UAS and SmallSat Weekly News

Contents

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19Nov19

Flock becomes exclusive risk partner as Skyports furthers UK drone delivery potential

BUSINESS DELIVERY HEADLINE NEWS INSURANCE UK ALEX DOUGLAS OCTOBER 17, 2019

Skyports said it would be starting with initial 'Beyond Visible Line of Sight' test flights in the UK, Belgium, Sweden and Finland.

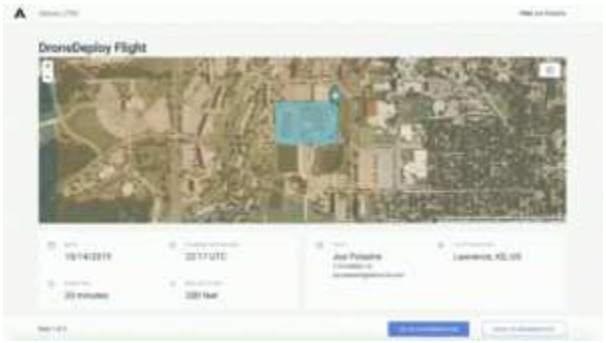
The London-based company is currently developing and implementing an end-to-end global drone delivery service. Its aim is to drastically reduce operating costs, revolutionize service and accelerate worldwide adoption.

The company has been steadily acquiring rooftop space within the UK and globally for vertiports" to be used by passenger and cargo drones landing and taking off in urban environments.

Flock it has teamed up with Skyports to design an insurance program which evolves alongside the operating model of Skyports – from testing to operations. The custom program includes scaled premiums based on test flying, flight durations and multi-flight discounts. It responds to the experience of pilots with decreasing premiums.
https://www.commercialdroneprofessional.com/breaking-news-flock-becomes-exclusive-risk-partner-as-skyports-furthers-uk-drone-delivery-potential/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-315009-Commercial+Drone+Professional+DNA+-+2019-10-18

Airbus Enters the Commercial UTM Market with New DroneDeploy Partnership

Miriam McNabb October 17, 2019



While they're still primarily known as a manned aircraft giant, Airbus has been taking a significant role in unmanned innovation – and now they're ready to offer a commercial product.

Airbus UTM has been participating in unmanned traffic management for more than 2

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years. They are developing a digital air traffic management solution and have developed a low altitude authorization and notification capability (LAANC) application. The LAANC capability is now available to the public via a new partnership with DroneDeploy.

With this partnership, AirbusUTM's first commercial product becomes immediately significant in the marketplace. The Airbus name is an advantage in the aviation industry. DroneDeploy has an excellent reputation, hundreds of large customers and thousands of users who are quickly adopting the DroneDeploy platform. The combination should provide Airbus UTM with major traction in the enterprise market. https://dronelife.com/2019/10/17/airbus-enters-the-commercial-utm-market-with-new-dronedeploy-partnership/

Beat at the Heart of Celine Dion's Tour Jason Reagan October 17, 2019

Because she loved them, indoor-drone provider **Verity Studios** is embarking on a new tour with Canadian sensation Céline Dion with a bevy of illuminated autonomous drones set to launch during the pop diva's upcoming concerts.

"In the much-awaited encore of Dion's show, the song 'My Heart Will Go On, more than 100 Verity drones rise from the stage, dramatically turning blue and thronging around Dion as the song reaches its crescendo. In the final strains of the song, the drones hover above Céline before descending to the stage one by one. A single drone sinks down towards Dion's outstretched hands before it lifts away as she raises her arms."

"'My Heart Will Go On' is Céline Dion's biggest hit and show designer Yves Aucoin wanted to create a big visual impact for this song," Verity's Head of Live Events Federico Augugliaro said. "The drones were integral in providing an immersive, 3D effect, and Céline Dion's interactions with the drones evoke a strong emotional response from the audience."
https://dronelife.com/2019/10/17/drones-beat-at-the-heart-of-celine-dions-tour/

LIDAR equipped drones and airplanes help discover and map Maya ruins Haye Kesteloo Oct. 17th 2019

In recent years LIDAR equipped drones and airplanes have helped to make a number of discoveries as it allows archaeologists to 'see' through dense vegetation and find ruins of old civilizations such as the Maya's in Mexico

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Until recently, archaeology was limited by what a researcher could see while standing on the ground. But light detection and ranging, or lidar, technology has transformed the field, providing a way to scan entire regions for archaeological sites.

With an array of airborne lasers, researchers can peer down through dense forest canopies or pick out the shapes of ancient buildings to discover and map ancient sites across thousands of square miles. A process that once required decades-long mapping expeditions, and slogging through jungles with surveying equipment, can now be done in a matter of days from the relative comfort of an airplane.

