UAS and SmallSat Weekly News

Contents

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Autonomous Drones for Property Inspection: EagleView and Skydio Offer Assess™ Miriam McNabb October 14, 2021

EagleView Technologies and autonomous drone provider Skydio announced a partnership in September of 2020 which represented the largest commercial drone contract to date. EagleView is leading technology provider of geospatial information for insurance; Skydio is the leading U.S.-based drone manufacturer offering a ground-breaking autonomy platform. The two companies have collaborated to launch EagleView Assess™, a virtual claims inspection solution.

From an EagleView press release: *Assess™ combines Skydio House Scan™, Skydio's adaptive scanning and data capture software for autonomous residential roof inspection, with EagleView's automated measurement, damage detection and inspection workflow, to help insurance claims adjusters make faster, more confident claims decisions.*

The product offers major benefits for insurance adjusters and property owners. Using Assess™, "adjusters were able to reach claims decisions after reviewing an average of 6 facets per home, thereby expediting reviews and resolving up to 1.5X more claims per day," says the press release. "Insurers also reduced loss adjustment expense from saving up to 20% per claim in adjuster time and travel costs." https://dronelife.com/2021/10/14/autonomous-drones-for-property-inspection-eagleview-and-skydio-offer-assess/

It's both a helicopter and a plane. Joby says this is the future of flying Story and video by John General October 14, 2021

For decades, commercial air travel has also largely looked the same. Despite advancements in aerodynamics and fuel mileage, it's yet to overcome the two major problems of noise and air pollution. In fact, in 2019, air travel accounted for roughly three percent of all greenhouse gas emissions in the US -- the highest it's been since its pre-2008 recession all-time high, according to the Environmental Protection Agency.

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Joby says its eVTOL aircraft could be the solution for a cheaper, quieter, and greener means of commercial flying. It can take off and land like a helicopter but fly like a plane.

Joby's commercial operations, which it hopes to launch by 2024, will allow customers to book a seat on one of its aircraft like they would on a rideshare app. With up to 150 miles on a single charge and four-passenger capacity, Joby hopes that its aircraft can help relieve urban congestion. https://us.cnn.com/2021/10/14/business/joby-aviation-evtol/index.html

Successful Soyuz launch thrusts OneWeb past halfway mark in fleet deployment

October 14, 2021 Stephen Clark

Arianespace, OneWeb's launch service provider, declared the mission a success. OneWeb said ground controllers established contact with all 36 satellites after Thursday's launch. OneWeb is owned by a consortium of shareholders led by the Indian telecom company Bharti Global and the UK government.

The deal between Arianespace and OneWeb now covers 19 launches aboard Russian Soyuz rockets from spaceports in Russia, Kazakhstan, and French Guiana. The remaining Soyuz missions are sufficient to launch OneWeb's planned network of 648 satellites in polar orbit 745 miles above Earth to provide low-latency broadband internet services around the world.

The satellites launched Thursday will deploy solar panels and switch on xenon-fed ion thrusters to climb into a higher orbit around 745 miles (1,200 kilometers) above Earth. Once there, the spacecraft will join the rest of the OneWeb constellation, which now numbers 358 satellites. https://spaceflightnow.com/2021/10/14/successful-soyuz-launch-thrusts-oneweb-past-halfway-mark-in-fleet-deployment/

The Last Drone Standing: First Responder UAS Endurance Challenge September 28, 2021

To help solve the largest challenges facing the first responder community, NIST often turns to private companies, academic researchers, hobbyists, and others via open innovation prize challenges. This time, the First Responder Unmanned Aircraft System (UAS) Endurance Challenge addressed the obstacle of extending the flight

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time for drones that carry heavy payloads. The objective for challenge participants was to design, build and fly a UAS that could carry a 10-pound communications device to deploy broadband coverage for as long as possible to transfer critical data files to the first responders. And as part of the challenge, participants were tasked with overcoming difficult technical requirements including weight restrictions, vertical takeoff and landing, an ignition kill system, and an appropriate fuel system, all while ensuring cost-effectiveness.

Forty-three teams entered the competition by flying continuously for 90 minutes or longer with heavy payloads. The prize challenge competitors built their systems with the intention of providing broadband service to first responders when they lack network or bandwidth.

The competition's top prize went to Team Advanced Aircraft Company (AAC), which received $100K for its six-rotor drone with propellers on each arm. AAC is a veteran-owned company based in Hampton, Virginia, that specializes in building drones that enable longer flights through their hybrid-electric propulsion system. AAC's drone is not a prototype but a product it currently is selling.

The other top teams in the competition included Team Intelligent Energy (IE), which received second place and $40K for its six-rotor drone with a hydrogen fuel system, long-endurance, and lifting capabilities. Team Autonomous Robotics Competition Club (ARCC), from Pennsylvania State University, took third place and received $20K for its multirotor, gas-electric hybrid drone. Team Endure Air also contributed to the UAS competition with its single-rotor helicopter drone. https://www.commerce.gov/news/blog/2021/09/last-drone-standing-first-responder-uas-endurance-challenge

French partners develop water-launched naval UAV Bruce Crumley - Oct. 15th 2021

The French maritime defense company, Naval Group, has teamed up with the Toulouse-based drone startup Diodon to adapt a specialized, compact UAV for water deployment by navy, coast guard, and other forces policing the seas.

