UAS and SmallSat Weekly News

Contents

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Drones for Good: An Insider Look at North Carolina's Intense Response to Hurricane Florence

Harry McNabbon December 07, 2018

Hurricane Florence was the brutal and long-lived Cape Verde storm that hit the shores of the Carolinas this September. The storm claimed 53 lives and caused more than estimated $17.9 billion in damage to homes, roads and infrastructure.

With highways flooded and almost every element of community infrastructure affected, the North Carolina Department of Transportation led one of the most successful response drone operations in the United States, mobilizing 15 teams of drone pilots in a coordinated effort to obtain critical aerial data.

Darshan Divakaran, NCDOT's Division of Aviation UAS Program Engineer, spoke to DRONELIFE about the disaster response mission.

DRONELIFE: It seems like one of the key elements of the mission was your ability to mobilize the resources and plan how best to utilize the drones and pilots. How did you make that happen?

Divakaran: NCDOT started planning a week prior to Hurricane Florence making landfall at the NC coast. We had to prepare for the worst and hence had to mobilize the network of public safety, infrastructure, and UAS experts to support the state's emergency response. We coordinated our plans with FAA, Emergency Management, FEMA, National Guard and other federal and state agencies to ensure no interference with manned response.

15 teams of drone pilots were part of this mission. How did you mobilize such a large number of teams in a relatively short amount of time?

Our 15 teams consisted of pilots from state agencies like NCDOT, NC State Highway Patrol, NC Public Safety Drone Academy and on call consultants like Dronescape, Precision Hawk, North State Engineering and SM&E. This was the first time both public and private sector worked together for emergency response. The drones used in the operations were from both DJI and senseFly. https://dronelife.com/2018/12/07/drones-for-good-an-insider-look-at-north-carolinas-response-to-hurricane-florence/

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10 TO WATCH: Drone organizations tipped to scale new heights in 2019

APPLICATION BUSINESS COMMERCIAL UAV SHOW MAGAZINE UK ALEX DOUGLAS DECEMBER 5, 2018

From training providers to manufacturers, a number of firms will be hoping to capitalize on the fast-paced growth in the international drone market next year, and are set to do so in different ways.

Commercial Drone Professional has picked out 10 organizations that have captured our attention this year and are poised to make an impact on the industry in 2019. Click on the links below to read a synopsis on what each company in the top ten has to offer:

– 1. Insitu

-2. Yuneec

– 3. Airbus Aerial

– 4. Consortiq

– 5. AlphaGeo UK

– 6. Clogworks Technologies

– 7. Rusta

-8. Unifly

– 9. Flyability

– 10. Cranfield University

https://www.commercialdroneprofessional.com/10-to-watch-drone-organisations-tipped-to-soar-to-new-heights-in-2019/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285461-Commercial+Drone+Professional+DNA+-+2018-12-08

Drones central to change in the UK reveals government industrial strategy plan

BUSINESS HEADLINE NEWS RESEARCH UK ALEX DOUGLAS DECEMBER 7, 2018

Announced by business secretary Greg Clark, the joint Aerospace Sector Deal sets out to develop the future of flight through next-gen drones, autonomous aircraft and electric planed by 2025.

He went on to say how the multi-million pound package of around £125m of new investment will help the UK industry be a key player internationally.

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As part of the deal, the government is launching the Future Flight Challenge, which will provide up to £125 million to aerospace and other manufactures to research and engineer new technologies and infrastructure, which industry will match. Clark hopes the funding will support the development of electric and autonomous aircraft and transform the future of transport in urban areas to utilize airspace to ease congestion.

The government went on to confirm that industry will initially focus on smaller aircraft and drones to ensure the suitability of the new technologies before developing them for larger passenger aircraft, meaning by 2026, the government and industry will have jointly invested more than £4 billion in the future of UK aerospace.
https://www.commercialdroneprofessional.com/drones-central-to-change-in-the-uk-reveals-government-industrial-strategy-plan/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285461-Commercial+Drone+Professional+DNA+-+2018-12-08

Canadian prison inmates using drones to smuggle contraband worth thousands

APPLICATION CRIME INTERNATIONAL NEWS by ALEX DOUGLAS on DECEMBER 7, 2018

Staff at Stony Mountain Prison in Canada have expressed their concerns over drones being used to smuggle in contraband worth thousands.

The Union representing staff at the prison has said how its members are put at risk when drones drop off drugs worth £40,000 to 200 inmates in a yard. The organization went on to describe how they are also used to deliver other items such as mobile phones and weapons.