Dr. Golden has used a drone-based lidar system to get more detailed images of these sites. "The word that all of us used when we started looking at the lidar was 'humbling.' It humbled all of us in showing what we had missed. The future patternwill be that everything will be covered by lidar, like topographic maps today." https://dronedj.com/2019/10/17/lidar-equipped-drones-maya-ruins/

DJI welcomes FAA and industry reports on improving drone safety Haye Kesteloo

Oct. 17th 2019

The reports recommend drone manufacturers protect sensitive airspace with geofencing systems, create remote identification systems for authorities to monitor airborne drones and install ADS-B-In receivers in drones to alert drone pilots of other aircraft approaching. DJI has already adopted these types of solutions voluntarily.

The three reports were made public at today's quarterly Drone Advisory Committee meeting in Washington, D.C. and are available for download at this link. DJI's "Elevating Safety" white paper, which explains the safety and security systems in DJI products and outlines a 10-point plan for the industry and government, was released earlier this year and is available for download at this link.

Earlier this month, a separate report from the Blue Ribbon Task Force on UAS Mitigation at Airports calls for drone manufacturers to include geofencing, remote identification and a basic knowledge quiz for new drone pilots in their products. The Task Force also noted the benefits of a "three-dimensional bow-tie geofence to address approach and departure pathways." The report also recommends stronger enforcement against drone pilots who break the rules, as well as more authority for local law enforcement officers who are the first to respond to drone

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incidents." The full Blue Ribbon Task Force report is available for download at this link.
https://dronedj.com/2019/10/17/dji-welcomes-faa-and-industry-reports-on-improving-drone-safety/

Aerodyne Group Announces US$30 Million Series B Funding October 17, 2019 News

Present at the signing ceremony of the first closing were representatives of the lead investor, InterVest/ Kejora Ventures, alongside VentureTECH and Gobi Partners as well as existing investor from Axiata Digital Innovation Fund. Participating investor in the Series B first closing but not present today was 500 Startups.

Today, the Malaysian-headquartered, 5-year old Aerodyne is ranked third globally by Drone Industry Insights in its 2019 Drone Service Provider Ranking. Aerodyne currently has presence in 25 countries and delivers AI-driven, drone-based enterprise-integrated managed solutions to the Oil & Gas, Power, Telecoms, Renewables, Construction, Agriculture and Infrastructure industries.

Proceeds from the Series B investment round will be used to undertake select M&As, further invest in R&D and technology, hire talent globally and continue to expand into Aerodyne's key markets such as Japan, India, US and the Middle East.

Aerodyne Group (www.aerodyne.co) is a world-leading provider of drone-based enterprise solutions and a pioneer in the use of AI as an enabling technology for large-scale data capture and analytics. Aerodyne's staff of over 320 has completed over 60,000 flight operations, inspected more than 250,000 assets and surveyed in excess of 55,000km of power infrastructure across 25 countries around the world.
https://uasweekly.com/2019/10/17/aerodyne-research-llc-announces-us30-million-series-b-funding-announcement/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_10_18_2019&utm_term=2019-10-18

Drone company seeking to industrialize aerial data joins CAA regulatory sandbox APPLICATION BUSINESS NEWS UK ALEX DOUGLAS OCTOBER 17, 2019

The Regulatory Sandbox was launched in April this year to create an environment where innovation in aviation can be explored and

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flourish in line with CAA core principles of safety, security and consumer protection.

sees.ai, a Techstars-backed startup, aims to enable drone service providers to remotely deliver services on industrial sites from a central control room. The collaboration between sees.ai and the CAA will allow both organizations to explore frameworks under which regulatory approvals for routine 'beyond visual line of sight' operations could be granted.

Co-Founder and CEO John McKenna, commented: "It's inevitable that drone services operations will end up centrally delivered, driven by economies of scale and the benefits of expertise concentration. We are proud to be breaking new technical and regulatory ground and unlock this new model." https://www.commercialdroneprofessional.com/drone-company-seeking-to-industrialise-aerial-data-joins-caa-regulatory-sandbox/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-314873-Commercial+Drone+Professional+DNA+-+2019-10-17

Scottish-headquartered Ecometrica wins Pan-American prize for Geospatial Innovation AGRICULTURE APPLICATION INTERNATIONAL NEWS ALEX DOUGLAS OCTOBER 17, 2019

The Scottish-headquartered company has won the prize for 'Excellence in Geospatial Applications' at the Americas Geospatial World Excellence Awards, in recognition of quality and innovation in the implementation of geospatial technology.

Representatives from Ecometrica picked up the gong at the Americas Geospatial Forum in Mexico City last week. In the Americas, high resolution land use change maps alongside maps of deforestation, fire risk and biomass have been developed covering more than 132 million hectares of forest.