The Naval Group-Diodon tandem is close to deploying a specialized UAV that can be launched from submarines or boats, and almost immediately begin performing airborne missions with all the tech and flight capacities of exclusively aerial high-performance quadcopters.

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A major difference between Diodon's new HP30 iteration and other liquid-to-air craft under development is its expandable components. The body and foldable wings are surrounded by a tough but collapsible skin that is inflated before deployment. That approach makes the craft lighter and more compact in storage, and far more buoyant when rising to or floating on water..

Diodon's drones are intended for detection, patrol, reconnaissance, surveillance, and engagement with criminal or hostile targets under watch by official forces in France and the 18 other nations Naval Drone works with. The HP30 has a range of 8 km, maximum flight time of 30 minutes at top speeds of 55 km/h, and resists winds of up to 25 knots per hour. Setup to launch time is a minute or less. See the video: https://dronedj.com/2021/10/15/french-partners-develop-water-launched-naval-uav/

NASA joins California firefighters to see how drones help with wildfires Ishveena Singh - Oct. 15th 2021


Between the Dixie, Caldor, McCash, and Windy fires, Northern California has been witnessing a busy wildfire season. And this time, the firefighters on the ground are being shadowed by a crew from NASA to watch and learn how drones help to battle the blazes.

NASA's Joey Mercer and his teammates are designing software and communication tools to help first responders work more safely and efficiently. One of the things being considered as part of the Scalable Traffic Management for Emergency Response Operations (STEReO) project is how the use of drones can be scaled up. Thermal imagery obtained by drones can help determine where fire-containment lines should be established.

In August and September, the crew from NASA shadowed drone pilots and incident commanders from three different agencies, gleaning behind-the-scenes information from members of the California Department of Forestry and Fire Protection, the US Forest Service, and the National Park Service.

The NASA team witnessed how drones were sent to look for traces of fire down a steep gully – the thermal data collected by the craft proving critical to decide whether firefighters could safely attempt to hold the fire there, or if they should work from the next ridgeline, even if it meant losing more acres to the flames.

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One of the challenges the STEReO team is trying to solve is tracking the location of nearby crewed aircraft and communicating the same to drone operators. At the McCash fire, for example, the team deployed a prototype drone pilot kit with that capability for the first time during an active incident. It's worth noting the STEReO team has also been testing portable internet that can provide local connectivity, even in remote settings.
https://dronedj.com/2021/10/15/nasa-california-firefighters-drones/

17Oct21

Applied Aeronautics Announces New Albatross BVLOS Aircraft with DAA Solution HEADLINE NEWS TECHNOLOGY GEORGINA FORD OCTOBER 15, 2021

Applied Aeronautics announces its latest Albatross UAV aircraft fully integrating Iris Automation's advanced detect and avoid Casia solution for BVLOS flights. The Albatross UAV starts at $7,000, and the forthcoming BVLOS model will remain consistent with Applied Aeronautics commitment to a robust feature set with affordable pricing.

Its high-efficiency design delivers long-distance endurance of up to four hours and critical capabilities for BVLOS, including specialized communications, modular payloads, and now the Casia detect-and-avoid system. Flying drones beyond line of sight has been estimated to save between 28% and 55% of the cost to fly similar missions by helicopter, according to the Electric Power Research Institute.

Applied Aeronautics will manufacture the Albatross BVLOS at its new composites facility in Austin, Texas. The facility is being built to support a surge in demand from the global commercial and military sectors for affordable, long-endurance, BVLOS solutions.

Iris Automation's Casia, also produced in the US, allows uncrewed aircraft to see and react to the aviation environment around it, providing situational awareness for remote pilots and enhancing air safety. Casia detects other aircraft using computer-vision algorithms to classify them, makes intelligent decisions about the threat they may pose to the drone and then triggers an alert to execute maneuvers to avoid collisions safely.
https://www.commercialdroneprofessional.com/applied-aeronautics-announces-new-albatross-bvlos-aircraft-integrated-with-iris-automations-casia-daa-solution/

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SYNERJET becomes first Wingcopter Authorized Partner in South America

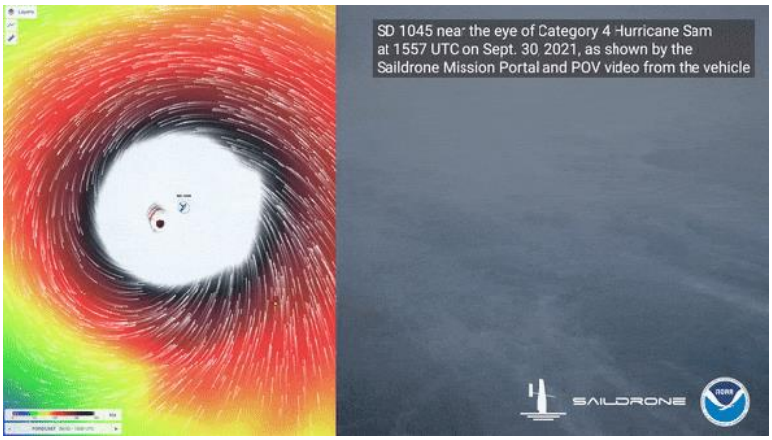
APPLICATIOND RONES AT WORK GEORGINA FORD OCTOBER 15, 2021

The agreement will allow the Latin American company to act as a distributor and local technical support provider for the Wingcopter 198 to customers in the region. SYNERJET is one of the most respected companies in business aviation on the continent, with operations in Brazil, Colombia, Ecuador, Chile, Panama, and Guatemala.