James Bloomfield, the prairie regional president of the Union of Canadian Correctional Officers, said: “It’s very easy to launch one of these and have them go over an exercise yard to drop off a package. The technologies are so accurate that in some cases they can have them go right up to a window and drop a package in a specific person’s hands.”
https://www.commercialdroneprofessional.com/canadian-prison-inmates-using-drones-to-smuggle-contraband-worth-thousands/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285428-Commercial+Drone+Professional+DNA+-+2018-12-07

9Dec18

Round and round they go. The coming of low-Earth orbit satellites Dec 6th 2018

The launch of thousands of new satellites will boost the space economy

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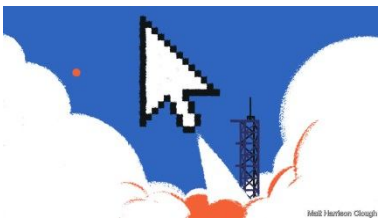

On December 3rd a Falcon 9 rocket made by SpaceX thundered into the sky. On board were 64 small satellites, more than any American company had launched before in one go. They have an array of uses. One, designed by Trevor Paglen, an artist, will soon unfurl a 30-metre reflective structure that will shine down on Earth like an artificial star, visible to the naked eye.

These objects are part of the latest breed of low-Earth-orbit satellites, which are designed to whizz around the planet only a few hundred kilometres above its surface. This week's launch is just a taste of what is planned. SpaceX and OneWeb, a communications firm, plan to launch satellites in the thousands, not hundreds.

Morgan Stanley, a bank, projects that the space industry will grow from $350bn in 2016 to more than $1.1trn by 2040. New internet satellites will account for half this increase.

For that to happen, however, three worries must be overcome. Debris is the most familiar concern. It could conceivably render entire tracts of space unusable for decades. Solutions exist. One is to grab malfunctioning satellites and pull them down into Earth's atmosphere. Another is to monitor space more intensively for debris.

Cyber-security is a second, long-standing worry. Hackers could take control of a satellite and steal intellectual property, redirect data flows or cause a collision.

The third issue follows from the first two. If a simple mistake or a cyber-attack can cause a chain reaction which wipes out hundreds of billions of dollars of investment, who is liable? Underwriters are studying the plans of firms that wish to operate large numbers of satellites. But there is a long way to go before the risks are well understood, let alone priced.
https://www.economist.com/leaders/2018/12/08/the-coming-of-low-earth-orbit-satellites

10Dec18

Urban air mobility takes off in 64 towns and cities worldwide December 10, 2018

Philip Butterworth-Hayes Urban air mobility

In the latest survey of global urban air mobility programs, *Unmanned Airspace* has recorded the launch of operational and research drone-based services in 64 cities around the world. In terms of operational maturity, Iceland's Reykjavik has become the world leader in urban air mobility, given the

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successful and growing drone-based commercial delivery operation pioneered by Aha and Flytrex there. The companies fly 13 routes around Reykjavik making deliveries to public pick-up areas and the back yards of customers. With India opening its doors in December 2018 to drone operations this is likely to become a new proving ground for innovative drone-based delivery businesses.

Aha is one of the many "bottom-up" initiatives – along with programs in Calgary, Oxford, Canberra and Tararua (New Zealand) among others – where local authorities and drone operating companies are pioneering real commercial operations. At the same time, top-down research programs in the Europe and the USA – specifically the UAM Initiative of the European Innovation Partnership on Smart Cities and Communities and the FAA's Integration Pilot Program project in the USA – are developing as part of a wider initiative to acquire enough operational knowledge so appropriate regulations can be put in place which will allow for further growth in the market.

Meanwhile Dubai and Singapore are racing ahead to develop automated urban UTM systems in support of air taxis and urban drone deliveries within the next two to three years.

This market is therefore moving at three speeds: the first "bottom-up" adopters – pioneered by Aha in Iceland – the technology pioneers – Dubai and Singapore – and the top-down strategic programs of the European Commission and the FAA. https://www.unmannedairspace.info/urban-air-mobility/urban-air-mobility-takes-off-63-towns-cities-worldwide/

Drone Guard C-UAS system "intercepts drone incursions at G20 summit"

December 10, 2018 Philip Butterworth-Hayes Counter-UAS systems and policies

The *Times of Israel* reports that Drone Guard system sold to Argentina by ELTA Systems, a subsidiary of Israel Aerospace Industries, identified several rogue drone incursions nearby the recent G20 global leaders' summit in Buenos Aires.

"The several suspicious drones flying into the presence of global leaders were successfully blocked by the Israeli technology," said the newspaper. "The Defense Ministry of Argentina signed a contract worth more than USD5 million with its Israeli counterpart last year to provide cyber defense and cybersecurity services to the meeting. Israel is not a member of the G20 group….On Thursday, summit authorities detected a non-authorized drone in an area of the hotels in which the foreign delegations stayed. The drone was neutralized. On Friday evening a drone flew close to the group of leaders

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that were entering the iconic Colon Theater for a gala event. The drone was neutralized and fell to the street, according a report by the Clarin newspaper.

