UAS and SmallSat Weekly News

Contents

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Surveillance Drone Leads Mediterranean Immigration Sting Jason Reagan July 25, 2019

Rome-based security-defense company Leonardo Systems says one of its Falco EVO drone systems helped European police catch an illegal immigration scheme.

On June 20, Frontex, (the European Border and Coast Guard Agency) launched the fixed-wing drone from the Italian island of Lampedusa, locating a trawler attempting to smuggle in 81 illegal migrants involved in a criminal operation. The trawler attempted to transfer the migrants to smaller boats before being discovered by drone surveillance.

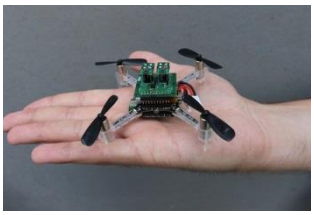
"Following the transfer, the Falco EVO's surveillance payloads kept a close eye on the trawler until an enforcement operation was launched by Italian authorities to seize the boat," a Leonardo release states.

The Falco EVO system has already flown for more than 280 hours on behalf of Frontex, with one mission on June 26 clocking in at 17 hours and 21 minutes.
https://dronelife.com/2019/07/25/surveillance-drone-leads-mediterranean-immigration-sting/

This Micro Drone Can Smell Toxic Gases Malek Murison July 25, 2019

Researchers at Barcelona's Institute for Bioengineering of Catalonia have adapted an off-the-shelf micro-drone to detect toxic gases and fly beyond the line of sight of emergency teams.

Called SNAV (Smelling Nano Aerial Vehicle), it weighs just 35grams and has a payload of nanometric MOX gas sensors capable of registering carbon monoxide, methane and other organic volatile compounds including ethanol, acetone and benzene.



The new gadget, which weights thirty-five grams, could identify toxic gases in buildings that have collapsed due to an earthquake or explosion.

The project was led by researchers Santiago Marco and Javier Burgués from the Faculty of Physics at IBEC.

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In a paper published in *Sensors*, Marco suggests the system could be useful in "rescue operations in collapsed buildings, due to earthquakes and explosions. SNAV can detect toxic gases and even the compounds unconscious victims inhale. It could also be used in a search for drugs or explosives in places which are hard to enter." Emergency crews could use the technology to navigate through indoor spaces and overcome obstacles such as stairs and debris. https://dronelife.com/2019/07/25/this-micro-drone-can-smell-toxic-gases/

3DR Inks Drone Scanning Deal with PCL Construction Jason Reagan July 26, 2019

A coalition of independent construction companies is looking to drone company 3DR to deploy the firm's drone software for unlimited use across worldwide projects. PCL Construction is one of the largest contracting organizations in North America with annual construction volume of $7 billion.

The group will use Site Scan, a software suite that includes an iPad app for drone flight planning and a web application for turning drone photos into precise maps as well as 3D models of construction sites.

PCL started working with 3DR in 2016 to leverage drone technology for site documentation, quality control and progress reporting. It's been used on more than 30 PCL projects across North America, and with this agreement, PCL is standardizing Site Scan as its drone software platform across the company.

"Site Scan has changed the way teams communicate on the jobsite," said Deron Brown, President and COO, PCL's U.S. operations. "Using this straightforward tool has improved our on-site documentation of existing conditions, work in place and as-builts. Site Scan's workflows are efficient and produce repeatable results that easily integrate into our existing software and systems." https://dronelife.com/2019/07/26/3dr-inks-drone-scanning-deal-with-pcl-construction/

How to fly your DJI drone from a sailboat Haye Kesteloo - Jul. 26th 2019

Yachting World has a detailed article on how to fly your DJI drone from a sailboat, according to sailors. Three drone piloting experts explain how they do it and how they make sure that the drone doesn't land in the drink. In the article are some really good tips and advice. For instance, one professional videographer who shot some of the amazing Volvo Ocean Race footage suggests

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gluing a light-weight plastic tripod to the underside of the DJI Mavic to make hand-catching easier and safer. Keep reading for more. https://dronedj.com/2019/07/26/how-to-fly-your-dji-drone-from-sailboat/#more-17823

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senseFly unveils eBee X with Agisoft Metashape Professional APPLICATION BUSINESS INTERNATIONAL MANUFACTURER NEWS ALEX DOUGLAS JULY 26, 2019

Ending on September 30, customers who purchase an eBee X with a SODA 3D, Aeria X or RedEdge-MX sensor will receive a six-month Agisoft Metashape professional license.

