UAS and SmallSat Weekly News

Contents

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18Apr20

UAVOS COMPLETES TESTS FOR UAV DELIVERY SERVICE HUMANITARIAN RELIEF UAVOS INC. 04/17/20

UAVOS has successfully tested its cargo delivery UVH-170 unmanned helicopter. The trial validated an automated delivery flight from a vendor to a destination and back, across pre-selected pathways. The flight took 1.7 hours and covered 62 miles. Humanitarian aid, whose weight was 17.6 lbs, was delivered without the need to land or the need for a ground control station on the receiving side. The UAS is equipped with line-of-sight data link and satellite communications which supports Beyond Visual Line of Sight flights. It is designed for commercial operations and immediate response, emergency relief and tight timescales. The aircraft's high standoff distance makes it well-suited to humanitarian and disaster relief applications.

The capabilities of the helicopter address many social (medical, pharmaceutical, remote communities, humanitarian aid) and economic (mining, oil & gas, courier) use-cases. The vehicle is based on a gasoline engine with a maximum take-off weight of 99 lb. and a payload of 22 lb. It flies at an altitude of 8,200 ft at maximum speed of 74 mph.
https://www.roboticstomorrow.com/story/2020/04/uavos-completes-tests-for-uav-delivery-service-humanitarian-relief/15167/

Moroccan startup uses drones to fight coronavirus Josh Spires Apr. 17th 2020

Moroccan startup Farasha Systems has created a drone specially designed to spray disinfectant in large areas in a short amount of time as a response to coronavirus. The company successfully completed a drone spraying mission yesterday in the city of Harhoura. Moroccan authorities were also present to watch over the operation. The company is now looking to equip other models with thermal cameras to monitor body temperature and spot people with fevers. Here are some other countries where drones are deployed.

China The first country struck by the new coronavirus was also the first to start using drones to respond. Chinese authorities have used drones to call out to people who aren't following stay-

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at-home orders. Farmers have deployed agricultural drones to spray disinfectant throughout villages and cities in China.

Australia The Little Ripper Group is currently trialing drones to see if they will be a suitable method to disinfect streets, shopping malls, and playgrounds.

Israel The police are using drones to observe people who have tested positive for the virus to ensure they are following self-isolation rules.

Jordan Jordan is using drones to monitor people, enforce curfews and check temperatures. They are equipped with thermal cameras and with megaphones to broadcast announcements. https://dronedj.com/2020/04/17/moroccan-drones-fight-coronavirus/

FAA not rushing to deploy COVID-19 drones Sean Captain Apr. 17th 2020

Drones have perhaps captured an outsized share of headlines during the COVID-19 crisis because of their novelty. Local news reports may go viral with stories of police using a loudspeaker-equipped drone to broadcast warnings about social distancing. However, The FAA has not expanded its programs for drone certification or relaxed any of its rules.

As the FAA described in a brief notice this week: "The FAA is enabling drone use for COVID-19 response efforts within our existing regulations and emergency procedures. Our small unmanned aircraft rule (Part 107) and Certificate of Authorization process allow operators to transport goods and certain medical supplies — including test kits, most prescription drugs, and under certain circumstances, blood — provided the flight complies with all provisions of the rule or authorization. The FAA also issues special approvals, some in less than an hour, for flights that support emergency activities and appropriate government, health, or community initiatives. The agency's Systems Operations Support Center is available 24/7 to process emergency requests. Safety is the top consideration as we review each request."

Things may change with Zipline, the California-based company that has already flown tens of thousands of medical supply and sample deliveries in Rwanda and Ghana. The startup has been pursuing certification to operate in the US, and that process may get accelerated due to the needs of the pandemic. https://dronedj.com/2020/04/17/faa-not-rushing-to-deploy-covid-19-drones/

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Sundance Media Group is Still Flying Drones for Construction, Public Safety and More APRIL 14, 2020 Jeremiah Karpowicz

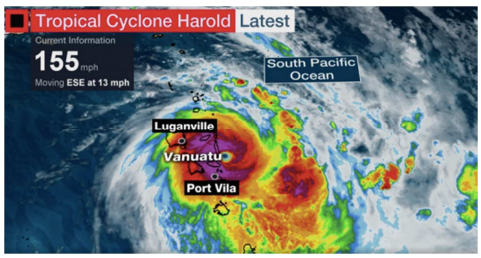
As we attempt to figure out what the "new normal" in the drone space will look like in the present and future, we're connecting with the people who are working to create those definitions. As someone who's currently flying drones on construction sites and capturing footage of the deserted Las Vegas Strip, Douglas Spotted Eagle from Sundance Media Group (SMG) is one of those people.

