features a fully unassisted vertical launch and landing (VTOL) capability, eliminating the need for a human operator to assist in takeoff or recovery. It still requires no runway, catapult, or net recovery, and its patented ducted-fan design enables safe, precise landings on moving ships, rooftops, and confined areas—even in high winds and rough seas.

These capabilities have made V-BAT the unmanned aircraft of choice for maritime and expeditionary forces, deploying on nearly every class of U.S. Navy ship and with all seven Marine Expeditionary Units (MEUs). The U.S. Coast Guard recently selected V-BAT for a major ISR operations contract, and the Japan Maritime Self-Defense Force (JMSDF) named it their first-ever ship-based ISR platform.

V-BAT is Hivemind Pilot-ready, enabling operators to integrate Shield AI’s AI-powered autonomy software for best-in-class perception and cognition. SATCOM integration also provides Beyond-Line-of-Sight (BLOS) command and control (C2), allowing operators to conduct missions from anywhere in the world. V-BAT supports multi-payload integration, including ViDAR-enabled passive wide-area motion imagery, synthetic aperture radar (SAR), and electronic warfare payloads, expanding operational flexibility across domains.

Brandon Tseng, Shield AI’s President, Co-founder, and a former Navy SEAL, commented: “The most forward-thinking militaries are swapping out their larger, more expensive ISR aircraft — which are too vulnerable for how much they cost — and accomplishing the same missions with smaller, more affordable drones, like V-BAT. V-BAT is built for the full spectrum of drone missions — from deep-penetration ISR-T where GPS and comms are jammed to border security, search and rescue, and drug interdiction. If there’s a mission out there, V-BAT can do it — faster, cheaper, and where others can’t.”