It hopes to provide users with an integrated and precise suite of cameras as well as software that enables the generation of point clouds, orthomosaics and digital elevation models.

senseFly CEO, Gilles Labossière said: "senseFly is at the center of the growing fixed-wing drone market, and we continue to lead the way by building technological and commercial partnerships with the most important players,"

Adding: "With this new offer, customers get access to our leading fixed-wing drone technology and Agisoft's intelligent photogrammetry software in one package."
https://www.commercialdroneprofessional.com/sensefly-unveils-ebee-x-with-agisoft-metashape-professional/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-308420-Commercial+Drone+Professional+DNA+-+2019-07-28

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Pierce-Redwing partnership targets BVLOS global medical deliveries July 26, 2019 Jenny Beechener UAS traffic management news

A partnership between Pierce Aerospace and Redwing Labs aims to expand BVLOS operations for commercial healthcare deliveries. The agreement combines Pierce's drone remote identification capability with Redwing's long-distance drone delivery services to provide a global solution.

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The team is developing a drone sandbox for the UNAIDS Innovations Exchange where Redwing Labs facilitates the delivery of medical goods within a 50KM radius with their long-range drones while Pierce Aerospace provides Remote ID to the aircraft and additional partners operating within the sandbox. Redwing Labs has already demonstrated some of these components in Papua New Guinea and now is building capacity towards increasing adoption of drone deliveries across the globe. Through these joint efforts, both companies grow their footprints and expand capabilities in North America, Africa, and India.
https://www.unmannedairspace.info/latest-news-and-information/pierce-redwing-partnership-targets-bvlos-global-medical-deliveries/

North Carolina seeks public comment on use of drones July 26, 2019

AP NEWS RALEIGH, N.C. (AP) — The state Transportation Department has begun an online survey to gather comment about drones.

Basil Yap is the unmanned aircraft systems program manager for the state Transportation Department. He says DOT wants to consider people's opinion when making decisions about drones. The survey asks for comments about the current and future applications of drones, including noise, privacy and safety issues and the improvements to people's live such as assistance with search-and-rescue operations.

The department has used drones in new ways, including bridge inspections, the monitoring of storm damage and delivering medical supplies.
https://apnews.com/b470ce2fb98a4463bcda62b980cad2a2

Xcel uses drones to inspect 485 miles of Wisconsin transmission lines Jennifer Lu La Crosse Tribune Jul 26, 2019

A 54.5-pound Pulse Aerospace Vapor with a front and back camera is used to inspect transmission lines.

It's a bird! It's a plane! It's a helicopter-shaped drone cruising over miles of Xcel Energy transmission lines. The red-and-black drone flew a couple circles Thursday morning over the Briggs Road Substation in Holmen during a media demonstration.

It's part of an Xcel initiative across 10 states to inspect equipment and infrastructure by drone, even transmission lines several miles from where the pilots and crew are based. The drone will

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take photographs of 485 miles of transmission lines in Wisconsin. The crew just finished about three weeks of surveys in Minnesota.

Inspecting infrastructure by drone not only cuts costs and increases worker safety but the aerial photos taken by drone provide greater resolution and more detail than the footage from a fast-moving helicopter. Xcel started using drones for inspections in 2015.

A Phoenix Air Unmanned employee inspects photos taken by drone.

Although the flights are fully automated, there is still a pilot to monitor the flight and a support crew to work on navigation and battery life. The drone can fly up to 23 miles in one mission, though they tend to keep flights to within 10 miles of transmission lines. A Part 107 waiver from the Federal Aviation Administration allows the drone to fly beyond the operator's line of sight, about half a mile for this particular unmanned aircraft, Wheeler said. https://lacrossetribune.com/news/local/xcel-uses-drones-to-inspect-miles-of-wisconsin-transmission-lines/article_5e2dff3a-c985-5f43-97c6-02fc58300235.html

The Crazy V-Bat Vertical Takeoff and Landing Drone Could Be a Game Changer

Tyler Rogoway July 27, 2019

A drone that can fly at up to 90 knots, stay aloft for eight hours, and take off and land virtually anywhere was once the stuff of science fiction.