SMG has been producing training for trade events, public safety organizations and private individuals for over 26 years. A prominent Commercial UAV Expo speaker, Douglas shared his insights around how he's seeing drones being used in the midst of the Covid-19 global pandemic in construction and by public safety officials, how it has impacted the conversations he's having with professionals and what advice he has for anyone trying to work through these challenges. You can get in touch with Douglas or the rest of the SMG team via their website or info@sundancemediagroup.com

See the interview at: https://www.commercialuavnews.com/construction/sundance-media-group-is-still-flying-drones-for-construction-public-safety-and-more?utm_source=marketo&utm_medium=email&utm_campaign=uav20_news_industry_leaders&utm_content=digital&mkt_tok=eyJpIjoiWmpZeFpXVXlNamt3WkdZeCIsInQiOiJnb1RpU3pQTjRLVG1sd3pIMWV2b2hoVXhHUzgxcExTcGtjVDdDSDZQekhldnFpUW1UN0hCTHRXTVNZaUwzZ1FmXC9cLzBQUFlUWWNKd1VmZjFtRTFZS1ZldjNpUVh4T2c1M0RGMVpYeXQxNFRnWER2WW16TURzcjRCanhCNWN6QlNDIn0%3D

19Apr20

Timing is Everything: Humanitarian Technology and the COVID-19 Response 6th April 2020



Every day counts when responding to a pandemic. Priorities during this current phase of the emergency include rigorous hygiene, physical distancing, lockdowns, testing, general healthcare, and intensive care. Flying Labs and WeRobotics are already taking steps to prepare for future situations in which locally-led applications of humanitarian technologies will add far more value.

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Around 150 million people worldwide are affected by humanitarian crises every year, and the climate emergency is getting worse, not better. It is only a matter of time until disasters large and small affect communities and infrastructures already impacted by the pandemic.

Global and national lockdowns will prevent typical relief efforts from taking place. National lockdowns will be slowly relaxed before the current ban on international travel is lifted. This will create valuable space and opportunity for local actors to take leadership roles in response to crises that strike in parallel with COVID-19. https://blog.werobotics.org/2020/04/06/timing-is-everything-covid/

20Apr20

Workhorse Files Patents for HorseFly Drone April 19, 2020 Staff

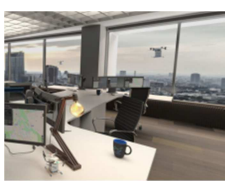
Workhorse Group Inc., an American technology company providing electric vehicles to the last-mile delivery sector, has expanded its patent portfolio through a recently filed provisional application for its HorseFly Unmanned Aerial System. The patents include several of the system's key components and capabilities, including its ground control station, winch deliveries and aircraft structure.

The HorseFly UAS delivers parcels, carries sensors and cameras and operates autonomously. It was designed to deliver about 80% of most commercial package sizes, shapes, and weights while carrying a five-pound payload up to 10 miles.

According to Workhorse, the HorseFly system's success has been demonstrated through real-world commercial deliveries flying autonomously from truck-top operations in U.S. airspace in a process that meets Federal Aviation Administration flight standards.

The aircraft's design allows users to select different delivery methods including air drops, winch deliveries from various altitudes, and ground deliveries.
https://www.truckinginfo.com/356203/workhorse-files-patents-for-horsefly-drone

Kongsberg joins Ohio SOARING urban airspace management project April 20, 2020 Philip Butterworth-Hayes Urban air mobility



Kongsberg Geospatial, an Ottawa-based geospatial technology was selected as part of the project team which recently secured a $1.4 million contract with the Ohio Federal Network (OFRN) to lead the development of a

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contingency management platform for Beyond Visual Line-of-Sight drone operations. The project, called "Interoperability, Resiliency and Contingency Management" for Ohio UAS Operations is one of six projects awarded in round four of OFRN's Sustaining Ohio Aeronautical Readiness and Innovation Next Generation (SOARING) initiative. The collaborative effort brings together private companies, including prime contractor CAL Analytics, ResilienX, TruWeather Solutions, and Kongsberg Geospatial, with higher education partners – Kent State University, and Ohio State University.

Geospatial software company Kongsberg Geospatial will contribute IRIS UxS, a real-time airspace visualization system for Beyond Visual Line-of-Sight mission management that allows a single operator to manage multiple aircraft. The system combines live data and live weather from a variety of sensors to create a real-time picture of the airspace where UAS are being operated. https://www.unmannedairspace.info/latest-news-and-information/kongsberg-joins-ohio-soaring-urban-airspace-management-project/

Drone Delivery Canada to begin testing long-range cargo delivery Condor drone

APPLICATION DELIVERY SAM LEWIS APRIL 20, 2020

The testing will take place at the Foremost UAS Test Range in Alberta, Canada, and will comprise BVLOS flights.

The Drone Delivery Canada Condor has a 180kg payload, a travel range of 200km and an operating speed of 120kph. The multi-package payload compartment is designed to carry approximately 20 cubic feet of cargo. It measures 22 feet long, 5 feet wide and 7 feet tall and is capable of vertical takeoff and landing.

"Market response to the Condor has been overwhelmingly positive," said Michael Zahra, president and CEO of DDC. "With the COVID-19 situation, interested customers have asked us to fast-track the commercialization process which we are now doing.
https://www.commercialdroneprofessional.com/drone-delivery-canada-to-begin-testing-long-range-cargo-delivery-condor-drone/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-328250-Commercial+Drone+Professional+DNA+-+2020-04-20

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University of North Texas selected by NASA to research drone communications

April 16, 2020 Jenny Beechener UAS traffic management news

The University of North Texas is leading a team of academic and industry experts selected by NASA to test the capabilities and readiness of vehicles and systems to support mobility in and around densely populated metropolitan areas.