Drone Guard was also successfully used during the 2018 Youth Olympics games in Argentina in October, said the newspaper. https://www.unmannedairspace.info/counter-uas-systems-and-policies/drone-guard-c-uas-system-intercepts-drone-incursions-g20-summit/

Eurocontrol publishes UAS ATM Operational Concept document December 10, 2018

Philip Butterworth-Hayes UAS traffic management news

Eurocontrol has published the "UAS ATM Operational Concept". This document has been developed in partnership with EASA – European Aviation Safety Agency. It aims to describe the environment in which manned and unmanned aircraft must co-exist safely, including the airspace below 500ft. The planning horizon is up to and beyond 2025.

"While the operational concept is visionary and even challenging, many of the current practices and processes will continue to exist through the planning horizon. In this sense, this operational concept document should be seen as evolutionary," says the agency.

"An operational concept is a statement of "what" is envisaged. It asks and answers the question of what outcomes are required for UAS integration into the ATM system of the future. It is a vision statement. It is not a technical manual or blueprint."
https://www.unmannedairspace.info/uncategorized/eurocontrol-publishes-uas-atm-operational-concept-document/

Humans Made Drones by Copying Birds. Birds Are Fighting Back. REBECCA GIGGS

JANUARY/FEBRUARY 2019 ISSUE The Atlantic

In the national Gallery of Australia's permanent collection is a painting by Sidney Nolan titled *The Alarm*.. Peacocks, the painting's interpretive text explains, were in the late 1800's sometimes dragooned as sentries. The birds can sight a threat two miles away and tend to shriek in panic.

Today, a bird's-eye perspective is exploited by nefarious enterprises and law enforcement alike, in the form not of a peacock, but of a drone. Drone innovators have made a close study of the biomechanics and behaviors of birds. Motorized load-grippers take inspiration from the grasping motion of raptors' legs, and camera-lens designers strive to replicate the acuity of

eagles' eyes. Other researchers have used drones to study the complex undulations made by groups of starlings.

In June, the *South China Morning Post* reported on a new generation of inconspicuous "dove" drones used to monitor citizens in five Chinese provinces. These quiet, lightweight drones (complete with flapping wings) purportedly go unrecognized even by animals.

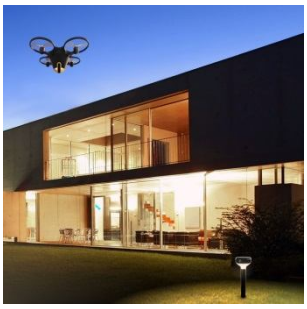
Australia, with its expansive terrain and favorable weather, is well appointed as a natural laboratory for commercial drone testing. But drone operators encounter a hazard that tracks their technology from above and descends on it with destructive intent: the wedge-tailed eagle, which has taken to skirmishing with drones. In Western Australia's goldfields, a single mining company reported eagles had inflicted more than $70,000 worth of damage to its surveyor drones.

The territorial instinct of eagles has been identified as a potential asset, first by the Dutch and now by other European authorities: The French and the Swiss are training eagles to bring down errant or hostile drones. As peacocks were once sentinels, so eagles may in time become tools of our countersurveillance. https://www.theatlantic.com/magazine/archive/2019/01/birds-vs-drones/576724/

Auctioning Airspace 8 Dec 2018 Brent Skorup George Mason University - Mercatus Center

Abstract. The commercialization of air taxis and autonomous passenger drones will one day congest urban airspace. Operators expect that, once flights are autonomous and the cost of service falls, high-traffic urban "vertiports" could see hundreds of air taxi takeoffs and landings per hour. Low-altitude airspace—between 200 feet and 5000 feet above ground level—offers a relatively blank slate to explore new regulatory models for air traffic management and avoid command-and-control mistakes made in the past in aviation. Regulators' current proposals would centralize air taxi traffic management into a single system to coordinate air taxi traffic, but this approach likely creates technology lock-in and unduly benefits the initial operators at the expense of later innovators. To facilitate the development of this transportation market, regulators should consider demarcating aerial travel corridors and auctioning exclusive use licenses to operators for use of those corridors, much as regulators auction radio spectrum licenses and offshore wind energy sites. Exclusive rights to routes would allow transfer and sale to more efficient operators and would also give operators the certainty they need to finance the substantial capital investments. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3284704

Will security drones become a new norm for the super wealthy? December 9, 2018 Feilidh Dwyer



Sunflower Labs uses a combination of sensors and drones to secure a property. Their typical setup for a client includes a bee (security drone), a hive (the charging base for the drone) and sunflowers (1.5 foot sensors which look like garden lamps, detect vibrations and illuminate when someone draws near).

For a few hundred dollars a month, a subscriber receives an automated security system including a bee, a hive and several sunflowers placed around their property. The bee will normally remain dormant but will notify an owner's phone if one of the sensors is triggered (through vibration or movement near one of the sunflowers). If the user gives the go ahead, the bee will immediately deploy to capture video of what's going on.