V-Bat is capable of infrastructure-independent vertical takeoff and landings while also retaining the high efficiency of a fixed-wing aircraft for long-endurance missions. It can be launched and recovered in a nine square meter area and in dense urban terrain as well as on the decks of ships, it could have applications in the military, law enforcement/first responder, industrial, and environmental monitoring sectors.

With a speed of 90 knots, it can dash to different areas quickly, and it can cruise for eight hours at 45 knots at an altitude of up to 15,000 feet. It can carry a payload of eight pounds, which can include multi-spectral sensor, electronic intelligence, radar, electronic warfare and communications packages. It really is a lot of flexibility packed into a relatively small drone—V-Bat weighs just 82 pounds. It runs on a 183cc two-stroke engine that provides about 13 horsepower to its ducted-fan propulsion and control system.

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The aircraft is controlled via a line-of-sight data-link that has a range of 50 miles. This can be extended indefinitely across the aircraft's entire linear range by 'handing-off' V-Bat to other ground control stations as it nears the edge of its line-of-sight horizon. It features a semi-autonomous laptop user interface that fits into an easily portable hard-case. https://www.thedrive.com/the-war-zone/29161/the-crazy-v-bat-vertical-takeoff-and-landing-drone-could-be-a-game-changer

US Air Force expands UAS integration research project July 25, 2019 Jenny Beechener Civil/military integration, UAS traffic management news

The US Air Force awarded AX Enterprize a $7,753,015 modification to a previously awarded contract for the integration of collaborative low-altitude Unmanned Aircraft Systems on 17 July 2019. The contracting authority is the Air Force Research Laboratory Information Directorate's Information Grid and Systems Contracting Branch, Rome Research Site, Rome, New York.

The objective is to research the needs and challenges of the integration of unmanned aircraft operations in the UAS Traffic Management System as well as the relevance and impact of UTM on manned and unmanned aircraft operations. Work will be performed at Yorkville, New York, and is expected to be completed by the end of September 2020.
https://www.unmannedairspace.info/civilmilitary-integration/us-air-force-expands-uas-integration-research-project/

US DOT research center seeks CNS/ATM/UTM system design support July 29, 2019 Philip Butterworth-Hayes UAS traffic management tenders

The U.S. Department of Transportation John A. Volpe National Transportation Systems Center, Cambridge, MA, seeks a contractor to develop new communications, navigation and surveillance/air traffic management systems which include the integration of unmanned aircraft systems and Urban Air Mobility vehicles into routine NAS operations.

The Volpe Center requires services to research, define, execute and enhance projects in communications, navigation and surveillance systems and air traffic management systems including system requirements definition; planning, including policy and environmental

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considerations; testing and evaluation; operations and maintenance of developmental and prototype systems; and the interfaces between these systems and other elements of the transportation infrastructure. https://www.unmannedairspace.info/latest-news-and-information/us-dot-research-centre-seeks-cns-atm-utm-system-design-support/

US Homeland Security launches study to assess UAS threat to airports July 29, 2019 Jenny Beechener Counter-UAS systems and policies, UAS traffic management news

Industry experts have been invited to participate in a study to assess UAS threats at airports conducted by the Homeland Security Operational Analysis Center. The research comes in response to a congressional mandate in the Preventing Emerging Threats Act of 2018. Funded by the Department of Homeland Security, the 2019 'Countering Unmanned Aircraft System Threats' survey covers critical infrastructure sectors and domestic large hub airports.

The purpose is to gather information from stakeholders on the existing and potential threats to infrastructure from UAS and existing procedures to counter such threats. The survey ends on 12 August 2019, and the information will be used to produce a report to Congress. HSOAC is a federally funded research and development center operated by the RAND Corporation under contract with DHS. https://www.unmannedairspace.info/counter-uas-systems-and-policies/us-congress-acts-to-assess-uas-threat-to-airports/

Advanced Aircraft Company Third Angel Round

Advanced Aircraft Company

AAC is planning for low rate production of the HAMR UAS. We successfully completed our 3rd Angel Round which provides the resources to transition into post-revenue status. We continue to get strong interest in our pending product launch from people would want to buy and lease our aircraft. We expect to soon be taking orders for the sale of HAMR directly to end user customers as well as thru 3rd party leasing companies.

