UAS and SmallSat Weekly News

Contents

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Flying Cars: Japan's SkyDrive Plans Commercial Launch in 2023 [See it in Flight! VIDEO] Miriam McNabb November 19, 2020

SkyDrive is moving fast to put commercial flying cars into the air over Osaka Bay. The company, which launched a cargo drone this spring and flew their first flying car test flights this summer, plans to launch their air mobility product commercially by 2023.

The Japanese government is embracing the idea of urban air mobility and drone technology. Former Prime Minister Shinzo Abe stated that drones were a significant part of the "Fourth Industrial Revolution" and that Japan would not be left behind. Since then, Japan has made major strides to support the development of the commercial drone industry: flying cars are a natural corollary.

Hirofumi Yoshimura, the Governor of Osaka Prefecture, says that his area is ready to serve as a point of innovation. "Osaka, the bay area in particular, is suitable for the flying car business both geopolitically, and as an economic hub. The spirit of Yatteminahare (Just do it) is valued in Osaka. Just get on with it."

See the SkyDrive flying car world debut flight. https://dronelife.com/2020/11/19/flying-cars-japans-skydrive-plans-commercial-launch-in-2023-see-it-in-flight-video/

Drone Flight Over People: What it Means, When it's Allowed, and "Hazardous Operation" Miriam McNabb November 19, 2020

This fall, DRONELIFE had the privilege of speaking on a panel with representatives from the FAA. After some discussion, we decided to collaborate on a series of articles pointing out some of the most common mistakes and misconceptions about drone regulations

"In many of my conversations with stakeholders about this topic, I hear people more focused on what *EXACTLY* constitutes "over" people (107.39), says John Meehan, Aviation Safety Analyst with the FAA. "'Over' people means just that, directly over someone," says Meehan. "A good way to envision this is to imagine a cylinder of air that extends above a person. This cylinder could change diameter if the person is

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standing up vs. laying down, or arms extended or not. A drone would not be allowed to pass through that cylinder of air."

For the FAA, drone flight over people is directly connected with the concept of "hazardous operation." Hazardous operation is endangering the safety of persons or property on the ground by careless or reckless operation of the UAS.

"First and foremost, it's always good to start with the understanding that the intent behind the flight rules is aviation safety," says Meehan. "The fundamental concept is to **fly in such a way as to not put people or property at risk of injury or damage.**"
https://dronelife.com/2020/11/19/drone-flight-over-people-what-it-means-when-its-allowed-and-the-concept-of-hazardous-operation/

uAvionix to Provide BVLOS C2 Infrastructure and Service to Vantis November 19, 2020 News

uAvionix today announces its participation in the deployment of Vantis, North Dakota's statewide Beyond Visual Line of Sight unmanned aircraft systems infrastructure and network led by the Northern Plains UAS Test Site.

As a strategic partner to Thales' TopSky Unmanned Traffic Management platform, uAvionix is deploying terrestrial command and control infrastructure and a cloud-based C2 service, enabling centralized management, coordination and C2 handoffs which will enable BVLOS missions across the key-site deployment area of McKenzie County, ND.

The C2 service leverages uAvionix's microLink Airborne Radio Systems and skyStation Ground Radio Systems developed to ASTM standards. With Vantis as the launch customer, the C2 service monitors overall system performance, the health and signal strength of each radio on the network, location monitoring and tracking and centralized control.

In addition to the C2 service, uAvionix is contributing to the overall low-altitude airspace surveillance picture through the deployment of its pingStation networkable ADS-B receivers.
https://uasweekly.com/2020/11/19/uavionix-to-provide-bvlos-c2-infrastructure-and-service-to-vantis/

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369 drone flights in eight days to answer UTM questions Josh Spires Nov. 20th 2020

As many as 12 drones were flying simultaneously at a test site just outside of Blacksburg, Virginia. The testing was headed up by the Virginia Tech Mid-Atlantic Aviation Partnership which is in its fifth year of drone and unmanned traffic management testing. MAAP partnered with AirMap, AiRXOS, ANRA Technologies, and Wing to complete the testing.

There's a handful of active drone delivery programs worldwide, with many of them limited to a small area or by what they can carry. Many safety questions still need to be answered.

To test out current systems, engineers designed a range of realistic scenarios that require drone operators to work with each other. The tests used various software platforms as another way to make it more realistic. This also became one of the main things tested, looking to see if the different platforms could talk with one another.