Ecometrica uses observation data from space, air and land to deliver actionable insights for business, government and society. Earlier this year, CDP covered how Ecometrica had deployed LIDAR-equipped drones to protect Scottish forests. Read the full story here: https://www.commercialdroneprofessional.com/scottish-headquartered-ecometrica-wins-pan-american-prize-for-geospatial-innovation/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-314873-Commercial+Drone+Professional+DNA+-+2019-10-17

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New Government Access Can Transform UAS Sector David Barton October 16, 2019

On Aug. 15, Virginia's Center for Innovative Technology announced a groundbreaking contract that will provide state agencies with easier access to drone services.

The contracting effort, led by Virginia's Department of General Service and the National Association of State Procurement Officials, was conducted to befit all 50 states, the District of Columbia and the U.S. territories. The NASPO contract gives any state, locality or publicly funded educational institution the ability to access this unmanned systems services contract with no red tape. Any public agency with access to NASPO's ValuePoint system will have access to drone services at a pre-negotiated rate. For agencies that opt into the NASPO-based contract, securing UAS support is as simple as filing a task order.

This contract, a first for the UAS industry, is significant because it makes UAS services readily available to government agencies. Public safety organizations that are considering adopting UAS, that need surge capacity, or that want to test a new UAS platform or payload have the ability to tap into UAS services on demand. https://unmanned-aerial.com/new-government-access-can-transform-uas-sector?utm_medium=email&utm_source=LNH+10-17-2019&utm_campaign=UAO+Latest+News+Headlines

21Oct19

Space mice and robots among latest science heading into space from Wallops Island TAMARA DIETRICH DAILY PRESS OCT 20, 2019

NASA astronauts Christina Koch and Andrew Morgan stow biological research samples into a science freezer located inside the U.S. Destiny laboratory module. Next month, 4,600 pounds of additional science payload are set to head from Virginia to the ISS.

Space mice, radiation vests, robotic avatars and recycling polymers for 3D printers are among the science

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experiments bound for the International Space Station on the next commercial resupply mission from Virginia.

Northrop Grumman's 12th robotic mission — and its first under a new NASA contract — is set to launch no earlier than 9:59 a.m. Saturday, Nov. 2, from the state-owned Mid-Atlantic Regional Spaceport on Wallops Island. Experiments include:

Rodent Research-14 marks the first time a life sciences mission using rodents will launch on a Cygnus. The goal is to document the effect of microgravity on the biological circadian rhythm, and specifically the 12-hour "circatidal" clock that's believed to control stress levels and protein responses and coordinate metabolism. Here on Earth, the study could lead to new therapies for metabolic diseases that contribute to insulin resistance, type 2 diabetes and cancer. https://www.pilotonline.com/news/environment/dp-nw-antares-cygnus-launch-20191020-y66ap3vu6bczdkhsb6gwje5qs4-story.html

Drone delivery service takes off in Christiansburg October 18, 2019 Richard Foster rfoster@virginiabusiness.com

Wing, a division of Google's parent company, Alphabet Inc., launched the nation's first commercial drone delivery service as a pilot program in Christiansburg Friday.

Flying at more than 70 mph, the 10-pound drones will deliver orders for FedEx, Walgreens and area retailer Sugar Magnolia. The drones lower cargo weighing up to three pounds into customers' yards, making deliveries in as little as five to 10 minutes.

Wing partnered with the Virginia Tech Mid-Atlantic Aviation Partnership to develop the service, which will eventually take flight in other cities across the nation. The drones made their historic first deliveries in three suburban yards Friday, witnessed by officials from the White House, the Federal Aviation Administration, Wing and Virginia Tech, including Virginia Tech President Tim Sands.

"This is a pivotal moment in aviation," said Mark Blanks, MAAP's director. "Package delivery has been one of the most sought-after applications for unmanned aircraft, but doing it well requires solving some of the hardest problems in the industry. It's a privilege to partner with Wing to enable a service that we believe will transform the industry and bring real value to our communities." http://www.virginiabusiness.com/news/article/drone-delivery-service-takes-off-in-christiansburg

FAA's Drone Advisory Committee Makes Recommendations on Remote ID, Security Brian Garrett-Glaser October 18, 2019

Meeting of the FAA's Drone Advisory Committee on October 17, 2019.

WASHINGTON, D.C. — Members of the FAA's Drone Advisory Committee unanimously approved recommendations for the agency to consider regarding remote identification and UAS security issues, which were highlighted by a recent Blue Ribbon Task Force report on UAS Mitigation at Airports.

Committee recommendations on remote ID for drones focused on efforts to encourage voluntary equipage, as the FAA has noted it is likely 24 months away from official rulemaking on that issue. The agency is scheduled to release its proposed rulemaking on remote ID on December 20 of this year.

