UAS and SmallSat Weekly News

Contents

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30May20

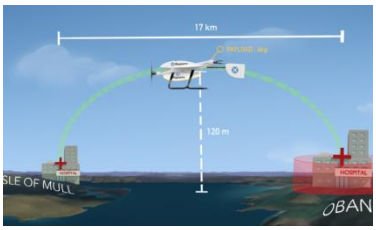
Flirtey's New Granted Patent is Instrumental PRESS 2020-05-26

Flirtey announced today it has been granted a patent for the safe and precise drone delivery of packages. It describes a combination of hardware and software that enables lifting the package to pick it up, holding it securely and lowering it at the point of delivery. It delivers its contents by lowering a tether while suspended in air, and once the package is delivered, it retracts the tether. It has since become the standard for the drone delivery industry.

The granted patent covers fundamental technology at the core of the drone delivery industry, while the UAV remains in hover. Flirtey's new patent describes a drone with a suspension mechanism, used to hold a package that is to be delivered or picked up, a locking mechanism to hold and release the package and a delivery mechanism.
https://www.uavexpertnews.com/2020/05/flirteys-new-granted-patent-is-instrumental/?utm_source=Master&utm_campaign=252c0213b5-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-252c0213b5-89168288

Thales and Skyports conduct drone delivery trial to support COVID-19 response

APPLICATION BUSINESS HEADLINE NEWS UK ALEX DOUGLAS MAY 26, 2020



The aim of the trial, backed by Argyll and Bute Health and Social Care Partnership, part of NHS Highland, is to prove the delivery of urgent medical cargo. Based at Lorn and Islands Hospital in Oban, the trial will consist of two-way flights between the hospital and Mull and Iona Community Hospital in Craignure 10 miles away on the Isle of Mull.

As COVID-19 testing rapidly gathers pace in the UK, the companies hope the proposed delivery service will help to ensure that isolated communities have access to tests, delivered in a fast and efficient way. Currently, the majority of medical supplies and specimens are transported between the laboratory at Lorn and Islands Hospital and surrounding general practitioners' surgeries and other healthcare settings by sea and road.

This service will see delivery times cut from 6 hours one-way by ground transport and ferry to around 15 minutes, on-demand, by drone, bringing considerable savings in time and cost, as

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well as keeping medical and delivery personnel safer. The two-week trial represents a crucial milestone for unmanned aviation in the UK. https://www.commercialdroneprofessional.com/thales-and-skyports-conduct-drone-delivery-trial-to-support-covid-19-response/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330252-Commercial+Drone+Professional+DNA+-+2020-05-30

Nation's First Emergency Drone Operation for Hospital's Pandemic Response Launches May 29, 2020 News

Today, Novant Health, Inc., a not-for-profit healthcare system headquartered in North Carolina, announced the launch of America's first emergency drone logistics operation by a hospital for its pandemic response. The launch was made possible through a partnership with Zipline, the world's only national scale, on-demand logistics service, which will provide drone flight services.

The U.S. Federal Aviation Administration granted Novant Health a Part 107 waiver to begin operation which is being launched as part of the North Carolina Department of Transportation's Unmanned Aircraft System Integration Pilot Program.

The operation provides contactless distribution of personal protective equipment and critical medical supplies to medical teams in the Charlotte, North Carolina, metro area. The operation helps Novant Health, which operates 15 hospitals and 700 locations in the southeastern United States, to adapt quickly to the evolving pandemic and could lead to innovative uses such as testing, drug trials and vaccine distribution in the future.
https://uasweekly.com/2020/05/29/nations-first-emergency-drone-operation-for-hospitals-pandemic-response-launches/?utm_source=rss&utm_medium=rss&utm_campaign=nations-first-emergency-drone-operation-for-hospitals-pandemic-response-launches&utm_term=2020-05-29

CLEARSKY Drone Threat Management to be used at Bristol Airport COUNTER-DRONEby SAM LEWIS on MAY 29, 2020

Digital Global Systems has announced that it has signed a three-year deal to protect Bristol Airport in the UK from aerial threats. It tested its system there which resulted in the agreement. CLEARSKY will now be responsible for providing detection, classification, and location of unauthorized drones and controllers operating in the flight restriction zone.

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The product also comes with capabilities for machine learning, third party integration, local adaptations and anomalous signal detection.

“As the incidents at Gatwick and other airports demonstrate,” said Fernando Murias, chairman and CEO of DGS, “these capabilities would have helped security personnel locate the perpetrators. Additionally, CLEARSKY is designed to operate in chaotic and noisy RF environments, including airports and sports stadiums.”
https://www.commercialdroneprofessional.com/clearsky-drone-threat-management-to-be-used-at-bristol-airport/

Skyports And Thales Partner On Trial Of Wingcopter UAS For Covid-19 Response

May 28, 2020 News

The two-week trial is backed by NHS Highland — a health board of the National Health Service Scotland — and the Argyll and Bute Council. The goal is to demonstrate the feasibility of transporting Covid-19 test kits and other urgent medical cargo to and from remote medical facilities by drone.

