**1 . Date: 08-05-2024Cargo - Small - Regulation - MightyFly obtains ‘industry first’ FAA flight corridor approval in CaliforniaURL: https://www.militaryaerospace.com/commercial-aerospace/article/55038100/mightyfly-obtains-industry-first-faa-flight-corridor-approval-in-california**

SAN LEANDRO, Calif. - A self-flying electric vertical takeoff and landing (eVTOL) drone for the cargo logistics industry has obtained a first-of-its-kind approval, according to its manufacturer, Jack Daleo writes for Flying.

The Military & Aerospace Electronics take:

8 May 2024 -MightyFly, a San Leandro, California-based company developing autonomous cargo aircraft for expedited logistics, announced that it has become the first large autonomous cargo eVTOL company to receive an Federal Aviation Administration (FAA) flight corridor approval in the U.S. MightyFly started flight testing the Cento aircraft at the beginning of the flight corridor in March.

This first FAA approval was confirmed via Freedom of Information Act inquiry in late March based on certification on January 25th, 2024, and includes the Certificate of Waiver or Authorization (COA) for a flight corridor of up to 5,000 ft in altitude between the New Jerusalem and Byron Airports in California and a Special Airworthiness Certification (SAC) enabling the company to test Beyond Visual Line of Site (BVLOS) capabilities while using a chase airplane.

“We are thrilled to publicly announce that we are the first large autonomous cargo eVTOL company to receive a flight corridor approval from the FAA and that we have already achieved some exciting and tangible flight test progress of the 2024 Cento. This is a solid vote of confidence from the FAA in our work and our ability to perform safe autonomous flights in the general aviation airspace. We now look forward to demonstrating point-to-point delivery flights with our partners in this space”, said MightyFly’s CEO, Manal Habib.

**2 . Date: 02-01-2025General - Datalink5G takes its place leading-edge military communications systemsURL: https://www.militaryaerospace.com/communications/article/55244347/5g-military-communications-opens-plethora-of-new-applications**

Fifth-generation (5G) communications and networking is transforming how military forces exchange information and coordinate how they respond to threats, as 5G holds the promise of secure wide-bandwidth digital links from orbital space to the leading edge of the battlefield.

Military fifth-generation networking, largely adapted from commercial 5G technology, offers unprecedented advantages high speeds, wide bandwidth, and low latencies; security and stealth; better coordination than ever before; affordability and scale of open-systems standards; and a pathway to widespread use of artificial intelligence (AI) and machine learning everywhere on the battlefield.

"The robustness and resilience of 5G communications is critical to the power you get from network-enabled warfare," says Patrick Lardieri, principal architect of cyber support operations at Lockheed Martin Corp. in Bethesda, Md. "5G brings with it several things that can really help. It has very robust communications in higher bandwidth and lower latencies that can provide direct user access links that are higher bandwidth than some of the existing communications networks that are in play today in the tactical world."

Lardieri made his comments in late July at the Military + Aerospace Electronics-hosted webinar, "How can military 5G help transform communications and enable applications?" Also speaking at this webinar were Baljit Chandhoke, product manager of RF Products at the Microchip Technology Discrete Products Group in Chandler, Ariz.; and Randy Cox, vice president of product management and business operations at Wind River Systems in Alameda, Calif.

5G communications designers are looking ahead to future military and civil applications with widespread millimeter wave signals that will operate on frequencies between 24 and 300 GHz. The millimeter wave frequency range offers military and civil authorities applications like control of swarming unmanned aerial vehicles (UAVs); augmented- and virtual reality for simulation, training and mission rehearsal; real-time intelligence, surveillance, and reconnaissance (ISR); distributed command and control; smart warehousing and logistics; and dynamic RF spectrum use.

"5G millimeter wave brings to the battlefield, as the technology matures, the latest spectrum, which is at 28 gigahertz in the U.S., and 24.5 GHZ in China and other parts of the world," says Microchip's Chandhoke. "New advancement in 5G will bring high-speed connectivity to the battlefield, while minimizing vulnerabilities like electronic warfare jamming. New generations of millimeter wave communications solutions offer speed that can provide ultra-wide bandwidth and low latency for broadband communications, which is increasing the amount of information we can share to support real-time decision making."

For the military, 5G could improve intelligence, surveillance, and reconnaissance (ISR) systems and signal processing, enable new command-and-control applications, and streamline logistics. 5G also could give the military broad access to augmented and virtual reality, 5G smart warehousing, distributed command and control, and dynamic spectrum use.

"Applications of 5G include mobile disaggregated command posts," says Lockheed Martin's Lardieri. "It would support Marines on the move and expeditionary basing operations while maintaining high-quality access to information. There is an opportunity to interconnect different networks for information, and connect sensors to shooters." He suggests other potential 5G applications include smart warehousing, logistics distribution, and virtual reality-assisted medical diagnosing.

5G could broaden the military's use of virtual reality, not only in military operations, but also in simulation and mission rehearsal in 5G enabled virtual reality in air, land, and sea missions. "Every second counts in defense," says Microchip's Chandhoke. "Getting seamless ultra-fast connectivity gives a real-time picture of land, sea, and air under stressful conditions. 5G enhances connectivity and enhances the ability to deliver decisive action even faster."

Perhaps the most promising future applications of 5G communications involve automation, artificial intelligence (AI), and machine learning. In terms of learning and experience, life cycle management from day zero to day 2 operations is critical today," points out Wind River's Cox. "As we move forward in the evolution of networks, the use of automation is becoming more and more critical, and is absolutely required as it gets more complex, and also to reduce cost.

Some experts in the field are looking beyond 5G to the applications that future 6G applications might offer. "6G has a huge opportunity for new applications that could be spun-up quickly and for AI and Machine learning for the warfighter to get critical data for decision making, with higher data rates, lower latency, and massive device distribution," Cox says.

Part of the power of 5G for the military is its potential to stitch together new and legacy communications and networking systems. "For DOD [the U.S. Department of Defense] 5G is a unifying technology, to ensure seamless communications across all environments," says Microchip's Chandhoke. "Unification across 5G is a game-changing technology for the military."

Part of that will be the military's ability to draw enterprise and tactical computer networking together more closely than ever. "Another benefit is enterprise and tactical deployments so that DOD can leverage 5G," Chandhoke continues. "The tactical version of 5G is ideal for smaller groups of people on the battlefield to deploy 5G solutions. DOD can support a wide range of use cases quickly, and support the comprehensive coverage that 5G offers with extreme bandwidth, with standardized interoperabilities, common applications, and hardware that are interoperable. For the DOD that means global partners can talk to each other, with improved communications, cost savings, and the ability to streamline security."

5G also provides the military with the ability to integrate users over backhauls and reachbacks, points out Lockheed Martin's Lardieri. "Through very solid integration with wired Internet and other communications infrastructure, new channel models like the non terrestrial networking capabilities to allow direct access from space."

Lockheed Martin is integrating 5G as a primary communications technology with other existing military communications technologies in terrestrial, seaborne, or space, or airborne assets, Lardieri says "We can use 5G as a sort of interlinking or inter-networking capability to provide robust backhauls. 5G can provide this interlocking web that will allow us to interconnect many disparate communications systems while providing new and enhanced user access and backhaul communications links that can supplement those existing ones."

Lardieri also explains Lockheed Martin approach to what he calls a "hybrid base station" "where we integrate 5G technology with other more traditional DOD-like technologies, showing how we can provide alternative access so that operators and users can get into the network of the base station using waveforms other than the standard 5G waveform. This can help in contested space and security, and spectrum relocation for some of that initial access."

In this way, systems designers can bring 5G into useful applications using "things that allow us to take 5G and integrate it with other existing networks. "This is a real criticality to the military and aerospace community."

It doesn't make sense not to integrate existing military communications systems into new 5G-based systems, Lardieri points out. "We have to respect that we have trillions of dollars in legacy military equipment, and we're not going to go replace all that anytime soon in one fell swoop."

For now, Lardieri says systems designers "are looking for inter-networking solutions to bridge these communications islands with different networking technologies and interoperability standards. 5G is highly disaggregated, ready for edge cloud deployment, and looking to pull hyperconverged infrastructures out to the edge. It also creates the opportunity for other services like interoperability services to do message translations, bridges to other networks, 5G offers these great user access capabilities in high performance and low latency, and the ability to link into other commercial infrastructures, and to leverage legacy military existing capabilities."

An effective military 5G infrastructure cannot exist without secure links able to resist enemy attempts to jam, disrupt, eavesdrop, or hack into sensitive communications. "Security is a big one," says Lockheed Martin's Lardieri. "We need to ensure confidentiality, and operate in a way that does not allow users to be detected or geo-located."

One advantage to the military may lie in the military-specific and non-commercial nature of many legacy military communications. The DOD has spectrum of its own that we could leverage in some cases, Lardieri says. "If we put 5G in the hands of people operating in foreign lands in potentially military maneuvers, we need to make sure they are safe and secure. Commercial waveforms may not provide the types of protection to geo-location or detection of the users, as well as they may not provide as much security for the users.

Using sophisticated encryption in 5G communications is an obvious consideration -- but should be done in the right way," Lardieri points out. "We need to integrate encryption protocols and waveforms in a way that doesn't destroy performance or overturn the entire architecture. Using the right interfaces and leveraging the right industry standards that are being opened up is one of the key considerations to effectively moving this forward -- especially for tactical systems on the move."

When it comes to the less-discussed shortcomings of military 5G technology, security perhaps is top of the list. "Does 5G bring new security challenges? It does because it uses more software-driven information technology," Lardieri says. "Software today is a great surface for adversary attack. As we bring more software control and networking, we need to bring a higher standard of supply chain security and software cyber security to ensure that adversaries can't exploit that software complexity. Will be a higher standard of security."

The vulnerability of 5G to enemy detection also is a big concern. "5G is protected, but to anyone with sophisticated equipment it is detectable and subject to attack," says vice president of product management and business operations at Wind River Systems in Alameda, Calif. "New techniques to prove the resilience of the 5G network are needed, such as mesh connectivity and redundant paths. Software-defined radios can provide alternative paths to degraded or contested networks, and new backhaul networks can help link 5G networks and satellites, 5G, and terrestrial networks."

Such a challenge might not be easy to overcome. "5G from a commercial standpoint is going to require a need for military-level security to protect highly sensitive and classified information at every level," Cox says. Zero trust is really a must. Susceptibility to RF jamming also is a concern."

U.S. military officials are considering open-systems standards for the hardware and software used in 5G communications. In 2022 the DOD launched the Open6G project that revolves around open radio access networks, also called Open RAN. Open6G is a new industry-university effort that seeks to boost 6G systems research on Open RAN. The DOD also is looking to enable open-systems standards within 5G networks. Military experts are working with the National Telecommunications and Information Administration (NTIA) with $7 million in awards.

"5G has been rolled out commercially for years, however operations are at an inflection point in 5G where they are converting from a traditional network to a more open disaggregated and edge-computing network with many vendors supplying different network elements," says Wind River's Cox. "This can drive flexibility of the network, reduce total cost of ownership, and innovation into the network as well. This will be applicable to the defense industry as well."

**3 . Date: 24-04-2023Cargo - HALE - Partnership - Aurora Flight Sciences joins General Atomics in DARPA project to design long-range, heavy-lift seaplaneURL: https://www.militaryaerospace.com/computers/article/14292738/heavylift-seaplane-rough-seas**

ARLINGTON, Va. – Aircraft designers at Aurora Flight Sciences Corp. in Manassas, Va., are joining a U.S. military research project to design a futuristic seaplane able to operate in rough seas for weeks at a time, and carry payloads as heavy as 45 tons for distances between 4,000 and 6,500 miles.

Officials of the U.S. Defense Advanced Research Projects Agency (DARPA) in Arlington, Va., announced an $25.2 million contract to Aurora Flight Sciences last week for the Liberty Lifter heavy-lift, long-range seaplane that operates efficiently at very low altitudes in ground effect.

Aurora Flight Sciences is joining General Atomics Aeronautical Systems Inc. in Poway, Calif., on the Liberty Lifter project. General Atomics won an $8 million contract for the project in November 2022.

Last February DARPA announced two teams -- General Atomics working with Maritime Applied Physics Corp. (MAPC) in Baltimore; and Aurora Flight Sciences working with Gibbs & Cox, a Leidos company in Arlington, Va., and ReconCraft in Clackamas, Ore. -- to develop designs for the Liberty Lifter Seaplane Wing-in-Ground Effect full-scale demonstrator.

The Liberty Lifter program aims to demonstrate a leap-ahead in operational capability by designing, building, floating, and flying a long-range, low-cost X-Plane capable of seaborne strategic and tactical heavy lift.

For the Liberty Lifter project, the Aurora Flight Sciences and General Atomics teams will focus on designing a seaplane with extended maritime operations in high sea states that is affordable to produce, and that involves complex flight and sea surface controls.