A property owner can launch one of the bees using smartphone app. Whether an intruder would immediately skedaddle upon being caught under the bright lights and whirr of a drone's rotors, we're not sure, but it would probably scare off the majority of would-be thieves.

A Sunflower labs autonomous drone bee and charging hive setup

Under current FAA regulations, you cannot fly your drone above the heads of unwitting people, so the Sunflower setup will be limited to use inside people's yards and not patrolling the neighborhood. https://www.wetalkuav.com/will-security-drones-become-a-new-norm-for-the-super-wealthy/?utm_source=WeTalkUAV&utm_campaign=f031255662-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_1d410cb84d-f031255662-83642867

11Dec18

This image of Spain is the first from an all-seeing satellite constellation by startup ICEYE CNBC.com 10 December 2018

Satellite startup ICEYE is riding a wave of success this year. Just days after its launch, the company got back its first image from ICEYE-X2, its second satellite. The first ICEYE-X2 image shows the mountainous areas of Spain's Basque Country at night. Forest, roads and agriculture are visible in the image, which contains over 500 square kilometers, captured at a resolution of 3 by 3 meters. That's the expected, medium resolution for a high-powered satellite, but ICEYE

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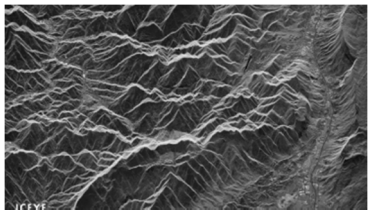
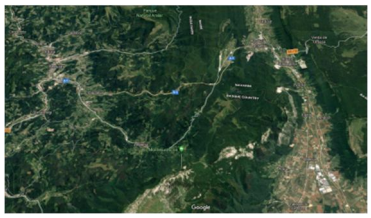
packed that power into a suitcase-sized satellite. The X2 satellite was launched by a SpaceX Falcon 9 rocket last week on the record-breaking "SmallSat Express" mission for Spaceflight Industries.





ICEYE is combining a special type of earth observation technology — SAR, short for synthetic aperture radar — with a small, inexpensive satellite. SAR allows a satellite to provide images at any time, even at night or through cloud cover.

"X2 has proven successful ... this is a 10 times better resolution than last time," ICEYE CEO Rafal Modrzewski told CNBC.

After the successful debut of the X1 satellite in January, ICEYE incorporated more than 50 improvements into X2, Modrzewski said. Once testing is complete, the company will begin commercial operations with X2, making it the cornerstone of a constellation of SAR satellites.

ICEYE plans to have a network of 18 satellites by 2020, offering near-real time comparisons of changes on the ground. Modrzewski says the company will launch as many as eight in 2019, "depending on how fast we can purchase launches." https://www.cnbc.com/2018/12/10/iceye-first-image-of-spain-from-all-seeing-satellite-constellation.html

UAVOS Tests New Emergency Autorotation Mode for VTOL UAVs 10 Dec 2018 Mike Rees

UAVOS has announced that it has successfully tested a new flight algorithm designed to provide a high level of safety in case of failures of the UAV propulsion system during flight.

The GLIDER flight mode not only allows the unmanned helicopter to automatically switch into autorotation mode when the engine fails, but also protects the power unit from overloads. It is based on the priority of maintaining main rotor revolutions to the detriment of maintaining a preset altitude in critical situations. This is achieved by redistribution of control when the revolutions of the main rotor are not supported by the engine, and by collective pitch.

Aliaksei Stratsilatau, UAVOS Chairman, said: "We have come to the development of a new flight algorithm while operating our helicopters. Adverse meteorological conditions and flying at the limit of capacity at high altitudes risk engine failure during the mission. The algorithm gives the

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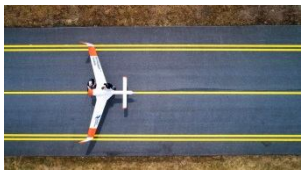
operator additional time to launch an emergency parachute, select an emergency landing site or divert from habitable areas and man-made objects. It allows flying without a significant power reserve which affects the duration of the mission and the amount of additional onboard fuel." https://www.unmannedsystemstechnology.com/2018/12/uavos-tests-new-emergency-autorotation-mode-for-vtol-uavs/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=81e926bd33-eBrief_2018_Dec_11&utm_medium=email&utm_term=0_6fc3c01e8d-81e926bd33-119747501

SkyRobot™ FX450 Fixed-Wing UAV

The FX450 is a long-endurance, long-range unmanned aircraft designed for advanced BVLOS applications. With an efficient engine running on gasoline or heavy fuels and a stall-resistant canard design, it is a cost-effective solution compared to manned aircraft with the same size payload and performance.