Remote ID is seen as a critical "gate" for rulemaking around drones. Like a digital license plate, this signal broadcast by a drone would identify its operator and potentially provide other information such as purpose, flight path and payload. The FAA views remote ID as critical to enabling safe flights beyond the operator's visual line of sight, and law enforcement sees it as necessary to combat careless or criminal drone operators violating the law or airspace restrictions. https://www.aviationtoday.com/2019/10/18/faas-drone-advisory-committee-makes-recommendations-remote-id-security/

AeroVironment unveils Puma LE unmanned aerial vehicle Pat Host, Washington, DC Jane's International Defence Review 15 October 2019

The Puma LE, unveiled on 14 October at the annual AUSA conference, contains a secondary payload bay with dedicated power and ethernet that enables integration of multi-mission payloads.

AeroVironment unveiled its new unmanned aerial vehicle on 14 October at the 2019 Association of the United States Army conference.

The Puma LE prototype has already flown multiple times, including the week of 7 October, and is on display at AUSA. He said the platform has also had select customer demonstrations.

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Michael Jorgens, Puma LE product line manager, said on 14 October that the aircraft weighs 10.2 kg and can be launched by hand or bungee. The Puma LE is capable of performing two 5.5 hour missions enabled by a five-minute battery swap at the end of the first mission. Jorgens said a single 5.5 hour mission is more than double the typical Group 1 time on station. https://www.janes.com/article/91909/ausa-2019-aerovironment-unveils-puma-le-unmanned-aerial-vehicle

Volocopter and Skyports deliver world's first full-scale air taxi vertiport

INNOVATION NEWS PATRICK CREMONA OCTOBER 21, 2019

The Voloport has been unveiled at the Intelligent Transport Systems World Congress in Singapore.

"Skyports has identified a number of potential VoloPort locations and air taxi routes across the city state.

As part of the ITS World Congress, Volocopter and Skyports have built up the VoloPort prototype on the Float at Marina Bay, and numerous visitors are expected, including representatives from the EU Commission, the EASA, and the Ministry of Transport of various countries.

The VoloPort demonstrates numerous capabilities to support a smooth customer journey as well as operational processes, and is designed to offer an exceptional passenger experience, using the most modern safety and security processes. Its modular design can be easily adapted to fit rooftops, railway stations, parking lots and other metropolitan locations. https://www.commercialdroneprofessional.com/volopter-and-skyports-deliver-worlds-first-full-scale-air-taxi-vertiport/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-315173-Commercial+Drone+Professional+DNA+-+2019-10-21

Fifth annual Commercial UAV Expo Americas to 'break exhibitor and attendance records'

EVENTS NEWS PATRICK CREMONA OCTOBER 21, 2019

The event which runs from October 28-30, will see more than 200 exhibitors and 2,500 attendees unite. A line-up of industry leaders include NASA Administrator Jim Bridenstine and VP of the Advanced Technology Group at UPS Bala Ganesh.

Meanwhile the DRONERESPONDERS Public Safety Summit will unite drone operators and program managers across law enforcement, fire rescue, and other

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emergency services for strategic discussions and workshops surrounding the evolving use of unmanned aircraft systems.

A variety of workshops are being offered including: A True View of Drone Lidar hosted by GeoCue Group; AUVSI Trusted Operator Program Certification hosted by Embry Riddle; Intro to UAS Ops & Mapping & Advanced UAS Mapping Concepts hosted by ASPRS; and Night sUAS CSI Demo hosted by Sundance Media Group.

There will also be live flying demos, with eight leading vendors showing their drones and software in action, providing insight into their capabilities, including AeroVironment, Autel Robotics, DroneNerds, FLIR, Geometrics, Leica Geosystems, LiDAR USA and MicaSense.

More than 30 leading vendors will share their latest release and news, including AeroVironment, FLIR Systems, Wingtra, Boeing, LiDAR USA, Pix4D, Riegl USA Phoenix Lidar, Topcon Positioning Systems and Trimble/Applanix.
https://www.commercialdroneprofessional.com/5th-annual-commercial-uav-expo-americas-to-break-exhibitor-and-attendance-records/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-315173-Commercial+Drone+Professional+DNA+-+2019-10-21

Clean-energy Firm Claims First-ever 3D-printed, Hydrogen-fueled Drone Flight

Jason Reagan October 21, 2019

The flight launched in late August from a test site in Boston.

Several tech firms have soared into hydrogen-fuel research as the next generation in drone power systems. However, H2GO seems to be the first to boast a 3D-printed rotor UAV. It can increase the flight time of a drone's battery by 90 minutes, compared with less than 25 minutes for typical lithium-ion battery systems.

