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UAS and SmallSat Weekly News

Contents

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18May19

Flying cars mooted for Paris' public transport network AFP 15 May 2019

Paris (AFP) – European aerospace giant Airbus and Paris underground operator RATP will study the viability of adding flying vehicles to the city's urban transport network, the companies said Wednesday. The firms will "explore the feasibility of urban air mobility services" in the French capital and the broader Ile de France region, they said in a statement.

There have been several attempts around the world to develop flying cars, such as the Transition made by US firm Terrafugia and the AeroMobil, produced in Slovakia. Both have taken years and a lot of money to develop, and are yet to go on sale.

"Flying cars are definitely coming within the next two to three years. The regulation is in place and authorities are actively supporting the innovation," AeroMobil told AFP. Flying car prototypes have become regular attractions at the annual VivaTech exhibition, which opens in Paris Thursday. There are at least 20 flying car projects underway, and the Uber ride-sharing company is looking into "flying taxis". https://www.breitbart.com/news/flying-cars-mooted-for-paris-public-transport-network/

Game of drones on France's autoroutes Alexander Glinz

Police in France are increasingly using drones to monitor drivers' behavior on the country's autoroutes. They were used for the first time in the Ile-de-France on Wednesday, May 15.

Officers spotted a motorbike that had repeatedly crossed a continuous white line. They coordinated with colleagues, the bike was stopped and the rider was fined €90 and lost three points. Since the beginning of the year, one motorcyclist has died and three more have been seriously injured on this short stretch of motorway. Using the drones, 35 riders were given tickets in one hour - more than twice as many as a traditional roadside check. A total of 64 bikers were stopped in the two-hour operation.

Motorists can expect to see drones flying more regularly. "This is a new technology that we will use more and more often, in different places," a spokesman told Le Parisien. https://www.connexionfrance.com/French-news/police-in-france-using-drones-to-catch-motorists-breaking-law-on-motorways

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Roofr Releases Free Satellite Roof Measurement Tool May 15, 2019 News

Roofr, an online marketplace connecting consumers to roofing contractors announced today the release of their free roof measurement tool, Roofr Measurements. The tool can measure any roof in under 5 minutes with pinpoint accuracy directly from contractors' desks at no cost.

It provides access to satellite and aerial imagery and allows contractors to outline and measure edges, assign slope, and pinpoint attributes of a roof. Once mapping is completed, it provides a downloadable report on the area, pitch, direction, and edge lengths of the roof. These reports help roofing contractors determine how much material to purchase, the amount of time the project will take, and the total cost to the customer.

Other, comparable roof measurement products can take several days to generate a full report and cost $100 per report or monthly subscription fees. Roof's new tool is completely free.
https://uasweekly.com/2019/05/15/roofr-releases-free-satellite-roof-measurement-tool/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_05_16_2019&utm_term=2019-05-16

vHive Demonstrates AI for Cell Tower Equipment ID May 15, 2019 Mapping and Surveying

vHive announced the enhancement of its autonomous cell tower inspection solution to automatically identify equipment installed on surveyed towers. The AI enables us to rapidly scan through acquired data and identify objects of interest such as telecom equipment for the tower industry. It orchestrates a hive of drones, enabling customers to acquire data from structures such as cell towers, bridges and buildings. https://uasweekly.com/2019/05/15/vhive-demonstrates-ai-for-cell-tower-equipment-id/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_05_16_2019&utm_term=2019-05-16

Terra Drone Indonesia's LiDAR Mapping UAVs Are Helping Palu Recover from 2018 Disaster May 15, 2019 Mapping and Surveying

For the first time ever, Light Detection and Ranging technology is being used to create maps for post-disaster recovery efforts in Indonesia. Terra Drone Indonesia, in collaboration with the Japan International Cooperation Agency, is using drone-mounted LiDAR technology and

photogrammetry to create high-resolution maps of impacted areas.

A 7.5 magnitude earthquake struck the island and triggered a 3 meter tsunami which swept away houses in Palu. The earthquake and the tsunami led to changes in the surface area which meant there were regions which were no longer suitable for housing. For the remaining land, ownership needed to be established before new housing construction could begin. Basic amenities like water, power, and sewer services also needed to be reestablished – none of which could be achieved without accurate, high-resolution maps of the impacted areas.