Armando Koerig Gessinger, Head of Sales at Wingcopter, comments: “We experience a lot of interest in our Authorized Partnership Program as more companies understand the potential of drone deliveries.”

The agreement makes SYNERJET a member of the Wingcopter Authorized Partnership Program and a first mover on the continent in the fast-growing drone industry. Brazil and other South and Central American countries are ideally suited for different drone delivery applications with vast and sparsely populated areas. SYNERJET intends to provide drone operators, logistics companies, and providers in the healthcare industry with Wingcopter technology. https://www.commercialdroneprofessional.com/synerjet-becomes-first-wingcopter-authorized-partner-in-south-america/

NOAA Sailed a Drone into the Heart of Powerful Hurricane Sam Chelsea Harvey E&E News October 5, 2021



Hurricane Sam, at its peak, was the most powerful storm so far this season. It topped out as a high-end Category 4 with maximum wind speeds around 155 mph, spending eight consecutive days as a major hurricane before finally beginning to weaken. It was the strongest hurricane ever observed so far east so late in the calendar season, according to meteorologist Phil Klotzbach.

And now, scientists know what the storm looked like from the inside out. Last week, NOAA researchers sailed a drone straight into the heart of the hurricane. The feat was accomplished with a special floating

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vehicle designed by Saildrone Inc., which specializes in oceangoing, data-collecting drones. Saildrones look like mini unmanned sailboats, typically equipped with 25-foot sails to keep them moving. In this case, the drone was equipped with a special "hurricane wing," a stubbier, rigid sail designed to keep the vehicle stable in strong winds and prevent it from being crushed by large waves.

Through its partnership with Saildrone, NOAA currently has five vehicles drifting around on the open ocean. In a stroke of good luck, they noticed that Hurricane Sam was projected to pass close to one of them. https://www.scientificamerican.com/article/noaa-sailed-a-drone-into-the-heart-of-powerful-hurricane-sam/

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THIS IS THE TOP MONEYMAKER IN THE DRONE INDUSTRY October 5, 2021 Sally French News

The best way to make money in the drone industry isn't selling them. And it's certainly not selling the software that powers them either. The top moneymaker within the drone industry is operating them.

Believe it or not, there's money to be had in being a drone (pilot) of sorts. At least that's according to the Drone Market Report 2021-2026, which was released in August 2021 by Germany-based analytics firm Drone Industry Insights (DII). DII split the drone market into 3 segments: hardware, software and services. From there, it analyzed the revenue generated by each segment — and one segment proved to be a huge moneymaker.

Here's the breakdown of what percent of revenue each segment generated for the drone industry:

- Services: 79.3%
- Hardware: 16.4%
- Software: 4.3%

What's more, the service segment is only set to grow, expect to see 9.6% compound annual growth and reach $30.7 billion by 2026.

According to DII, the service segment is mainly driven by the use drone technology for their internal business processes, which could range from anything like a big oil company using drones to fly for miles to conduct inspections of pipelines to environmental regulators using drones to collect water samples.

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The second largest share within the drone service segment is held by so-called Drone-Service-Providers who offer their services to third parties. That includes situations like deliveries, where it's common for specialized drone companies to operate for major retailers (such as how DroneUp operates drone deliveries for Walmart).
https://www.thedronegirl.com/2021/10/18/this-is-the-top-moneymaker-in-the-drone-industry/

Airlogix Develops Electric VTOL Tilt-Rotor Delivery Drones 17 Oct 2021 Mike Ball

Airlogix, a provider of delivery UAV solutions for flexible cargo and logistics deliveries, has partnered with Unmanned Systems Technology to demonstrate their expertise in this field. The 'Silver' profile highlights how their delivery drones solve logistics problems for a wide variety of applications.

The Hammerhead eV20 is an electric vertical take-off and landing, tilt-rotor drone built for middle-mile delivery missions. Featuring autonomous operation, the cargo UAV combines the advantages of quadcopters and fixed-wing platforms, with the ability to switch seamlessly from VTOL and hovering to highly efficient forward flight.

With a top speed of 90 km/h, the Hammerhead eV20 can carry up to 20 kg of critical cargo for distances of up to 100 km. Powered solely by batteries, the eVTOL aircraft is emissions-free and delivers flight times of up to an hour. The platform can withstand significant gusts of wind and can be operated in costal and offshore environments.

The cargo UAV includes a built-in LiDAR altimeter and an IR-Lock sensor for precision landing, as well as ADS-B for enhanced situational awareness. A comprehensive ground control and fleet management software suite is included, turning any laptop into a convenient ground control station. https://www.unmannedsystemstechnology.com/2021/10/airlogix-develops-electric-vtol-tilt-rotor-delivery-drones/

Saildrone raises $100M to gather more hurricane insights, climate data Ishveena Singh - Oct. 18th 2021

The folks at Saildrone, who recently made history by sending an ocean drone into the eye of a hurricane, are celebrating another milestone today. Saildrone has just received an investment of $100 million to grow its capabilities in climate data, ocean mapping, and maritime intelligence solutions.