"The cutting-edge design allows for up to 15 percent of total drone weight reduction and volume control – achieved by the 3D printed lightweight metal – as well as creating internal structures that optimize heat management into and out of the power system. This enables UAVs to travel three to five times further and carry heavier payloads."
https://dronelife.com/2019/10/21/clean-energy-firm-claims-first-ever-3d-printed-hydrogen-fueled-drone-flight/

U-ROB's Indoor Drone with Customized Electronic Modules October 18, 2019 News

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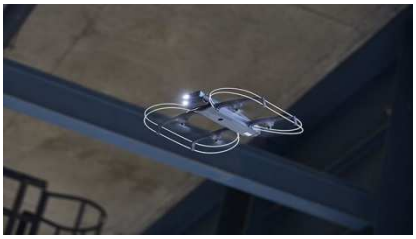
Controlling the drone and maintaining communication in enclosed spaces can be severely restricted by the environment. U-ROB has developed the drone ROBi for industrial applications and launched it in 2019. This includes applications such as the inspection of pipelines and combustion chambers in power plants, the inspection of chimneys and the interior of bridge structures as well as the inspection of tanks and sewage pipes.



ROBi is equipped with different sensors and camera systems. For example, during the interior inspection of a large tank, we discover a possibly defective weld seam. We can then replace the camera system with a system that measures the thickness of the coating or takes a sample to tell how serious the damage is. A complete inspection of a large tank can be carried out within a few hours. In contrast, conventional inspections have a downtime of several days.

For these applications, ROBi is equipped with a very bright RGB camera with a resolution of 12Mpx. Since ROBi usually operates in dark surroundings, the camera was fitted with dimmable high-power LEDs. The camera and LEDs are decoupled from vibrations and can be turned by remote control 180 degrees up and down. https://uasweekly.com/2019/10/18/u-robs-indoor-drone-the-robi-with-customized-electronic-modules/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_10_21_2019&utm_term=2019-10-21

22Oct19

US Post Office adds clarity to September RFI for drone delivery services October 20, 2019 Jenny Beechener

The US Post Office has provided more details about the Request For Information first issued in September for unmanned aircraft systems operators and developers to explore the use drones as delivery vehicles for mail as an integrated part of its vehicle delivery fleet, as well as to provide image and other data collection services. The amended RFI responds to questions about the eligibility of individual submissions and teams to apply; package size, weight and payloads; the level of autonomy; anticipated approval procedures with the Federal Aviation Administration; delivery range; and related support services.

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The additional information states the Post Office accepts individual and joint submissions. It anticipates an industry day depending upon the number of responses, and expects the Post Office to carry out a review of key technologies. Initial efforts will focus on a Part 107 certified system which limits the UAS gross weight to 55lbs, while further evaluation may lead to larger package sizes. The Post Office is interested in beyond visual line of sight and may include multiple UAS designs to fulfil all postal missions. The Post Office is also looking for respondents to address as many requirements as possible including UAS planning, CONOPS, regulations, compliance and training. Original posted date: 23 September 2019 Solicitation number: RFI-USPS-UAS Response date: 4 November 2019 Primary point of contact: maryellen.mcgowan@usps.gov https://www.unmannedairspace.info/latest-news-and-information/us-post-office-adds-clarity-to-september-rfi-for-drone-delivery-services/

Partnership Offers UAS Upgrade Path for Safer BVLOS Operations 22 Oct 2019

Robotic Skies Inc and SqwaQ Inc have signed an agreement enabling Robotic Skies Service Centres to distribute, retrofit, and provide field services (Maintenance, Repair, and Overhaul) for SqwaQ communications equipment. Robotic Skies is the first and only global MRO network for commercial UAS, whilst SqwaQ is a global network and service provider which can maintain UAS connection at up to 5500' altitude.

The patented SqwaQbox modem is a redundant comm-link that can enable drones to fly unlimited-range BVLOS. A postcard-sized communications modem, which aggregates the bandwidth of up to twelve individual connections, the SqwaQbox can be both factory-installed and retrofitted to existing UAS.

A multi-redundant, high throughput modem, the SqwaQbox supports reliable UAV command and control as well as simultaneous streaming of pilot view cameras, downward facing cameras and sensors. This can provide UAS pilots with an enhanced onboard cockpit perspective, increasing situational awareness and safety during BVLOS missions.

As well as live First-Person View camera streaming, the SqwaQbox can also validate: Pilot credentials, Pre-flight aircraft registration and FAA flight plan authorizations.