Undertaking ground survey to create the map was both difficult and risky because many areas had become inaccessible, and there was also a possibility of aftershocks. Using drones was the most viable solution to collect high-resolution imagery and data in the shortest possible time.

In March 2019, Terra Drone Indonesia surveyed 750 hectares of land with LiDAR-equipped drones while another 300 hectares were surveyed using photogrammetry. The data and imagery collected from these surveys were used to produce maps that clearly show the current land condition and identify hotspots that have sustained the most damage. Using these maps, government authorities can plan for rebuilding houses and infrastructure.
https://uasweekly.com/2019/05/15/terra-drone-indonesias-lidar-mapping-uavs-are-helping-palu-recover-from-2018-disaster/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_05_16_2019&utm_term=2019-05-16

Zurich Researchers Teach Drone to Dodge with Dynamic Obstacle Avoidance
Malek Murison May 16, 2019

One of the many things preventing urban drone deliveries reaching mass adoption is the threat of interference, whether that's from pets, kids, thieves, gun-toting neighbors or rogue footballs.

Researchers at the University of Zurich, Switzerland, are working on sense-and-avoid technology that could provide drones with a more dynamic form of self-defense. A team from the University of Zurich's Robotics and Perception Group has developed a drone that uses a camera and an onboard Visual-Inertial Odometry system to see an incoming ball and dodge out of the way. It uses a sensor called an event camera. Rather than recording frames each second and passing them on for software to analyze, event cameras work by only

sending data when the pixels shift or spike in intensity. This reduces the processing bottlenecks that restrict a conventional system, cuts down the latency and results in much-improved response times.

These kinds of sensor are much more expensive than their standard camera counterparts, so it could be a long time before they are used to develop sophisticated obstacle avoidance systems in consumer and professional drones.

The work is outlined in a research paper, entitled 'How Fast is Too Fast? The Role of Perception Latency in High-Speed Sense and Avoid'. It can be read in full here. https://dronelife.com/2019/05/16/zurich-researchers-teach-drone-to-dodge-with-dynamic-obstacle-avoidance/

The FAA's New Rules for Recreational Drones Miriam McNabb May 17, 2019

It's time. The FAA will now implement some of the changes in regulations for recreational drones which will follow on the passage of the FAA Reauthorization Act passed last year.
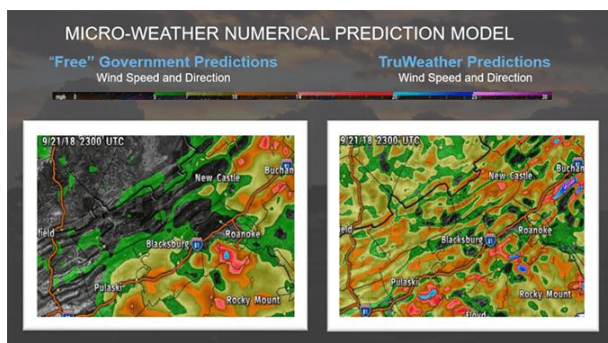
The Act repealed Section 336 of the previous FAA Reauthorization, which protected recreational aircraft from new laws. The move to repeal came in response to pressure from both national security agencies and commercial drone advocacy groups for more oversight over the hobby.

The changes in regulations now outlined by the FAA clarify where hobby drones can fly, and bring them into some of the same regulatory processes that commercial drones currently follow. https://dronelife.com/2019/05/17/the-faas-new-rules-for-recreational-drones/

TruWeather Solutions Raises Venture Capital Investment Funding May 17, 2019 News

TruWeather Solutions, Inc., a micro weather data and analytics company, raised a Series A Seed investment from Kluz Ventures through its The Flying Object and The Next Impact funds. This investment will fuel the enhancement and market penetration of our first product. TruFliteUAS is a micro weather data and business-focused analytic cloud service for the Unmanned Aircraft Systems industry.