Please forward this email to those companies who have an interest in long endurance

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multi-rotor UAS or investor groups that may have an investment interest in AAC.

HAMR UAS

Greased Lightning UAS: 24 hr endurance VTOL

a.b.fredericks@advancedaircraftcompany.com GL-10 NASA transition test video

SEAT deploys drones in parts delivery service APPLICATION BUSINESS DELIVERY EUROPE HEADLINE NEWS ALEX DOUGLAS JULY 29, 2019

The company says it will guarantee 'just in time' delivery of parts in 15 minutes and increase efficiency and flexibility at Martorell, the first Spanish plant to receive components via drone delivery.

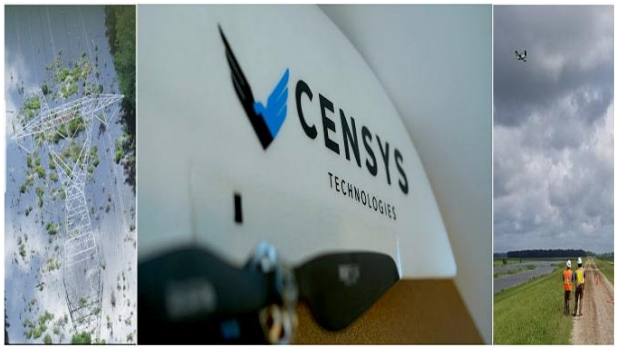
The parts delivery service is between two production plants in Spain and will continue with deliveries of steering wheels and airbags to the SEAT assembly lines. The pilot project is being carried out under the supervision of the Spanish Aviation Safety and Security Agency and will go forward in an experimental phase with several flights per day.

The addition of drones will improve flexibility on the production lines by connecting the just over two kilometers distance that separates both facilities for just in time fast deliveries in only 15 minutes, a process which is currently done by truck and takes 90 minutes.
https://www.commercialdroneprofessional.com/seat-deploys-drones-in-parts-delivery-service%ef%bb%bf/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-308469-Commercial+Drone+Professional+DNA+-+2019-07-29

Soaring Eagle Imaging Performs 51 Mile BVLOS Utility Inspection July 27, 2019
Mapping and Surveying

Hurricane Barry made landfall in Louisiana on the afternoon of July 13th, 2019. Critical infrastructure that keeps the lights on near Baton Rouge needed inspection in the aftermath.

With 25.5 miles of 500kV power lines as the target, it was imperative to expedite the inspections.



SEI began conducting BVLOS flights using a Censys Technologies Sentaero v2VTOL with no remote visual observers once it was determined that safe flights could be conducted. In three missions, the single crew was able to capture 51 miles worth of detailed information in 6 hours in the field including setup, tear-down, and transit. This enabled identification of the scope of damage and corresponding locations, helping facilitate swift repairs.

Currently, there are 30 commercial companies with approved BVLOS waivers in the United States. https://uasweekly.com/2019/07/27/soaring-eagle-imaging-performs-51-mile-bvlos-utility-inspection/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_07_29_2019&utm_term=2019-07-29

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eToro creates DroneTech portfolio enabling users to invest in UAV technology

APPLICATION BUSINESS FINANCIAL INTERNATIONAL INVESTMENT NEWS ALEX DOUGLAS JULY 30, 2019

The company says the thematic investment strategy comprises various companies related to the drone industry. It ranges from tech companies such as Amazon and Google to aviation giants such as Boeing and Airbus to chipmakers such as Intel and NVIDIA.

The firm went on to detail that with such great growth potential and possibilities of disruption, the drone market "could shape up to be one of the hottest markets for investment in coming years."

It outlined military, consumer and commercial drones as the market segments driving the industry. https://www.commercialdroneprofessional.com/etoro-creates-dronetech-portfolio-enabling-users-to-invest-in-uav-technology/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-308595-Commercial+Drone+Professional+DNA+-+2019-07-30

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Terra Drone conducts North Sea survey on behalf of Shell APPLICATION BUSINESS DRONES AT WORK HEADLINE NEWS UK ALEX DOUGLAS JULY 29, 2019

It consisted of two parts, one to create a 3D point cloud and the second to accurately check the position of the platform using Global Navigation Satellite System (GNSS) readings.