Skyports will conduct the trial using aircraft from the German drone maker Wingcopter. The two-way flights will take place between a hospital in Oban, on the Scottish mainland, and another hospital 10 miles away on the Isle of Mull.

Currently, transporting test kits and specimens between the facilities takes up to six hours by ground transport and ferry. It is expected that drone transport will cut those delivery times to just 15 minutes. https://uasweekly.com/2020/05/28/skyports-and-thales-partner-on-trial-of-wingcopter-uas-for-covid-19-response/?utm_source=rss&utm_medium=rss&utm_campaign=skyports-and-thales-partner-on-trial-of-wingcopter-uas-for-covid-19-response&utm_term=2020-05-29

Drone catches arson suspect in California city Sean Captain - May. 29th 2020

Police were called out at 2:35 a.m. on Wednesday morning to investigate several trash can fires set in the Stonegate residential community in Irvine. While they were checking out one fire scene, a witness approached the police with an account of a suspect who had set another fire and fled.

To help locate the suspect in the dark, police fired up one of their department drones equipped with an infrared camera. Within 10 minutes, the camera easily spotted 22 year-old Kaveh

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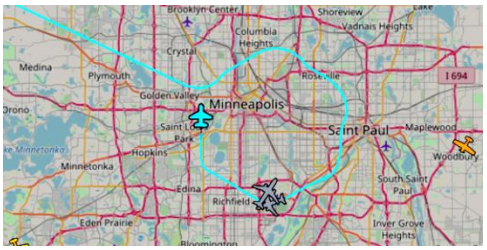
Shahriari hiding under the awning of a home near the back door. Due to his body heat, he showed up as bright white against the dark background of the yard. Police arrested him on suspicion of arson.

This has been a busy week for drones in Orange County policing. On Monday, an elderly woman went missing after going out for a walk with her dog in the city of Orange. The Orange Police Department deployed its drone to search along the road where they believed the woman had been walking. In short order, the drone pilot spotted the woman collapsed in the brush about 20 feet off the edge of the road. She was taken to hospital and recovered. The dog was also fine. Searching for the woman on foot could have taken much longer, possibly long enough to cost the victim her life. https://dronedj.com/2020/05/29/drone-catches-arson-suspect-in-california-city/

Predator drone flies over riot-wracked Minneapolis Sean Captain May. 29th 2020 An



unarmed Predator drone owned by US Customs and Border Protection was spotted flying a loop around Minneapolis on Friday morning in the aftermath of violent protests over the death of George Floyd at the hands of police officers. It was presumably surveying for further unrest.

The drone was first reported by investigative reporter Jason Paladino with the Project On Government Oversight. He used tools by the ADB-S Exchange, a community that utilizes open-source flight data, to spot the flight. A graphic from ADB-S shows the predator's flight path as a near-perfect hexagon, 20,000 feet over the center of the city. The precision of the pattern is a telltale sign that the plane is a drone, Paladino told *Vice Motherboard*.

Seeing the same type of drone used in combat missions in Afghanistan now flying over a US city caused a stir in Washington, with Representative Alexandra Ocasio-Cortez (D-NY) tweeting, "This is what happens when leaders sign blank check after blank check to militarize police and CBP while letting violence go unchecked."
https://dronedj.com/2020/05/29/predator-drone-flies-over-riot-wracked-minneapolis/

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Regulations prevent drones and vans working together Sean Captain May. 29th 2020

Researchers at MIT have proposed deploying vans to neighborhoods that would launch drones mounted to the roof to make the last part of the delivery. When the van gets near to its delivery spot, the driver can launch one or more drones from the roof to cover the final leg of the journey. Meanwhile, the van continues on its route, where the drones eventually catch up for a return landing. Then the driver loads the drones with new packages, and occasionally fresh batteries, and the process repeats.

Standing between this concept and reality, however, is a whole mess of regulations. One prevents drones from launching from a moving vehicle. Part 107 also doesn't allow air carrier operations that carry cargo for pay. Nor does it allow autonomous flights or flights beyond visual line of sight of a pilot. Regulations also prohibit drones from flying over people, a challenge in urban settings.

All of these restrictions are subject to waiver, however. Or in the case of carrying cargo, a company could get an FAA Part 135 certification as an air carrier, as Wing and UPS have done. There are also possible roadblocks from state and local ordinances.