It fuses and translates a variety of complex weather data sets into simple Go/No-Go and route weather risk insights accessible via a RESTful web service.It is powered by micro weather modeling algorithms that reveal localized wind variances caused by terrain and land/water interactions at 1,000 meter resolutions. Getting the winds right where UAS fly is vital for power management and mission accomplishment as the industry begins flying longer, Beyond Visual Line of Sight missions.   https://uasweekly.com/2019/05/17/truweather-solutions-raises-venture-capital-investment-funding/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_05_17_2019&utm_term=2019-05-17

Alphabet's Wing expands drone deliveries to Helsinki, Finland starting in June Ben Schoon May 17th 2019
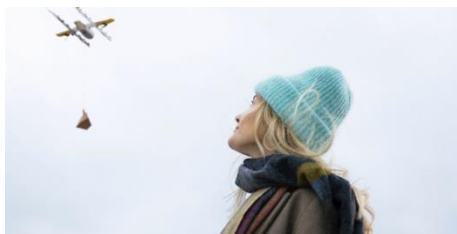
Following its debut in Australia recently and approval for service in Virginia, Wing has just announced that it'll be making deliveries in Helsinki, Finland starting next month.

Wing notes that it is a goal of Helsinki to be the world's "most functional city," and Wing aligns with the city's goal of making car ownership obsolete in the next few years.

After a few months running a pilot program in the area, Wing says it's ready to get things started. Apparently, the city has been welcoming to the new technology, and Wing has been working with the local community even noting that residents are interested in using Wing for ordering everything from dinner to groceries.It's a pilot the company is conducting in the city's Vuosaari district, delivering fresh pastries, meatballs for two, and a range of other meals and snacks within minutes. https://9to5google.com/2019/05/17/wing-helsinki-finland-drone-delivery/

Australian Firm Releases Wearable Drone Detector Jason Reagan May 17, 2019

Australian counter-drone firm DroneShield has released a wearable UAV detection product that weighs just over 2 pounds.

RfPatrol is designed for use by military, law enforcement, security and VIP customers. Since it doesn't emit jamming signals, it's legal in more jurisdictions than many other counter-UAS products.

It can be operated in "stealth" or "glimpse" modes, allowing users to control how they receive

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alerts. Users get feedback via haptic, visual and audio components. The device is supported by DroneShield Link, a system allowing operators to maintain updated databases in a changing threat environment. It has a detection range of a half mile – line-of-sight and omni-directional and can detect a drone on a known frequency in less than five seconds.
https://dronelife.com/2019/05/17/australian-firm-releases-wearable-drone-detector/

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Britain's drone crime explosion: Police complaints soar to six a day REBECCA CAMBER CRIME CORRESPONDENT FOR THE DAILY MAIL 17 May 2019

Reported incidents now number more than six a day – a rise of 45 per cent in three years. The devices are being used for harassment, stalking, burglary, drugs supply and voyeurism.

Victims' main concern is that drones spy on them, flying over properties or watching children at schools. There were 63 reports involving playgrounds and nurseries in eight police force areas alone between 2016 and 2018.

The data, obtained by the Parliament Street think-tank, shows that head teachers, school staff and local residents have complained of children being 'peeped' at. Drones have also been seen hovering over children playing in paddling pools, in gardens and at football grounds. Drones are also being used for stalking, scoping out targets for burglaries and delivering drugs. There are multiple reports of criminal damage when the devices crash land into cars, buildings or gardens.

The number of prosecutions for misuse of drones remains low because of detection difficulties. In Nottinghamshire, only three people were charged despite 362 incidents between 2016 and 2018. https://www.dailymail.co.uk/news/article-7042529/Britains-drone-crime-explosion-Police-complaints-soar-six-day.html?ito=1490

Army Implements New Personal Reconnaissance Drone Nichols Martin May 17, 2019 News, Technology

Soldiers from the U.S. Army's 3rd Brigade Combat Team began using a new unmanned aerial system designed to provide near-real time video access for reconnaissance missions. Program Executive Office Soldier had troops hold, inventory and train to use the new system at Fort Bragg, North Carolina from April 29 to May 3.

The system is part of the Army's *Soldier Borne Sensors* program that applies drones to perform dangerous reconnaissance work instead of risking soldier lives. The UAS consists of a daytime drone, a nighttime drone and a ground control system with a handheld controller and display for users. The two drones feature sensors that emit low visual and audio signatures.