The system can be equipped with different communication and datalink options, including live video streaming up to 200 km with high bandwidth and encrypted communication options. An open architecture allows for integration of customized payloads including external sensor pods, geo-referenced EO/IR, radar, LiDAR, and multi/hyperspectral sensors.

A flight endurance of 20 hours and a redundant flight control system supports prolonged ISR (Intelligence, Surveillance and Reconnaissance) missions.



Robot Aviation AS, Flyplassveien 26, 3514 Hønefoss, Norway, +46 708 961246 https://www.unmannedsystemstechnology.com/company/robot-aviation/skyrobot-robot-aviation-2/

Ameren's latest drone use demonstrates future of transmission line monitoring

Robert Walton Dec. 11, 2018

Ameren, Black & Veatch and Collins Aerospace last month utilized a Beyond Visual Line of Sight (BVLOS) drone flight to inspect transmission lines, and in the process likely set a record for

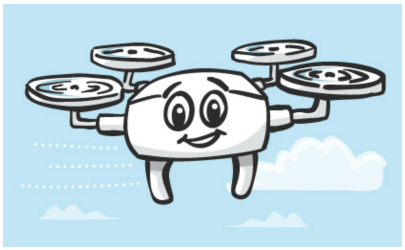
commercial unmanned flights in the United States.

Officials at Black & Veatch called the achievement an "industry-leading" flight, and said 60 miles was almost certainly the longest BVLOS commercial drone flight in the United States to date. The Federal Aviation Administration prohibits flying the aircraft beyond an operator's sight but has issued waivers for testing and research.

Utilities are moving quickly to utilize unmanned drone flights to monitor power lines and other assets. In addition to being cheaper than a helicopter, the drones can return more and better data, remove risk to humans and allow utilities to be proactive with maintenance.
https://www.utilitydive.com/news/amerens-latest-drone-use-demonstrates-future-of-transmission-line-monitori/543800/

12Dec18

FAA releases 'Buzzy the Drone' ads to educate kids about UAV laws December 10, 2018 Feilidh Dwyer



The US Federal Aviation Administration (FAA) has released a new animated ad campaign for the holiday season. The 20-second clip was uploaded a week ago and is the first of a series that aims to educate the public about how to fly their drones safely and accordance with the law. The main message of the clip? "Keep buzzy in view." This message is in reference to one FAA regulation that states that drone operators should keep their UAVs 'in line of sight at all times'.

The video concludes by encouraging viewers to head to faa.gov/uas to learn more about their new drone. In promoting the release of the new initiative the FAA stated: "Too many times, we at the FAA hear sad stories about what happens when inexperienced flyers take their drone out for its first flight." At the time of writing, after one week online, the clip has received a jaw-dropping 1700 views.

The FAA has hinted that the next videos in their series will tackle topics such as avoiding obstacles and not flying over your neighbor's property without permission. At very least, this is a good initiative by the FAA to help young people how to fly responsibly from the start.
https://www.wetalkuav.com/faa-releases-buzzy-the-drone-ads-to-educate-kids-about-uav-laws/?utm_source=WeTalkUAV&utm_campaign=eed6af4eeb-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_1d410cb84d-eed6af4eeb-83642867

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DroneBlocks and Ocean Alliance Team Up On SnotBot App Malek

Murisonon December 11, 2018

Ocean Alliance's Dr. Iain Kerr devised a way to capture biological data from whale's blows using adapted DJI aircraft. 'Flying Petri Dish' isn't very catchy, so they named the concept SnotBot instead. Previously Kerr's team had to resort to manual biopsies, using harpoons to gather data on whales' DNA, stress and pregnancy hormones, viruses, bacteria and toxins.

With SnotBot, that process is quicker, safer, more reliable and clearly preferable from the point of view of both researchers and whales. "Instead of five whales a day, we can now sample 20 using our DJI Inspire-based drone," Kerr explains. "The SnotBot flies 40 MPH, so even if we are 1,000 feet away, it can be at the blow site in 15 seconds."

But it isn't perfect. Kerr says that the team only gets usable samples half the time because of how difficult it is to predict which way the whales' 'blow' will blow. "When I hover the drone 12 feet above an animal, I can't see which way wind is blowing, and I regularly miss the blow. It is very frustrating," he said.https://dronelife.com/2018/12/11/droneblocks-and-ocean-alliance-team-up-on-snotbot-app/

Tech giant Intel ramps up bridge inspection drone program APPLICATION

BUSINESSHEADLINE NEWS ALEX DOUGLAS DECEMBER 11, 2018

Intel has released video footage of its drones carrying out bridge inspections in the US**.** As part of the work, the tech firm collaborated with two departments of transportation to improve bridge inspections, supplementing manual inspections of the Daniel Carter Beard Bridge connecting Ohio and Kentucky and the Stone Arch Bridge in Minnesota.