In another test, unexpected events were introduced to see how the platforms would detect and avoid the event. A drone that veered off course was used for this, creating a possible collision. The testing also looked at the Remote ID standard being put in place.
https://dronedj.com/2020/11/20/369-drone-flights-in-eight-days-to-answer-utm-questions/

Behind President-elect Biden's breathtaking drone show Josh Spires Nov. 19th 2020

Earlier this month, President-elect Biden addressed the nation in his hometown of Wilmington, Delaware. Soon after, drones took to the sky in one of the most important drone light shows to date.

The drone and pyrotechnic shows were created and brought together by Strictly FX that turned to Verge Aero, the leader in drone show technology. Two hundred GPS-guided drones were used during the show with precision choreography and synchronization. The show started with the usual fireworks. Within a few seconds, drones appeared out of the darkness to create stars in the US colors with A Sky Full of Stars by Coldplay playing in the background.

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While Biden and Harris looked on in awe with their families, the drones formed Biden's campaign logo. With a few of the drones in the background, creating a glimmering star effect, the rest began to create an outline of mainland USA before filling it in with blue and red.

As part of the final sequence, the drones created the words "President-elect," with the fireworks perfectly aligned to make it look like they were shooting out of the drones. To finish the show, the drones formed Biden's name, the number 46, which links to his being the 46th US President, and finally, Harris' name. https://dronedj.com/2020/11/19/behind-president-elect-bidens-breathtaking-drone-show/

Japan Airlines turns to drones for deliveries in mountainous areas Josh Spires Nov. 19th 2020

The flight which took place on Wednesday is a test for future permanent drone deliveries in the region. The drone took off from a park in Yabu, Hyogo Prefecture, and got up to speeds of around 18 mph. Before it delivered the goods to a clinic 3 mi. away, it was grounded as a result of high winds.

It's not the first time JAL has worked with drones. In March, the company successfully delivered medical goods between a hospital and clinic 12 mi. apart. For this test flight, Japan Airlines worked with Terra Drone Corp. and the Yabu city government to test the possibility of using drones as a delivery method to solve challenges faced by regional areas where transportation is difficult.

As a result of the coronavirus pandemic, JAL has turned to new ways to create income and keep the company afloat in hard times. The answer to this is drone deliveries. Japan Airlines' rival All Nippon Airways Co. has also begun experimenting with delivery drones.
https://dronedj.com/2020/11/19/japan-airlines-turns-to-drones-for-deliveries-in-mountainous-areas/

Drone Delivery Canada shares update on Robin XL testing Josh Spires Nov. 19th 2020

The tests focused on the communications system, navigational guidance system, autopilot system; take-off and landing performance; general flight stability and performance; multiple velocity vectors and altitude profiles, sound pressure levels and battery consumption characteristics.

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The company hopes to begin remote deliveries within Canada next year as long as the next three months of testing go to plan. Once operational. Flight requests will be made through Transport Canada in line with the Special Flight Operations Certificate process already used by DDC.

The Robin XL has an expected range of 37 miles and can carry 25 lb. The delivery drone combines vertical take-off and landing and a fixed-wing. To keep operations safe, the drone has a built-in parachute that allows for flights over people. The Robin XL is designed to work with the Company's DroneSpot™ depot system, automated battery management system, and FLYTE software system. https://dronedj.com/2020/11/19/drone-delivery-canada-shares-update-on-robin-xl-testing/

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Han Tang Technology/UAV Corp Completes Initial Test of the DATT SA-70 Airship November 10, 2020 News

Han Tang Technology/UAV Corp through its subsidiary Skyborne Technology, Inc. has successfully conducted an inflation test of the new DATT SA-70 semi-rigid Airship with drone package.

"It will have both manned and unmanned capabilities with a package of two drones on-board the ship. The tether-airship is approximately seven stories high with a payload capability of up to 1000 lbs. and can be configured as a hybrid-electric aerial platform with recharging stations for the two drone packages," stated Michael Lawson, CEO of UAV Corp/Skyborne.

"The DATT Tether-Airship will become an integral part of our region's Emergency Management," commented Jim McKnight the Director of the Gulf County Economic Development Coalition. "The partnership between Skyborne and Gulf Coast State College has ignited the burgeoning aerospace cluster in Gulf County."