"This allows soldiers to detect threats earlier than ever," said Nathan Heslink, assistant program manager for SBS at PEO Soldier. https://www.executivegov.com/2019/05/army-implements-new-personal-reconnaissance-drone/

A tiny four-winged robotic insect flies more like the real thing Emerging Technology from the arXiv May 15, 2019 MIT Technology Review

In recent years, aerodynamicists, engineers, and roboticists have attempted to copy insect-like flight by building tiny flying robots. The main thing they've discovered is just how difficult this is.
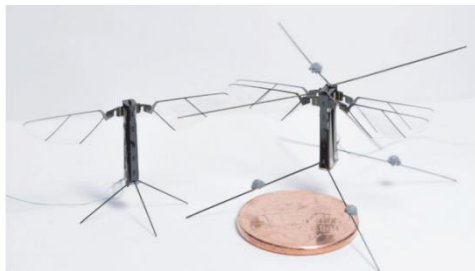
A four-winged robot (right) next to a two-winged design and a US penny

Xiufeng Yang and pals from the University of Southern California in Los Angeles have built a robot with four flapping wings, each with a span of just 33 millimeters. The result is an insect-like flying machine called Bee+. It's capable of perching, landing, following a path, and avoiding obstacles.

Yang and co have used an actuator design called a unimorph that uses a single strip attached to a passive layer. The repeated contraction of the piezoelectric layer causes the cantilever to bend. And the movement of the tip of the cantilever drives the flapping of a wing.

One shortcoming of Bee+ is that it must be powered via a tether. This allows Yang and co to demonstrate its flying capability without worrying about the separate challenge of energy storage. You can watch Bee+ going through its paces here.

Bee+ may be inspired by insects, but at 95 milligrams, it is a behemoth compared with the real creatures. A bumblebee, for example, weighs about 10 milligrams and is self-powered to boot.

So engineers will need to reduce the size and weight of their machines by at least an order of magnitude, and that's before considering the problem of power storage. It may be some time before we see robots with truly insect-like capabilities. https://www.technologyreview.com/s/613528/a-tiny-four-winged-robotic-insect-flies-more-like-the-real-thing/?utm_medium=tr_social&utm_source=twitter&utm_campaign=site_visitor.unpaid.engagement

Drone Delivery Start-Up Volans-i Raises $20 Million DRONE NEWS Press Release May 15, 2019

Volans-i, Inc., an on-demand aerial delivery business based in San Francisco, has raised $20 Million in Series A funding. The funding was led by Lightspeed Venture Partners, who was the lead investor for Volans-i's seed round funding, with support from Y Combinator.

The company builds and operates high-speed long-range drones for on-demand delivery services for commercial, defense and humanitarian applications including delivery of parts and medical supplies. The company was founded in 2015 by Hannan Parvizian and Wesley Zheng and is headquartered in San Francisco, with a production facility in Concord, CA.

The funding enables the company to expand its operations in commercial and defense markets and build out its product offerings. The company provides key support to commercial and defense industries, including construction, mining, oil & gas, medical and heavy equipment operations. https://dronebelow.com/2019/05/15/drone-delivery-start-up-volans-i-raises-20-million/

Zipline, which delivers lifesaving medical supplies by drone, now valued at $1.2 billion MAY 17 2019 Lora Kolodny@LORAKOLODNY

Zipline, which ranked No. 39 on the 2019 CNBC Disruptor 50 list, has raised $190 million in venture funding and attained a $1.2 billion valuation from its investors. Its backers include Baillie Gifford, The Rise Fund, Temasek, GV and Katalyst Ventures. The funding brings total capital raised to $225 million. With the new funding, the company will be able to set up delivery hubs at 2,600 health facilities in Rwanda and Ghana by the end of this year. And it will soon be making deliveries of medical supplies in the U.S., starting in North Carolina, where it has secured permission from the FAA to do so.

With its recent expansion into Ghana, the company is now able to deliver 170 vaccines, blood products and medications to 22 million people.

The drones carry 4 lbs of cargo, fly at 68 mph in all weather and have a round-trip range of 99 miles. In Rwanda, their drones have flown more than 1 million km and have made more than 13,000 deliveries.

The company anticipates that the additional funding will support global expansion across Africa, South Asia, Southeast Asia and the Americas and position the company to serve 700 million people in the next five years. Its service, which launched in Rwanda just three years ago, had officially expanded to Ghana, making it the world's largest autonomous medical drone-delivery service, covering an area that serves nearly 22 million people.