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The highly successful Series C funding round brings the total funding given to the US-owned and operated company to $190 million.

Powered primarily by wind and solar power, Saildrone's ocean drones have sailed over 500,000 nautical miles to date and clocked more than 15,000 days at sea in some of the harshest conditions on the planet. Navigating to the heart of Hurricane Sam is a prime example, wherein Saildrone was able to take scientific measurements and HD video to transform our understanding of hurricane forecasting. The company also uses proprietary machine learning to provide marine domain awareness for law enforcement and homeland security applications such as policing IUU fishing, counter-narcotics operations, and marine sanctuary protection.
https://dronedj.com/2021/10/18/saildrone-raises-100-million/

Reliable Robotics Raises $100 Million to Expand Remotely Piloted Cargo Operations October 17, 2021 News

Reliable Robotics, a leader in automated aircraft systems, announced today a $100 million Series C funding round led by Coatue Management. Coatue joins past investors Lightspeed Venture Partners, Eclipse Ventures, Teamworthy Ventures and Pathbreaker Ventures to bring total fundraising over $133 million. The capital raised enables the company to scale its team to support its first aircraft certification program and expedite the launch of commercial cargo operations.

Reliable Robotics is positioned to unlock access to thousands of underutilized regional and municipal airports in all corners of the country, greatly expanding air transportation options for cargo and eventually passengers. The company's technology handles all phases of flight including taxi, takeoff, landing and parking, while licensed pilots remotely supervise each flight from a control center. The system has the capability to autoland on smaller airstrips in rural or remote areas without requiring expensive infrastructure to be installed and maintained.

The company has received key authorizations from the FAA for the flight of experimental unmanned aircraft. In 2019, Reliable demonstrated remote operation of a large commercial aircraft over a metropolitan area, marking an aviation first for a private company in the United States. Additionally, the company announced a partnership with NASA as part of the Advanced Air Mobility National Campaign to further real-world flight testing of its system.
https://uasweekly.com/2021/10/17/reliable-robotics-raises-100-million-to-expand-access-to-more-places-with-remotely-piloted-cargo-

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operations/?utm_source=rss&utm_medium=rss&utm_campaign=reliable-robotics-raises-100-million-to-expand-access-to-more-places-with-remotely-piloted-cargo-operations&utm_term=2021-10-18

Skyportz launches first Australian electric air taxi hub to service Olympic games in Brisbane October 13, 2021 Jenny Beechener UAS traffic management news, Urban air mobility

Skyportz has announced plans to build its first air taxi infrastructure in Australia at the Australian Advanced Manufacturing Centre of Excellence (AAMCE) in Moreton Bay, Brisbane, Australia in 2023.

Skyportz CEO, Clem Newton-Brown, made the announcement at the Air Taxi World Congress in London on 13 October 2021: "Skyportz has been accumulating sites in Australia since 2018 and we now have over 400 property partners ready to build out a Skyportz network. There is strong political support to develop a new era in clean, green electric aviation in Australia, however we are waiting on Federal standards and new State regulations to be developed before we can proceed to building a network. For this reason, we are focusing initially on existing aviation infrastructure and places where it is possible to get a permit for a helipad which can transition into a future Skyportz. The AACME site was already proposing a helipad, so this partnership has enabled us to bring forward our plans."

Skyportz is simultaneously working with Australian Federal and State governments to help develop the standards, regulations and zones which will enable the Skyportz "mini airports" in new locations in and around cities and regional centers.

There are over 300 electric air taxis start-ups around the world, and the industry has seen over AUD8 billion invested in the aircraft with three of the frontrunners, Lilium, Joby and Archer listing on the New York Stock exchange last month. https://uasweekly.com/2021/10/17/reliable-robotics-raises-100-million-to-expand-access-to-more-places-with-remotely-piloted-cargo-operations/?utm_source=rss&utm_medium=rss&utm_campaign=reliable-robotics-raises-100-million-to-expand-access-to-more-places-with-remotely-piloted-cargo-operations&utm_term=2021-10-18

AutoFlight presents V1500M – an autonomous passenger eVTOL aircraft HEADLINE NEWS INNOVATION GEORGINA FORD OCTOBER 18, 2021

AutoFlight debuted its autonomous fixed-wing passenger electric vertical take-off and landing aircraft to the world at the China Airshow in Zhuhai.

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With its sleek looks and innovative technology, the V1500M doesn't rely on runways and airports. It can vertically take-off and land anywhere anytime. Virtually any rooftop or flat surface becomes a vertiport. When it reaches a certain altitude, the power system turns on the dual prop pusher so that V1500M can cruise at speeds of a fixed-wing airplane. And in low-altitude airspace, the all-electric design enables the aircraft to operate at a very low noise level. .