Skyborne has been given the go ahead from Gulf County government officials to proceed with the building of its new hangar for manned and unmanned operations located at the Costin Airport in Port St. Joe, Florida. The U.S. Department of Commerce's Economic Development Administration awarded a $615,000 grant to Gulf County in support of this project. https://uasweekly.com/2020/11/10/han-tang-technology-uav-corp-completes-initial-test-of-the-datt-

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sa-70-airship/?utm_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm_campaign=b897c3a476-EMAIL_CAMPAIGN_2020_11_22_11_37&utm_medium=email&utm_term=0_2ecada6f57-b897c3a476-33089729

Drone-based assessment software aims to prevent disasters in aging infrastructure Grant Cameron November 13, 2020

ARMANDO TURA/UNIVERSITY OF VICTORIA — Founders of Niricson, a Victoria, B.C.-based technology company, have developed a novel drone-based collection and damage-assessment software system to inspect and detect problems with aging infrastructure.

"We started with dams but the next thing we're doing is going into bridges and tunnels, even nuclear power plants, water tanks, all types of concrete structures, and then slowly going to steel and timber structures as well," says Harsh Rathod, co-founder of the company

The system uses visual, acoustic and infra-red heat sensing to get an idea of what it's like below the surface of a structure and detect cracks, voids or other problems. Drones fly around large civil infrastructure projects and collect the information using an onboard acoustic recorder, optical camera and infra-red camera. The data are analyzed in real time using the company's software. Inspectors can tell the width, length, depth and overall significance of the defects and take immediate action to repair them.

"We collect thermal and acoustical data," explains Rathod. "It's not just the surface level but also sub-surface. The thermal data allows us to look at about five millimeters up to 50 millimeters from the surface and acoustic allows us to go 200 millimeters. Our goal is to go up to 30 inches. "The drone goes out there and actually taps the concrete surface and collects the sound waves from the surface."
https://canada.constructconnect.com/joc/news/infrastructure/2020/11/drone-based-assessment-software-aims-to-prevent-disasters-in-aging-infrastructure?utm_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm_campaign=b897c3a476-EMAIL_CAMPAIGN_2020_11_22_11_37&utm_medium=email&utm_term=0_2ecada6f57-b897c3a476-33089729

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UAE to use drones to plant mangrove seeds in Abu Dhabi HEADLINE NEWS JOE PESKETT NOVEMBER 19, 2020

UAE-based commercial drone operator, Distant Imagery, will use customised drones to plant thousands of mangrove seeds in Abu Dhabi.

Abu Dhabi's Environment Agency is working with global utility company Engie on the project, which is designed to increase carbon capturing in the emirate.

Distant Imagery plans to sow at least 4,000 mangrove seeds in December using its self-engineered drones. The company will then continue to monitor the rehabilitated area to evaluate the project and the level of carbon it is capturing.

"We are very pleased to be rehabilitating mangroves using drone technology in this world-first project. Similarly, we are consistently propagating different species, and the Blue Carbon Project is another example of that," said Ahmed Al Hashmi – Acting Executive Director for Terrestrial and Marine Biodiversity at Environment Agency – Abu Dhabi.
https://www.commercialdroneprofessional.com/uae-to-use-customised-drones-to-plant-mangrove-seeds-in-abu-dhabi/

23Nov20

SkySensus Announces Selection for RTM Services Trials 2020-11-23 Press UAV Expert News

SkySensus, an R&D project that is funded and led by Peraton Canada for the research and development and commercialization of Beyond Visual Line of Sight in unmanned systems was selected to fulfill Canada's official Remotely Piloted Aircraft Systems Traffic Management Service Trials.

The RTM Service Trails were granted to SkySensus, in partnership with Unifly, a global RTM solutions provider, to demonstrate their combined expertise in developing the requirements, performance levels and deployment of services needed for Canada's RPAS Traffic Management system.

The RTM selection committee, a joint government and industry group co-led by Transport Canada and NAV CANADA, was established to create a roadmap for the development of RTM

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services in Canada. The goal is to develop an ecosystem of RTM services that can safely manage the integration of remotely piloted aircraft into Canadian airspace.
https://www.uavexpertnews.com/2020/11/skysensus-announces-selection-for-rtm-services-trials/?utm_source=Master&utm_campaign=8e8900d608-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-8e8900d608-89168288

UK military armed drone swarms could be ready in six months Josh Spires Nov. 23rd 2020

Drones from the UK Ministry of Defense (MOD) could be ready to hit the skies in six months, according to drone company Blue Bear. The company has also stated that it would take around £5 ($6.6) million for a fleet of 20 drones.

The UK has been developing its swarming drones for the last few years and is expected to aid crewed aircraft in attacks, destroying air defenses, and provide live video feeds to soldiers on the ground. It is expected that the drones will be converted to carry weapons and even be used as kamikaze drones. The UK Ministry of Defense (MOD) has already invested £4 ($5.3) million in drone company Blue Bear to develop network-connected swarm drones that can carry various payloads.