The $190 million in additional funding was split between a previously unannounced round of $70 million completed in spring 2018, which included Katalyst Ventures, Baillie Gifford, GV, Temasek and Goldman Sachs, and a recent round of $120 million, which included additional investments by Baillie Gifford and new investor The Rise Fund. https://www.cnbc.com/2019/05/17/zipline-medical-delivery-drone-start-up-now-valued-at-1point2-billion.html

Tanks for the Assist: Agreement Will Boost Drone Firm's Hydrogen Cell Payload Jason Reagan May 18, 2019

Carbon-fiber vessel designer HyPerComp Engineering is entering the drone game. The Utah-based company recently announced a new partnership to provide compressed hydrogen fuel tanks for commercial drone company Ballard Unmanned Systems. The FCair Composite Overwrap Pressure Vessel line includes 3.5-liter, 4.7-liter, and 7-liter models. The vessels will enable flight times of one to six hours for various fixed wing and multi-rotor drones.

Clean-energy hydrogen fuel systems are carbon-free, renewable sources that may be a viable option for both rotor and winged drones going forward. Hydrogen fuel packs are produced by the electrolysis of water. https://dronelife.com/2019/05/18/tanks-for-the-assist-agreement-will-boost-drone-firms-hydrogen-cell-payload/

Finland readies for early access Google Wing drone delivery program APPLICATION BUSINESS DELIVERY EUROPE HEADLINE NEWS ALEX DOUGLAS MAY 20, 2019

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In a blog post, the company confirmed that it would start delivering goods to people in Helsinki's Vuosaari district in June. Wing has hosted a number of community events in the area so local residents could ask questions about the service and how it might affect them.

Wing said residents are interested in using Wing to order dinner or groceries. More meetings of this nature will be held in the coming weeks.

Last month, the FAA awarded Wing the first air carrier certification for drone delivery in the US. https://www.commercialdroneprofessional.com/finland-readies-for-early-access-google-wing-drone-delivery-program%EF%BB%BF/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-302129-Commercial+Drone+Professional+DNA+-+2019-05-20

21May19

DHS warns of data threat from Chinese-made drones David Shepardson

WASHINGTON (Reuters) - The U.S. Department of Homeland Security has warned U.S. firms of the risks to company data from Chinese-made drones, according to a notice reviewed by Reuters on Monday.

The notice, titled "Chinese Manufactured Unmanned Aircraft Systems," warned that U.S. officials have "strong concerns about any technology product that takes American data into the territory of an authoritarian state that permits its intelligence services to have unfettered access to that data or otherwise abuses that access."

It urged companies to "be aware of whether your UAS data is being stored by the vendor or other third parties. If it is being stored, find out how, where, and for how long." https://www.reuters.com/article/us-usa-drones-china-idUSKCN1SQ1ZY

'Spidey-senses' could help autonomous vehicles better detect and avoid objects Ashwini Sakharkar May 21, 2019

Purdue University engineers have developed sensors inspired by spiders, bats, birds and other animals whose Spidey-senses are nerve endings linked to special neurons called mechanoreceptors. These sensors can help the vehicles better detect and avoid objects because they would process sensory information faster.

The 'mechanosensors'- the nerve endings like the leg-hairs of spiders - are tuned to focus only on the data that the spider needs for survival. When a spider's web vibrates at a frequency

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associated with prey or a mate, the sensors detect it, generating a reflex in the spider that then reacts very quickly. They wouldn't detect a lower frequency, such as that of dust on the web because it's unimportant to the spider's survival.

The Purdue team created mechanosensors that will ignore minor forces and only signal the rest of the machine after that sensation hits a certain threshold. They are made of material that starts off stiff but changes shape rapidly when an external force is applied to it. When its changed shape reaches a certain point, conductive particles inside the material come together and allow electricity to flow through. That, in turn, sends a signal to the rest of the machine, which responds as needed. The sensors also require less energy and computational power to run.