This new agreement partners Robotic Skies' 175 plus certified repair stations across more than 40 countries, with SqwaQ's ability to provision custom data services on over 600 global cellular networks across 130 countries.
https://www.unmannedsystemstechnology.com/2019/10/partnership-offers-uas-upgrade-path-for-

safer-bvlos-operations/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=cc741835f3-eBrief_2019_22_Oct&utm_medium=email&utm_term=0_6fc3c01e8d-cc741835f3-119747501

Commercial Data Capture UAV Unveiled 22 Oct 2019

TerraView has announced the unveiling of the RangePro X8 industrial unmanned aerial vehicle which has been specially designed for industrial, first responder and government enterprise data capturing applications. It features a flight endurance of more than 70 minutes when equipped with a standard payload.

The system's long endurance time, achieved with a highly efficient design and high-capacity batteries, allows users to capture more data with every flight and spend less time recharging and swapping out batteries. Each battery supports over 500 charging cycles, resulting in longer service life.

Its data capture capabilities can be used for a wide range of industrial applications such as volumetric studies, thermal imaging, structural integrity surveys, terrain mapping and modeling, construction site planning and utilities inspection.
https://www.unmannedsystemstechnology.com/2019/10/commercial-data-capture-uav-with-70-minute-flight-time-unveiled/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=cc741835f3-eBrief_2019_22_Oct&utm_medium=email&utm_term=0_6fc3c01e8d-cc741835f3-119747501

Autonomous 18-Mile BVLOS UAS Flight Conducted 18 Oct 2019

Vigilant Aerospace Systems has announced that, in conjunction with Oklahoma State University, it has conducted a UAS flight at OSU's 13-mile beyond visual line-of-sight corridor near Stillwater, Oklahoma. The flight, which was conducted with a twin-motor fixed-wing UAS operating below 400 feet AGL, was over 18 miles long, starting at OSU's Center for Forensics Explosives range near Pawnee, Oklahoma and culminating in an autonomous landing at OSU's Unmanned Aircraft Flight Station in Glencoe, Oklahoma.

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The purpose of the flight, conducted under an FAA Certificate of Authorization with a visual observer, was to demonstrate BVLOS UAS capabilities, as well as to test Vigilant's FlightHorizon 2 software, an unmanned traffic management and active detect-and-avoid system. FlightHorizon 2 tracked dozens of manned aircraft across central Oklahoma during the flight and provided real-time alerting to the visual observer and pilot-in-command.

This demonstration flight is the first in a series of tests that will involve radar integration, ground-based and on-board autonomous detect-and-avoid capabilities, remote ID solutions and UTM processes. Results will provide a proof of concept for Vigilant's UTM capabilities currently under research and development and will provide the basis for initial deployment of these capabilities. https://www.unmannedsystemstechnology.com/2019/10/autonomous-18-mile-bvlos-uas-flight-conducted/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=cc741835f3-eBrief_2019_22_Oct&utm_medium=email&utm_term=0_6fc3c01e8d-cc741835f3-119747501

Washington State Students Using Drones to Study Algebra Associated Press, Wire Service Content Oct. 21, 2019

Washington state high school students building and using aerial drones in high-tech extension of traditional math studies.

SEDRO-WOOLLEY, WASH. (AP) — Students at a Washington state high school are building and using aerial drones in a high-tech extension of traditional math studies.

The Skagit Valley Herald reports that students in advanced algebra class at Sedro-Woolley High School are using RubiQ-brand drones to chart distance, speed and create graphs. The students also work in small groups to assemble the drones before learning to fly them and collect data needed to complete their algebra assignments.

Kathy Chace and Jason Dilley teach the new class, which is part of series of courses offered at the high school incorporating the real world with principles of science, technology, engineering, and math. Dilley says students who complete the class will earn a career and technical education credit, as well as a math credit. https://www.usnews.com/news/best-states/washington/articles/2019-10-21/washington-state-students-using-drones-to-study-algebra

Zipline is Using Drones to Redefine Humanitarian Care in Combat – for Both Soldiers and Civilians Miriam McNabb October 22, 2019

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Drone delivery has been in the news frequently recently, as both UPS and Wing claim firsts in commercial drone delivery in the U.S. Wing is now delivering commercial goods within a town in Virginia. UPS is delivering blood samples at medical campuses. These are important steps forward for commercial drone delivery – but the flights are of limited distance. At an undisclosed military facility in the Western U.S., however, medical drone delivery heroes Zipline have been working with the Department of Defense to prove drone technology can be lifesaving in combat situations – and they flew what the company describes as "the longest-range commercial drone delivery flight in U.S. history: a 79-mile round trip delivery flight at an average speed of 64 miles per hour."