Managing Director at Blue Bear, Ian Williams-Wynn, told the *Telegraph* in an interview: *The Russians used drones to great effect in Crimea, and now we're seeing Azerbaijan buy Turkish drones and fly them in the same way. Islamic State used model aircraft and were devastatingly effective.*

Blue Bear is developing two drones for the UK military, the Cobra and the Ghost. The Cobra can carry up to 15 kg and flies at 16,000 feet. The Ghost is a VTOL drone with a temperature-controlled payload bay, ideal for medical supplies. https://dronedj.com/2020/11/23/uk-military-armed-drone-swarms-could-be-ready-in-six-months/#more-41775

24Nov20

MAN FACES PRISON FOR ALLEGEDLY FLYING DRONE INTO LAPD HELICOPTER

November 23, 2020 Jim Moore

An FBI agent trained in counter-drone operations to protect firefighters worked with Los Angeles police to track down a 22-year-old man who confessed to launching his quadcopter to

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observe police activity around midnight on September 18 and flew his DJI Mavic into an LAPD helicopter.

According to a criminal complaint filed November 18 in U.S. District Court in Los Angeles, Andrew Rene Hernandez confessed to his ill-advised night launch around midnight on September 18, when city police converged on a pharmacy near the defendant's Hollywood residence.

"Hernandez was curious and got his drone see what was going on," the criminal complaint states. "He stated that it is hard to see the drone at night, but that he recalled seeing the drone's green light facing him as it was ascending. Hernandez looked down for a couple of seconds at the drone controller attached to his phone. As Hernandez looked up again, he saw the drone being 'smacked' by the helicopter, which was hovering. The drone went down and landed at a nearby residence."

The falling quadcopter broke the rear window of a 2020 Toyota Corolla near the pharmacy where police had converged to investigate a burglary call. It was found by city police officers, who recovered "gray plastic pieces of the drone," along with the camera and digital memory card. The flight crew told the FBI that they had seen the drone and attempted to avoid it by climbing. The drone struck the helicopter's fuselage near the nose. The flight crew returned to Hooper Heliport and made an "emergency landing."

The U.S. Attorney for the Central District of California announced Hernandez's arrest November 19 and noted that Hernandez is believed to be the first person in the country to face a criminal charge for unsafe operation of an unmanned aircraft. Hernandez faces up to one year in prison if convicted of the misdemeanor. https://www.aopa.org/news-and-media/all-news/2020/november/23/man-faces-prison-for-allegedly-flying-drone-into-helicopter?utm_source=dronepilot&utm_medium=email

MASSIVE UTM TESTS WITH NASA DRAW OVER 100 PARTICIPANTS November 24, 2020 Sally French The Drone Girl News

It's a signal that UTM (short for UAS Traffic Management) is on the path for implementation — which is a big win for the drone industry that has long called for a system of air traffic control for drones.

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The UTM tests with NASA, overseen by the Federal Aviation Administration also served as the sort of finale to the second phase of the FAA's Unmanned Aircraft System (UAS) Traffic Management Pilot Program (UTM/UPP).

Tests were held over two days. The Virginia tests on Oct. 28 included big drone companies including AirMap, AiRXOS, ANRA Technologies and Wing. On Nov. 9, the New York UTM test, held in coordination with the Griffiss International Airport, included tech from AiRXOS, ANRA Technologies, AX Enterprize and OneSky.

Among the capabilities being tested in the UTM tests were technologies and data to validate remote identification standards, UAS volume reservations to notify drone operators of emergencies, and tech that would secure information exchanges between the FAA, industry and authorized users

"The demonstrations will help move us closer to safe beyond-visual-line-of-sight drone operations," said Pamela Whitley, the FAA's acting assistant administrator for NextGen. "Flight testing UTM capabilities in high-density airspace will help us develop policy for safely and efficiently integrating drones into our national airspace."
http://www.thedronegirl.com/2020/11/24/utm-tests-nasa/

FAA Moving Forward to Enable Safe Integration of Drones 2020-11-24 Press UAV Expert News

The FAA published airworthiness criteria for the proposed certification of 10 Unmanned Aircraft Systems as special class aircraft. This is a crucial step to enabling more complex drone operations beyond what is allowed under the small unmanned aircraft rule (Part 107).