They could be placed on drones, planes or autonomous cars which help them detect and avoid objects and obstacles much faster than is currently possible. The results are published in the journal ACS Nano. https://www.techexplorist.com/spidey-senses-help-autonomous-vehicles-better-detect-avoid-objects/23388/?utm_medium=pust_notifications&utm_source=push

DHL Launches Fully-Automated Urban Drone Delivery Service 20 May 2019 Mike Rees

DHL Express has announced that it has partnered with EHang to launch a smart drone delivery solution for last-mile delivery in the urban areas of China. The launch ceremony was held today at the EHang Command and Control Center in Guangzhou for the inaugural flight for a DHL customer. It marks a milestone in bringing innovative and intelligent solutions with greater automation to the market.

The new route covers a distance of eight kilometers between the customer premises and the DHL service center in Guangdong Province. The new delivery solution overcomes the complex road conditions and traffic congestion common to urban areas. It reduces one-way delivery time from 40 minutes to eight minutes and can save costs of up to 80% per delivery with reduced energy consumption and carbon footprint compared with road transportation.

The EHang Falcon drone provides vertical take-off and landing, high accuracy GPS, visual identification, flight path planning, fully-automated flight and real-time network connection and scheduling. The drones, which can carry up to 5kg of cargo per flight, take off and land atop cabinets that were developed for autonomous loading and offloading of the shipment. The

cabinets provide automated sorting, scanning and storage of express mail and will feature facial recognition and ID scanning. https://www.unmannedsystemstechnology.com/2019/05/dhl-launches-fully-automated-urban-drone-delivery-service/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=8ea103ae1c-eBrief_2019_May_21&utm_medium=email&utm_term=0_6fc3c01e8d-8ea103ae1c-119747501

NASA starts public demonstrations of urban UTM system May 21, 2019 Philip Butterworth-Hayes UAS traffic management news

NASA is conducting field demonstrations of small drones navigating urban landscapes in Reno, Nevada, and Corpus Christi, Texas, May through August 2019. The agency's research into drone traffic management focuses on operations within a city, at an altitude of 200 to 400 feet, and the unique challenges presented when remote pilots fly beyond visual line of sight in an urban area. The first drone demonstrations take place on 21 May, in Reno, Nevada. According to the agency:

"Along with a larger population, city landscapes present their own challenges: more obstacles to avoid, specific weather and wind conditions, reduced lines of sight, reduced ability to communicate by radio and fewer safe landing locations. TCL4 will test new ways to address these hurdles using the UTM system and technologies onboard the drones. These include incorporating more localized weather predictions into flight planning, using cell phone networks to enhance drone traffic communications and relying on cameras, radar and other ways of "seeing" to ensure drones can maneuver around buildings and land when needed – all while communicating with other drones and users of the UTM system.

"After the research is completed and results are compiled, NASA will then transfer the findings to the FAA for implementation." **For more information:** https://www.nasa.gov/press-release/nasa-invites-media-to-watch-drone-traffic-management-testing https://www.unmannedairspace.info/latest-news-and-information/nasa-starts-public-demonstrations-of-urban-utm-system/

Israeli security forces neutralize 80 non-hostile drones at Eurovision Song Contest May 21, 2019 Philip Butterworth-Hayes Counter-UAS systems and policies

"Israeli police, fearful of a terror attack on the Eurovision Song Contest TelAviv, deployed a new anti-drone unit to protect the participants, fans and residents during last week's music extravaganza. Israel had announced that it was deploying its Iron Dome System to protect against rocket attacks, but authorities also feared that drones could be used to target the international event. The police's Bomb Disposal Division unit brought down — but did not shoot — 80 UAVs that approached the Eurovision Village or the Tel Aviv Fairgrounds last week despite police instructions not to fly drones near the competition venues. None of the 80 drones that were intercepted by security forces were attempting to carry out an attack. Police said the drones were forced to land and then returned to their operators, who were given a warning.

The weapon used by the police sappers is the Chinese-made Hikvision UAV Jammer, which brings down nearby drones by interfering with their radio frequencies. It is said to have a range of several hundred meters." https://www.unmannedairspace.info/counter-uas-systems-and-policies/israeli-security-forces-neutralize-80-non-hostile-drones-at-eurovision-song-contest/

Successful test City-ATM (Unmanned Air Traffic Management) system in Germany Haye Kesteloo May 21, 2019

Last month, German researchers successfully tested an Unmanned Air Traffic Management system that coordinated two drone flights in the area of Köhlbrand Bridge in Hamburg. The project demonstrated two drones cooperating with each other while executing a bridge inspection amid active shipping and roads traffic. The German Aerospace Center in partnership with various industrial and academic parties performed the test as part of a study for the future use of drones in urban environments.