The Liberty Lifter long-range seaplane will provide smooth operations in ground effect and in waves that are four to eight feet high. Ground effect describes the added aerodynamic buoyancy produced by a cushion of air below an aircraft moving closely to the ground or surface of the water.

The Aurora Flight Sciences and General Atomics teams will try to achieve smooth flight while flying over waves as high as eight to 13 feet, with high lift at low speeds to reduce wave impact loads during takeoff and landing in waves from 4 to 8 feet high. The seaplane is expected to accommodate wave impact loads and be able to operate in high-traffic areas, and operate at sea for weeks at a time with long periods between land-based maintenance.

DARPA researchers are emphasizing low cost, easy-to-fabricate designs, with Liberty Ship-style manufacturing. The seaplane also should have complex aero and hydrodynamic interactions during takeoff and landing, with advanced sensors and controls to avoid rogue wave impacts.

The Liberty Lifter seaplane should be able to take off and land in waves from four to eight feet high; fly in ground effect above waves from 8 to 13 feet high; fly at altitudes from ground effect to 10,000 feet, and operate for four to six weeks at a time carrying payloads of at least 90 tons.

On-water amphibious payload deployment and retrieval should be via nose and tail ramps; the seaplane should be able to carry at least two U.S. Marine Corps Amphibious Combat Vehicles, and cargo in 20-foot container units.

The Aurora Flight Sciences and General Atomics team will use high-performance computing and multi-disciplinary analysis and optimization tools to model and analyze complex aerodynamic and hydrodynamic interactions; focus on affordable design and manufacturing approaches; use novel manufacturing approaches; and use industry best practices from commercial high-speed vessels.

The program consists of a three-phase developmental cycle with each phase building on the previous phase. For more information contact Aurora Flight Sciences online at www.aurora.aero, General Atomics Aeronautical Systems at www.ga-asi.com, or DARPA at www.darpa.mil/program/liberty-lifter.

**4 . Date: 06-09-2024Requirement - Engine / PowersourceMilitary researchers eye power-beaming technologies for laser-delivered on-demand power for the battlefieldURL: https://www.militaryaerospace.com/power/article/55137919/laser-on-demand-power-beaming**

ARLINGTON, Va. – U.S. military researchers are asking for industry's help in demonstrating electro-optical laser power beaming technology as part of a project to design a high-altitude optical relay to create scalable on-demand power networks able to distribute about 10 kilowatts of electricity to military users as far away as 125 miles.

Officials of the U.S. Defense Advanced Research Projects Agency (DARPA) in Arlington, Va., issued a program solicitation (DARPA-PS-24-25) on Wednesday for the POWER Receiver Array Demonstration (PRAD).

PRAD seeks to demonstrate enabling technologies in power beaming, as part of the DARPA Persistent Optical Wireless Energy Relay (POWER) project. POWER seeks to demonstrate optical power-beaming relays not only as a resilient multipath alternative for expeditionary energy transport, but also to enable small-yet-persistent manned and unmanned aircraft to provide on-demand power for a wide range of military missions.

POWER optical technologies are expected to create an airborne relay capable of redirection, wavefront correction, and energy harvesting of optical beams. The ultimate goal is to use three airborne relay nodes hosted on existing aircraft to transmit energy from a ground source laser to 60,000 feet in altitude, and back down to a ground receiver 125 miles away.

The PRAD program seeks to develop and demonstrate a laser power beaming receiver for a future energy web that consists of three major component types: transmitters, relays, and receivers.

Optical laser power beaming delivers energy over long distances via transmission by laser beam that is then directed towards a receiving station. The receiving station is equipped with photovoltaic cells or similar devices that capture the laser energy and convert it back into electrical power.

A ground-to-ground demonstration is crucial for proving the feasibility and effectiveness of optical laser power beaming technology -- particularly in validating the photovoltaic receiver array and its efficiency, DARPA researchers explain.

The RTX Raytheon segment won a $10 million contract in August 2023 for the DARPA POWER project. The next step is to develop and demonstrate a laser power beaming receiver for the POWER program.

POWER seeks balance energy generation, storage, and distribution for military missions by capitalizing on power beaming for near- instantaneous energy transport.

Military power today relies primarily on liquid fuels like jet fuel, gasoline, and diesel fuel, which are vulnerable to enemy attack and require significant infrastructure. Instead, POWER seeks to reduce the military's dependence on liquid fossil fuels, their delivery, and storage capacity.

Speed-of-light energy transport through a multipath network would enable rapid reconstitution under attack, graceful degradation, and resilience by re-routing energy through the network in a matter of seconds or minutes, and restoring full capability by replacing nodes in minutes or hours.

For the POWER program, Raytheon seeks to deliver 10 kilowatts of laser energy to the final ground node using a 50-kilowatt source laser, transmitted through three airborne relay nodes using system apertures smaller than one meter diameter.

In POWER's first phase, Raytheon is developing a relay payload design and relay platform. The PRAD part of the POWER program seeks to build a low-power demonstration relay.

Eventually DARPA would like to demonstrate three airborne nodes relaying power to a ground receiver at White Sands Missile Range, N.M., using the High Energy Laser Systems Test Facility (HELSTF), and the RQ-4 Global Hawk large unmanned aircraft as an airborne relay.

Companies interested in demonstrating a POWER laser power beaming receiver as part of the PRAD program should email 3-page abstracts no later than 30 Sept. 2024 to [email protected].

Companies submitting promising abstracts may be invited to give oral presentations. Email questions or concerns to DARPA at [email protected]. More information is online at https://sam.gov/opp/51e880f298304099a8b2f62352617a2f/view.

**5 . Date: 16-05-2023Component - General - PayloadElectro-optical sensors with artificial intelligence (AI) for quick threat detection introduced by RaytheonURL: https://www.militaryaerospace.com/sensors/article/14293814/electrooptical-sensors-artificial-intelligence-ai**

ARLINGTON, Va. – The Raytheon Technologies Intelligence & Space segment in Arlington, Va., is introducing the RAIVEN electro-optical intelligent-sensing capability, which will enable pilots to identify threats more quickly and precisely than they can today.

RAIVEN can identify objects optically and spectrally simultaneously in real-time; just one infrared system never has been able to do this before, company experts say.

RAIVEN's intelligent-sensing capability uses artificial intelligence (AI), hyperspectral imaging, and light detection and ranging (lidar) to enable operators to see as much as five times farther and clearer than traditional optical imaging.

RAIVEN synthesizes reams of data into a detailed picture of the battlespace and the threats within it. The AI automatically detects and identifies threats, delivering a level of automation for the operator to choose what decisions need to be made – providing a critical capability while drastically reducing operator workload.

RAIVEN is a modular open-systems design that builds on the Raytheon Multi-Spectral Targeting System family of sensors by providing more mission versatility and capability within the same size, weight, and power (SWaP) specifications.

The first version of RAIVEN, RT-1000, can support a wide array of missions, including the U.S. Army's Future Vertical Lift modernization effort, with the first flight test being conducted in 2024.

**6 . Date: 20-09-2023ISR / ISTAR - HALE - Contract - Navy orders two signals intelligence (SIGINT) versions of MQ-4C Triton long-range maritime patrol UAVsURL: https://www.militaryaerospace.com/sensors/article/14299148/signals-intelligence-sigint-unmanned-maritime-patrol**

PATUXENT RIVER NAS, Md. – Signals intelligence (SIGINT) experts at Northrop Grumman Corp. will upgrade two U.S. Navy MQ-4C Triton long-range unmanned aerial vehicles (UAVs) with SIGINT capability to match that of the Navy's EP-3 manned SIGINT aircraft under terms of a $83.1 million order.

Officials of the Naval Air Systems Command at Patuxent River Naval Air Station, Md., have asked the Northrop Grumman Aeronautics Systems segment in San Diego carry out the Triton integrated functional capability (IFC) 4.0 on two MQ-4C UAVs and one main operating base.

These two long-range, high-altitude unmanned SIGINT aircraft are for the U.S. Navy and the Government of Australia.

The MQ-4C Triton, built by Northrop Grumman Aeronautics, is a maritime patrol version of the Northrop Grumman RQ-4 Global Hawk long-range reconnaissance UAV. The Triton provides real-time intelligence, surveillance, and reconnaissance missions (ISR) over vast ocean and coastal regions.

The Triton IFC 4.0 project seeks to upgrade the Triton UAV with multi-intelligence capabilities that include SIGINT, such that Triton IFC 4.0 UAVs could replace the Navy's fleet of EP-3 aircraft.

The EP-3 aircraft are based on the Lockheed Martin P-3 Orion four-engine turboprop airframe. The Navy still operates only one EP-3 aircraft squadron, which is based at Whidbey Island Naval Air Station, Wash. These aircraft are scheduled for replacement by the Triton IFC 4.0. Much of the EP-3's mission and electronic equipment is secret and is conducted in high-threat areas where long-range standoff is necessary.

The Triton IFC 4.0 unmanned SIGINT aircraft program is installing a SIGINT sensor payload with components from Boeing Argon ST in Fairfax, Va., and Sierra Nevada Corp. in Sparks, Nev.

On this order Northrop Grumman will do the work in Palmdale and San Diego, Calif.; Chantilly, Va.; Hauppauge, N.Y.; Waco, Texas; Linthicum, Md.; and at other U.S. locations, and should be finished by June 2026. For more information contact Northrop Grumman Aeronautics Systems online at www.northropgrumman.com/who-we-are/business-sectors/aeronautics-systems, or Naval Air Systems Command at www.navair.navy.mil.

**7 . Date: 22-02-2024Component - Contract - PayloadArmy chooses Logos for airborne sensors for persistent surveillance and wide-area motion imagery (WAMI)URL: https://www.militaryaerospace.com/sensors/article/14305564/logos-technologies-llc-persistent-surveillance-wide-area-motion-imagery-wami-airborne-sensors**

Editor's note: this story has been updated for accuracy.

ABERDEEN PROVING GROUND, Md. – U.S. Army surveillance and reconnaissance experts needed hostile fire detection systems to pinpoint enemy hostile fire over broad areas. They found their solution from Logos Technologies LLC in Fairfax, Va.

Officials of the Army Contracting Command at Aberdeen Proving Ground, Md., announced a $19.4 million contract to Logos on Tuesday for the company's Serenity persistent surveillance systems to detect enemy fire and unmanned aerial vehicles (UAVs) from aerostats, manned and unmanned air platforms, static ground positions, and moving vehicles.

The Serenity system weighs 50 to 75 pounds, depending on the configuration, and can mount on towers, aerostats, and some aircraft. On an aerostat, Serenity can work with wide-area motion imagery (WAMI) systems to provide operators with additional near real-time and archived imagery.

WAMI is an approach to intelligence, surveillance, and reconnaissance that uses sophisticated airborne sensors to detect, image, and track every vehicle and every person moving on foot over a large designated area. The WAMI operator does not worry about losing one target while tracking another going in a different direction.

This contract asks Logos to supply, maintain, and operate deployed Serenity hostile fire detection systems, which employ dual-sensor systems to safeguard U.S. expeditionary forces against potential terrorists.

The system combines electro-optical and acoustic sensors to pinpoint the origin of heavy weapons fire and explosions from distances as far away as 6.2 miles away in any direction, with fewer false alarms than single-sensor systems.

The U.S. Army Research Laboratory is trying to reduce the size and weight of Serenity and install it on a gyrocopter as a surrogate for a UAV.

On this contract Logos will do the work in Fairfax, Va., and should be finished by February 2029. For more information contact Logos Technologies online at www.logostech.net, or the Army Contracting Command at Aberdeen Proving Ground at https://acc.army.mil/contractingcenters/acc-apg/.

**8 . Date: 27-07-2023Armed ISR / ISTAR - MALE - General - DatalinkNavy asks Northrop Grumman to provide cyber security intrusion protection for MQ-8C unmanned helicopterURL: https://www.militaryaerospace.com/trusted-computing/article/14296922/cyber-security-unmanned-intrusion-protection**

City and state – U.S. Navy cyber security experts are asking Northrop Grumman Corp. to provide cyber-intrusion protection for the Navy-Northrop Grumman MQ-8C unmanned helicopter to prevent adversaries from taking over control of the aircraft.

Officials of the Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced a $19.1 million order Tuesday to the Northrop Grumman Aeronautics Systems segment in San Diego to provide a cyber-intrusion protection system in support of the MQ-8C vertical takeoff and landing tactical unmanned air vehicle system.

The MQ-8C Fire Scout vertical take-off and landing tactical unmanned aerial vehicles (VTUAV) is based on the manned Bell 407 helicopter from Bell Helicopter Textron Inc. in Fort Worth, Texas.

The order includes non-recurring engineering, hardware qualification, systems integration, safety assessment, retrofit installation, and flight testing of the MQ-8C's payload interface unit and vehicle management computer to include a cyber-intrusion protection.