The broader solution is to develop a policy framework that governs how truck-plus-drone programs can operate rather than requiring each implementation to go through all the regulatory waivers with many government agencies at different levels of government.
https://dronedj.com/2020/05/29/regulations-prevent-drones-and-vans-working-together/#more-29623

EHang will begin trialing heavy air cargo drones in China Josh Spires May. 29th 2020

EHang is working on using its passenger drones to deliver air cargo after it received the go-ahead from the Civil Aviation Administration of China. EHang will be trailing the drones in the city of Taizhou located in Eastern China. They will be allowed to carry a maximum of 330 pounds per flight.

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The EHang 216 has a top speed of 80mph and a cruising speed of 62mph. Batteries allow the drone to stay in the air for 21 minutes and fly in winds of 43mph.

EHang hopes that the approval of its logistics system will forward the development around the world of similar projects and lay the foundation for regulators to introduce a "coordinated, supportive, and sustainable regulatory environment." Be sure to watch the video below as it shows a few of the safety features along with a short message from EHang and CAAC executives. https://dronedj.com/2020/05/29/ehang-will-begin-trialing-heavy-air-cargo-drones-in-china/

Acecore Technologies releases third drone platform with heavy lift hexacopter

APPLICATION NEW PRODUCTS NEWS ALEX DOUGLAS MAY 26, 2020

The new Acecore Noa has a 20kg payload capacity with endurance of an hour.

Its six enlarged rotors aim to give it the edge over the competition, sporting 28" reinforced carbon fiber props. It was designed to be the first drone to combine heavy lifting with endurance in harsh environments. Its six custom ace motors are mounted upside-down onto its carbon fiber monocoque frame allowing users to operate the drone in 9mm/h downfall. Its hollow arms generate a cool airflow through the system, ensuring the system can be used in outside temperatures up to 50 degrees Celsius. First units will start shipping the first week of June 2020. https://www.commercialdroneprofessional.com/acecore-technolgoies-releases-third-drone-platform-with-heavy-lifting-hexacopter/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330242-Commercial+Drone+Professional+DNA+-+2020-05-29

1Jun20

DOJ Report Recommends Police Acquire Drone Detection Devices *May 19, 2020* Kylie Bielby

The Department of Justice, Office of Community Oriented Policing Services has released a report on the use of drones by police as well as the threat posed by malicious drones.

Drones A Report on the Use of Drones by Public Safety Agencies—and a Wake-Up Call about the Threat of Malicious Drone

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Attacks reports on two opposite but related issues: the use of drones by police agencies to protect public safety and the use of drones by malicious actors to commit various crimes such as acts of terrorism.

The bulk of the document provides guidance to police and sheriffs' departments about how to identify the ways in which drones could facilitate their work and how to create a drone program to accomplish those goals. In budgeting for a drone program, the report advises police forces to consider the initial equipment costs as well as the long-term training, maintenance, and upgrade costs that come with maintaining drones. The authors also recommend engaging the community in supporting drone use to help secure funding for the program.

The report includes guidance on selecting drone equipment. https://www.hstoday.us/subject-matter-areas/airport-aviation-security/doj-report-recommends-police-acquire-drone-detection-devices/

Woolpert Deploys Survey Drones for Colorado DOT Jason Reagan May 29, 2020

Engineering firm Felsburg Holt & Ullevig brought in Woolpert to complete drone surveys for a right-of-way project in Castle Rock, Colo. Using a process known as InRoads Terrain Modeling Survey System, the Colorado Department of Transportation project will use the imagery and mapping collected via survey drones to assess and design a frontage road adjacent to Interstate 25.

Woolpert uses survey drones provided by senseFly, a fixed-wing system that offers extended flight times and real-time kinematic technology. "Paired with the Woolpert survey group's ground control point data, [the drone] produces a highly accurate topographic base map and orthorectified imagery," a Woolpert press release states.

For Woolpert, survey drones represent an innovative way to extend the company's client base. So far, the firm has conducted drone projects for the FAA, U.S. defense department, airports and mining companies, as well as state DOT projects in Virginia, Pennsylvania, Florida and Ohio. https://dronelife.com/2020/05/29/woolpert-survey-drones/

EHang Passenger Drone Company Q1 Revenue, Cargo Delivery Trials Harry McNabb May 29, 2020

China-based EHang, the passenger drone company that went public last year, has announced first quarter results. Despite the global pandemic, EHang showed year over year revenue growth. The company is also

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broadening its applications: in addition to emergency response operations revealed in the current crisis, EHang recently received certification from the Chinese government for cargo delivery trials.