Being able to fly without a pilot, the V1500M uses eight lifting motors to take off and land vertically like a multi-rotor aircraft and fly as far as 250 km when carrying up to four passengers. At the moment, a safety pilot is still mandatory. Yet as technology advances and regulations become increasingly refined, that space can later be allocated to another passenger or extra luggage. https://www.commercialdroneprofessional.com/autoflight-presents-v1500m-an-autonomous-passenger-evtol-aircraft/

19Oct21

Empowering Drone Operators to Help Farmers with "Smart Farming" Technology October 19, 2021 Mapping and Surveying | News

Aquiline Drones, a drone and cloud solutions company, has an immediate solution – Smart Farming with Drones, an online training course. For an introductory price of $99, any drone operator or farmer can now learn how to better manage agricultural business operations through data using drones and artificial intelligence (AI) for analysis and revenue-maximizing forecasting. A synopsis of the new, innovative instruction module can be viewed here: https://www.youtube.com/watch?v=A-DIjTlN8Sk&t=2s

AD now offers course as part of its Flight-to-the-Future (F2F) series of online drone pilot training. The Smart Farming module sits amongst a collection of advanced ground training courses, tailored for different industries and available to all students after they have completed the basic F2F program and received their FAA Part 107 drone pilot certification. It can also be purchased directly by anyone who has already obtained their Part 107 license.

"The educational journey offered here takes the user through the ever-expanding world of drone-based smart farming solutions covering crop, orchard and livestock operations.,"

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said Barry Alexander, Founder and CEO of AD. https://uasweekly.com/2021/10/19/empowering-drone-operators-to-help-farmers-grow-profits-with-smart-farming-technology/?utm_source=rss&utm_medium=rss&utm_campaign=empowering-drone-operators-to-help-farmers-grow-profits-with-smart-farming-technology&utm_term=2021-10-19

20Oct21

Drones for Organ Transport: Revolutionizing the Field of Transplants Miriam McNabb October 19, 2021 by DRONELIFE Staff Writer Ian M. Crosby

Last month, Bromont Unither Bioelectronics, a United Therapeutics subsidiary, succeeded in transporting lungs via drone between two Toronto hospitals, "a springboard" that could revolutionize the field of transplants, according to Unither's vice-president Mikaël Cardinal.

The drone travelled over 1.5 km, delivering its 6 kg payload from Toronto Western Hospital to Toronto General Hospital, where a patient successfully received his transplant at the end of September.

"This is truly a remarkable achievement in terms of complexity, in controlled airspace and flight over high population density," said Cardinal, who coordinated the design, development and flight of the drone. Though fully automated, the drone was closely monitored by a pilot in the event of a glitch.

Bromont is currently developing three aircraft which will have a range of between 35 and 463 km, allowing for transport to regions far from major centers.
https://dronelife.com/2021/10/19/drones-for-organ-transport-revolutionizing-the-field-of-transplants/

It's both a helicopter and a plane. Joby says this is the future of flying John General October 14, 2021

New York (CNN) The van rumbled through the desert in central California. And there it was: an aircraft that looked straight out of a sci-fi comic book. With its six propellers, it wasn't your typical helicopter, but it wasn't a plane either.

What we were looking at was Joby Aviation's electric

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solution to air travel -- what's called an eVTOL aircraft, which stands for electric vertical take-off and landing. It can take off and land like a helicopter but fly like a plane.

Joby says its eVTOL aircraft could be the solution for a cheaper, quieter, and greener means of commercial flying. Joby's commercial operations, which it hopes to launch by 2024, will allow customers to book a seat on one of its aircraft like they would on a rideshare app. With up to 150 miles on a single charge and four-passenger capacity, Joby hopes that its aircraft can help relieve urban congestion. https://us.cnn.com/2021/10/14/business/joby-aviation-evtol/index.html

V-BAT Takes Flight with 11th Marine Expeditionary Unit aboard USS Portland

October 10, 2021 Military

Shield AI, the defense-technology company using self-driving software to enable collaborative teams of robots to operate in GPS- and RF-denied environments, today announced that its company, Martin UAV, has successfully flown its V-BAT Unmanned Aircraft System on numerous missions with the 11th Marine Expeditionary Unit aboard USS Portland, including a flight where the V-BAT crew demonstrated the aircraft's Automatic Identification System capability by using the system to successfully link sensor to target in less than three minutes from receipt of tasking.

The V-BAT UAS provides a critical reconnaissance, surveillance, and target acquisition capability for the Navy and Marine Corps in a unique environment where space is at a premium. Aboard USS Portland, the unmanned aircraft performed and proved durable in high winds and challenging weather conditions.

The V-BAT, with its near-zero footprint, vertical take-off and landing, and long-endurance capabilities, is unlike any UAS on the market. Propelled by a single, ducted, thrust-vectored fan, it takes off and lands in the style of a SpaceX rocket. Its logistics footprint fits into the bed of a pickup truck or inside a Blackhawk helicopter, significantly reducing the total cost of capability. U.S. and international customers view the V-BAT as a flexible platform capable of performing Group 2 UAS to Group 4 UAS missions and beyond. https://uasweekly.com/2021/10/10/v-bat-takes-flight-with-11th-marine-expeditionary-unit-aboard-uss-portland/?utm_source=rss&utm_medium=rss&utm_campaign=v-bat-takes-flight-with-11th-marine-expeditionary-unit-aboard-uss-portland&utm_term=2021-10-20

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Fortem DroneHunter Takes Down Target Drone at Norway's Avinor Oslo Airport Event October 19, 2021 Counter UAS

Fortem Technologies, leaders in airspace security and defense for detecting and defeating dangerous drones, proved to an audience of over 140 agencies last week that their DroneHunter®, an AI-enabled interceptor drone, could safely remove a threatening drone from a complex airport environment. The recent test event at Oslo Airport was spearheaded by Interpol, Avinor, the police, and UAS Norway to demonstrate counter drone capabilities.