The original MQ-8A and MQ-8B versions of the Navy Northrop Grumman Fire Scout UAV are based on the Schweizer 333 helicopter from Schweizer Aircraft Corp., now owned by Rotorcraft Services Group in Fort Worth, Texas.

The commercial version of the Schweizer 333 seats three, can carry a payload of 1,250 pounds, can fly as fast as 105 knots, and has a maximum range of 319 nautical miles. The MQ-8B is limited to operating for eight to 12 hours per day of ISR coverage at a range of 100 nautical miles, Navy officials say. To meet the longer-range requirements, Northrop Grumman experts will use the avionics developed for the MQ-8B, as well as the software and ground-control systems, on the longer-range MQ-8C Fire Scout based on the Bell 407.

The MQ-8C provides the Navy with an increased range of more than 30 percent, twice the endurance, and an increased payload capacity over the MQ-8B variant, Northrop Grumman officials say. The unmanned systems architecture developed for the MQ-8B is re-used in the Bell 407.

The primary advantage of the MQ-8C Fire Scout over its MQ-8B and MQ-8A versions is the newest shipboard UAV has double the useful payload of its predecessors. The newest model also has a somewhat faster top speed and slightly more maximum range than previous models of the Fire Scout.

Manufacturing and assembly operations of the new Fire Scout variant are at Bell's facility in Ozark, Ala., and final assembly is Northrop Grumman's Unmanned Systems Center in Moss Point, Miss.

On this order, Northrop Grumman will do the work in San Diego and Mojave, Calif., and should be finished by May 2026. For more information contact Northrop Grumman Aeronautics Systems online at www.northropgrumman.com/who-we-are/business-sectors/aeronautics-systems, , Bell Helicopter Textron at www.bellflight.com, Rotorcraft Services Group at http://rotorcraftservices.com, or Naval Air Systems Command at www.navair.navy.mil.

**9 . Date: 03-08-2023Cargo - Tactical - Regulation - FAA authorizes Pyka's large, highly automated crop and cargo electric aircraftURL: https://www.militaryaerospace.com/uncrewed/article/14297236/faa-authorizes-pykas-large-highlyautomated-crop-and-cargo-electric-aircraft**

OAKLAND, Calif., - Pyka, a manufacturer of large-scale highly-automated electric aircraft for crop protection and cargo transport in Oakland, California, announced that it has received approval from the U.S. Federal Aviation Administration (FAA) to operate its zero-emission highly-automated Pelican Spray aircraft for crop protection commercially nationwide. With a gross weight of 1,125 lbs, Pyka says its uncrewed aerial system (UAS) is the largest ever to receive FAA authorization for commercial operation in the United States.

Pyka says with access to its fixed-wing, highly-automated all-electric aerial application technology, American farmers and neighboring agricultural communities will benefit from a safer alternative to piloted spray aircraft, increased spray precision, reduced chemical usage costs, and minimized environmental impact. Pyka's Pelican Spray can carry up to 540 lbs (70 gallons) of liquid and spray up to 240 acres per hour.

In conjunction with an agricultural aircraft operator certificate, this FAA approval will enable Pyka to commence commercial operations in the United States. In 2020 alone, the National Transportation Safety Board (NTSB) reported 54 aircraft accidents involving agricultural operations, including 12 fatal accidents resulting in 13 deaths. The FAA's action to authorize Pyka's operations signifies the agency's commitment to enabling larger and more advanced agricultural UA operations that will save lives and advance American interests in the $60 billion global drone market.

"We are beyond thrilled to celebrate this commercial approval and regulatory milestone," said Michael Norcia, Chief Executive Officer of Pyka. "Pyka's aircraft provide an essential tool for protecting crops, unlocking cost savings for growers, and reducing our impact on the environment. This commercial approval is the first step in enabling us to generate massive value for growers in the U.S., Latin America, and other markets we operate in, while also laying the operational and regulatory groundwork for eventual scaling into uncrewed cargo operations worldwide."

"This is a significant win for Pyka and the agricultural community they serve. Among other safety and environmental benefits, the use of highly-automated UAS like the Pelican to perform potentially hazardous aircraft operations can reduce the number of pilot fatalities that occur each year in the aerial agricultural spraying industry," said Lisa Ellman, Partner and Chair of Hogan Lovells' Uncrewed Aircraft System Practice and leading policy advocate for the commercial UAS industry.

**10 . Date: 23-08-2023ISR / ISTAR - Mini - Contract - Army orders hand-launched AeroVironment Puma 3 AE unmanned aerial vehicles (UAVs) with infrared sensorsURL: https://www.militaryaerospace.com/uncrewed/article/14297987/unmanned-handlaunched-sensors**

REDSTONE ARSENAL, Ala. – U.S. Army unmanned aircraft experts needed soldier-carried unmanned aerial vehicles (UAVs) for battlefield surveillance applications. They found their solution from AeroVironment Inc. in Simi Valley, Calif.

Officials of the Army Contracting Command at Redstone Arsenal, Ala., announced an $12.1 million order to AeroVironment last month for RQ-20B Puma 3 AE unmanned aerial systems.

The AeroVironment Puma 3 AE is a soldier-carried unmanned aircraft system designed for land and maritime operations. The hand-launched Puma 3 AE has a wingspan of 9.2 feet, weighs 15 pounds, can operate for as long as 2.5 hours, and has a range of as far as 12.4 miles.

The Puma 3 AE UAV has a standard antenna, and can extend its operation range to as far as 37.2 miles with AeroVironment’s Long-Range Tracking Antenna (LRTA).

Capable of landing in water or on land, the all-environment Puma, with its Mantis i45 electro-optical infrared sensors, gives the operator extended flight time and a high level of imaging capability.

The third-generation all-environment Puma 3 AE delivers mission critical intelligence, surveillance, and reconnaissance (ISR), and features a reinforced airframe with an optional underwing transit bay for secondary payloads and third-party applications.

Multi-mission capable, operators can swap between Mantis i45 and the enhanced night variant Mantis i45 N, for day, night, and low-light operations. The UAV is launchable by hand, bungee, rail, or vehicle, and recoverable by deep-stall landing.

AeroVironment’s family of tactical UAS use a common ground control station and software, allowing for improved interoperability and decreased training and logistics costs for NATO forces.

On this contract AeroVironment will do the work in Simi Valley, Calif., and should be finished by September 2024. For more information contact AeroVironment online at www.avinc.com, or the Army Contracting Command-Redstone at https://acc.army.mil/contractingcenters/acc-rsa.

**11 . Date: 08-09-2023ISR / ISTAR - Mini - Regulation - FAA grants Type Certificate for Airobotics' emergency response and data collection 'drone-in-a-box'URL: https://www.militaryaerospace.com/uncrewed/article/14298657/faa-grants-type-certificate-for-airobotics-emergency-response-and-data-collection-droneinabox**

WALTHAM, Mass. , - Airobotics Inc., a manufacturer of Uncrewed Aircraft Systems (UAS) based in Petach Tikva, Israel, has been granted an Airworthiness Type Certification from the Federal Aviation Administration (FAA) for its Optimus-1EX system. The FAA's Associate Administrator for Aviation Safety David Boulter has announced the grant of the Type Certificate during Commercial UAV Expo held in Las Vegas. The company says that the Airobotics Optimus-1EX is the second-ever uncrewed aircraft to receive this certification and the first "drone-in-a-box solution", designated for fully-automated drone operations for emergency response and digital data capturing to obtain this status from the FAA.

The first-of-its-kind certification for a non-air carrier UA was achieved after four years of engineering and operational review processes conducted by the FAA. The Optimus system is already operating regularly in urban environments in the United Arab Emirates (UAE). Airobotics plans to leverage their experience in the UAE, and their newly type-certificated vehicle, to conduct similar operations in urban environments across the U.S., which the company plans to deploy fleets of Optimus systems as a permanent drone infrastructure. This infrastructure aims to enhance public safety, enable "drone as a first responder" (DFR) capabilities, and offer various commercial and industrial aerial data services.

Airobotics drones are already deployed in the UAE and Israel and rely on fleets of automated drones that operate without on-the-ground human intervention. These drones function as a task force, simultaneously collecting and providing information for various customer requirements. Each Optimus system, networked as fleet infrastructure, includes a smart airbase enabling automated battery changes for 24/7 operations. It also facilitates automated loading and installation of sensors suited for each specified mission. Optimus drones cover a perimeter of up to 30 square miles surrounding an airbase. Drone flights can be tasked with specific sensors, enabling diverse tasks within the fleet. Complex, longer-term operations can be activated, overseen by remote operators in a command-and-control center.

**12 . Date: 06-10-2023Cargo - MALE - General - Sikorsky partners with startup Rain to remove pilots from firefighting helicoptersURL: https://www.militaryaerospace.com/uncrewed/article/14299874/sikorsky-partners-with-startup-rain-to-remove-pilots-from-firefighting-helicopters?o\_eid=2872A0273056D7W&oly\_enc\_id=2872A0273056D7W&rdx.ident%5bpull%5d=omeda|2872A0273056D7W&utm\_campaign=CPS231016058&utm\_medium=email&utm\_source=MAE+Unmanned+Vehicle**

ALAMEDA, Calif., - In Maui, firefighting pilots came to the rescue when wildfires decimated the Hawaiian island last month. But they could soon face stiff competition from autonomous helicopters. Rain, an autonomous aviation startup looking to fight fires with uncrewed aircraft, on Wednesday announced a collaboration with helicopter manufacturer Sikorsky to add the Lockheed Martin subsidiary’s optionally piloted Black Hawk to its fleet. The partnership promises to enable autonomous, rapid response capabilities for aerial wildland firefighting—and reduce the cost of suppressing the blazes, Jack Daleo reports for Flying.

The Military & Aerospace Electronics take:

6 October 2023 - Rain in Alameda, California, will integrate the MATRIX autonomy suite from Sikorsky, a Lockheed Martin company in Stratford, Connecticut, into a civilian firefighting version of its Black Hawk helicopter.

“MATRIX executes a full mission plan by taking into account mission goals and constraints, aircraft performance, obstacles, weather, and topography,” said Igor Cherepinsky, Sikorsky Innovations director. “The system is fully integrated with the flight controls, allowing the aircraft to fly with high levels of autonomy in all environmental conditions.”

Rain integrates with early wildfire detection networks to rapidly dispatch autonomous aircraft. Onboard the aircraft, the Rain Wildfire Mission Autonomy System identifies and locates wildfire, develops a suppression strategy, and plans flight path and drop timing to enable on-target delivery of suppressant. Throughout operations, the Wildfire Mission Autonomy System shares intelligence and plans, providing firefighters with situational awareness and oversight of the mission to ensure safety and coordination.

**13 . Date: 01-12-2023General - SoftwareAirbus flies a fully automated helicopter with a tabletURL: https://www.militaryaerospace.com/uncrewed/article/14302089/airbus-flies-a-fully-automated-helicopter-with-a-tablet**

MADRID - Airbus in Toulouse, France, announced its successful test of a new simplified human-machine interface (HMI) along with advanced autonomous features through a project code-named Vertex. These technologies, developed by Airbus UpNext, are controlled by a touchscreen tablet and aim to simplify mission preparation and management, reduce helicopter pilot workload, and further increase safety.

The Airbus Helicopters’ FlightLab flew fully automated from lift-off, taxi, takeoff, cruise, approach and then landing during a one-hour test flight by following a predefined route. During this flight, the pilot monitored the system which can detect unforeseen obstacles and automatically recalculate a safe flight path. Whenever necessary the pilot can easily override the controls through the tablet and resume the mission afterwards. The flight test period ran from 27 Oct. through 22 Nov. at Airbus Helicopters’ facility in Marignane, France.

“This successful demonstration of a fully autonomous flight from takeoff to landing is a great step towards the reduced pilot workload and simplified HMI that the Airbus Urban Air Mobility team intends to implement on CityAirbus NextGen. It could also have immediate applications for helicopters in low-level flights close to obstacles thanks to the information provided by the lidars on board,” said Michael Augello, CEO of Airbus UpNext.

The Vertex project works on autonomous technologies, utilizing vision-based sensors and algorithms for situational awareness and obstacle detection; fly-by-wire for enhanced auto-pilot; and an advanced human-machine-interface. Airbus says that the combination of these technologies will enable a system that can manage navigation and route preparation, automatic take-off and landing, as well as following a predefined flight path.

**14 . Date: 05-12-2023Armed ISR / ISTAR - MALE - General - PlatformGeneral Atomics to build long-range unmanned aircraft with an open-systems architecture for reconnaissanceURL: https://www.militaryaerospace.com/uncrewed/article/14302240/general-atomics-to-build-long-range-unmanned-aircraft-with-an-open-systems-architecture-for-reconnaissance**

REDSTONE ARSENAL, Ala. – U.S. Army unmanned aircraft experts are asking General Atomics Aeronautics Systems Inc. in Poway, Calif., to build MQ-1C-25M Gray Eagle modernized extended-range unmanned aerial vehicles (UAVs) under terms of a $389 million one-year contract announced on Friday.