The aim of the 3D survey was to see if any conflict would arise if a drilling rig were to be positioned over the platform complex.

Those involved described that it was necessary as the as-build drawings do not always represent the current situation, and if a conflict arises, it is a costly affair to have the drilling rig waiting for this to be resolved. The platform complex was positioned many years ago when GNSS survey techniques were not yet common.

Two GNSS receivers were installed at several locations on each platform and logged raw data that was later processed. https://www.commercialdroneprofessional.com/terra-drone-conducts-north-sea-survey-on-behalf-of-shell%ef%bb%bf/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-308595-Commercial+Drone+Professional+DNA+-+2019-07-30

US Marine Counter-UAS System Defeats Hostile Drone 28 Jul 2019

Ascent Vision Technologies has announced that a variant of its Marine Air Defense Integrated System (MADIS) family of counter-drone systems has defeated a hostile drone in the Persian Gulf. The drone flew within 1,000 yards of a US Navy Vessel.

This encounter may mark the first instance in which the United States or its allies have openly destroyed a military drone from a nation-state adversary. Furthermore, this event highlights the increasing importance of detection, tracking and defeat capabilities that are fluent in anti-drone operations. UAS present a unique threat profile that differs distinctly from manned aircraft and indirect fire. https://www.unmannedsystemstechnology.com/2019/07/us-marine-counter-uas-system-defeats-hostile-drone/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=07c589da60-eBrief_2019_Jul_30&utm_medium=email&utm_term=0_6fc3c01e8d-07c589da60-119747501

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New Pest Management Drones Release Biological Control Agents 24 Jul 2019

UAV-IQ, a developer of unmanned agricultural management solutions, has announced that it is offering aerial biocontrol, a new pest management service that uses drones to release beneficial biological control agents. The agents, bred by Koppert Biological Systems, include predatory mites, lacewing eggs and mealybug destroyers that attack pests of crops such as grapes, strawberries and walnuts.

UAV-based aerial biocontrol offers a new way for conventional and organic growers to combat pests, reduce the environmental impact of pesticide usage and address a growing labor crunch.

Features and benefits of drone-based aerial biocontrol include:

- The ability to kill pests even when they're hiding where chemicals can't reach
- More efficient distribution than traditional application techniques
- Meaningful reduction in use of chemical pesticides

https://www.unmannedsystemstechnology.com/2019/07/new-pest-management-drones-release-biological-control-agents/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=07c589da60-eBrief_2019_Jul_30&utm_medium=email&utm_term=0_6fc3c01e8d-07c589da60-119747501

Uber Eats Moving Forward with Urban Drone Delivery with New Computing Platform Miriam McNabb July 30, 2019

Uber Eats

Drone delivery is a technology with far-reaching significance – not just because it has the potential to change the nature of residential delivery, but also because it pushes so many boundaries of commercial drone applications: flight beyond visual line of sight, sense and avoid technology, and flight stability.

As Uber Eats continues its testing of urban drone delivery through the UAS Integration Pilot Program in partnership with the city of San Diego, they're working through many of the limitations that all commercial drones operating in congested environments face. Now, with new technology from ModalAI, a lightweight computing platform with 4G cellular connectivity, the Uber Eats drone was able to maintain its flight path even when out of sight of the pilot.

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VOXL is a computing and communication platform that utilizes the smartphone ecosystem to create an integrated, machine vision-based, autonomous navigation system for indoor and outdoor ground robots and drones. Unlike traditional GPS-based flight systems that can experience weak or lost satellite connections, VOXL keeps drones flying even when GPS is not available.