The airworthiness criteria provide a level of safety equivalent to that provided by existing airworthiness standards applicable to other categories of aircraft and establish a defined path to type certification for specific drones. Each applicant must follow FAA's requirements and safety objectives. Airworthiness criteria notices are published in the Federal Register for: 3D Robotics, Airobotics, Amazon, Flirtey, Flytrex, Matternet, Percepto, Telegrid, Wingcopter and Zipline.

The applicants' drones range from five to 89 pounds and include several types of vehicle designs including both fixed wing and rotorcraft and are all electric powered. This is a step in the certification process and does not imply these applicants have earned type certificates. The

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public has 30 days to comment on each applicant's airworthiness criteria, and deadlines are specified in each individual notice. The FAA will consider the comments as it establishes criteria for type certifying each UAS and will publish final airworthiness criteria after the comment period closes. https://www.uavexpertnews.com/2020/11/faa-moving-forward-to-enable-safe-integration-of-drones/

Walmart Lights Up the Sky with All-New Holiday Drone Light Show

BENTONVILLE, Ark., Nov. 23, 2020 —To help families end the year looking up, Walmart is gifting the "Walmart Holiday Drone Light Show," an all-new magical experience that brings the joy and wonder of the holiday season to the skies of select communities across the country, and to *all* families through a special live-streamed event.

The show is a free and contactless experience that brings holiday songs to life like never before. Thanks to nearly 1,000 Intel drones launched into the night's sky, the light show creates three-dimensional seasonal shapes and characters like snowflakes, reindeer, snowmen and holiday presents, choreographed to a soundtrack of classic and modern holiday favorites, from "Frosty the Snowman" by Bing Crosby to "Run Run Rudolph" by Kelly Clarkson.

Eight communities across the country will be able to experience the show live when it flies through their town December 4-20: Kansas City, Dallas, San Antonio, Doswell, Virginia at Kings Dominion Dec. 10, Phoenix, Charlotte, Sacramento and Fayetteville.

The joy and wonder of the show isn't limited to just these communities. Any family can be wowed as the drones paint the sky with holiday cheer by tuning in to a live broadcast on Walmart's Facebook, Instagram and TikTok channels on Saturday, Dec. 5 at 7:40 p.m. ET. https://corporate.walmart.com/newsroom/2020/11/23/walmart-lights-up-the-sky-with-all-new-holiday-drone-light-show

Can drones learn from bugs? David MacQuarrie Nov. 24th 2020

Researchers at UNSW Canberra in Australia believe they have cracked one of the secrets that allow the ungainly bumblebee to fly so dexterously. And they think that may have an application to the next generation of drones. Bumblebees apparently have a keen sense of their own size. And that

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allows them to fly through complex and cluttered environments without crashing or wrecking their delicate wings.

“We were amazed to see that in some instances, the bumblebees reorientated themselves sideways to fly through gaps they were unable to attempt head-on. The dexterity of these insects has really got us thinking about what other secret bee behaviors we could unlock,” says Dr. Sridhar Ravi.

The bees apparently use depth perception and spatial awareness to build a map of an opening and how they might fit through it. It’s similar to how people might rotate their shoulders to fit through a narrow doorway, or how a future autonomous drone might slip through a small window or door. “Insects are fantastic models for robots because they have exceedingly small brains, and yet they’re able to perform complex tasks. Our challenge now is to see how we can take this and apply it to future robotic systems, says Dr Ravi.
https://dronedj.com/2020/11/24/drones-learn-from-bugs/

25Nov20

SpaceX launches 60 more Starlink internet satellites in 100th Falcon 9 launch

WILLIAM HARWOOD NOVEMBER 25, 2020 CBS NEWS

A time exposure captures the fiery trajectory of a SpaceX Falcon 9 rocket climbing away from the Cape Canaveral Air Force Station carrying 60 Starlink internet relay satellites. It was the company's 23rd launch so far this year, the 100th for the workhorse Falcon 9 since the rocket's debut in 2010 and a record seventh flight for the booster's first stage.

SpaceX fired off a Falcon 9 rocket from Florida on Tuesday night, marking the company's 100th overall and 23rd so far this year. The latest batch of Starlinks pushed the total number launched to date to 955 as SpaceX continues building out a globe-spanning constellation of internet relay satellites designed to provide broadband services to subscribers anywhere on the planet. Thousands more satellites are planned.