Officials of the Army Contracting Command at Redstone Arsenal, Ala., are asking General Atomics for MQ-1C-25M UAVs for multi-domain operations.

The MQ-1C-25M is the latest version of the MQ-1C Gray Eagle, and is multi-mission, medium-altitude, long-endurance unmanned aircraft for real-time artillery spotting and targeting; and intelligence, surveillance, target acquisition, and reconnaissance.

The Army operates the Gray Eagle in each of its 11 Combat Aviation Brigades. The Gray Eagle 25M variant adds an open systems architecture, upgraded sensors, and new communications links.

The Gray Eagle 25M new communications links will include over-the-horizon Ku and Ka-band satellite communications, Link 16, and software-defined ultra-high frequency and very high frequency communication links.

The unmanned aircraft will carry the Eagle Eye radar to detect and track moving targets on land or at sea. It also can have other sensors because of its open-systems architecture.

The new variant also includes a 200 horsepower heavy-fuel engine to improve electrical power by about 50 percent. The Gray Eagle 25M is the latest version of the The General Atomics MQ-1C Gray Eagle attack drone medium altitude long endurance unmanned aircraft, which is an upgraded MQ-1 Predator. The aircraft can be fitted with the AGM-114 Hellfire missile or GBU-44/B Viper Strike guided bomb for attack missions.

The Gray Eagle UAV has a synthetic aperture radar and ground moving target indicator (SAR-GMTI) system, and targeting capability from an AN/AAS-52 multi-spectral targeting system (MTS) under the nose. The aircraft can carry a payload as heavy as 800 pounds.

The MQ-1C Gray Eagle provides reconnaissance, surveillance, and target acquisition; command and control; communications relay; signals intelligence; electronic warfare; attack; detection of weapons of mass destruction; battle damage assessment; and manned and unmanned teaming capabilities.

Compared with its MQ-1 Predator predecessor, the Gray Eagle has an increased wingspan, and a Thielert Centurion 1.7 heavy-fuel engine (HFE) able to burn jet and diesel fuel. The UAV can fly for as long as 36 hours at altitudes to 25,000 feet. It has an operating range of 200 nautical miles.

Army commanders deploy the Gray Eagle UAV in platoons, each with four aircraft, support equipment, and payloads like electro-optical/infrared/laser range finder/laser designator; communications relay; and as many as four hellfire missiles. The common sensor payload and synthetic aperture radar ground moving target indicator are one per aircraft. Ground equipment per platoon includes two universal ground control stations; three universal ground data terminals; one satellite communication ground data terminal; and one mobile ground control station per company.

On this contract General Atomics do the work at locations to be determined with each order, and should be finished by November 2024. For more information contact General Atomics Aeronautical Systems online at www.ga-asi.com, or the Army Contracting Command-Redstone at https://acc.army.mil/contractingcenters/acc-rsa/.

**15 . Date: 13-12-2023Cargo - Small - Contract - Marine Corps orders 28 unmanned quadcopter aircraft for battlefield resupply in $11 million contract awardURL: https://www.militaryaerospace.com/uncrewed/article/14302642/unmanned-battlefield-resupply-marine-corps**

PATUXENT RIVER NAS, Md. – U.S. Marine Corps logistics experts needed small unmanned aircraft to resupply warfighters on the battlefield. They found their solution from The Survice Engineering Co. LLC in Belcamp, Md.

Officials of the U.S. Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced an $11 million order to Survice Engineering on Friday for 28 TRV-150C Tactical Resupply Unmanned Aircraft Systems.

Survice Engineering is a partner to Malloy Aeronautics Ltd. in Berkshire, England, which manufactures the TRV-150 -- a medium-size unmanned aerial vehicle (UAV) able to lift a 150-pound cargo payload as far as 44 miles at speeds close to 70 miles per hour. The order includes one year of support.

The TRV-150 can deliver ammunition, weapons, food and water, medical supplies, and other crucial equipment to Marines on the battlefield. The quadcopter UAV is 6.7 feet wide, 8.7 feet long, and 3.5 feet wide. One person can carry the UAV in a special carrying case.

The TRV-150, designed for battlefield resupply, is a U.S. Marines for a program of record under NAVAIR PMA-263. The unmanned aircraft is for intra-installation logistics; base security and defense; search and rescue; disaster relief and humanitarian aid; aerial survey and detection; and island clean-up and invasive species control.

The UAV can lift 150-pound cargo payloads in all weather, and has a removable battery. The Marines first commissioned the UAV for battlefield use in 2022.

On this order Survice Engineering will do the work in Churchville, Md., and should be finished by March 2025. For more information contact Survice Engineering online at www.survice.com; Malloy Aeronautics at www.malloyaeronautics.com/index.html, or Naval Air Systems Command at www.navair.navy.mil.

**16 . Date: 11-01-2024Cargo - Regulation - Drone Delivery Canada Corp. receives BVLOS approval to transport medical samplesURL: https://www.militaryaerospace.com/uncrewed/article/14303530/drone-delivery-canada-corp-receives-bvlos-approval-to-transport-medical-samples**

TORONTO - Drone Delivery Canada Corp. in Vaughan, Ontario, announced that it has achieved official approval for Beyond Visual Line-of-Sight (BVLOS) flights in tandem with the transportation of dangerous goods for its DroneCare route, marking growth in the development of its drone delivery capabilities in the healthcare market segment.

DDC's Canary, which is powered by eight electric motors, has a maximum range of 12 miles with a top speed of 50 mph respectively. It has a maximum payload capacity of 10 pounds.

The approvals from Transport Canada mark a milestone for DDC and signify the government's recognition of the Company's cutting-edge technology, rigorous safety standards, and commitment to advancing the field of drone logistics. With the BVLOS flight authorization, DDC's drones will be able to transfer medical samples between Milton District Hospital and Oakville Trafalgar Memorial Hospital. The Canary drone will carry a variety of critical medical supplies between the two hospitals including but not limited to blood and serum chemistry tests, blood bank materials, urine cultures, small cytology containers with formalin, and blood culture bottles.

"DDC continues to push the boundaries of drone delivery and this approval is a testament to our efforts to ensure we deploy a safe and efficient drone logistics system," said Steve Magirias, CEO of Drone Delivery Canada. "This also continues our work in the healthcare vertical which is an important market for DDC. With BVLOS flights and dangerous goods transportation authorization, we will continue to transform the way healthcare supplies are transported, ensuring faster delivery times and enhancing overall patient care."

DDC's advanced drone delivery platform utilizes a combination of proprietary software and hardware to ensure safe and efficient operations.

**17 . Date: 23-01-2024Loitering Munition - Mini - Contract - PlatformArmy asks AeroVironment to build compact Switchblade unmanned anti-personnel smart mortar for infantryURL: https://www.militaryaerospace.com/uncrewed/article/14303891/unmanned-smart-mortar-anti-personnel**

REDSTONE ARSENAL, Ala. – U.S. Army fire support experts needed manpackable armed unmanned aircraft that have become notable for their use in Ukraine against invading Russian military forces. They found their solution from AeroVironment Inc. in Simi Valley, Calif.

Officials of the U.S. Army Contracting Command at Redstone Arsenal, Ala., announced an $65.4 million order to AeroVironment in December to build the Switchblade armed loitering unmanned aerial vehicle (UAV) that launches from a small tube that can be carried in a warfighter's backpack.

The Switchblade attack drone system, which essentially functions as a smart mortar round, transmits live color and infrared video wirelessly after launch for display on a small ground-control unit. The operator confirms the target using the live video feed, commands the air vehicle to arm its payload and lock its trajectory onto the target.

The Switchblade anti-personnel UAV weapon reportedly has been successful in Ukraine against Russian light combat vehicles and other valuable targets of opportunity. Ukraine officially uses the Switchblade 300 attack drone.

Controllers can manipulate the Switchblade loitering munition from as far away as 6.2 miles, and the missile can operate for as long as 10 minutes. It can engage long-range targets and help to relieve warfighters who are pinned down by enemy fire.

The Switchblade 300 uses compressed air to shoot out of its launch tube, and has an electric engine for propulsion. The loitering munition uses a fly-by-radio frequency signal, and daylight and infrared cameras to lock on to stationary and moving targets.

The warhead has a forward-firing shotgun-blast effect that throws pellets forward of the missile. The missile weighs six pounds, and is for use against beyond-line-of-site targets. It can provide real-time GPS coordinates and video for information gathering, targeting, or target recognition.

The Switchblade warhead has an explosive charge equivalent to a 40-millimeter grenade that is able to destroy light armored vehicles, enemy infantry, and supplies.

The Switchblade killer drone operates with a common ground-control station; has a 6.2-mile range; flies at speeds of 55 to 85 knots, at altitudes below 500 feet; and can launch from the ground, from aircraft, from ground vehicles, and from surface vessels.

On this order AeroVironment will do the work in Simi Valley, Calif., and should be finished by April 2024. For more information contact AeroVironment online at www.avinc.com, or the Army Contracting Command at www.army.mil/acc.

**18 . Date: 01-02-2024Target Drone - Tactical - Contract - Navy orders subsonic target drones and sensor payloads to help crews practice against anti-ship missilesURL: https://www.militaryaerospace.com/uncrewed/article/14304508/target-drones-sensor-payloads-anti-ship-missiles**

PATUXENT RIVER NAS, Md. – High-performance target drones experts at Kratos Defense & Security Solutions Inc. will build another 70 full-rate-production subsonic unmanned aerial targets designed to help Navy aircraft and surface warship crews learn to defeat enemy cruise missiles.

Officials of the U.S. Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced a $57.7 million contract Tuesday to the Kratos Unmanned Systems segment in Sacramento, Calif., for 70 lot-5 BQM-177A surface-launched aerial targets.

The BQM-177A is the Navy’s next-generation subsonic unmanned aerial target (SSAT), which is designed to mimic the behaviors and radar cross sections of dynamic, high-subsonic, sea-skimming anti-ship cruise missiles to help naval personnel practice air-to-air engagements.

The contract includes 55 rocket-assisted takeoff attachment kits, 277 mission kits, and data for the U.S. Navy and the militaries of Canada and Australia.

The BQM-177A unmanned aerial vehicle (UAV) program will meet the U.S. Navy's requirements for a high fidelity target to mimic subsonic anti-ship missiles in fleet training and weapons testing.

In November 2016 Kratos Unmanned Systems officials announced they had achieved the final development program milestone for the BQM-177A target drone leading up to low-rate initial production (LRIP). In June 2018 Kratos began LRIP on the BQM-177A with a Navy order for 45 of the high-performance target drones. The company moved to full-rate production last year.

Capable of speeds in excess of 0.95 Mach and a sea-skimming altitude as low as 10 feet above the surface of the water, the BQM-177A carries internal and external sensor payloads including proximity scoring, identification friend or foe (IFF), passive and active RF augmentation, electronic countermeasures, infrared plume pods, chaff and flare dispensers, and towed targets.

The BQM-177A is based on the Kratos BQM-167X aircraft, a derivative of the U.S. Air Force BQM-167A Skeeter target. The BQM-177A introduces a new fuselage with area ruling, high-mounted wings, and an internally integrated MicroTurbo TR-60-5+ turbo jet engine for reduced transonic drag.

The BQM-177A will augment and later replace existing BQM-74E aerial targets, and will deliver longer range, lower cruise altitudes, and greater maneuverability than previous-generation target drones.

The BQM-177A is 17 feet long, has a 7 -foot wingspan, and weighs 620 pounds with fuel or payloads. It can fly at altitudes as low as 6.6 feet above the ground or water, and as high as 40,000 feet above sea level.

On this contract Kratos will do the work Sacramento, Santa Ana, Concord, and Chatsworth, Calif.; Dallas; Fort Walton Beach, Fla.; Blacksburg, Va.; Newton, Kan.; and Milwaukie, Ore., and should be finished by April 2026. For more information contact Kratos Unmanned Systems online at www.kratosdefense.com, or Naval Air Systems Command at www.navair.navy.mil.

**19 . Date: 14-02-2024Cargo - MALE - Contract - Pyka delivers first large-scale autonomous electric cargo aircraft to AFWERXURL: https://www.militaryaerospace.com/uncrewed/article/14305072/pyka-delivers-first-large-scale-autonomous-electric-cargo-aircraft-to-afwerx**

NEW BRAUNFELS, Texas - The United States Air Force has taken delivery of the first of three planned Pelican Cargo uncrewed aircraft from Pyka in Oakland, Calif. Flight operations personnel from Pyka and AFWERX gathered on the tarmac at New Braunfels National Airport to witness the arrival of Pyka’s large-scale autonomous electric cargo aircraft with a 400-pound payload capacity and 200-mile range, built for remote off-airport operations.