Affixed to the drone, VOXL used 4G connectivity to communicate between the drone and Uber Elevate Cloud Services, a proprietary airspace management system that tracks and guides drone flights to take off, fly and land independently. https://dronelife.com/2019/07/30/uber-eats-moving-forward-with-urban-drone-delivery-powered-by-new-computing-platform/

Drones keep workers safe from dangerous work Haye Kesteloo Jul. 30th 2019

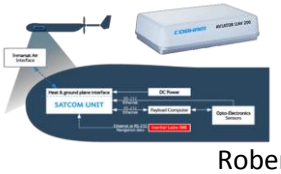
Last Friday, Bloomberg published an excellent article explaining how drones keep workers safe from dangerous work. Many of these jobs can be done by drones and robots. They can safely go into confined spaces or fly up to dangerous heights to perform inspections that previously had to be done manually. Even though the number of commercial drones exploded to 277,000 in 2018, there are nowhere near enough of the unnamed aircraft to cover all the dangerous jobs in the country. Jack Pitcher writes for Bloomberg that:

Companies including Dow Inc., AT&T Inc., BASF SE and Royal Dutch Shell Plc have begun assembling fleets of the flying automatons to take over their most dangerous jobs. Drones now fly every day at the Freeport plant, keeping workers off scaffolding and out of tanks.

Inspections of gas flares at Shell's refineries used to take days. Now drones can complete the inspection of still-burning flares in a few hours without a worker ever leaving the ground.

AT&T has invested in a large fleet of drones to help inspect its 65,000 cell towers in the U.S., which can rise as high as 1,000 feet. The telecom giant has used drones to eliminate 5,000 tower climbs in the past 18 months. You can read the entire article here on Bloomberg. https://dronedj.com/2019/07/30/drones-keep-workers-safe/#more-17909

AirSatOne Successfully Tests Satcom Connectivity For Beyond Line of Sight Operations July 30, 2019 News



AirSatOne, an Aviation Satellite Communication Service Provider, reported that its test using a COBHAM AVIATOR UAV 200 for Satcom connectivity and the Inertial Labs INS-P for Position, Heading, Pitch, Roll,

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and Velocity data has been successfully completed. Cobham designed the satcom terminal with a low gain, electronically steered antenna allowing full Inmarsat hemisphere coverage to 5° elevation where competing systems only offer coverage to 20° elevation. To achieve this, the satcom terminal needs external navigation data. To support this requirement, Inertial Labs equipped its INS-P with an AVIATOR UAV 200 compliant data format.

Upon UAV system's initialization, the Inertial Labs INS-P precisely indicated 3D orientation, velocity and latitude and longitude utilizing its GNSS receiver and gyro-compensated Fluxgate magnetic compass. During testing, connectivity remained stable with no interruptions while rotating 360°, during pitch variations of greater than ±45°, and roll values up to 45°. https://uasweekly.com/2019/07/30/airsatone-successfully-tests-satcom-connectivity-for-beyond-line-of-sight-blos-operations/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_07_30_2019&utm_term=2019-07-30

Airbus' Vahana Makes Its Mark At 2019 EAA AirVenture Oshkosh July 30, 2019 News

From 22 to 28 July, the largest annual gathering of aviation enthusiasts—EAA AirVenture Oshkosh—is taking place in Wisconsin, USA. Vahana—Airbus Urban Mobility's electric vertical take-off and landing demonstrator vehicle—is on display at the air show.

Thanks to its forward-looking design and revolutionary vertical electric flight concept, Vahana commands attention, attracting the curiosity of aviation fans and industry professionals alike. Today, more than 150 eVTOL concepts are in development in the race to become the world's first market-ready vehicle. According to the Vertical Flight Society, $1 billion has been poured into eVTOL and hybrid VTOL concepts. In addition, industry analysts predict the market will reach a cumulative $285 billion in business by 2030. https://uasweekly.com/2019/07/30/airbus-vahana-makes-its-mark-at-2019-eaa-airventure-oshkosh/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_07_30_2019&utm_term=2019-07-30

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Oops: 2 Crashes Cause Swiss Post to Suspend Drone Delivery Program Miriam McNabb July 31, 2019

The drone delivery collaboration between Swiss Post and Matternet has, for the most part, proven extremely successful. But after two crashes, the program has been suspended while experts review safety policies and Matternet reviews requested changes to their systems.

The program demonstrates one of the best uses for drone delivery – transporting hospital lab samples along a set route between one hospital and another. The company has since formed a partnership with UPS to work on commercial drone delivery in the U.S.