That's a further demonstration of the potential for drone delivery, and a demonstration held in the U.S., while most of Zipline's deliveries have been made overseas. It's also a potential game changer for both soldiers and civilians in combat situations, as Zipline proves that drones can deliver life-saving medical supplies and critical care in conflict and disaster relief scenarios.
https://dronelife.com/2019/10/22/zipline-is-using-drones-to-redefine-humanitarian-care-in-combat-for-both-soldiers-and-civilians/

24Oct19

House committee advances drone legislation The Hill CHRIS MILLS RODRIGO - 10/23/19

The House Homeland Security Committee on Wednesday unanimously voted to advance two bills related to drones, blocking purchases of them from certain countries and creating a position at the Department of Homeland Security to counter associated threats.

The "Drone Origin Security Enhancement Act" prohibits the DHS secretary from "operat[ing], provid[ing] financial assistance for, or enter[ing] into or renew[ing] a contract for the procurement" of unmanned aircraft systems from countries labeled as strategic competitors by the Department of Defense. If approved, the bill would block DHS purchases from China's DJI Technologies, the world's largest manufacturer of drones.

Although the U.S. military has banned DJI drone purchases over security concerns, several other government agencies have made big purchases from the Chinese firm. The Department of Interior has more than 500 DJI drones at its disposal for monitoring federal land and natural

resources. Local government entities, like the Los Angeles Fire Department, also rely on the drones produced in China.

"We are deeply disappointed in this move because it broadly and unfairly targets technology manufactured in China and would prevent the Department of Homeland Security from using the industry's most advanced drone and drone-detection technology — which it already relies on – to support vital operations," an official for DJI told The Hill.
https://thehill.com/policy/technology/467111-house-committee-advances-drone-legislation

CVS, UPS to partner on drone delivery tests for medications KARMA ALLEN Oct 22, 2019

CVS Health and UPS are teaming up to test a program that delivers prescription medications by drone in as little as 10 minutes after placing an order.

UPS Flight Forward, which already delivers medical samples by drone at WakeMed Hospital in North Carolina, made the announcement on Monday, just weeks after it received federal approval to start delivering packages via drones, according to a statement. UPS said it had completed more than 1,500 drone deliveries at the WakeMed campus in Raleigh since March and "plans to deliver packages to consumers at their homes in the near future."

"The company has tested drones for urgent commercial deliveries over water; funded and supported humanitarian deliveries in Africa; and tested non-urgent commercial residential delivery in rural areas with drones launched from a UPS package delivery car. UPS Flight Forward plans, in the future, to transport other items in many industries, and future tests together with CVS represent the first foray into retail business expansion for the UPS subsidiary."

UPS's Flight Forward is the first program to earn the FAA's Part 135 Standard certification, giving it no limits in the "size or scope of operations. Last week, CVS rival Walgreens said it would offer a pilot drone delivery service in Christiansburg, Virginia, with Wing, Google's drone delivery company. https://abcnews.go.com/Business/cvs-ups-partner-drone-delivery-tests-medications/story?id=66440083

First anti-drone laser delivered to Air Force for year-long test deployment OCT. 22, 2019 Ed Adamczyk

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Oct. 22 (UPI) -- Raytheon Co. announced the delivery, to the U.S. Air Force, of the first high-energy laser system to counter drone threats. The system will be tested in a year-long overseas deployment, the company said on Tuesday.

Raytheon received a $23.8 million contract in August to build two high-energy laser systems, as well as a $16 million contract for a microwave counter-drone system known as the Phaser. The laser uses a variant of Raytheon's Multi-Spectral Targeting System and an electro-optical/infrared sensor to detect and track drones before engaging and neutralizing the threat. The High Energy Laser Weapons System then can shoot down a drone.

For testing and display purposes it was installed on an all-terrain vehicle to demonstrate its maneuverability, similar to a system under testing by the U.S. Army. The HELWS can deliver intelligence, surveillance and reconnaissance capability and dozens of precise laser shots on a single charge from a standard 220-volt outlet, and can also be paired with a generator to provide a nearly infinite number of shots. https://www.upi.com/Defense-News/2019/10/22/First-anti-drone-laser-delivered-to-Air-Force-for-year-long-test-deployment/9261571762470/?rc_fifo=1

AeroVironment Receives $5.25 Million Puma 3 AE Contract for U.S. Border Patrol October 23, 2019 Military | News

AeroVironment, Inc. received a $5,254,912 firm fixed-price contract award for Puma™ 3 AE systems and support equipment for the U.S. Border Patrol. Delivery is anticipated by January, 2020.

The Puma system can be launched from anywhere, at any time, and requires no runways or launch devices. It flies for hours in extreme environments while producing high-resolution, continuous or on-demand surveillance of land and sea border areas at any time of the day or night. It extends the reach of Border Patrol agents at a fraction of the cost of manned or larger unmanned aircraft.