Pyka's commercial-based aircraft were delivered on lease to AFWERX, the innovation arm of the Department of Air Force (DAF) and a directorate within the Air Force Research Laboratory, for the United States Air Force’s Agility Prime program. The program will explore operational use cases for Pyka’s technology to address challenges in the DAF.

“The AFWERX Agility Prime program looks forward to learning about the deployment and operational capabilities of electric aircraft through this contract,” said Lt Col John Tekell, Agility Prime Branch Chief.

The California-based startup's commercial solutions could strengthen the national defense of the United States of America. As the largest autonomous electric cargo aircraft in its class, Pelican Cargo can take off and land in remote areas with minimal ground infrastructure can be recharged in under 90 minutes, and requires few personnel to operate.

Pyka says its Pelican Cargo is powered with a redundant power system, which includes three 25kW electric motors and three batteries, and its airframe and structural components are made of carbon fiber composite parts and features 3D printed assemblies and corrosion-resistant metallic components.

“We’re proud to deliver Pelican Cargo to AFWERX for the United States Air Force’s Agility Prime program,” says Michael Norcia, Chief Executive Officer at Pyka. “Our aircraft offers an unparalleled platform for heavy-payload and long-range autonomous electric cargo logistics. We believe the DAF is an ideal customer to harness the benefits of this technology and is helping to advance zero-emission aviation in the United States by partnering with companies like ours.”

**20 . Date: 02-04-2024Tanker - HALE - Contract - Navy asks Boeing to build two more MQ-25 unmanned tanker aircraft in preparation for carrier deploymentURL: https://www.militaryaerospace.com/uncrewed/article/55001360/boeing-unmanned-tanker-carrier-deployment**

PATUXENT RIVER NAS, Md. – U.S. Navy carrier aviation experts are ordering two unmanned aerial tankers from the Boeing Co. in preparation for future larger orders and eventual carrier deployment of these unmanned tanker aircraft.

Officials of the Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced an $657.1 million order to the Boeing Co. Defense, Space & Security segment in St. Louis Friday for two additional MQ-25 System Demonstration Test Article aircraft -- air vehicles four and five.

The MQ-25 aerial refueling tanker is the U.S. Navy's first operational carrier-based unmanned aircraft and is designed to provide a much-needed refueling capability, Boeing officials say. Navy officials expect to declare MQ-25 initial operational capability by 2024. The MQ-25 first flew in 2021.

The order includes product baseline obsolescence to support low-rate initial production for the MQ-25 Stingray program.

The MQ-25 will provide aircraft carrier-based refueling capability to extend extending the combat range of deployed F/A-18 Super Hornet, EA-18G Growler, and Lockheed Martin F-35C combat aircraft.

Boeing won a $805 million development contract to build four MQ-25 carrier-based unmanned aerial tanker aircraft in 2018, prevailing over competing designs built by General Atomics in San Diego and the Northrop Grumman Corp. Aeronautics Systems segment in Palmdale, Calif.

The Boeing MQ-25 aircraft has an advanced, customized remote I/O interface controller based from Aitech Defense Systems Inc. in Chatsworth, Calif. The system is based on the Aitech Ai-RIO avionics remote interface.

The Ai-RIO is expandable with as many as eight units networked together. Added capabilities include I/O, power switching, and mass/SD FLASH memory. The remote I/O subsystem includes a Gigabit Ethernet port with precision time sync IEEE-1588 support, 10 RS-422 ports, eight LVDS or RS-422/485 UARTS, four SpaceWire ports with LVDS I/O, two CANbus ports, and 16 GPIO in two blocks of eight.

The Ai-RIO is an high density, low power rugged subsystem for vehicle platform flight control, attitude and navigation controls, servo-valve and thrust vector control (TVC), robotic motor control, video and image processing and storage, data telemetry, platform stabilization, communications and telematics, high speed data recorders, booster and launch propulsion and thruster control, remote sensor and effector monitoring.

Boeing can use the Ai-RIO as a stand-alone command and data handling platform or networked remote command/response I/O unit. It a radiation-qualified dual-core PowerPC processor with two rad-tolerant FPGAs. All internal electronics are conduction-cooled and mechanically fixed and housed within a sealed, EMI/EMC Faraday cage for maximum thermal transfer.

In addition to Aitech, other subcontractors to Boeing on the MQ-25 project are; BAE Systems; Collins Aerospace; Cox & Co.; Crane Aerospace & Electronics; Cubic; Curtiss-Wright Defense Solutions; General Electric Corp.; L3Harris Technologies; Héroux-Devtek; Honeywell International; Innovative Power Solutions; Moog Aircraft Group; Parker Hannifin; Raytheon; Rolls-Royce; and Triumph Group.

On this order Boeing will do the work in St. Louis; Goleta, San Diego, Torrance, and Irvine, Calif.; Endicott N.Y.; Malabar and Clearwater, Fla.; Indianapolis; Longueuil, Quebec; and Cedar Rapids, Iowa, and should be finished by October 2028.

For more information contact Boeing Defense, Space & Security online at www.boeing.com/company/about-bds, or Naval Air Systems Command at www.navair.navy.mil.

**21 . Date: 22-04-2024Tanker - HALE - Contract - Navy asks Boeing to build another two developmental MQ-25 unmanned aerial tanker aircraft and avionicsURL: https://www.militaryaerospace.com/uncrewed/article/55019320/boeing-unmanned-aerial-tanker-avionics**

PATUXENT RIVER NAS, Md. – U.S. Navy carrier aviation experts are ordering two unmanned aerial tankers from the Boeing Co. in preparation for future larger orders and eventual carrier deployment of these unmanned tanker aircraft.

Officials of the Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced an $657.1 million order to the Boeing Co. Defense, Space & Security segment in St. Louis in late March for the fourth and fifth demonstration versions of the MQ-25 Stingray unmanned carrier-based aerial tanker.

The MQ-25 refueling tanker is the U.S. Navy's first operational carrier-based unmanned aircraft and is designed to provide a much-needed carrier aircraft refueling capability, Boeing officials say. Navy officials expect to declare MQ-25 initial operational capability sometime this year. The MQ-25 first flew in September 2019.

The MQ-25 will provide aircraft carrier-based refueling to extend the range of deployed F/A-18 Super Hornet, EA-18G Growler, and Lockheed Martin F-35C combat aircraft.

Boeing won a $805 million development contract to build four MQ-25 carrier-based unmanned aerial tankers in 2018, prevailing over competing designs built by General Atomics in San Diego and the Northrop Grumman Corp. Aeronautics Systems segment in Palmdale, Calif.

The Boeing MQ-25 aircraft has an advanced, customized remote I/O interface controller based from Aitech Defense Systems Inc. in Chatsworth, Calif. The system is based on the Aitech Ai-RIO avionics remote interface.

The Ai-RIO is expandable with as many as eight units networked together. Added capabilities include I/O, power switching, and mass/SD FLASH memory. The remote I/O subsystem includes a Gigabit Ethernet port with precision time sync IEEE-1588 support, 10 RS-422 ports, eight LVDS or RS-422/485 UARTS, four SpaceWire ports with LVDS I/O, two CANbus ports, and 16 GPIO in two blocks of eight.

The Ai-RIO is an high density, low power rugged subsystem for vehicle platform flight control, attitude and navigation controls, servo-valve and thrust vector control (TVC), robotic motor control, video and image processing and storage, data telemetry, platform stabilization, communications and telematics, high speed data recorders, booster and launch propulsion and thruster control, remote sensor and effector monitoring.

Boeing can use the Ai-RIO as a stand-alone command and data handling platform or networked remote command/response I/O unit. It a radiation-qualified dual-core PowerPC processor with two rad-tolerant FPGAs. All internal electronics are conduction-cooled and mechanically fixed and housed within a sealed, EMI/EMC Faraday cage for maximum thermal transfer.

In addition to Aitech, other subcontractors to Boeing on the MQ-25 project are; BAE Systems; Collins Aerospace; Cox & Co.; Crane Aerospace & Electronics; Cubic; Curtiss-Wright Defense Solutions; General Electric Corp.; L3Harris Technologies; Héroux-Devtek; Honeywell International; Innovative Power Solutions; Moog Aircraft Group; Parker Hannifin; Raytheon; Rolls-Royce; and Triumph Group.

On this order Boeing will do the work in St. Louis; Goleta, San Diego, Torrance, and Irvine, Calif.; Endicott, N.Y.; Malabar and Clearwater, Fla.; Indianapolis; Longueuil, Quebec; Cedar Rapids, Iowa; and other locations, and should be finished by October 2028.

For more information contact Boeing Defense, Space & Security online at www.boeing.com/defense/mq25, Aitech Defense Systems at https://aitechsystems.com/news-ai-rio-subsystem-linux/, or Naval Air Systems Command at www.navair.navy.mil.

**22 . Date: 16-07-2024Partnership - DatalinkBRINC and Echodyne team to enable automated BVLOS without observers for first responder UAVsURL: https://www.militaryaerospace.com/uncrewed/article/55133419/brinc-and-echodyne-team-to-enable-automated-bvlos-without-observers-for-first-responder-uavs**

SEATTLE - BRINC, a Seattle-based company specializing in uncrewed aerial vehicle (UAV) technology for first responders, announced it is partnering with ground-based radar systems company Echodyne in Kirkland, Wash. to integrate Echodyne's advanced MESA radar technology into BRINC's purpose-built Drone as First Responder (DFR) solution. The strategic relationship enables a path toward beyond-visual line of sight (BVLOS) operations without visual observers, advanced airspace awareness for safer operations, and lowers the barrier to entry for public safety agencies looking to start or expand DFR programs.

Drone as First Responder (DFR) systems are designed to reduce emergency response times and enhance decision-making for first responders. However, current Federal Aviation Administration (FAA) regulations require a visual observer to be onsite for drone operations, which limits the flexibility and operating hours of these systems. This requirement also adds to the staffing challenges faced by public safety agencies across the United States. A 2023 study by the Police Executive Research Forum highlighted these challenges, showing a rise in police resignations over the past four years, along with a 5% decrease in the number of sworn officers.

DFR systems need to operate over extended ranges and in environments with obstructions or adverse weather. To achieve this, Beyond Visual Line of Sight (BVLOS) waivers are crucial. A new partnership between BRINC and Echodyne aims to enhance the safety and reliability of these operations, offering a pathway for BRINC's customers to meet FAA requirements for BVLOS without needing a visual observer.

Echodyne's radar systems provide continuous monitoring and real-time data on the drone's surroundings, including other aircraft, obstacles, and sudden changes in the environment.

"Echodyne radars have been used for years by UAS centers of excellence, as well as FAA and NASA testing programs," said Eben Frankenberg, Echodyne CEO. "DFR represents a unique opportunity to introduce widescale BVLOS operations, and radars are the ideal sensor to provide detailed and accurate airspace situational awareness."

BRINC's DFR system integrates Echodyne's radar technology, sending radar data to an agency's LiveOps account. This integration allows agencies to monitor drone operations alongside ADS-B data, airspace advisories, weather conditions, and radar readings. The system also enables automated safety measures, such as alerting pilots to potential dangers or grounding and rerouting drones to avoid air traffic.

**23 . Date: 22-08-2024Regulation - FAA grants Cyberhawk nationwide BVLOS waiver to operate UAS remotelyURL: https://www.militaryaerospace.com/uncrewed/article/55134823/faa-grants-cyberhawk-nationwide-bvlos-waiver-to-operate-uas-remotely**

DENVER - Cyberhawk, an uncrewed aerial system (UAS)-based inspection and survey services and visual data management software company in Denver, is excited to announce that it has been granted a coveted nationwide Beyond Visual Line of Sight (BVLOS) waiver by the Federal Aviation Administration (FAA).

The BVLOS waiver allows Cyberhawk to conduct longer and more complex missions, reducing operational time and costs. It also enhances safety by decreasing the need for ground personnel in hazardous environments. The expanded coverage means Cyberhawk can inspect critical infrastructure over larger areas, including remote locations. Using advanced drone technology and data analytics, the company aims to offer more comprehensive inspection services to help customers maintain and optimize their assets.

"We are very pleased to receive this nationwide BVLOS waiver from the FAA," said Phil Buchan, Chief Operating Officer of Cyberhawk. "This achievement underscores our commitment to innovation, safety, and excellence in the drone industry. With this authorization, we are poised to deliver our customers even greater value and scalability by providing unparalleled inspection, survey, and data solutions that drive efficiency and enhance safety."

Scott Lashmit, Cyberhawk's U.S. Aviation Manager, added, "With the nationwide BVLOS waiver, we can potentially more than double the amount of surveyed assets collected in a day – saving our customers valuable time and costs. Getting actionable data and images quickly is paramount for our customers to arrive at clear, effective decisions ensuring the integrity and safety of critical infrastructure."