EHang (NASDAQ:EH) announced that total revenues in Q1 2020 were US$2.7 million, an increase of 80.3% year over year. Revenues from air mobility solutions were US$2.1 million, 80.4% of the total revenues and up 256.0% year over year. Perhaps most important, the company announced sales of the EHang 216, the world's first commercially-delivered passenger-grade AAV, reached 9 units, an increase of 200% from 3 units in the first quarter of 2019. While 9 units don't yet represent a huge market, it does indicate that EHang has moved well beyond concept to performing trials around the world, an indication that passenger drones are on the cusp of wider adoption. https://dronelife.com/2020/05/29/ehang-passenger-drone-q1-revenue-cargo-delivery-trials/

Chernobyl wildfire extinguished with help of drones APPLICATION EMERGENCY SERVICES HEADLINE NEWS ALEX DOUGLAS APRIL 22, 2020

A huge wildfire broke out in the forests surrounding the Chernobyl Exclusion Zone on April 4. The rapidly spreading fires raised alarms that the site of the nuclear plant, located near the city of Pripyat, north-west of Ukraine's capital Kyiv, could be threatened.

The situation was critical. More than 1,000 response personnel, 120 firetrucks, several helicopters and planes battled the blazes and contained the fires within 10 days, preventing the fire from spreading to either the defunct nuclear plant or other facilities in the area.

A fleet of 10 drones were deployed by response teams to capture aerial intelligence that helped incident commanders quickly understand the situation and make the right decisions. Thermal

Drones were sent in the air for an initial overview when the first fire started on April 4th. The situation soon escalated as the fire rapidly expanded due to the unusually dry weather in the area. https://www.commercialdroneprofessional.com/case-study-chernobyl-wildfire-extinguished-with-help-of-drones/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330321-Commercial+Drone+Professional+DNA+-+2020-06-01

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Drone deliveries no longer a thing of the future since coronavirus boom

APPLICATION DELIVERY SAM LEWIS JUNE 1, 2020

Goldman Sachs recently reported the global drone market could hit £80 billion if uses such as takeaway food delivery, border patrol and infrastructure surveillance are to continue their growth and become widespread.

In particular, during the outbreak of COVID-19, drones have been used for delivering food and medical supplies to vulnerable persons in remote locations. The technology is also being used by the healthcare industry to transport test samples and medical supplies between facilities.

The **Isle of Mull** became the latest location in the UK to trial such a system, with Argyll and Bute Health and Social Care Partnership bringing in Thales and Skyports to provide delivery of urgent medical cargo.

Data-drive drone insurance provider flock insured the project, with CEO Ed Leon Klinger commenting: “A few years ago drone deliveries were no more than science fiction. Today they’re taking place around the world, helping transport critical equipment like PPE and medication.”

Outside of the UK, drone deliveries for both medical and commercial purposes in **Ireland**, **Canada**, the **United States** and **the rest of the world** have grown in frequency in recent months, both before and since the coronavirus pandemic took hold.
https://www.commercialdroneprofessional.com/drone-deliveries-no-longer-a-thing-of-the-future-since-coronavirus-boom/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330315-Commercial+Drone+Professional+DNA+-+2020-06-01

Global drone market to grow by over £100bn by 2027, despite economic downturn BUSINESS FINANCIAL SAM LEWIS JUNE 1, 2020

The global drone market is set to grow by $124.1 billion (£100.1 billion) in the period 2020-2027, according to a new report from ResearchAndMarkets.com. The report, which is based on revised data taking into account the coronavirus pandemic and subsequent

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economic depression, says that the drone market will grow at a compounded annual growth rate of more than 80% during the seven-year period.

The aerial photography and remote sensing segment of the industry is set to grow at an even greater 89.2% CAGR. The report also warns that China may struggle, due in part to global perceptions of Chinese-made drone that predate the pandemic. For comparison, the US' forecasted CAGR of 74.1% will outstrip China's, which sits at 66.2%.

Elsewhere, Germany will lead the charge in Europe, adding $2.1 billion (£1.7 billion) to the global market total. https://www.commercialdroneprofessional.com/global-drone-market-to-grow-by-over-100bn-by-2027-despite-economic-downturn/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330315-Commercial+Drone+Professional+DNA+-+2020-06-01

COVID-19 has increased drone technology investment and sped regulatory action

May 27, 2020 Jenny Beechener Commentary, UAS traffic management news

A Q2/20 report released by global investment bank Canaccord Genuity says the drone ecosystem will grow as a result of COVID-19. The findings are published in Canaccord's 'Age of Autonomy' white paper on unmanned systems.

While regulatory complexities surrounding BVLOS travel have been tempering the rate at which commercial drones can be adopted by the marketplace, the enormous pressure placed on the delivery and logistics industry is likely to accelerate regulatory action in this space. The likelihood of an extended pandemic heightening the importance of social distancing and no-contact delivery for at least the rest of the year has many companies, namely UPS, seeking to expeditiously roll out drone delivery programs worldwide.