While the second stage continued toward orbit on the power of its single vacuum-rated engine, the first stage plunged back to Earth, guiding itself to a picture-perfect landing on a waiting SpaceX droneship. Touchdown marked the company's 67th successful booster recovery, its

46th at sea and its second landing in two days. https://www.cbsnews.com/news/spacex-launches-starlink-internet-satellites-100th-falcon-9-launch/

Percepto Secures $45 Million Investment for Autonomous Inspection of Industrial Sites November 25, 2020 News

Percepto today announced a strategic investment of $45 million in Series B funding led by Koch Disruptive Technologies for remote, fully autonomous, asset monitoring, inspection and compliance of industrial sites. KDT is joined by new investors State of Mind Ventures, Atento Capital, Summit Peak Investments, Delek-US and existing investors U.S. Venture Partners, Spider Capital and Arkin Holdings, bringing the total investment in the company to $72.5 million.

Evolving their advanced drone-in-a-box solution to the next level, Percepto's Autonomous Inspection & Monitoring (AIM) platform sets a new standard for how critical infrastructure and assets are monitored, end-to-end, paving the way for the remote operations center of the future. Operating a fleet of third-party robots alongside their autonomous Sparrow drone, Percepto AIM provides visual data management and analysis to report trends and anomalies alert risks. Any member of staff can request data, and Percepto will deploy the most suitable robot independently without human accompaniment to retrieve and stream the required data. The platform also seamlessly reports to assess risk, minimize downtime, drive efficiency and reduce operational costs. https://uasweekly.com/2020/11/25/percepto-secures-45-million-investment-led-by-koch-disruptive-technologies-to-deliver-truly-autonomous-inspection-of-industrial-sites/?utm_source=rss&utm_medium=rss&utm_campaign=percepto-secures-45-million-investment-led-by-koch-disruptive-technologies-to-deliver-truly-autonomous-inspection-of-industrial-sites&utm_term=2020-11-25

Elistair's Tethered Surveillance Drone Delivers Round-the-Clock Security Miriam McNabb November 23, 2020

French drone manufacturer Elistair has announced their newest offering: the Orion 2 tethered unmanned system for military, government and industry offering 24 hour surveillance. It is a "quick-deploy system"– utilizing automated push-button takeoff and landing.

It is the newest advancement on the original Orion drone which has earned a global customer base. "The Orion helped secure the Ryder Cup in September

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2018, flying over crowds of 300,000 attendees for 8 to 11 hours a day and has been employed by the French police, British military, and Singaporean government."

Orion 2 has a micro-tether of 330 feet and can carry 4.5 pounds. it can serve simultaneously as an ISR and telecom platform, can stream georeferenced electro-optical and infrared imagery at the same time and can deploy 4G/5G communications nodes with a new fiber optics cable option. https://dronelife.com/2020/11/23/elistairs-tethered-surveillance-drone-delivers-round-the-clock-security/

EHang takes step closer to Urban Air Mobility Scott Simmie Nov. 25th 2020

The concept of Urban Air Mobility is pretty simple: Use aerial drones to move some of the goods and people normally moved via ground transport. Chinese company EHang has been a visionary in this field and has recently expanded its testing.

It recently completed flights in three locations in South Korea: Seoul, Daegu, and Jeju Island.

In Seoul, EHang 216 took off from Yeouido Island in downtown to have an autonomous flight over a densely populated area. The second flight was done in Suseong District, Daegu City, to deliver a package containing a fire emergency kit and AED materials. The last flight was done in Jeju Island where EHang 216 flew over the coastline to demonstrate aerial sightseeing.

Some of the tests involved goods delivery.

The company obtained a Special Certificate of Airworthiness from the Ministry of Land, Infrastructure and Transport in June. EHang wants to roll out Urban Air Mobility in South Korea between 2023 and 2025. EHang is also testing its passenger drone at a special UAV facility in Quebec, Canada.

We look forward to one day being able to hail an autonomous UAV, as part of an Urban Air Mobility future. https://dronedj.com/2020/11/25/ehang-leads-passenger-drone-development/

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US leads with the most drone HQs, but DJI remains on top Josh Spires Nov. 25th 2020

A new report from RS Components has taken a look at key factors of the worldwide drone market, ranking the top countries and companies. For this post, we'll be taking a look at the countries with the most drone headquarters and the drone companies making the most headlines in the media.

The US leads with the most drone headquarters totaling 461. Following far behind is China with 50. Closely behind are Japan, Australia, and France, with 47, 43, and 41. The US companies include Trulia, Zipline, 3D Robotics, PrecisionHawk, Scale AI, Airware, DroneDeploy, Skydio, Kespry, Skycatch, Dedrone, SkySpecs, and Measure. The data also shows Canada in the 20 to 30 range, India in the 40 to 50 range, Brazil in the 20 to 30 range, and Germany in the 40 to 50 range.