Following the drone incident in 2018 that shut London's Gatwick Airport down for two days, sightings of drones at airports are still occurring. The operation at Avinor Oslo was used to test various counter-drone systems. It was the first time the Norwegian police were shown options for how to safely mitigate a threatening drone.

Several suppliers, both from Europe and the U.S., participated alongside Fortem in the exercise. With jammers deemed illegal in Norway, and with restrictions in place due to the airport setting, the autonomous, radar guided DroneHunter was one of the only systems successful in removing the threat drone. The Fortem DroneHunter was designed to operate safely in complex environments and is favored because it does not cause collateral damage during the capture process. https://uasweekly.com/2021/10/19/fortem-dronehunter-successfully-takes-down-target-drone-at-norways-avinor-oslo-airport-in-landmark-test-event/?utm_source=rss&utm_medium=rss&utm_campaign=fortem-dronehunter-successfully-takes-down-target-drone-at-norways-avinor-oslo-airport-in-landmark-test-event&utm_term=2021-10-20

Wing plans to launch drone delivery service in Dallas-Ft. Worth Forbes – Business October 20, 2021

Wing, the drone delivery unit of Google parent company Alphabet, aims to set up shop in the suburbs of Dallas-Ft. Worth, the company said Wednesday, in what would be the first residential drone delivery service in a major metropolitan area in the United States.

A Wing Aviation LLC drone delivers a package at a customer's home in Christiansburg, Virginia.

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Wing said it plans to begin test flights in the Dallas-Ft. Worth bedroom communities of Frisco and Little Elm and hopes to win the necessary approvals at the local, state and federal levels to launch commercial service in those cities in the coming months.

Wing aims to launch local service in partnership with Walgreens from a store that a spokesperson said would be able to fulfill orders for a limited range of merchandise from customers in an area containing upward of 50,000 people in Frisco and Little Elm.

The drones will be dispatched from a small shipping container configured as a drone base in the Walgreens' parking lot and will make deliveries of cargo up to 3 pounds in weight to customers in its service area — primarily those with single-family homes that have yards — who have a suitable spot to which a package can be lowered from the drone by a tether. Wing said it's hoping to receive permission to operate drone flights beyond the pilot's line of sight.
https://www.legendaryleadersininnovation.com/feeds/459/results/5b9abfc013df013a72aa0242ac110002

Volocopter joins Osaka Roundtable to bring UAM to Japan October 20, 2021

As part of the engagement, the German eVTOL developer also committed to fly during the Expo 2025 Osaka Kansai.

Together with long-term partner and investor Japan Airlines, who recently reserved Volocopter aircraft, Volocopter plans to conduct public test flights as early as 2023.

On 1 October 2021, Volocopter partook in the Osaka Roundtable. As host of the Expo 2025 Osaka Kansai, Osaka has strong ambitions to kickstart UAM businesses from this event onward, as a leader in an already advanced nation.

Since 2018, Japan has been proactively shaping its future of air mobility and set an ambitious target to achieve full commercialization of eVTOL air taxi and heavy lift cargo drone business by 2030. Japan is one of few countries in the world that boasts a comprehensive roadmap for UAM businesses to achieve these goals on a national level.

Furthermore, Volocopter is strategically joining forces with local partners and regulators early in the commercialization process to strengthen its position within the market. Recently, JAL

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reserved 100 Volocopter aircraft (VoloDrone and VoloCity) units for its future use.
https://www.legendaryleadersininnovation.com/public/topics/23/UAS

Aveopt adds redundant communications capability to New York's 50-mile drone corridor October 19, 2021

Communications company Aveopt is to integrate its Communication Infrastructure Mesh (CIM) system concept into New York's 50-mile drone corridor to advance the reality of safe and secure commercial drone operations, says the Northeast UAS Airspace Integration Research Alliance which manages the corridor.

The Aveopt CIM integrates cross-communication between multiple modes of communication including cellular, satellite and remote sensors, creating a multi-redundant, reliable communications network for unmanned aircraft systems operations.

The availability, strength and reliability of communication signals varies from one location to another. The Aveopt CIM is designed to actively monitor the signals in the local area where a drone is flying and determines which signal is the "best" in terms of signal strength and reliability. It then selects that signal as the primary communication source for operations and moves the other signals "down the list" of backup communication networks. The system will also have the ability to switch between services providers to acquire the most reliable signal for safe drone operations.
https://www.legendaryleadersininnovation.com/feeds/486/results/089fc260130b013aec3c0242ac110002

21Oct21

Japan Airlines Joins Growing List of Future Avolon eVTOL Orders Woodrow Bellamy III | October 20, 2021

Under a new partnership signed with Dublin, Ireland-based aircraft leasing company Avolon, Japan Airlines will have the right to purchase or lease up to 50 Vertical VA-X5 electric vertical takeoff and landing aircraft.

Avolon-e, the investment and innovation affiliate to Avolon, is leading the strategic partnership signed with JAL that will focus on identifying partnership,

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customers, infrastructure requirements, certification and "a range of commercial models to introduce one of the world's first eVTOL ride sharing businesses in Japan," according to an Oct. 20 press release. The new partnership also includes an option for JAL to purchase 50 additional VA-X4 eVTOL aircraft.

JAL's goal under the new partnership is to have their first VA-X4 eVTOL ready for entry-into-service in 2025, in time for the Osaka Kansai Expo occurring the same year.