Since the end of 2019, the number of commercial drone registrations in the US has grown 15% from 385k to 442k. According to the FAA, this follows particularly strong expansion in registrations during the course of FY19, which increased by 39% y/y. While the impact of the pandemic may slow the adoption and registration of commercial drones in FY20 compared to FY19 due to logistical issues, this impact is not yet visible given the rapid clip of registrations in the first quarter of the year. In our view, the necessity of social distancing between workers is likely to have a positive correlation with adoption of unmanned aircraft by private industry for at least the next year or more. https://www.unmannedairspace.info/uncategorized/rising-

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investment-in-drone-technology-and-accelerated-regulatory-action-since-covid-19-says-canaccord-white-paper/

Ranchers use drones to monitor cattle health from above Josh Spires Jun. 1st 2020

The drones are used to watch the cows from above to look out for things like pink eye, which can lead to death in severe cases. Jackson also uses a drone to monitor things like heard volume and overall what the cows are doing while in the field. The drones can also be used to approximate the weight of the cows by taking photos from various angles and creating a 3D model of the cow.

He's also monitoring how the cattle respond to the drone by monitoring their heart rate, and he's equipped them with GPS to see how much the cows are running. Jackson found that the cows became used to the drone after about a week of flights. This means fewer cattle are lost every year, saving ranchers money and time they would have lost if one of the cows were to die of a disease like pink eye that could have been treated if seen earlier.
https://dronedj.com/2020/06/01/drones-used-by-ranchers-to-keep-cattle-healthy-from-above/

2Jun20

India is using drones and fire trucks to fight its worst locust invasion in almost 30 years Esha Mitra, Rishabh Madhavendra Pratap, Sandi Sidhu and Helen Regan, CNN, June 2, 2020

Waves of desert locusts -- millions strong and stretching up to 4 miles long -- crossed into India's western state of Rajasthan from neighboring Pakistan in early May and swarms have since pushed into five different states in search of food.

Hard-hit states have been carrying out locust control operations that include dispersing the flying insects with drones, tractors, and fire engines. Rajasthan, which was the first to be impacted by the locusts, has been conducting daily operations since May 22.

State officials are using 100 tractor-mounted sprayers and 20 fire engines across 11 districts to spray water and pesticides. Drones provided by the central government were also used to spray

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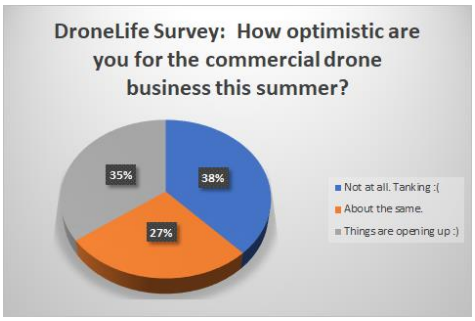
pesticides in two districts in Rajasthan, according to Karwa. He added that about 70% of the locusts there had been destroyed. Despite dispersal operations, locust infestations could continue into next month. https://www.msn.com/en-us/news/world/india-is-using-drones-and-fire-trucks-to-fight-its-worst-locust-invasion-in-almost-30-years/ar-BB14UifW

DRONELIFE Minute Survey: How Optimistic are Drone Companies Right Now?

Harry McNabb June 01, 2020 We asked some of our followers to share their outlook for business in the near future. We asked the following question: "As things open up after the coronavirus, how optimistic are you for your commercial drone business for this Summer?"

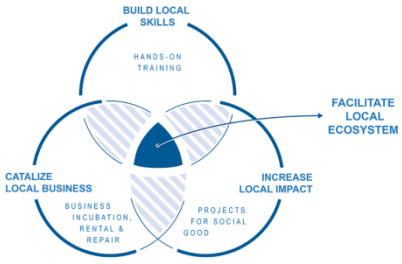


Here is what we found:

- **38.5% Not at all. Tanking**
- **26.9% About the same**
- **34.6% Things are opening up**

It's good news that the majority of people were either neutral or positive about the short term outlook. But with slightly more than 1/3 of the total respondents pessimistic about the near term prospects for their own companies, it seems that the industry still has some way to go for full recovery from the pandemic.
https://dronelife.com/2020/06/01/dronelife-minute-survey-how-optimistic-are-drone-companies-right-now/

Medical Delivery Drones in Public Health Online Course



International health organizations, governments, major donors, non-governmental organizations and companies are increasingly looking to use delivery drones to improve public health services. So what does it actually take to run cargo drone deliveries for public health? Far more than most realize.

Participants in this updated training will learn everything they need to know to design, implement, evaluate and partner on successful medical cargo drone projects. The course cuts through the hype and unpacks many of the assumptions that currently drive the discourse in the cargo drone space. As such, the training provides an objective, empirical and candid overview of the current state of cargo drones in health.