When it comes to the media, the report includes the top eight drone companies that have been mentioned the most during the data collection period. DJI is on top of the list, with 2,396 stories mentioning the company. In second place at 1,549 mentions is Trulia, a real-estate website using drone footage to sell houses and give people a feel of the neighborhood.

Behind is Upfront Ventures with 886 mentions, 3D Robotics with 320, Airware with 205, PrecisionHawk with 169, DroneDeploy with 124, and Mexican Balam Seguridad Privada with 112. https://dronedj.com/2020/11/25/us-leads-with-the-most-drone-hqs-but-dji-remains-on-top/#more-41926

Percepto secures $45 million, partners with Boston Dynamics Josh Spires Nov. 25th 2020

Percepto has announced it has secured $45 million in funding led by Koch Disruptive Technologies and is partnering with Boston Dynamics to introduce autonomous ground and aerial inspections to industrial sites.

Percepto has managed to secure $45 million in Series B funding lead by Koch Disruptive Technologies, taking the total funding to $72.5 million. The other investors include State of Mind Ventures, Atento Capital, Summit Peak Investments, Delek-US, and existing investors U.S. Venture Partners, Spider Capital, and Arkin Holdings.

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Chase Koch, President of Koch Disruptive Technologies added:

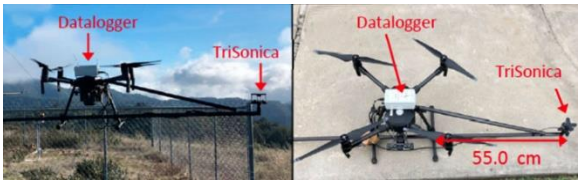
To advance its Autonomous Inspection & Monitoring platform, Percepto has partnered with Boston Dynamics to put its Spot robot dog to work to perform ground-based inspections of critical infrastructure and assets. The AIM platform now collects aerial data from its custom drone and ground data from Spot autonomously, along with data from satellites to produce automated reports, track trends, and detect anomalies.
https://dronedj.com/2020/11/25/percepto-secures-45-million-partners-with-boston-dynamics/

26Nov20

The Fire Weather Research Laboratory Is Using Drones to Profile Wildfires João Antunes Public Safety & Emergency Services NOVEMBER 26, 2020

Focused on understanding how the atmosphere influences wildfire behavior as well as how those fires influence the atmosphere, the Fire Weather Research Laboratory at San Jose State University has been conducting meteorological profiling of wildfires using UAS.

Together with the United States Forest Service and the Desert Research Institute, the FWRL has sampled the vertical wind profiles of 3-dimensional winds generated by wildfires using a DJI Matrice 200 equipped with a TriSonica Mini Wind and Weather Sensor from Anemoment. Mounted on a carbon fiber pole extending 55 cm off the body of the drone to avoid rotor wash, FWRL' solution records three components of wind speed, wind direction, sonic temperature, humidity, pressure, magnetic heading, pitch and roll rates.



"The really cool thing about the TriSonica Mini is it autocorrects; it has got an inertial measurement unit so it automatically corrects for pitch and roll. That's huge!"

During this research, the FWRL was able to measure the meteorology and turbulence associated with a fire front including the rate of fire spread and smoke dispersion. The drone enables the FWRL to easily capture the evolution of the wind field close to the fire front "without completely destroying a bunch of instruments."
https://www.commercialuavnews.com/public-safety/the-fire-weather-research-laboratory-is-using-drones-to-conduct-meteorological-profiling-of-wildfires?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiWkRGaVlURXhNR1UwTTJNNCIsInQiOiJTUDNWTTRiNEdRVWZTeTFGR2VHaGFtb

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m91ajZiWEVjQXh4MlBOcEd3TWFMQTZzVFNZQk9zOTNtbCtZTEF2a3pZTGpybVFWVUdFZHY3aVRZS015ekt2ZHJBUFJqMFFyN1g5b1pZSnI4UEtVWlFoMjFzeEdOSE1zemtRSjg2UHFxZSJ9

U.S.-China proxy war continues as India receives U.S. Predator drones Josh Spires Nov. 26th 2020

India has received two U.S. Predator drones for its Navy in an emergency leasing plan as tensions continue to rise with neighboring China in the region of Ladakh. The addition of the two U.S.-made drones is continuing what looks to be a U.S. proxy war with China.

The drones will reportedly fly with the Indian Navy logo and be full operated by the Indian Navy. All the data captured by the drones is also expected to go to the country as well.