Vertical Aerospace's eVTOL, the VA-X4, has a range of over 100 miles with a top speed of 202 mph and a five-person capacity, according to the company's website. Vertical Aerospace is expecting the VA-X4 to be certified in 2024. The aircraft is also expected to take its first test flight this year. https://www.aviationtoday.com/2021/10/20/japan-airlines-joins-growing-list-future-avolon-evtol-orders/

Israeli startup developing a two-seater vehicle that can shuttle passengers RYAN MORRISON FOR MAILONLINE 20 October 2021

The all-electric vertical takeoff and landing (eVTOL) aircraft will primarily be sold in the US, where the Federal Aviation Authority has worked with developers AIR for two years on preparing licensing and regulations to make it legal and safe.

AIR executives say they hope to have approval by the end of 2023 for their AIR ONE vehicle, that is expected to cost 'about the same as a high-end road car'. It has two seats and can travel up to 110 miles on a single charge. It will be sold to consumers who will be able to use its 'fly by intent' software, that will allow them to operate it in the air without being trained, or licensed pilots.

Cruise Speed: 100 mph. **Range**: 110 miles. **Max Flight Time**: 1 Hour

AIR raised just under $10 million last year in seed funding and has been using the funding to run a series of test flights without a pilot or passenger onboard. The firm has also been building a series of full-size prototypes for rapid testing and changes ahead of approval to fly. https://www.dailymail.co.uk/sciencetech/article-10112227/Israeli-startup-developing-air-taxi-shuttle-passengers-skies-155mph.html?ito=1490

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Alphabet's Wing to start drone deliveries in Dallas-Fort Worth area Stephen Shankland Oct. 20, 2021

Wing, the drone delivery division of Google parent company Alphabet, said Wednesday that it has expanded operations to parts of the Dallas-Fort Worth area. This is a significant expansion into a more complex urban area, though operations so far are limited to carrying packages from a Walgreens parking lot to residents of Frisco and Little Elm on the northern edge of the metro area.

The technology uses a new drone model and flight routing technology for a "highly automated drone delivery service in more crowded, complex operating environments," Wing said in a statement. Wing already operates in the less populated area of Christiansburg, Virginia.

The expansion marks a new chapter for drone deliveries. Operations like Wing and Amazon Air hope to shorten delivery times by sending smaller packages through the air directly to customers' homes, the idea being to bypass congested roads and bring new immediacy to commerce. Of course, not everyone is happy with the issues of noise, safety, and privacy drones raise.

A second Wing launch site is in development in Frisco, too. That's in cooperation with real estate developer Hillwood, whose AllianceTexas includes a "mobility innovation zone" that has ties to goods shipping by air, rail, trucking and Amazon Air drones.

"We'll begin a small number of test flights next week in Frisco and Little Elm and hope to set up delivery demonstrations to get feedback from the community in the coming weeks," Wing said. "In the coming months, we expect to launch a commercial service there that would be the first of its kind in a major US metro." https://www.cnet.com/tech/computing/alphabets-wing-to-start-drone-deliveries-in-dallas-and-fort-worth-texas-metro-area/

Bringing in the Royal Mail INSIDE UNMANNED SYSTEMS OCTOBER 15, 2021 AIR

Off the tip of Scotland in the chilly North Atlantic, the Royal Mail has begun trialing a low-emissions UAV for mail delivery in the Orkney Islands, over 35 miles of sea.

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A twin-engine Windracers Ltd ULTRA UAV carries 100 kg (220 lb) of mail in the test flights as part of the Sustainable Aviation Test Environment (SATE) project, funded by UK Research and Innovation (UKRI) via the Industrial Strategy Challenge Fund. It flies between between Kirkwall on the main Orkney Island and remote North Ronaldsay, a journey that otherwise takes more than 3 hours by ferry. The letters and parcels will then be delivered by the local carrier using traditional land transport, supporting the community of around 70 people on North Ronaldsay.

If the trial is successful, the technology will be considered by Royal Mail to support postmen and postwomen in delivering to very remote areas and addresses across the UK. It follows previous efforts that in December 2020 saw Royal Mail deliver a parcel for recipients via drone to a remote lighthouse on the Isle of Mull. In May 2021, Royal Mail conducted first UK drone parcel delivery beyond visual line of site with Windracers Ltd, and the first inter-island deliveries on the Isles of Scilly.

The Windracer ULTRA UAV is an advanced technology demonstrator designed to carry 100 kg over 1000 km and is powered by two four-stroke petrol engines, each directly connected to a two bladed wooden propeller. The engines have a V-twin configuration, with normal operating range between 1100 and 3400 RPM and are attached to the airframe using four industrial vibration isolators in a cantilever configuration. The payload is secured into the loading bay using a cargo net and straps. It was originally designed for rapid medical and food aid distribution. https://insideunmannedsystems.com/bringing-in-the-royal-mail/

Stratolaunch wraps critical design review, aims for hypersonic flight test in 2022 Garrett Reim 30 September 2021

Stratolaunch, owner of the world's largest aircraft, has completed a critical design review of its Talon-A hypersonic test vehicle.

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The Mojave, California-based company plans to use its massive, six-engined Roc aircraft as a launch platform for hypersonic vehicles and missiles. The aircraft, which has a record-setting wingspan of 117m (385ft), was developed by Scaled Composites to air-launch rockets into orbit.