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Please see the updated course syllabus for an overview of the topics. Certificates of completion are signed by WeRobotics, Direct Relief, MIT and UPenn. Detailed course information: https://werobotics.org/healthrobotics-course-medical-cargo-drones-public-health/

UAS Performs State of Emergency Surveillance 02 Jun 2020 Mike Ball

Threod Systems' Eos C unmanned aerial system has been used by police forces in Järva County, Estonia, working with specialists from the Estonian Academy of Security Sciences, for surveillance flights over urban areas. It was selected for this trial due to its ability to cover large areas, with a flight radius of up to 1,00km and the ability to stay in the air for several hours. The drone was controlled by a custom mobile command center built into a mini-van. The trial was a success, and co-operation will continue between Threod, the authorities and the Estonian Academy of Security Sciences.

Martin Jõesaar, COO of Threod Systems, commented: "The drone provides a detailed picture that when received by the police command center enables them to immediately react by sending a small drone with a speaker to the violation area or a patrol."
https://www.unmannedsystemstechnology.com/2020/06/uas-performs-state-of-emergency-surveillance/?utm_source=UST+eBrief&utm_campaign=392454b369-eBrief_2020_02Jun&utm_medium=email&utm_term=0_6fc3c01e8d-392454b369-119747501

Unmanned Traffic Management System Launched in Germany 30 May 2020 Mike Ball

Droniq has launched a fully operational unmanned aircraft systems traffic management system in Germany, allowing drones to be safely integrated into civil airspace and perform commercial flights over long distances. The system provides drone tracking and control over LTE as well as real-time transmission of video, image and sensor data, and to date has successfully completed more than 50 long-range flights, covering a flight distance of around 2,350 km.

German airspace is too crowded to reserve portions of it for drones. Droniq – a joint venture between German air navigation service provider DFS, and Deutsche Telekom – has developed a UTM system that shows both manned and unmanned traffic in a combined airspace display.

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Users can plan missions and check which permits are required for each flight. As soon a mission begins, the surrounding airspace is displayed as occupied to other UTM users. The web display also shows relevant manned air traffic that users must avoid.

Droniq has developed a hook-on device, a matchbox-sized and lightweight modem that transmits the position of the drone and its identification to the UTM system via the cellular network. It also receives the positions of surrounding air traffic and feeds them into the system's live airspace display. In addition, all general aviation pilots in the vicinity of the drone will automatically receive a warning directly in the cockpit – even if they do not use the UTM service. https://www.unmannedsystemstechnology.com/2020/05/unmanned-traffic-management-system-launched-in-germany/?utm_source=UST+eBrief&utm_campaign=392454b369-eBrief_2020_02Jun&utm_medium=email&utm_term=0_6fc3c01e8d-392454b369-119747501

Community and Technical College Professional Development Webinar Series

A national conference entitled *Preparing the Drone Workforce* professional webinar series was planned for March in Colonial Williamsburg, VA, and cancelled due to the COVID-19 pandemic. The conference has been reimagined as a series of four half-day webinars that will take place through the month of June. Register today to:

– hear best practices for effective UAS courses/programs of study

– discuss topics relevant to creating and sustaining a drone workforce pipeline

– learn about key UAS educational offerings and industry initiatives

– be among the first to learn about emerging trends in the industry

Drone industry partners and UAS end-users will spotlight the growing demand for various applications, from package delivery to search and rescue, precision agriculture, real estate, transportation, infrastructure inspection, and many others.

We look forward to bringing together representatives of higher education and UAS industry. Join us! **CLICK HERE TO REGISTER** https://www.nacce.com/ctcc

Draganfly signs agreement with Windfall Geotek APPLICATIONMINING AND AGGREGATESby SAM LEWIS on JUNE 2, 2020

Windfall is a mining technology services company, utilizing AI and advanced knowledge-extraction techniques in

mining since 2005. Under the strategic agreement, Draganfly will be Windfall Geotek's preferred aerial services provider for mining applications. This will involve the use of Draganfly's Eagleeye technology, an AI-driven aerial surveying and digital exploration solution.

Dinesh Kandanchatha, chairman of Windfall Geotek, said: "Draganfly has been progressively building a comprehensive solution for drone-based data acquisition for mineral exploration.

The recently announced transaction to integrate Pioneer Aerial Surveys into their offering brings years of flight support and surveying capabilities to digital exploration clients of Eagleeye."

Draganfly CEO Cameron Chell added: "Windfall Geotek is a premier provider of mining services and analytics to the mining industry. Along with our 22-year service history and the recently announced transaction to acquire Pioneer Aerial Surveys and High Eye Aerial Imaging, Draganfly is now well positioned to become one of mining's premier aerial services providers."

https://www.commercialdroneprofessional.com/draganfly-signs-agreement-with-windfall-geotek/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330367-Commercial+Drone+Professional+DNA+-+2020-06-02

DroneUp Releases Operation Last-Mile: Critical Drone Delivery

Amy Wiegand
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Virginia Beach, Virginia, June 2, 2020 – DroneUp recently partnered with Virginia's Center for Innovative Technology (CIT) in tests designed to determine how unmanned aerial systems can assist with critical delivery during times of crisis.