According to Intel, its automated commercial drone hardware and software solutions increased safety and efficiency throughout the process. It went on to add that its solutions produced more reliable data in a fraction of the time and cost of traditional methods

Watch the video here: https://www.commercialdroneprofessional.com/video-tech-giant-intel-ramps-up-bridge-inspection-drone-programme/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285680-Commercial+Drone+Professional+DNA+-+2018-12-11

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New 'Morphing' Drone Designed for Intricate Search and Rescue Betsy Lillian

December 12, 2018

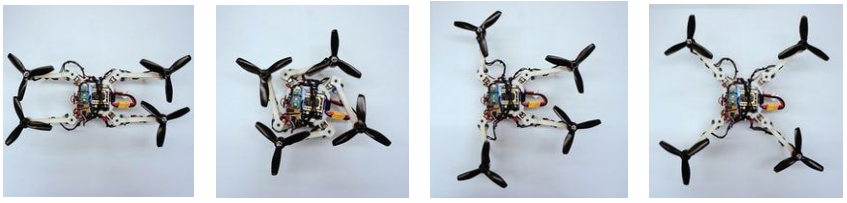
A research team from the University of Zurich and the École polytechnique fédérale de Lausanne in Lausanne, Switzerland, has developed a new drone that can retract its propellers in flight, allowing the aircraft to fit through narrow spaces.

This design feature would be particularly useful for searching for victims of natural disasters through a crack in the wall or a partially open window. The concept is outlined in a paper entitled "The Foldable Drone: A Morphing Quadrotor that can Squeeze and Fly," available here.

The researchers are from the Robotics and Perception Group at the University of Zurich and the Laboratory of Intelligent Systems at EPFL, which are part of the National Centre of Competence in Research (NCCR) Robotics, funded by the Swiss National Science Foundation.

Inspired by birds that fold their wings in midair to cross narrow passages, the new drone can squeeze itself to pass through gaps and then go back to its previous shape – all while continuing to fly stably.

The standard configuration is X-shaped, with the four arms stretched out and the propellers at the widest possible distance from each other. When faced with a narrow passage, the drone can switch to an "H" shape, with all arms lined up along one axis, or to a "O" shape, with all arms folded as close as possible to the body. A "T" shape can be used to bring the onboard camera mounted on the central frame as close as possible to objects that the drone needs to inspect.



In the future, they want to develop algorithms that will make the drone truly autonomous, allowing it to look for passages in a real disaster scenario and automatically choose the best

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way to pass through them. https://unmanned-aerial.com/new-morphing-drone-designed-for-intricate-search-and-rescue?utm_medium=email&utm_source=LNH+12-13-2018&utm_campaign=UAO+Latest+News+Headlines

Airobotics Scores Waiver for sUAS Flights BVLOS, Over People Betsy Lillian December 12, 2018

Drone start-up Airobotics has received a Part 107 waiver from the Federal Aviation Administration to fly automated drones beyond visual line of sight without a visual observer, as well as over people.

The waiver permits Airobotics to operate from the company's remote operations center in Scottsdale, Ariz. Airobotics plans to put the BVLOS capability to use primarily in the mining sector, as well as for other industrial sites in the U.S.

"We recently opened our U.S. headquarters in Arizona, and this latest certification opens the gateways to offering American mining companies, seaports, major construction projects, and in the future, smart cities, an optimal means of increasing efficiency and safety while decreasing operational costs," says Ran Krauss, CEO and co-founder of Airobotics. The company, currently based in Israel, recently announced a $30 million Series D round of funding, bringing its total investment to $101 million. The Scottsdale office will become the company's global headquarters. https://unmanned-aerial.com/airobotics-scores-waiver-for-suas-flights-bvlos-over-people?utm_medium=email&utm_source=LNH+12-13-2018&utm_campaign=UAO+Latest+News+Headlines

Monterey County Sheriffs Deploy UAS to Track Down Suspect Betsy Lillian December 12, 2018

Over the weekend, the Monterey County Sheriff's Office in California used one of its unmanned aircraft systems to track down a weapon-carrying suspect.

A man with a rifle had broken into the historical buildings at the Point Sur Lighthouse on Saturday night and was discovered the next morning by the lighthouse's docents. He then reportedly ran off, prompting MCSO and California state park rangers to respond.

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MCSO then launched its UAS, which was able to spot the suspect on top of a hill. The rangers were able to reach the suspect, who was then arrested.