A recent Swiss post press release, however, indicates that after a second crash they will suspend the program. Spectrum IEEE reports that an earlier crash resulted in a drone landing in the middle of Lake Zurich. The most recent crash resulted in the failure of the drone parachute system.

Swiss Post says that the delivery program will be suspended until the safety issues are addressed, and they will establish a board of safety experts to ensure that the agency is able to "align its risk and safety management with normal aviation standards."
https://dronelife.com/2019/07/31/oops-2-crashes-cause-swiss-post-to-suspend-drone-delivery-program/

Wing unveils Christiansburg site that will serve as hub for drone delivery later this year Jacob Demmitt jacob.demmitt@roanoke.com 381-8621 Jul 30, 2019

James Burgess, CEO of Wing, holds one of the company's drones prior to a demonstration flight last year. The Roanoke Times

Wing, a company pioneering drone delivery around the world, is preparing to submit a site plan for a proposed air delivery hub in the heart of Christiansburg's commercial district, according to company spokesman Jonathan Bass. The planned local headquarters would be off Welcome Street, near the Lowe's, O'Charley's and Gran Rodeo Mexican restaurant.

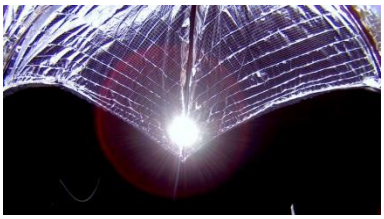
The company isn't ready to say what it will be delivering from the site, or which neighborhoods will be part of the first-of-its-kind service in the country. The date of the service's start has also

not been announced. But Bass did say the company is still expecting to launch drone delivery by the end of the year, hopefully this fall.

The announcement offers the clearest picture yet of the company's plans for the region, as the New River Valley is set to become one of the first places in the world with a drone delivery service. https://www.roanoke.com/news/wing-unveils-christiansburg-site-that-will-serve-as-hub-for/article_98b846eb-dec5-5435-b93e-555a323eae94.html

1Aug19

Planetary Society declares solar sailing mission a success Jeff Foust — July 31, 2019



ATLANTA — The Planetary Society announced July 31 that a small satellite it launched a month earlier had successfully demonstrated the ability to change its orbit with a solar sail.

The nonprofit space advocacy organization said LightSail 2 raised the apogee of its orbit by 1.7 kilometers over four days after the three-unit cubesat deployed a 32-square-meter Mylar sail. Spacecraft engineers determined the only way that the spacecraft could have raised its orbit during that time is because of thrust created by solar pressure on the sail.

"Today is the day we declare mission success," said Bill Nye, chief executive of The Planetary Society, in a call with reporters. "We are going to a higher orbital altitude without rocket fuel, just from the push of sunlight." https://spacenews.com/planetary-society-declares-solar-sailing-mission-a-success/

County Explores Drone to Carry Vote Tallies From Tribal Land Associated Press, Wire Service Content July 31, 2019

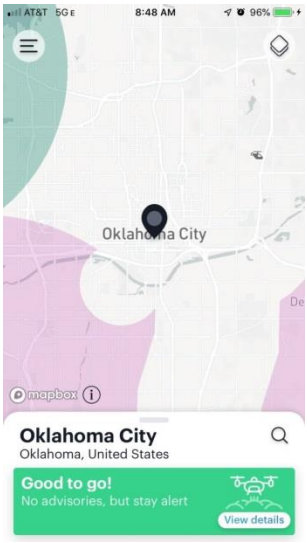
FLAGSTAFF, ARIZ. (AP) — Officials in an Arizona county hope to use a drone to make it easier to get vote tallies from tribal land deep within the Grand Canyon during next year's election. Voting machines on the Havasupai reservation have sent tallies electronically in recent years. But new equipment is forcing Coconino County to make a change.

County recorder Patty Hansen said she's working with the sheriff's office and the tribe to see if a drone could carry a memory stick with vote tallies out of the canyon to a trailhead. The stick then would be driven to Flagstaff more than two hours away where county-wide results are

tabulated. The reservation, famous for its blue-green waterfalls, is accessible only through an 8-mile dirt trail or by helicopter.