It will also support humanitarian missions, assisting in the location of individuals in need of aid along difficult-to-reach border areas and responding to natural disasters. It is a man-portable system designed for land and maritime operations.
https://uasweekly.com/2019/10/23/aerovironment-receives-5-25-million-puma-3-ae-contract-for-u-s-border-

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patrol/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_10_23_2019&utm_term=2019-10-23

Boeing NeXt Is Ushering in the Future of Urban Air Mobility OCTOBER 22, 2019

In 2018, the aerospace company formed Boeing NeXt, an organization that is laying the foundation for a next-generation mobility ecosystem in which autonomous and piloted vehicles can safely coexist. Boeing believes there is a demand for safe, innovative, sustainable, and accessible modes of transportation that current and future UAV technology is best positioned to pioneer.

Some of the prototypes Boeing NeXt has been developing include the Cargo Air Vehicle, the Passenger Air Vehicle, and the Cora. The Cargo Air Vehicle is designed to carry a payload up to 500 pounds and is undergoing flight testing. The Passenger Air Vehicle is in the testing phase as well, and is experimenting with flight ranges of up to 50 miles. Cora is a two-passenger air vehicle equipped with self-piloting software. Earlier this year, Boeing formed a strategic partnership with Kitty Hawk to advance the development of the Cora. That team is already working with regulatory bodies in New Zealand to make passenger UAM a reality.

Boeing has also partnered with SparkCognition to form SkyGrid—an airspace management software platform designed for urban aerial mobility. SkyGrid leverages its AI, blockchain, security, and aviation expertise to enable UAVs to fly within global airspace safely and securely with agility. https://www.commercialuavnews.com/infrastructure/boeing-next-is-ushering-in-the-future-of-urban-air-mobility-uam?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiTVdFMk1qWmpOR1U0WldNNCIsInQiOiJVMmJDWEljaFhoaDVDY05ZaTNaZTNPUnpyek96RnZVMkhUZTBUVHZLWkNuaThzOE5SVEVcLzNuZjNcL3BSSXlVZWFhRzdDckQ5U1pKQnd1ZSs3YjVTSm8xRzJhUUF6amoxWGJCXC9vbU1wMnNXa1lKamtBQVFcL2xWbHBEU1c1cVR5bjlifQ%3D%3D

25Oct19

Forget ambulances... drones are quicker! CONNOR BOYD HEALTH REPORTER FOR MAILONLINE 25 October 2019

Study of rush-hour traffic in New York reveals the gadgets get to patients 32% quicker

- **Drones reached patients in six-and-a-half minutes during rush hour in Brooklyn**

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- **Paramedics took three minutes longer to respond to life-threatening emergency**
- **They say drones could deliver the likes of Epipens and defibrillators to patients**

Drones can reach critically-ill patients three minutes faster than paramedics in busy cities, according to research.

Scientists compared the speed of paramedics and the unmanned gadgets during rush hour in Brooklyn, New York. They found drones could get to patients in six-and-a-half minutes, as opposed to paramedics who took nine-and-a-half minutes to arrive.

Doctors now believe the gadgets could be adapted to carry life-saving medications and communicate with bystanders.

They suggest Epipens could be delivered to people suffering from anaphylaxis and inhalers to patients having asthma attacks. And researchers suggest defibrillators could be flown and dropped at the scene for bystanders to use in the event of someone going into cardiac arrest. https://www.dailymail.co.uk/health/article-7609671/Drones-faster-responding-emergencies-ambulances-study-finds.html?ito=1490

Former House Aviation Chair Trashes "Drone Integration and Zoning Act" Miriam McNabb October 25, 2019

The "Drone Integration and Zoning Act" proposed by Senator Mike Lee (R-Utah) would strip the FAA of authority to manage airspace below 200 feet – and make the airspacce immediately over people's homes private property. From the perspective of the commercial drone industry, it's potentially disastrous: leading directly to the "patchwork quilt" of state laws that former FAA Administrator Michael Huerta warned against several years ago.

So-called "Drone Federalism" acts – those that challenge FAA preemption and propose to grant individual states sweeping rights to regulate drones – have been a bi-partisan issue, with Senator Dianne Feinstein (D-CA) proposing one of the first in 2017. Opposition, however, is also bi-partisan. In an Op-Ed published in the Morning Consult this week, the Hon. Frank LoBiondo, the former chairman of the House Aviation Subcommittee, defended the drone industry and trashed Lee's proposal to divide responsibility for the airspace between the FAA and state, tribal and local authorities.

Calling the drone industry a "Technical Revolution of the 21st century," LoBiondo writes: "We are in the nascent stages of unmanned aircraft systems — or drones — completely

transforming how we do business, deliver services, and transport people. It is an exciting and unchartered era; one we must allow to take off." https://dronelife.com/2019/10/25/former-house-aviation-chair-trashes-drone-integration-and-zoning-act/

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