"This was a dangerous situation due to the steep terrain and firearm involved, along with the unknown intent of the suspect," the sheriff's office says in the Facebook post. "The suspect had put the weapon down and walked away from it before rangers made their way over the mountaintop." The UAS program is funded by the nonprofit Monterey County Sheriff's Advisory Council (SAC). In August, the SAC announced that its contribution of $15,000 helped MCSO purchase five drones. https://unmanned-aerial.com/monterey-county-sheriffs-deploy-uas-to-track-down-suspect?utm_medium=email&utm_source=LNH+12-13-2018&utm_campaign=UAO+Latest+News+Headlines

K-State Students Get to Study UAS Operations Beyond Line of Sight Betsy Lillian

December 12, 2018

An unmanned aircraft systems degree at Kansas State University Polytechnic Campus is offering a curriculum on flying beyond the visual line of sight.

According to K-State, the UAS flight and operations degree is the first in the nation to introduce flying BVLOS into a college curriculum. The campus has been granted a waiver from the Federal Aviation Administration to perform this type of operation.

This fall, two upper-division courses – Advanced Fixed-Wing Operations and Flight and Field Operations – incorporated BVLOS into their flight labs. Students' attention to detail and safety were dramatically elevated, the university says. In these BVLOS operations, the drones were flown with a ground control station linked to an autopilot system on the aircraft.

Additionally, the campus has a waiver from the FAA to perform unmanned flight operations at night, which also has been added to several UAS courses. https://unmanned-aerial.com/k-state-students-get-to-study-uas-operations-beyond-line-of-sight?utm_medium=email&utm_source=LNH+12-13-2018&utm_campaign=UAO+Latest+News+Headlines

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Insitu UAS proves invaluable for firefighters in California APPLICATION BUSINESS EMERGENCY SERVICES HEADLINE NEWS ALEX DOUGLAS DECEMBER 13, 2018

The ScanEagle UAS provided vital information to firefighters working against the Camp Fire in California, according to Boeing subsidiary, Insitu.

The firm deployed its ScanEagle UAS alongside the TacitView and Cataline software payload to gather information to assist the firefighters in their efforts.

The ScanEagle's camera data and software generated daily operational maps and full motion video detailing the fire's movement in order to make life easier for men on the ground.

Insitu president and CEO, Esina Alic, said: "We witnessed the hard work, dedication and sacrifices made by those fighting the Camp Fire. We are proud to have had the opportunity to stand with these courageous people and play a part in helping to suppress this devastating fire." https://www.commercialdroneprofessional.com/insitu-uas-proves-invaluable-for-firefighters-in-california/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285976-Commercial+Drone+Professional+DNA+-+2018-12-13

2019 Commercial Drone Predictions with Mariah Scott

To get a better specific sense of what 2019 has in store for the commercial drone industry, we connected with Mariah Scott, President at Skyward, A Verizon company. Under her leadership, Skyward has helped enterprises realize the enormous potential of drones, which has given her incredible insight around what 2019 has in store for organizations looking to adopt the technology as well as the drone industry as a whole.

Jeremiah Karpowicz: There are lots of "big picture" market predictions out there in terms of the potential value of drone technology, but what do you think we'll see in 2019 when it comes to connected fleets of autonomous vehicles?

Mariah Scott: 2019 will be the year of the autonomous drone. We'll see private companies and public agencies dispatch autonomous drones together with existing networked fleets of ground and aerial vehicles for data-gathering and yes, delivery. Operators will be able to fly a drone from anywhere in the world with network-connected ground control stations (GCS), and data will be transmitted back via a network-connected GCS or even a connected drone.

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We'll see public agencies use connected fleets of ambulances, fire trucks, helicopters, and drones for natural disaster response, unfolding emergencies, and search-and-detect applications. We'll see drones integrated into smart cities as an essential part of the infrastructure for inspections, asset management, data services, delivery, and more.

Private companies will integrate cargo planes, freight trucks, and drones for incredibly efficient delivery. We'll come to expect that news organizations will provide live coverage of emerging events with both drones and ground cameras. And the fact that they do this will no longer be newsworthy.

These integrated networks will be managed and delivered by public agencies and companies rather than rolled out on a nationwide level, but they'll serve as smaller scale proofs-of-concept for the grand vision—a global system of safe, connected, efficient, autonomous drones. We'll also see regulatory and technological innovations that will bring us closer to that goal.
https://www.expouav.com/news/latest/2019-predictions-commercial-drone-industry-mariah-scott/?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiWVdOak1UTTFPVEZqWXpJMSIsInQiOiIrNXBNcWM2VEhpekJkZjN6RnhuTUVrekxjMVB3OXpIWWk0dXpvS0xyYnZ6TmM3OFY3S2s3dHZkMjJUYVpHdXgzS2haT0ZkRFJuajIzZjBhTVJEemorejJyR25LYTVKVExHdzIMNmdqQWJVMlppMHdocTlKVGdGZXg4TDlcL3ZFMU8ifQ%3D%3D

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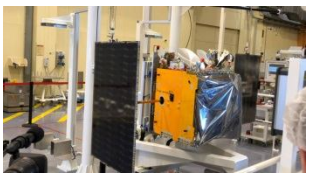
OneWeb scales back baseline constellation by 300 satellites

Caleb Henry December 13, 2018



WASHINGTON — Satellite broadband startup OneWeb, now three months from the launch of its first satellites, is reducing the size of its initial low Earth orbit constellation by a third.