Stratolaunch said on 27 September that the completion of the critical design review puts it on track to flight test its Talon hypersonic vehicles in 2022. The high-speed unmanned air vehicles would then enter service with potential government and commercial customers by 2023.

"The Talon-A vehicles are rocket-propelled, autonomous, reusable testbeds carrying customizable payloads at speeds above Mach 5," says Stratolaunch. "This capability enables routine access to the hypersonic flight environment, which is critical for scientific research, technological development, and component demonstration."

The US Department of Defense is in a hypersonic missile arms race with China and Russia. It is investing billions of dollars into developing different types of hypersonic missiles. Hypersonic is defined as anything flying faster than M5.

The company says it has been building its Talon-A test vehicles in parallel with its critical design review. The airframe of the initial test vehicle, the Talon-A0, is complete, and Stratolaunch is working to install subsystems in the UAV before functional testing in early 2022.

A second vehicle, dubbed Talon-A1, is being assembled and will be the company's first hypersonic-capable UAV. Talon-A is 8.5m long, with a wingspan of 3.4m. It has a launch weight of about 2,720kg (6,000lb). The UAV is intended to fly up to M6 and then glide autonomously back to earth where it would land on a conventional runway. The company says it will also be capable of autonomous take-off from a conventional runway using its rocket engine.
https://www.flightglobal.com/fixed-wing/stratolaunch-wraps-critical-design-review-aims-for-hypersonic-flight-test-in-2022/145720.article#toggle

Skyward Integrates Updated LAANC for Night Airspace Access & Refined Grids

October 20, 2021 News

Skyward, A Verizon company, announced that the next generation of the FAA's Low Altitude Authorization and Notification Capability (LAANC) is now live within the Skyward platform. The

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latest update introduces authorization requests for nighttime drone flights in controlled airspace, as well as refined airspace grids. Skyward customers can request automated and near real-time access to controlled airspace for any time of day, as well as request higher altitude LAANC authorizations in portions of controlled airspace.

The integration of LAANC Version 5.0 expands Skyward's position as a complete drone operations management solution designed to simplify flights and reduce operational risk. In addition to LAANC access to controlled airspace, the Skyward platform includes 3D airspace intelligence, flight planning and logging, personnel and fleet management tools, 2D mapping, 3D modeling, live flight tracking, program insights and a newly redesigned mobile app.

Today, Skyward is one of seven FAA-approved LAANC UAS Service Suppliers providing public services, having completed the technical steps required for the partnership. As an approved LAANC provider, Skyward offers drone pilots fast and easy access to controlled airspace via the Skyward platform. Skyward users can receive a response just seconds after submitting a request. https://uasweekly.com/2021/10/20/skyward-integrates-updated-laanc-for-night-airspace-access-refined-grids/?utm_source=rss&utm_medium=rss&utm_campaign=skyward-integrates-updated-laanc-for-night-airspace-access-refined-grids&utm_term=2021-10-21

22Oct21

Mesa plans to start a delivery test with four drones made by Flirtey of Reno, Nev. Doug Cameron Oct. 21, 2021

Mesa Air Group Inc. said it is planning to test home delivery of food and beverages via drones in Nevada by the end of the year as it considers the potential for nationwide service.

The regional airline's move comes as big e-commerce players including Amazon.com Inc. AMZN 0.58% and Alphabet Inc.'s GOOG 0.26% Google unit as well as dozens of startups pursue drone delivery to household consumers. All face the challenge of securing regulatory approval and stirring consumer acceptance as demand for home delivery continues to boom.

"We don't know what's going to work and what's not," said Mesa Chief Executive Jonathan Ornstein.

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Phoenix-based Mesa plans to start with four drones made by Flirtey Inc. of Reno, Nev., with options on another 500 over the next four years to expand the service in the U.S. and to New Zealand.

The four-rotor Flirtey Eagle electric drones fly autonomously. The company expects them to be operated from restaurants, lowering deliveries on a 60-foot line to consumers' doorsteps before returning to base. https://www.wsj.com/articles/mesa-air-moves-into-drone-food-delivery-11634818091?mod=newsviewer_click

Singaporean drone startup H3 Dynamics raises $26 m to decarbonize air mobility October 21, 2021 The funding round was led by SPARX Mirai Creation Fund

Singapore-based drone startup H3 Dynamics has raised around $26 million in its Series B funding round. The funds will be used by the startup to further accelerate the use of hydrogen technology in its drones in place of the standard battery-powered model.

Founder and chief executive Taras Wankewycz told the media, "Air mobility contributes to just 6 percent of the total CO2 emissions in the world. When surveying the logistics space, we realized some of the major participants have a great majority of their emissions coming from aerial transport; up to 66 percent of all CO2 emitting activities."

The funding round for H3 Dynamics was led by Japan's Mirai Creation Fund, which is managed by SPARX Asset Management on behalf of Toyota Motor and the Sumitomo Mitsui Banking.

Investors such as Audacy Ventures, Ascent Hydrogen Fund, Singapore's Economic Development Board, ACA investors, Capital Management Group, the Grosvenor Group and ATEQ also participated in the funding round. https://internationalfinance.com/singaporean-drone-startup-h3-dynamics-raises-decarbonize-air-mobility/

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