India has been able to lease the two drones for a year from General Atomics, which produces the drones. The company is expected to have no other role in the drones other than ensuring two are available for India to use. General Atomics currently has a team in India performing maintenance on the two drones.

As the drones are American, this move can be seen as a passive move against China, as the two haven't been getting along recently. https://dronedj.com/2020/11/26/u-s-china-proxy-war-continues-as-india-receives-u-s-predator-drones/#more-42063

Vodafone, Ericsson successfully test drone delivery service Josh Spires Nov. 26th 2020

The testing was completed at Vodafone's innovation center in Aldenhoven, Germany.

The test used network traffic data that ensured the drones followed paths with no connection issues. This ensured the drone was always connected to the internet during the flight and controlled if something went wrong.

The delivery drones can take advantage of Vodafone's network, allowing for longer and more complex flights, including beyond visual line of sight. Using internet-connected drones will allow for a wider range of deliveries to be completed, including emergency medicine and first responder deliveries.

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network-connected drones could be used for more than just deliveries, saying they can assess fires, deliver medical supplies, help businesses survey hazardous conditions, and inspect powerlines and the company's mobile masts quicker and more safely.
https://dronedj.com/2020/11/26/vodafone-ericsson-successfully-tests-drone-delivery-service/

GUTMA publishes 'Designing UTM for global success' paper Scott Simmie Nov. 26th 2020

GUTMA stands for the Global UTM Association. It's a non-profit consortium of stakeholders in the Unmanned Traffic Management (UTM) world. And its new paper "marks a significant milestone in the association's history

The members of GUTMA are spread over 25+ countries. And the members tend to be involved with one of the following: UAS manufacturing, UAS operations, Air Navigation service provision, infrastructure and data, UTM service provision, regulatory bodies and research institutes. All have an interest in ensuring Unmanned Traffic Management – the safe integration of manned and unmanned vehicles sharing common airspace. It's an issue that will require a universal solution as the world heads toward more routine Beyond Visual Line of Sight flights, Urban Air Mobility and more widespread deliveries by UAV.

Now, GUTMA is advancing this with its new paper, 'Designing UTM for Global Success.' It's a major accomplishment, and one that involved collaboration and consensus among members.
https://gutma.org/designing-utm-for-global-success/

UTM is a big topic. It is also complex when you consider the number of diverse stakeholders involved. What might seem like an ideal solution for a UAS operator might not fit with the needs of someone else in the drone ecosystem. This GUTMA paper is important because it represents a common, consolidated view from its members.
https://dronedj.com/2020/11/26/gutma-releases-utm-paper-for-drones/#more-42115

Flirtey explores drone deliveries for Covid-19 testing kits HEADLINE NEWS JOE PESKETT NOVEMBER 26, 2020

Vault Health distributes a COVID-19 saliva test kit that can be used at home under supervision from a health professional through a video call. Using Flirtey's drones to deliver the test kits to homes will eliminate

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exposure risks and create further convenience, especially for those who do not live in proximity to on-site testing locations.

The Vault Health COVID-19 Test Kits have been added to Flirtey's existing drone delivery test program underway in the Reno, NV area. Through the partnership, which will begin immediately, Vault Health will send kits to distribution centers based on historical market demand data. When a customer places an order, a Flirtey drone will deliver the test kit to the customer's home on-demand. https://www.commercialdroneprofessional.com/flirtey-explores-drone-deliveries-for-covid-19-testing-kits/

27Nov20

Score a Drone on Black Friday: Don't Miss These Deals Miriam McNabb November 27, 2020

Autel's EVO II Series is on sale until stocks last. It has been advertised as "the most advanced compact drone in existence" and it's got a lot to offer for a great price

DJI has made it very easy . Check out their mini-site with discounts of up to 46% off until November 30, 2020.

Black Friday drone deals include savings on both drones and accessories for every flyer, from recreational to pro and enterprise buyers. Score a great deal on the Mavic Mini($359) and discounts on service and accessories; or go for the new Mini 2 for $449. The Mavic Air 2 is on sale for $799. The Mavic 2 Pro and Phantom 4 Pro are also discounted.

Once you've scored the pro drone you've been waiting for, you can get the latest payload from FLIR. FLIR's Black Friday deals end 12/7/2020, so visit this site to order. Save up to $1,000 on FLIR DUO PRO R; up to $550 on FLIR VUE PRO; and up to $1300 on FLIR VUE PRO. https://dronelife.com/2020/11/27/score-a-drone-on-black-friday-dont-miss-these-deals/