**24 . Date: 04-10-2024Cargo - MALE - Requirement - Wanted: heavy-lift uncrewed aircraft able to fly 35-ton shipping containers from ships to invasion beachesURL: https://www.militaryaerospace.com/uncrewed/article/55232847/heavy-lift-uncrewed-transport-containers**

ARLINGTON, Va. – U.S. military researchers are considering asking industry to develop heavy-lift uncrewed aerial vehicles (UAVs) able to fly loads equal to that of a fully loaded 747 cargo jet or loaded 18-wheel commercial freight truck.

Officials of the U.S. Defense Advanced Research Projects Agency (DARPA) in Arlington, Va., issued a request for information (DARPA-SN-24-109) in September for the Cost Efficient Cargo project to develop heavy-lift UAVs able to lift 35-ton payloads using commercial off the shelf (COTS) engines and drive train technology. 35 tons weighs 70,000 pounds.

Armed forces must move troops, vehicles, and supplies from naval vessels to beachheads, and then across terrain and obstacles; any delays can expose forces to enemy fire and hinder establishing secure footholds.

Heavy-lift UAVs could transport equipment, supplies, and large platforms in bad weather and avoid enemy defenses effectively. Using heavy-lift UAVs could help maintain operational speed, reduce vulnerability to attack, and ensure continuous logistical support.

The Sikorsky CH-53K King Stallion today is the American helicopter with the highest payload capacity at 36,000 pounds and serves as the U.S. Marine Corps primary heavy-lift helicopter. Developing crewed helicopters with greater lifting capacity is limited rotor design, power-to-weight ratio, airframe strength, vibration and stress, and crew safety.

UAVs, on the other hand, could offer innovation in design and greater mission profile flexibility, without the cost of crewed safety considerations, and reduce training and certification time for pilots.

DARPA researchers are looking for leap-ahead enabling technologies, and say they are not interested in incremental improvements, derivatives of standard helicopters, multirotor copters, tail sitters, or jump platforms with wing kits. There are no restrictions on internal vs external cargo.

The bottom line is that the U.S. needs to move large and heavy cargo cheaply, DARPA researchers point out. Examples are moving 40-foot transport containers to invasion beaches from ships located 10 miles offshore.

DARPA also is interested in identifying design insights and key risks that can be addressed within a scaled-down form to substantiate additional military investment in heavy-lift systems.

From industry, DARPA wants information on the design and maneuverability, mission profile, costs, scalability, and ranges of potential heavy-lift UAV designs. These future large cargo UAVs would be able to fly 70,000-pound payloads over 25 miles at 500-foot altitudes, detach payloads, and return to base. Submissions should consider 10,0000-, 30,000-, and 45,000-pound payloads able to operate at ranges of 10, 25, 50, and 100 miles. Inexpensive, technically acceptable small-scalable versions may help prove concepts.

Companies interested should email concise white papers no later than 20 Dec. 2024 to DARPA at [email protected]. Email questions or concerns to [email protected]. More information is online at https://www.fbodaily.com/archive/2024/09-September/25-Sep-2024/FBO-07220784.htm.

**25 . Date: 28-10-2024Loitering Munition - Mini - Contract - Army asks AeroVironment for more Switchblade armed uncrewed anti-tank aircraft that act like smart mortarsURL: https://www.militaryaerospace.com/uncrewed/article/55237838/uncrewed-armed-anti-tank**

REDSTONE ARSENAL, Ala. – U.S. Army fire support experts are asking AeroVironment Inc. in Simi Valley, Calif., to build manpackable armed uncrewed aircraft to attack enemy tanks, light armored vehicles, hardened targets, and warfighters under terms of a $54.9 million order announced in September.

Officials of the U.S. Army Contracting Command at Redstone Arsenal, Ala., are asking AeroVironment to build the Switchblade armed loitering unmanned aerial vehicle (UAV) that launches from a small tube that can be carried in a warfighter's backpack.

The Switchblade attack drone system, which essentially functions as a smart mortar round, transmits live color and infrared video wirelessly after launch for display on a small ground-control unit. The operator confirms the target using the live video feed, commands the air vehicle to arm its payload and lock its trajectory onto the target.

AeroVironment won a $990 million Switchblade production contract in last August.

The Switchblade anti-personnel UAV weapon reportedly has been successful in Ukraine against Russian light combat vehicles and other valuable targets of opportunity. Ukraine officially uses the Switchblade 300 attack drone.

The most advanced version of the AeroVironment anti-tank system is the Switchblade 600, which can fly for 40 miles or 40 minutes, weighs 33 pounds, and can loiter near targets at speeds of 70 miles per hour.

Controllers can manipulate the Switchblade loitering munition from as far away as 6.2 miles. It can engage long-range targets and help to relieve warfighters who are pinned down by enemy fire.

The Switchblade uses compressed air to shoot out of its launch tube, and has an electric engine for propulsion. The loitering munition uses a fly-by-radio frequency signal, and daylight and infrared cameras to lock on to stationary and moving targets.

The warhead has a forward-firing shotgun-blast effect that throws pellets forward of the missile. The missile weighs six pounds, and is for use against beyond-line-of-site targets. It can provide real-time GPS coordinates and video for information gathering, targeting, or target recognition.

The Switchblade warhead has an explosive charge equivalent to a 40-millimeter grenade that is able to destroy light armored vehicles, enemy infantry, and supplies.

The Switchblade killer drone operates with a common ground-control station; flies at speeds of 55 to 85 knots, at altitudes below 500 feet; and can launch from the ground, from aircraft, from ground vehicles, and from surface vessels.

On this contract AeroVironment will do the work at locations to be determined with each order, and should be finished in August 2029. For more information contact AeroVironment online at www.avinc.com/lms/switchblade-600, or the Army Contracting Command-Aberdeen Proving Ground at https://acc.army.mil/contractingcenters/acc-apg/.

**26 . Date: 14-11-2024Partnership - SoftwareAltair partners with Moya Aero to advance uncrewed electric cargo aircraftURL: https://www.militaryaerospace.com/uncrewed/article/55242733/altair-partners-with-moya-aero-to-advance-uncrewed-electric-cargo-aircraft**

TROY, Mich. - Altair, a computational intelligence firm in Troy, Mich., has entered a collaboration with Moya Aero, a Brazilian aerospace startup, through its Aerospace Startup Acceleration Program (ASAP). The agreement allows Moya Aero to use Altair’s HyperWorks design and simulation platform to support the development of electric vertical takeoff and landing (eVTOL) and unmanned aerial vehicles.

"The ASAP program aims to boost the development of startups in the aerospace and defense sector and gives enterprises access to our powerful technology solutions and specialized technical support and expertise," said Pietro Cervellera, senior vice president of aerospace and defense at Altair. "Our goal is to expand Altair's presence in Brazil and empower startups with industry-leading technology."

Moya Aero CEO and CTO Alexandre Zaramela highlighted the company’s vision for sustainable cargo transport. "Moya Aero is focused on providing an autonomous aircraft for sustainable and efficient cargo transportation," he said. "Our goal is to be the market leader in high-capacity unmanned aerial vehicles and boost this type of delivery in untapped markets. Altair’s technology will help our team create safer, more reliable, and more efficient designs that increase our products' market competitiveness."

Through Altair’s platform, Moya Aero aims to improve design efficiency, reduce development time, and lower prototyping and testing costs.

Founded in 2020 as a spin-off from ACS-Aviation, Moya Aero is headquartered in São José dos Campos, Brazil. The company seeks to expand cargo delivery options with accessible, cost-effective, and sustainable electric vehicles and to explore new logistics solutions through its uncrewed aerial technologies.

**27 . Date: 18-11-2024Solar ISR / ISTAR - HALE - General - PlatformSwift announces its SULE uncrewed aircraft flies above 55,000 feetURL: https://www.militaryaerospace.com/uncrewed/article/55243431/swift-announces-sule-uas-tops-55000-feet**

SAN CLEMENTE, Calif. - Swift Engineering in San Clemente, Calif. announced its Swift Ultra Long Endurance (SULE) uncrewed aircraft reached an altitude of 55,904 feet during a 24-hour flight on 29-30 September 2024, marking a milestone for the high-altitude, long-endurance platform. The flight, conducted at Spaceport America in New Mexico, more than doubled the aircraft's previous altitude record of 25,000 feet.

The solar-powered SULE is designed for extended missions, including applications in environmental monitoring, disaster response, and defense. With a 72-foot wingspan and a 15-pound payload capacity, SULE is capable of providing continuous communication relay services and large-scale monitoring beyond the range of Swift's other uncrewed aircraft systems. The company's portfolio also includes the shorter-range, vertical takeoff and landing Swift Crane and the gas-powered Swift Accipiter, which is optimized for military and law enforcement use.

Swift Engineering is collaborating with NASA on a two-year program to develop cost-effective uncrewed aircraft capable of extended endurance and enhanced data collection. The program includes ground tests and flights lasting up to seven days.

Swift Engineering says that its SULE is suitable for both commercial and government applications, setting a new benchmark in high-altitude uncrewed aviation.

"As a HAPS solution, the solar-powered SULE is designed to stay airborne for multiple weeks at a time," said Hamed Khalkhali, president of Swift Engineering. "Its wide range of applications includes communications relay, internet/comms in underserved or remote areas, ISR needs, forest fire monitoring, traffic management, disaster relief, agriculture, change detection and many others. In addition, it is significantly lower in cost to manufacture and operate compared to other available offerings."

**28 . Date: 15-01-2025Fixed Wing - Armed ISR / ISTAR - MALE - Contract - General Atomics to provide MQ-9B uncrewed aircraft to Canada for polar reconnaissance and maritime patrolURL: https://www.militaryaerospace.com/uncrewed/article/55260971/general-atomics-aeronautical-systems-inc-uncrewed-aircraft-for-polar-and-maritime-reconnaissance**

WRIGHT-PATTERSON AFB, Ohio – Royal Canadian Air Force needed long-duration uncrewed aircraft for polar and maritime reconnaissance missions. They found a solution from General Atomics Aeronautical Systems Inc. in Poway, Calif.

Officials of the U.S. Air Force Life cycle Management Center at Wright-Patterson Air Force Base, Ohio, announced a $108 million foreign military sales contract to General Atomics in late December for Canada MQ-9B SkyGuardian remotely piloted aircraft.

MQ-9B, which is based on the General Atomics MQ-9 Reaper unmanned aerial vehicle (UAV) delivers long endurance and range, with automatic takeoff and landing under satellite communications (SATCOM)-only control.

The uncrewed aircraft will be able to operate in open airspace using the General Atomics-developed Detect and Avoid system. In addition to Canada, other operators of the MQ-9B are the United Kingdom, Belgium and the U.S., and Japan.

The first deliveries of MQ-9B UAVs to Canada are expected in 2028, and the fleet of MA-9Bs will be operational with Canadian military forces in 2033. Canada will purchase a fleet of MQ-9B SkyGuardian UAVs and ground-control stations.

The MQ-9B will be able to fly as long as 40 hours in all weather conditions, it has the Lynx multi-mode radar and an infrared imaging sensor. It can carry payloads that weight a total of a payload capacity of 4,751 pounds distributed across nine hard points, and will be able to carry 250- and 500-pound bombs.

The MQ-9B can be configured for missions like long-range reconnaissance, anti-submarine and anti-ship warfare, electronic warfare (EW), and mine countermeasures. The UAV has a 79-foot wingspan.

These UAVs will operate in polar and maritime regions, perform border surveillance, monitoring large-scale events, supporting disaster response, reconnaissance missions, and precision strikes. Adapted for Arctic conditions, the drones will be based at 14 Wing Greenwood in Nova Scotia and 19 Wing Comox in British Columbia, with operational control centralized at a military facility in Ottawa.

For more information contact General Atomics Aeronautical Systems online at www.ga-asi.com, the Royal Canadian Air Force at www.canada.ca/en/air-force.html, or the U.S. Air Force Life Cycle Management Center at www.aflcmc.af.mil.

**29 . Date: 17-01-2025Fixed Wing - Target Drone - Tactical - Contract - Navy orders subsonic target drones from Kratos to help ships and planes practice against anti-ship missilesURL: https://www.militaryaerospace.com/uncrewed/article/55261214/subsonic-target-drones-for-counter-missile-practice**

PATUXENT RIVER NAS, Md. – High-performance target drones experts at Kratos Defense & Security Solutions Inc. will build another 65 full-rate-production subsonic unmanned aerial targets designed to help Navy aircraft and surface warship crews learn to defeat enemy cruise missiles.

Officials of the U.S. Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced a $59.3 million order last week to the Kratos Unmanned Systems segment in Sacramento, Calif., for 65 lot-6 BQM-177A surface-launched aerial targets.