Greg Wyler, OneWeb's founder, said the company will need only 600 satellites or so instead of 900 after ground tests of the first satellites demonstrated better than expected performance.

Wyler said OneWeb has added back ups for all major components on the satellites, including redundant computers and four reaction wheels per satellite, to improve the reliability of each spacecraft. OneWeb is building its satellites through a joint venture with Airbus Defence and Space. OneWeb officials have stated that the satellites are below $1 million each, but have avoided greater specificity.

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OneWeb has raised $1.7 billion to date from investors including Japanese conglomerate Softbank, fleet operator Intelsat and soft drink giant Coca-Cola. The heavily capitalized startup is seeking to raise the rest of its needs — at least several hundred million dollars if not over a billion based on previous estimates — through export credit agencies, though little progress has been visible since the last equity raise in late 2016. https://spacenews.com/oneweb-scales-back-constellation-by-300-satellites/

INSIGHT: Reducing the drone pilot gender gap APPLICATION BUSINESS EXCLUSIVE HEADLINE NEWS INDUSTRY LEADER ALEX DOUGLAS DECEMBER 13, 2018

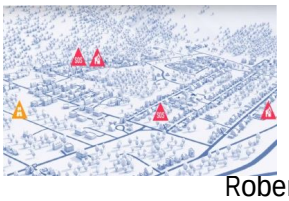
Three percent of certified drone pilots globally are female, a shocking statistic that fails to do justice to the strong and talented female presence within it.

CEO and co-founder of Women Who Drone, Elena Buenrostro, is hoping that her efforts will help towards the company's ultimate goal of changing the gender gap between men and women when it comes to drone pilots. She started the company on the back of support she received following drone footage she captured of the Great Wall of China while on holiday.

Since its beginnings around 12 months ago, Women Who Drone has grown significantly and now has brand ambassadors across the globe with the aim to inspire, educate and empower more women to learn to fly drones, obtain licenses, and join the industry.

Buenrostro reflects: "So far so good. We've been talking to a few companies about being a sponsor so we have a sponsor package on there for around $10,000. We still have around 40 days left and we are currently at around $5,000 but we are just spreading the word as much as we can. We have about 45 brand ambassadors around the world who work with us and can also monetize their work with the partnerships we have."
https://www.commercialdroneprofessional.com/insight-reducing-the-drone-pilot-gender-gap/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285976-Commercial+Drone+Professional+DNA+-+2018-12-13

Nokia to capitalize on LTE-connected drones in 'saving lives' project DRONES AT WORK EMERGENCY SERVICES INTERNATIONAL NEWS TECHNOLOGY ALEX DOUGLAS DECEMBER 13, 2018



Alongside Smart communications and the Philippines Red Cross, the collaboration will use Nokia Bell Labs and LTE-connected drones equipped with cameras and sensors that can be deployed to disaster

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areas along with a portable LTE-network. According to local news outlet ABS-CBN, the Philippines was chosen because of the frequent disasters that visit the country.

The project has been set up to facilitate safer and more efficient search and rescue operations while providing backup communication in areas where networks are disabled by a disaster. https://www.commercialdroneprofessional.com/nokia-to-capitalise-on-lte-connected-drones-in-saving-lives-project/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-285976-Commercial+Drone+Professional+DNA+-+2018-12-13

Unmanned Systems Association of Virginia Announces Partnership with Center for Innovative Technology

Memorandum of Understanding establishes formal relationship between USAV and CIT to jointly foster the development of unmanned systems in Virginia

The Unmanned Systems Association of Virginia (USAV), a non-profit coalition of leading companies in the unmanned systems industry, announced today that the organization has executed a Memorandum of Understanding establishing a formal partnership with the Center of Innovative Technology, a technology-based economic development non-profit that houses the Virginia Center for Unmanned Systems. The MOU states that USAV and CIT will jointly pursue mutually beneficial opportunities to foster the development of unmanned systems throughout Virginia.

Specifically, USAV and CIT will work together on the following:

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- Bring together stakeholders to interact with state officials on ways that the state can support further growth and opportunities in the unmanned systems industry.
- Leverage Virginia's great potential to support companies with interests in developing, testing, manufacturing and using unmanned systems products and services in Virginia.
- Promote the benefits of Virginia to unmanned systems-related businesses that may wish to expand or relocate to Virginia.
- Coordinate developments across the state that may impact the unmanned systems industry.

Read the full announcement here.

http://unmatchedva.org/wp-content/uploads/2018/12/USAV-CIT-MOU-Press-Release-12.13.18.pdf

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