The test participants conducted exercises from April 6 through April 9, 2020, on the vacant campus of St. Paul's College in Lawrenceville, Virginia. The Brunswick County facility, which closed to the public in 2013, provided a safe, complex community environment to test package deliveries by drones.

The exercises focused on delivery to residential and commercial areas with the aim of determining safe operational capacities, airspace de-confliction, operator safety, processes, policies, and training necessary to conduct delivery operations during day and night.

Data collected for the report determined how Part 107 Remote Pilot Operators can effectively supplement emergency response and critical care. The findings and recommendations are included in a report where government and industry leaders are considering what role drones will play in delivery and crisis response.

The author of the report, Joe Fuller, DroneUp's CIO, stated, "The delivery testing and outcomes prove that drones can be used to safely deliver critical items to a quarantine area. Experienced drone pilots could be quickly dispatched to hot zones to provide real assistance in pandemic response."

DroneUp is sharing the Operation Last-Mile: Critical Drone Delivery Report with the public here. https://resources.droneup.com/view/338698/

3Jun20

NOAA Deploys COSMIC-2 Smallsats Matthew Nelson June 2, 2020 News, Technology

The National Oceanic and Atmospheric Administration has fielded six small satellites in efforts to optimize the accuracy of weather forecasts and space weather monitoring.

The Constellation Observing System for Meteorology, Ionosphere and Climate smallsats gather "bent" signals from global positioning navigation systems through the use of radio occultation to secure information such as atmospheric pressure and temperature, NOAA said Monday.

The smallsats also work to collect data on the low-altitude ionosphere. Louis Uccellini, director at NOAA's National Weather Service, said the agency seeks to employ moisture measurements and wind vector data to identify the conditions that enhance or weaken hurricanes.

The COSMIC-2 program is a joint effort with the Taipei Economic and Cultural Representative Office, the Taiwan National Space Organization and the American Institute in Taiwan.
https://www.executivegov.com/2020/06/noaa-deploys-cosmic-2-smallsats/

Coronavirus and Drones: Study Says Crisis Changing Minds about Disruptive Technology Harry McNabb June 02, 2020

Attitudes are changing towards disruptive technology as drones assist in coronavirus response. A recent study by European company ProtoLabs titled, *"Horizon Shift: Accelerated Disruption in Aerospace"* note that the crisis offers opportunities for drones as changing needs lead to changing attitudes.

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Drones are taking a significant role in crisis response. As communities around the world remain in social lockdown that includes social distancing, drones become more and more attractive as a means of maintaining usual activities. Medical supply delivery, disinfection of large areas, and social distance monitoring are all currently been given added emphasis due to the virus. Demand for global air cargo that far exceeds freighter capacity provides opportunities for cargo drones.

People want disruptive technology to solve supply chain problems that the COVID-19 crisis has made apparent: now may be the time for drones and other disruptors to take the main stage in the aerospace industry. The study is based a survey of 325 senior executives in the European aerospace industry. https://dronelife.com/2020/06/02/coronavirus-and-drones-study-says-crisis-changing-minds-about-disruptive-technology/

Commercial UAV Expo Americas 2020 Goes Virtual Miriam McNabb June 02, 2020

2020 could be lining up to be the year you get to go to every conference you ever wanted to attend.

The lineup of speakers and sessions- including FAA Administrator Stephen Dickson – is still impressive. And without the cost of a trip to Vegas, this year Expo content is even more accessible for the industry.

June 2, 2020 – Portland, Maine, USA – Commercial UAV Expo Americas 2020 is going virtual, according to event organizer Diversified Communications. "Due to ongoing health and safety concerns stemming from the COVID-19 pandemic, members of the commercial drone community we serve have made it clear that it would be impossible to hold the live event as originally planned. In the interests of ensuring our community still has an opportunity learn from and connect with each other, we have reimagined Commercial UAV Expo Americas as a fully virtual event taking place September 15-17, 2020," said Lisa Murray, Group Director at Diversified Communications, organizer of Commercial UAV Expo Americas. These are the same dates the live event had been scheduled in Las Vegas.

Details will be forthcoming, but the content will include keynotes, panel discussions and presentations with interactive Q&A and chat features; an AI-powered networking component; virtual exhibits, and demonstrations by UAS solutions providers.
https://dronelife.com/2020/06/02/commercial-uav-expo-americas-2020-goes-virtual/

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SpaceX launches 60 Starlink satellites and lands rocket in dazzling nighttime liftoff

Amy Thompson June 3, 2020

CAPE CANAVERAL, Fla. — SpaceX successfully launched a new batch of 60 Starlink internet satellites into orbit late Wednesday and nailed a rocket landing at sea to top off the mission.