The BQM-177A is the Navy’s next-generation subsonic unmanned aerial target (SSAT), which is designed to mimic the behaviors and radar cross sections of dynamic, high-subsonic, sea-skimming anti-ship cruise missiles to help naval personnel practice air-to-air engagements.

The contract includes 65 rocket-assisted takeoff (RATO) attachment kits, three replacement in kind BQM-177A targets, and three attachment kits for the Navy; and two BQM-177A targets and two attachment kits for South Korea.

The BQM-177A unmanned aerial vehicle (UAV) program will meet the U.S. Navy's requirements for a high fidelity target to mimic subsonic cruise missiles in fleet training and weapons testing.

Capable of speeds in excess of 0.95 Mach and a sea-skimming altitude as low as 10 feet above the surface of the water, the BQM-177A carries internal and external sensor payloads including proximity scoring, identification friend or foe (IFF), passive and active RF augmentation, electronic countermeasures, infrared plume pods, chaff and flare dispensers, and towed targets.

The BQM-177A is based on the Kratos BQM-167X aircraft, a derivative of the U.S. Air Force BQM-167A Skeeter target. The BQM-177A introduces a new fuselage with area ruling, high-mounted wings, and an internally integrated MicroTurbo TR-60-5+ turbo jet engine for reduced transonic drag.

The BQM-177A will augment and later replace existing BQM-74E aerial targets, and will deliver longer range, lower cruise altitudes, and greater maneuverability than previous-generation target drones.

The BQM-177A is 17 feet long, has a 7 -foot wingspan, and weighs 620 pounds with fuel or payloads. It can fly at altitudes as low as 6.6 feet above the ground or water, and as high as 40,000 feet above sea level.

On this order Kratos will do the work Sacramento, Santa Ana, Concord, and Chatsworth, Calif.; Dallas; Fort Walton Beach, Fla.; Blacksburg, Va.; Newton, Kan.; Milwaukie, Ore.; and other U.S. locations, and should be finished by July 2027. For more information contact Kratos Unmanned Systems online at www.kratosdefense.com/systems-and-platforms/unmanned-systems/aerial/aerial-targets, or Naval Air Systems Command at www.navair.navy.mil.

**30 . Date: 06-02-2025Requirement - Navy reaches out to industry to identify companies with uncrewed vehicles expertise for future test eventsURL: https://www.militaryaerospace.com/uncrewed/article/55266054/navy-survey-for-future-uncrewed-vehicle-demonstrations**

CRANE, Ind. – U.S. Navy surface warfare experts are surveying industry to find companies with expertise in uncrewed vehicles to participate in future Navy tests and demonstrations, as well as to help the Navy monitor the uncrewed vehicles market.

Officials of the U.S. Naval Surface Warfare Center in Crane, Ind., have issued a request for information (N0016425SNB25) for the Uncrewed Systems (UXS) Survey.

This survey form is meant to be a living document, and allows respondents to save and update their submission responses, but the submission must be saved by the respondent to do so.

Companies interested should fill out the survey, which is online at https://usg01.safelinks.protection.office365.us/?url=https%3A%2F%2Fforms.osi.apps.mil%2Fr%2FTspFzPDk31&data=05%7C02%7Cmark.v.dravet.civ%40us.navy.mil%7C4361c723de2a48527c1408dd302b393e%7Ce3333e00c8774b87b6ad45e942de1750%7C0%7C0%7C638719684380955468%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=lDjmEA1y9WuqFsabPgCBsf5%2FLVN00vK9qMPW965DfY0%3D&reserved=0.

This survey form is at the highest controlled unclassified information. Please fill out as much information as possible. Those who would like to include quads, videos, and white papers should email them to the Navy's Mark Dravet at [email protected] or Sydney Wittman at [email protected].

Information received in this survey will be shared and used by other government organizations. More information is online at https://sam.gov/opp/1eb56ce7a4ad4941874474e6fc081584/view.

**31 . Date: 01-05-2025Fixed Wing - ISR / ISTAR - Small - General - PlatformAATI launches rapidly deployable AiRangerX UAS platformURL: https://www.militaryaerospace.com/uncrewed/article/55287032/aati-launches-rapidly-deployable-airangerx-uas-platform**

STERLING, Va. - Advanced Aerospace Technologies, Inc. (AATI) in Conshohocken, Pa., has launched AiRangerX, a fully certified and rapidly deployable version of its AiRanger system, designed to operate within the National Airspace System and internationally.

AiRangerX serves as a surrogate platform for the company’s AiRanger uncrewed aerial system (UAS), allowing government and commercial partners to conduct mission simulations, training, and system evaluations without the need for full system deployment. The platform includes AI-powered autonomy, long-range beyond visual line of sight (BVLOS) operations, advanced sensor integration, and real-time command and control capabilities.

"AiRangerX represents a breakthrough in how our customers and partners access and experience the AiRanger platform," said Chris Kluckhuhn, CEO of AATI. "With this surrogate system, we can now deliver complete demonstrations and mission capability evaluations in record time—anywhere on the globe."

American Aerospace's drones granted first FAA waiver for BVLOS commercial operation

AATI officials said AiRangerX is intended for defense, homeland security, infrastructure monitoring, and emergency response applications. The system replicates the operational architecture of the flagship AiRanger UAS, providing users the ability to assess uncrewed aerial capabilities under real-world conditions.

The company said AiRangerX can be deployed globally within weeks, removing traditional barriers to system evaluation and adoption. Key features include live demonstrations of autonomy, command and control, and sensor integration. The system also enables interoperability testing with existing networks and mission workflows.

AiRangerX can simulate live data from electro-optical/infrared (EO/IR), thermal, radar, and other advanced payloads, allowing operators to evaluate operational effectiveness across a range of mission scenarios, including intelligence, surveillance, and reconnaissance (ISR), border security, and disaster response.

**32 . Date: 05-01-2023Armed ISR / ISTAR - HALE - Contract - Navy orders two Kratos unmanned combat aircraft and sensors to work together with manned jet fightersURL: https://www.militaryaerospace.com/unmanned/article/14287846/unmanned-combat-aircraft-sensors**

PATUXENT RIVER NAS, Md. – U.S. Navy aerial warfare experts are ordering two unmanned combat aircraft from Kratos Defense & Security Solutions Inc. in San Diego as penetrating affordable autonomous collaborative killer aircraft.

Officials of the Naval Air Warfare Aircraft Division at Patuxent River Naval Air Station, Md., announced a $15.5 million contract to Kratos on Friday for two XQ-58A Valkyrie unmanned aerial vehicles (UAVs) with sensor and weapon system payloads.

The XQ-58 is an experimental stealthy unmanned combat aircraft built originally for the U.S. Air Force Low-Cost Attritable Strike Demonstrator program to help break the escalating cost of combat aircraft, and to provide an unmanned escort or wingman aircraft to assist crewed fighter aircraft in combat.

The XQ-58A delivers a combination of long-range, high-speed, and maneuverability that can deploy weapons from its internal bomb bay and wing stations. The XQ-58A demonstrator first flew in March 2019 at Yuma Proving Ground, Ariz.

Air Force Low-Cost Attritable Strike Demonstrator program is part of the Air Force Research Laboratory Low Cost Attritable Aircraft Technology (LCAAT) project to design and build unmanned combat aircraft quickly.

The role of the LCAAT is to escort advanced combat aircraft like the U.S. F-22 or F-35 during combat missions, and to deploy weapons or provide surveillance.

The XQ-58A is controlled by a crewed aircraft on missions like scouting, defensive fire, or absorbing enemy fire if attacked. Its stealthy trapezoidal fuselage, chined edge, V-tail, and S-shaped air intake help veil the aircraft from enemy sensors.

The plane can deploy as part of a swarm of unmanned aircraft, with or without direct pilot control. The XQ-58 can take off and land from conventional runways, from land launchers, or from surface ships at sea.

The XQ-58A weighs 2,500 pounds, and can carry 600 pounds of fuel, weapons, and sensors. It is 30 feet long, has a wingspan of 27 feet, can fly as fast as 476 knots, has a range of 3,000 nautical miles, and can fly as high as 45,000 feet.

For more information contact Kratos online at www.kratosdefense.com/about/divisions/unmanned-systems, or the Naval Air Warfare Aircraft Division-Patuxent River at www.navair.navy.mil/nawcad.

**33 . Date: 13-01-2023Cargo - Tactical - Partnership - LCI selects Elroy Air's Chaparral autonomous VTOL cargo aircraftURL: https://www.militaryaerospace.com/unmanned/article/14288254/lci-selects-elroy-airs-chaparral-autonomous-vtol-cargo-aircraft**

DUBLIN - LCI, an aviation company and a subsidiary of Libra Group based in Dublin, needed advanced autonomous cargo aircraft systems. They found their solution from has signed an agreement with Elroy Air in San Francisco. LCI inked a deal to acquire up to 40 of the Elroy's Chaparral vertical take-off and landing (VTOL) aircraft.

Under the terms of the agreement, LCI will initially acquire 20 aircraft with an option for a total of up to 40 units. The VTOL aircraft are currently under development at Elroy Air's facility in South San Francisco, California.

The Chaparral is an end-to-end autonomous VTOL cargo delivery system. It is designed for aerial transport of up to 500 lbs of goods over a 300 nautical mile range. This is enabled initially by a turbine-based hybrid-electric powertrain with distributed electrical propulsion, and specially designed aerodynamic modular cargo pods.

The Chaparral is a transitioning "lift and cruise" VTOL aircraft with a full carbon composite airframe, and a turbine-based hybrid-electric powertrain for long-range mission capabilities. It was also designed to fit in a 40-foot shipping container or C-130 cargo aircraft, enabling it to be quickly shipped and deployed worldwide.

The Chaparral system features eight vertical lift fans, four distributed electric propulsors for forward flight, a high-wing airframe configuration, as well as improved ground autonomy and cargo-handling systems.

Elroy Air has developed lightweight, aerodynamic modular cargo pods that can be pre-loaded by ground personnel and picked up by the aircraft before takeoff. At the delivery location, the cargo pod is lowered to the ground and released after the system has landed. The Chaparral system can retrieve another pre-packed pod and transport the pod to its next destination, creating a bi-directional conveyor belt through the sky.

The new VTOL aircraft will complement LCI's existing fleet of modern helicopters and fixed wing aircraft. In addition, LCI and its parent company, Libra Group, whose subsidiaries own and operate assets in approximately 60 countries.

**34 . Date: 18-01-2023Swarm - Requirement - Military researchers ask industry to enhance unmanned vehicle swarms for enemy reconnaissance and attackURL: https://www.militaryaerospace.com/unmanned/article/14288384/unmanned-swarms-reconnaissance-and-attack**

ARLINGTON, Va. – U.S. military researchers are asking industry to develop the ability dynamically to control swarms of unmanned autonomous vehicles to help penetrate sensitive enemy military areas.

Officials of the U.S. Defense Advanced Research Projects Agency (DARPA) in Arlington, Va., have issued a broad agency announcement (HR001123S0010) for the Autonomous Multi-Domain Adaptive Swarms-of-Swarms (AMASS) project.

AMASS seeks to develop theater-level measures to counteract enemy counter-anti-access and -area-denial technologies by using a common command-and-control language for theater-level counter-anti-access / area denial (A2/AD) capabilities.

The $78 million project will go to one contractor, which will develop ways to command unmanned autonomous swarms using a common command language for reconnaissance and attack of protected enemy areas.

Researchers say unmanned aircraft, surface vessels, and ground vehicles have perhaps the best change of operating inside enemy protected areas by taking advantage of artificial intelligence (AI) and machine autonomy to enable unmanned vehicles to operate in enemy territory safely and undetected using a distributed command system.

AMASS will build on previous research to create a swarms-of-swarms system that simultaneously will threaten high-valued enemy assets, introduce intolerable cost-exchanges, and enable operations within enemy secure areas.

Affordable unmanned swarms with diverse sensors and weapons would be pre-positioned forward and launched remotely, providing rapid response and adaptability without putting human operators of ships, aircraft, and land vehicles at risk.

AMASS will capitalize on technologies developed for DARPA’s System-of-Systems Enhanced Small Unit (SESU) program, which demonstrated that many heterogeneous autonomous swarms present a significant dilemma to enemy defenses.

SESU developed technologies to plan and carry-out counter-anti-access missions with swarms; swarm behavior software that enables the swarms to carry-out missions independently and adapt to change; communications, navigation, and weapons payloads; and modeling and simulation.

Central to the AMASS program is the ability to plan and carry-out missions that use thousands of autonomous vehicles to damage or destroy enemy anti-access capabilities.

To facilitate seamless operations of disparate swarms, AMASS will develop a common swarm language called the Swarms-of-Swarms Protocol (SOSP) to enable swarms running different autonomy software to interact with the AMASS command system.