The Deutsche Flugsicherung (DFS) is responsible for air traffic control in Germany. During the test, the organization was able to track the drones' locations and also provided an integrated air situation display. The continuous transmission of the drones' locations provided a clear picture of the situation in the air to the drone operators at the control station. The test was completed successfully and demonstrated that the drones were able to detect hairline cracks in the bridge.

Before the drones were allowed to take off, several steps had to be completed. The aircraft are electronically registered for take-off clearance and authenticated. During this process, the flight missions are planned and spacial restrictions are taken into consideration. The flight paths are based on basic waypoint planning. Flight performance, local conditions and time constraints are also taken into consideration. The goal of the pre-flight process is to identify any potential conflicts before the drones take off, especially for longer, beyond-visual-line-of-sight missions. Testing of the City-ATM system will continue into 2020. https://dronedj.com/2019/05/21/city-atm-system-germany/

Boston Company Uses Drones to Inspect Golf Courses, Farms May 20, 2019

BOSTON (CBS) – GreenSight created a drone that flies above the turf or crops and can spot diseases or dry spots. "It's all about making it as light as possible," said James Peverill who co-founded the company.
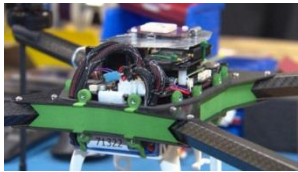
You can see our cellular modem; we have a Wi-Fi modem; this little cube here is actually our auto-pilot; and then we have a GPS receiver on the top." Underneath, there are three cameras - visual, infrared and thermal.

The drone can take off, fly over an entire golf course or farm, take pictures with those cameras and stitch them all together to detect the health of the course.

When the drone lands, it uploads the information and sends it to the golf course's superintendent or the farmer. "They can view that data in the evening or in the morning before they get to work, plan out their whole day, and get alerts about diseases and problems."

"We want national coverage using these systems on farms, golf courses; we're also doing bridge and roadway inspection work with local DOTs, and construction sites."
https://boston.cbslocal.com/2019/05/20/boston-next-greensight-drones-maintain-golf-courses-farms/

22May19

CAA launches 'Innovation Sandbox' with six industry leading participants

APPLICATION BUSINESS CAA HEADLINE NEWS REGULATION UK ALEX DOUGLAS MAY 22, 2019

A new virtual space where new technology can be safely tested

It has been designed to offer innovative companies the chance to discuss, explore, trial and test emerging concepts. Launched by the UK CAA's new Innovation Team, initially funded by a Department for Business, Energy and Industrial Strategy grant, it has six participants: Altitude Angel, Amazon, NATS and Searidge Technologies, NBEC Consortium, Nesta Challenges and Volocopter.

Expected to work closely with the participants, the Innovation Team will help them understand how they can meet regulatory requirements. Announcing the Innovation Sandbox, Tim Johnson, director at the CAA, said: "Public safety remains our number one priority, and our Innovation Sandbox will allow for the creation of world-first technologies, tried and tested in a safe environment."https://www.commercialdroneprofessional.com/caa-launches-innovation-sandbox-with-six-industry-leading-participants/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-302463-Commercial+Drone+Professional+DNA+-+2019-05-22

DJI to Install AirSense (ADS-B receivers) in New Drones from 2020 Malek

Murison May 22, 2019

DJI has committed to installing airplane and helicopter detectors in its new consumer drones from 2020. The addition of the AirSense feature, which works by receiving ADS-B signals from nearby airplanes and helicopters to warns drone pilots of manned aircraft proximity, will apply to all new DJI drone models released from 2020 that weigh over 250 grams.

This commitment from DJI sets a new standard by putting professional-grade aviation safety technology in drones available to everyone.