Today's mission featured a veteran member of SpaceX's rocket fleet. The extra-sooty Falcon 9 — whose first stage had already flown four times before today's mission — lifted off at 9:25 p.m. from Space Launch Complex 40 at Cape Canaveral Air Force Station, its white exterior scorched by its previous trips through the atmosphere.

Today's flight is the eighth 60-satellite mission for SpaceX's Starlink project, bringing the total number of satellites launched for the nascent broadband network up to 482. SpaceX has plans to build a constellation of Starlink satellites 12,000 strong. The project is designed to provide high-speed internet service to customers around the world, in particular those in remote areas. https://www.space.com/spacex-starlink-internet-satellites-launch-success-june-2020.html

US Air Force begins search to replace General Atomics MQ-9 Reaper in 2030

Garrett Reim 3 June 2020

MQ-9 Reaper

The service is conducting market research to find its next medium-altitude UAV for intelligence, surveillance and reconnaissance as well as air-to-ground strike missions in a 3 June request for information.

The MQ-9 was given initial operating capability in 2007 and has been used extensively against insurgents and terrorists in the Middle East. It is vulnerable to

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surface-to-air missiles. “The purpose of this RFI is to research potential solutions for the Next Generation UAS ISR/Strike platform, the Next Generation Medium Altitude UAS and potential follow-on program to the MQ-9 weapon system.” The service also wants ideas for “alternative ways to support future lower-end, lower-cost ISR missions which may include initiatives to modernize, augment and replace existing systems.”

The USAF plans for the UAV to have an initial operational capability by the third quarter of fiscal year 2031. To make that goal, initial deliveries are planned to start in the fourth quarter of FY2030. The next-generation UAV is expected to integrate advanced technologies including autonomy, artificial intelligence, machine learning, digital engineering, open mission systems architecture and attritable technology. https://www.flightglobal.com/military-uavs/us-air-force-begins-search-to-replace-general-atomics-mq-9-reaper-in-2030/138677.article

How drones have helped fight COVID-19 — and become more mainstream Josh Spires Jun. 4th 2020

Drones sometimes get a bad rap by the public. So let’s take a look at how COVID-19 mainstreamed drones and gave them a better reputation.

Law enforcement and spraying - Drones were first used in China to remind the public to stay indoors and wear masks. Chinese farmers then used their agricultural drones to spray disinfectant over streets and public areas to help prevent the spread of the virus. **Temperature testing -** Draganfly created the “pandemic drone” in partnership with the University of South Australia. It can measure temperature from above and can detect signs of coronavirus such as coughing. **Deliveries -** Zipline is delivering COVID-19 tests and blood samples by drone from remote villages in Ghana. More recently it’s moved into North Carolina to deliver medical masks to frontline health workers.

Drone companies - Drone companies have also stepped up to help by turning their supply chains into face-mask makers for frontline workers. French drone company Parrot has donated 5,000 of its motors to an open-source ventilator program. Amazon Air switched to producing face masks for frontline workers and has produced and donated 10,000 face masks with another 20,000 in production. DJI is also working with authorities in the US to send drones free of charge to law enforcement agencies to monitor the public and enforce social distancing. https://dronedj.com/2020/06/04/how-drones-have-helped-fight-covid-19-and-become-more-mainstream/

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Drone Delivery for Coronavirus: Drone Delivers Test Samples to Lab in 7 Minutes (Video) Miriam McNabb June 04, 2020

Germany's Quantum-Systems GmbH and the Becker & Kollegen laboratory are implementing drone delivery for coronavirus. A test operation demonstrated that urgent samples could be transported from a mobile corona test station on the Theresienwiese to the Munich laboratory in 7 minutes – a result that could have a major positive effect on the chain of infection.

"In the event of a pandemic, a few hours may have a major influence on the development of the chain of infection," says the company press release. "I am concerned about the individual behind each sample and the well-being of the patient in terms of the quality and speed of the findings," says Marc Becker, M.D. "In this particular case, however, it is also about reducing risks for the many people involved in the provision of our laboratory services, such as doctors, courier services and assistants."

Transport by drone has proven to be 8 to 12 times faster than traditional methods. "During a test flight, the autonomously operated Trinity F90+ drone from Quantum-Systems transported 20 sample tubes in less than seven minutes over the 6.4 km flight distance from Theresienwiese to the laboratory in Frühricht straße," says the press release. Couriers who usually transport by van report that under normal traffic conditions in Munich, the trip takes an hour or more. Even more important during the current pandemic, the drone delivery system is contactless. See the video: https://dronelife.com/2020/06/04/drone-delivery-for-coronavirus-in-germany/

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