The SOSP language will enable the AMASS command system to request services, negotiate, and exchange information with available swarms. The language will help control several heterogeneous swarms with different capabilities. AMASS will adapt to new threats and theaters of operation using open software and hardware interfaces that can be modified rapidly.

Companies interested should respond no later than 10 Feb. 2023. Email questions or concerns to DARPA at [email protected]. More information is online at https://sam.gov/opp/2929a61ea2bd44f7a68095449e1fd68d/view.

**35 . Date: 01-02-2023Cargo - MALE - General - PlatformPyka unveils its large autonomous electric aircraft Pelican CargoURL: https://www.militaryaerospace.com/unmanned/article/14289011/pyka-unveils-its-large-autonomous-electric-aircraft-pelican-cargo**

OAKLAND, Calif., - Pyka in Oakland, Calif., unveiled the latest addition to its fleet of purpose-built industrial aircraft; the Pelican Cargo. Pyka says its Pelican Cargo is the world's largest zero-emission cargo airplane and the first autonomous vehicle of its class.

The Pelican Cargo has a range of up to 200 miles, a payload of up to 400 pounds in 66 cubic feet of cargo volume and a nose-loading configuration with a sliding cargo tray. The Pelican Cargo platform aims to enhance express logistics networks, enable connectivity of remote rural communities, and ensure fast and reliable access to vital goods and supplies for areas in need.

Pyka says its Pelican Cargo is powered with a redundant power system, which includes three 25kW electric motors and three batteries and its airframe and structural components are made of carbon fiber composite parts, and features 3D printed assemblies and corrosion-resistant metallic components.

Following the commercial success of its agricultural spray aircraft, which led to a $37 million Series A raise in April 2022, Pyka has secured pre-commitments of over 80 orders and options for its Pelican Cargo from three launch customers across North America and Europe. The aircraft is currently undergoing rigorous testing at Pyka's flight test facility in Northern California. The first commercial operation of the new product is expected for the second half of 2023.

"We operate a carefully selected fleet of UAS platforms across our markets, each of which has been chosen due to its operational capabilities and unrivaled performance," says Alex Brown, Director, Skyports Drone Services, one of Pyka's launch customers for Pelican Cargo. "Welcoming the Pelican Cargo aircraft into our fleet will enable us to continue on our mission of solving complex logistical and operational challenges with tailored drone services. We know a thing or two about drones and in our eyes, the Pelican Cargo is the most advanced product in its payload class on the market. We're excited to kickstart operations with Pyka and put the Pelican through its paces."

**36 . Date: 15-02-2023Target Drone - Tactical - General - PlatformKratos moves to full-rate production of BQM-177A unmanned target drones to mimic behavior of cruise missilesURL: https://www.militaryaerospace.com/unmanned/article/14289766/target-drones-cruise-missiles-unmanned**

PATUXENT RIVER NAS, Md. – High-performance target drones experts at Kratos Defense & Security Solutions Inc. are moving on to full-rate production of a new subsonic aerial target designed to help Navy aircraft and surface warship crews learn to defeat enemy cruise missiles.

Officials of the U.S. Naval Air Systems Command at Patuxent River Naval Air Station, Md., announced a $49.6 million contract on 31 Jan. 2023 to the Kratos Unmanned Systems segment in Sacramento, Calif. (formerly Composite Engineering Inc.), for 55 full-rate-production lot-4 BQM-177A surface-launched aerial targets.

The BQM-177A is the Navy’s next-generation subsonic aerial target (SSAT), which is designed to mimic the behaviors and radar cross sections of dynamic, high-subsonic, sea-skimming anti-ship cruise missiles to help naval personnel practice air-to-air engagements.

The contract includes 55 rocket-assisted takeoff attachment kits, 277 mission kits, and data for the U.S. Navy and the militaries of Canada and Australia.

The BQM-177A unmanned aerial vehicle (UAV) program is designed to meet the U.S. Navy's requirements for a high fidelity target to replicate subsonic anti-cruise missile threats in direct support of fleet training and weapon system testing and evaluation.

In November 2016 Kratos Unmanned Systems officials announced they had achieved the final development program milestone for the BQM-177A target drone leading up to low-rate initial production (LRIP). In June 2018 Kratos began LRIP on the BQM-177A with a Navy order for 45 of the high-performance target drones.

Capable of speeds in excess of 0.95 Mach and a sea-skimming altitude as low as 10 feet above the surface of the water, the BQM-177A carries internal and external payloads including proximity scoring, identification friend or foe (IFF), passive and active RF augmentation, electronic countermeasures, infrared plume pods, chaff and flare dispensers, and towed targets.

The BQM-177A is based on the Kratos BQM-167X aircraft, a derivative of the U.S. Air Force BQM-167A Skeeter target. The BQM-177A introduces a new fuselage with area ruling, high-mounted wings, and an internally integrated MicroTurbo TR-60-5+ turbo jet engine for reduced transonic drag.

The BQM-177A will augment and later replace existing BQM-74E aerial targets, and will deliver longer range, lower cruise altitudes, and greater maneuverability than previous-generation target drones.

The BQM-177A is 17 feet long, has a 7 -foot wingspan, and weighs 620 pounds with fuel or payloads. It can fly at altitudes as low as 6.6 feet above the ground or water, and as high as 40,000 feet above sea level.

On this contract Kratos will do the work Sacramento, Santa Ana, Concord, and Chatsworth, Calif.; Dallas; Fort Walton Beach, Fla.; Blacksburg, Va.; Newton, Kan.; and Milwaukie, Ore., and should be finished by April 2024. For more information contact Kratos Unmanned Systems online at www.kratosdefense.com/about/divisions/unmanned-systems#ContactUs, or Naval Air Systems Command at www.navair.navy.mil.

**37 . Date: 12-04-2023ISR / ISTAR - Small - General - PlatformHeavy-lift tethered unmanned helicopter to hoist variable-height military antennas introduced by ElistairURL: https://www.militaryaerospace.com/unmanned/article/14292215/unmanned-tethered-variableheight-antennas**

DARDILLY, France – Elistair in Dardilly, France, is introducing the Orion Heavy Lift tethered unmanned aerial vehicle (UAV) for variable-height antennas in military, public safety, and homeland security applications.

As tactical communications evolve, tethered drones can help extend secured mobile networks because of their rapid deployment time and long durations in the air.

The Orion Heavy Lift unmanned helicopter capitalizes on the Orion platform that military forces and security forces use in more than 30 countries for intelligence, surveillance, and reconnaissance. missions. The Orion Heavy Lift can carry payloads of nearly nine pounds at 300 feet, and 11 pounds at 164 feet height, for flight durations of 50 hours.

Along with the Elistair Payload Development Kit, users can integrate their payloads and sensors to widen capabilities. A beta-testing program enabled integration of a CORDIS Array II from Radionor, a 5G relay and a signals intelligence payload.

For more information contact Elistair online at https://elistair.com.

**38 . Date: 20-04-2023General - Engine / PowersourceDroneUp is testing hydrogen fuel cells for UASURL: https://www.militaryaerospace.com/unmanned/article/14292612/droneup-is-testing-hydrogen-fuel-cells-for-uas**

VIRGINIA BEACH, Va., - Hydrogen fuel cells are steadily catching on in ground-based transportation, but could they soon be a fixture of our airspace? That appears to be the goal for Virginia Beach-based drone delivery firm DroneUp. The Walmart partner, which powers the retailer’s largest-in-the-nation commercial drone delivery network, recently announced its plans to test hydrogen fuel cell technology from Doosan Mobility Innovation (DMI), one of the first firms to commercialize hydrogen-powered drones, Jack Daleo reports for Flying.

The Military & Aerospace Electronics take:

20 April 2023 - DMI’s hydrogen fuel cell technology yields 3-to-1 energy density characteristics when compared to lithium battery-powered drones. This new technology greatly increases drone flight time to 2-5 hours, depending on several factors like payload weight and weather. In addition to the increased flight time, the new hydrogen technology being tested also has environmental sustainability benefits.

As DroneUp scales its commercial drone operation in verticals such as delivery, inspection, commercial real estate, and more, it is critical to identify new technologies that will help advance that mission. The testing of DMI’s hydrogen fuel cell power packs to increase flight time while reducing carbon emissions.

“The technology industry evolves incredibly quickly and the drone industry evolves even faster,” said John Vernon, CTO of DroneUp. “It is absolutely critical we explore new technology like this and continue testing and validating how it can help us move forward. This collaboration is really interesting because it addresses two major aspects of commercial drone services, increasing flight time and reducing carbon emissions. We’re really excited to see the results from this as it could be a significant game-changer for the industry.”

**39 . Date: 03-05-2023Armed ISR / ISTAR - MALE - Contract - General Atomics to build SkyGuardian unmanned aircraft for Taiwan for long-range reconnaissance and attackURL: https://www.militaryaerospace.com/unmanned/article/14293197/unmanned-taiwan-reconnaissance**

WRIGHT-PATTERSON AFB, Ohio – Unmanned aerial vehicle (UAV) designers at General Atomics Aeronautical Systems Inc. in Poway, Calif., will build four MQ-9B SkyGuardian UAVs for Taiwan under terms of a $217.6 million contract announced Monday.

Officials of the U.S. Air Force Life Cycle Management Center at Wright-Patterson Air Force Base, Ohio, are asking General Atomics to build the four MQ-9B UAVS, two certifiable ground-control stations, spare parts, and support equipment.

The MQ-9B SkyGuardian unmanned aircraft is a version of the General Atomics Predator B UAV that meets the STANAG-4671 NATO standard, which is the NATO UAV airworthiness certification to enable military UAVs to operate in the airspace of other NATO members. It incorporates designs necessary to achieve a type-certifiable system.

General Atomics is building the MQ-9B SkyGuardian reconnaissance UAV from the ground up to meet global airworthiness standards, and involves hardware and software upgrades such as improved structural fatigue and damage tolerance, high-reliability flight-control software, enhancements that enable operations in adverse weather conditions like icing, and the ability to survive bird and lightning strikes.

MQ-9B can be configured with UAV sensor payloads such as detect and avoid (DAA), and airborne due regard radar (DRR) for operation in non-cooperative airspace. The MQ-9B can fly as high as 40,000 feet above sea level, as fast as 210 knots, and can fly unrefueled for as long as 40 hours.

It has the Raytheon MTS-B multispectral targeting system electro-optical system, the General Atomics Lynx multi-mode radar, VHF/UHF radios, DO-178 and DO-254 design assurance for software and avionics, de-ice/anti-ice system. automatic takeoff and landing, and fire-protected engine bay.

The weaponized version of the MQ-9B can carry a variety of precision-guided missions, multimode maritime surface-search radar, and automation information system.

On this contract General Atomics will do the work in Poway, Calif., and should be finished by May 2025. For more information contact General Atomics Aeronautical Systems online at www.ga-asi.com, or the Air Force Life Cycle Management Center at www.aflcmc.af.mil.

**40 . Date: 12-07-2023Cargo - Small - General - PlatformSwiss firm RigiTech enables drone delivery without landing or takeoffURL: https://www.militaryaerospace.com/unmanned/article/14296247/swiss-firm-rigitech-enables-drone-delivery-without-landing-or-takeoff?utm\_source=MAE+Wrapup&utm\_medium=email&utm\_campaign=CPS230713152&o\_eid=2872A0273056D7W&rdx.ident%5bpull%5d=omeda|2872A0273056D7W&oly\_enc\_id=2872A0273056D7W**

**COPENHAGEN -**Wind turbine maintenance is an important yet unheralded task. But drones have arrived to spice things up. RigiTech is a Swiss drone manufacturer and operator boasting some of the most extensive beyond visual line of sight (BVLOS) flight authorizations in the industry. And it just completed a landmark test of its Eiger delivery system, flying spare parts to the Anholt Offshore Wind Farm, located 20 sm (17 nm) off the coast of Denmark. But there’s a catch—the drones didn’t need to land, Jack Daleo reports for *Flying*.

**The Military & Aerospace Electronics take:**

**12 July 2023 -**The lack of necessary parts during turbine repairs can become costly, as it requires the service vessel to return to shore and back out, resulting in a significant time delay and consuming more than 500 litres of diesel fuel. RigiTech’s Eiger mounted with the dropping system can deliver spare parts to Anholt’s 111 offshore wind turbines within 30 minutes, ensuring same-day repair, enhanced safety for on-site technicians, and guaranteeing minimal turbine downtime.

Integrating drone delivery into existing workflows is possible with RigiCloud and the Eiger’s fully autonomous nature – local warehouse staff load the spare parts onto the drone, while the Beyond Visual Line of Sight (BVLOS) operations are supervised remotely by Holo in Copenhagen, hundreds of kilometers away. Network-based video streaming from the Eiger provides live monitoring of each delivery, to both Holo and Ørsted warehouse staff.