Instead of relying on sound or sight – by which time it's often too late to take evasive action – AirSense can detect airplanes and helicopters while they are still miles away. The system displays their locations on the screen of the pilot's remote controller. https://dronelife.com/2019/05/22/dji-to-install-airsense-ads-b-receivers-drones-from-2020/

International ports to deploy drones to sniff out pollution rule breakers

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The Netherlands is currently preparing to use a large UAV to detect emissions from ships. In Hong Kong, where rule breakers face large fines and up to six months in prison, drones are being tested for the same purpose. Maritime authorities in Denmark and Norway have also already started using the technology. Authorities can use drones to learn in advance if a ship is burning non-compliant fuel.

Drones have been used to fight pollution in the past and earlier this year, CDP reported on how water spraying drones were being deployed. Read the full story **here**:
https://www.commercialdroneprofessional.com/%EF%BB%BFinternational-ports-to-deploy-drones-to-sniff-out-pollution-rule-breakers/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-302463-Commercial+Drone+Professional+DNA+-+2019-05-22

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Drones to Inspect 1,250 Wind Turbines in 12 Weeks Betsy Lillian May 22, 2019

Sulzer Schmid, a provider of unmanned aerial vehicle technology for inspections of wind turbine rotor blades, and WKA, a blade inspection and repair service provider, have been enlisted by turbine maker Vestas to conduct a drone-based inspection campaign in Scandinavia. The inspections will cover a whopping 1,250 wind turbines in under 12 weeks.

The blades of the 1,250 Vestas turbines, located across Sweden and Finland, must be inspected in time for the beginning of the repair work season, which traditionally takes place during the less windy summer months. To meet the deadline, Vestas has opted for a drone-based solution.

The images captured by the drones will be analyzed using artificial intelligence, and automated reports will be generated with Sulzer Schmid's 3DX software.https://unmanned-aerial.com/drones-to-inspect-1250-wind-turbines-in-12-weeks?utm_medium=email&utm_source=LNH+05-23-2019&utm_campaign=UAO+Latest+News+Headlines

Survey: State DOTs Increasingly Embracing Drones Betsy Lillian May 20, 2019

A May 2019 survey by the American Association of State Highway and Transportation Officials underscores the rapid deployment of unmanned aircraft systems by state

departments of transportation, as well as the growing demand for a workforce to operate them.

More than seven out of 10 state DOTs have hired hundreds of staff, including highly skilled personnel, to manage drone operations. Those state DOTs – 36 in total – also reported having 279 Federal Aviation Administration (FAA)-certified drone pilots on staff, or approximately eight pilots per state. In an effort to keep up with the demand for drone pilots, 10 state DOTs have teamed up with academic organizations to train new ones.

The types of missions and research being conducted varies widely. For example, the Ohio DOT, through DriveOhio's UAS Center and in partnership with the Air Force Research Laboratory, as well as other partners, is developing SkyVision: a ground-based detect-and-avoid system used to track drones to enable beyond-line-of-sight operations. https://unmanned-aerial.com/survey-state-dots-increasingly-embracing-drones?utm_medium=email&utm_source=LNH+05-23-2019&utm_campaign=UAO+Latest+News+Headlines

Drone-sourced whale snot helping Aussie scientists gather vital data APPLICATIONI
NTERNATIONAL NEWS TECHNOLOGY ALEX DOUGLAS MAY 23, 2019

The substance is rich with DNA, viruses and bacteria and can help scientists understand whales' behavior. The drones fly close to the whale with an attached petri dish and gather samples for the researcher to use. Before the drone-sourced whale snot, they had to rely on whales that were either killed or beached to learn more.

Macquarie University marine biologist Vanessa Pirotta is using a water-proof drone fitted with a petri dish that can hover over the blowholes of humpback whales as they embark on their yearly cruise along Australia's east coast.

Dr Pirotta told ABC: "The drone is flown through the densest part of the whale snot, collecting the sample, and then the lid shuts and the drone is flown back to the boat and we're happy scientists back on the boat. It sounds disgusting, but the snot is used by researchers to do health check-ups on the giant mammals and even to identify whales that are pregnant. "We can collect lung bacteria, which can indicate whether a lung is healthy or not. We can also collect viruses." https://www.commercialdroneprofessional.com/drone-sourced-whale-snot-helping-aussie-scientists-gather-vital-data/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-302583-Commercial+Drone+Professional+DNA+-+2019-05-23

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