No drone tests have been conducted. The Havasupai Tribe prohibits the use of drones on its land and would have to give the county permission. About 130 people are registered to vote on the Havasupai reservation, but turnout generally is low. Hansen said 30 people voted in person in the last major election and eight by mail. https://www.usnews.com/news/best-states/arizona/articles/2019-07-31/coconino-county-testing-drones-for-ballots-in-grand-canyon

FAA Launches Redesigned B4UFLY App Betsy Lillian July 31, 2019



The Federal Aviation Administration, in partnership with Kittyhawk, has relaunched the B4UFLY mobile app, which allows recreational drone flyers to know where they can and cannot fly in national airspace.

The new B4UFLY app is now available to download for free at the App Store for iOS and Google Play store for Android.

Key features of the relaunched app include:

- A clear "status" indicator that informs the operator whether it is safe to fly or not.
- Informative, interactive maps with filtering options.
- Information about controlled airspace, special use airspace, critical infrastructure, airports, national parks, military training routes and temporary flight restrictions.
- A link to LAANC, the FAA's Low Altitude Authorization and Notification Capability, to obtain authorization to fly in controlled airspace.
- The ability to check whether it is safe to fly in different locations by searching for a location or moving the location pin.
- Links to other FAA drone resources and regulatory information.

The app provides situational awareness to recreational flyers and other drone users. It does not allow users to obtain airspace authorizations to fly in controlled airspace, which are only available through LAANC. https://unmanned-aerial.com/faa-launches-redesigned-b4ufly-app?utm_medium=email&utm_source=LNH+08-01-2019&utm_campaign=UAO+Latest+News+Headlines

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DLR Conducts Flight Tests of Its Gyrocopter Unmanned System July 31, 2019 News

As part of the ALAADy (Automated Low Altitude Air Delivery) system, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt) is conducting research into automated, uncrewed air transport at low altitudes.

"As part of DLR's aeronautics research program, we are developing and testing a demonstrator for uncrewed freight transport, thereby opening up the prospect of carrying loads of up to 200 kilograms for distances of up to 500 kilometers in lower-level airspace," says Rolf Henke, Member of the DLR Executive Board responsible for Aeronautics Research

The uncrewed civilian aerial vehicle developed by DLR researchers working on the ALAADy Demonstrator project is one of the largest currently available. During the development of the 'transport drone', a 450-kilogram gyrocopter underwent extensive modifications, including the installation of a freight-carrying area. The aircraft has been retrofitted with sensors, actuators and a flight control computer, as well as other software and hardware for automated flight.

"Gyrocopters have the particular advantage of being inherently safe," says Sven Lorenz, who is leading the construction and trial operation of the technology demonstrator. "In the event of a failure, the free-spinning rotor enables a gentle landing, as occurs with a parachute."

Several test flights have now been completed, in which the freight drone reached an altitude of up to 150 meters and traveled at speeds of approximately 100 kilometers per hour. Computers are gradually taking over all of the tasks that would otherwise be performed by a person within the aircraft or on the ground. "The next step is for the uncrewed gyrocopter to make its first automated flight," says Lorenz. https://uasweekly.com/2019/07/31/dlr-conducts-flight-tests-of-its-gyrocopter-unmanned-system/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_08_01_2019&utm_term=2019-08-01

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Northern Irish firm deploys drone for Netflix and BBC filmmaking APPLICATION

BUSINESS HEADLINE NEWS UK ALEX DOUGLAS JULY 30, 2019

In a report by Heliguy, Phil Crothers, director of film and co-founder of Pivotal, reflects on the growing importance of using UAVs in the film industry.

The company uses the DJI Inspire 2 and cinematic Zenmuse X5S and X7 cameras as part of its filming work for the BBC, Netflix, WarnerMedia, ITV and Channel 4.

Commenting on what the technology now offers, Crothers said: “Time pressures mean that we need to operate quickly and efficiently, but with safety as paramount, and drones help tremendously with that. As a filmmaker, drones have changed the environment completely, and it is something I can only see getting stronger and developing more and more.” He went on to praise Heliguy for a good and reliable service.

Watch a video of Pivotal putting drones to work here:
https://www.commercialdroneprofessional.com/northern-irish-firm-deploys-drone-for-netflix-and-bbc-filmmaking-%ef%bb%bf/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-308827-Commercial+Drone+Professional+DNA+-+2019-08-02

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