"Our team is developing the Resilient Air Space Operations and Services platform which will allow low-flying traffic, both manned and unmanned, to receive data from multiple sources, sense their surroundings and automatically share information about airspace hazards with each other," said team lead Kamesh Namuduri, electrical engineering professor with the College of Engineering. "Airspace hazards include sudden weather changes, sensor failures, or communication infrastructure failures. Sharing of such time-critical information is necessary to avoid potential accidents in the air, especially when traffic increases as expected."

NASA has selected a total of 11 teams to work on its Advanced Air Mobility National Campaign. Campaign participants will demonstrate integrated operations in real life scenarios including: use of two-way network flight plan communications; beyond visual line of sight operations; real and simulated vehicle and operations emergency contingencies; dynamic traffic avoidance and trajectory management; approach and landing in the presence of structures and associated mechanical turbulence. https://www.unmannedairspace.info/latest-news-and-information/university-of-north-texas-selected-by-nasa-to-research-drone-communications/

COVID-19 drones provoking political backlash in US Sean Captain Apr. 20th 2020

Drones are playing a growing role in the US (and other countries) in helping authorities monitor and enforce social distancing. In Daytona Beach Florida, for instance, police use loudspeaker-equipped drones to alert citizens to quarantine rules such as park closures. In Chula Vista, CA, police drones are finding homeless encampments and alerting the campers of health services. And in Elizabeth, NJ, police are using drones to check hard-to-reach parts of town to find people who violate social distancing rules. That could lead to a $1000 fine. And that goes too far, say some critics.

Police are using drones to enforce social distancing by spying on Americans in their backyards," says Twitter user Matt Walsh. He was responding to an NBC News report about the program in

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Elizabeth. It shows the drone cam's view of alleys and backyards. Walsh's tweet kicked off an angry thread picked up by talk show host Jesse Kelly, who advocated taking out police drones. "Go ahead and file an insurance claim for your police drone if you fly it over my backyard. Cause it's not gonna make it back to the station," he tweeted.

There's already growing suspicion and resentment of strict shutdown rules that most Americans are living under. For many critics, drones represent an unacceptable threat to privacy that's not worth any benefit they might bring. https://dronedj.com/2020/04/20/covid-19-drones-provoking-political-backlash-in-us/

Drone service Zipline delivers COVID-19 tests in Africa Sean Captain Apr. 20th 2020

Zipline set another milestone on April 17, with the first drone delivery of COVID-19 medical test samples. The operations took place in Ghana. Four Zipline flights delivered 51 completed COVID-19 tests from rural locations to the Noguchi Memorial Institute for Medical Research in the capital city of Accra. This delivery took less than an hour, versus up to several days if the samples had arrived by truck.

On the 18th, Zipline delivered more COVID-19 test samples from rural areas to Kumasi, the country's second-largest city. The company says that this is the first time autonomous drones have flown deliveries into dense urban centers. Zipline is now providing such deliveries on a daily basis.

The vehicles are small airplanes. The COVID-19 sample deliveries to Accra were seventy miles round trip. Lacking the ability to hover, Zipline typically drops its cargo by parachute, with very good accuracy. They have flown more than 35,000 of these missions in the two countries.

But the US-based company is yet to operate on its home turf. The company was already working with the FAA to get certified to provide medical delivery service in the US in the fall. Since then, the company says it's been working with the FAA on expedited approval to begin "emergency humanitarian operations." This would focus on the delivery of COVID-19 supplies such as test kits and personal protective equipment. A launch date has yet to be announced, but the company says it could begin operation "within weeks of receiving the go-ahead." https://dronedj.com/2020/04/20/drone-service-zipline-delivers-covid-19-tests-in-africa/#more-27062

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NASA, Partners Work with FAA to Develop UAS Road Map April 18, 2020 News

NASA and its industry partners are taking unmanned aircraft systems closer to operating in harmony with other aircraft in the national airspace.

The technology and procedures developed during a nearly decade-long program has been assisting the FAA develop the rules for certification of unmanned aircraft to safely coexist with other air traffic. NASA began its Unmanned Aircraft Systems Integration in the National Airspace System Project in 2011. Work since then has included multiple simulations and six flight test series that focused on validating these simulations and supporting the development of minimum operational performance standards for Detect and Avoid systems.

Flight Test Series One kicked off the series with the unmanned Ikhana aircraft at NASA's Armstrong Flight Research Center in California. It involved the installation of the automatic dependent surveillance broadcast system, also known as ADS-B on the Ikhana and launched the development of the Live Virtual Constructive Distributed Environment (LVC-DE).

The LVC-DE can sync NASA's research centers to create a real-life simulated airspace integrating manned and unmanned aircraft to test concepts, technologies and procedures in the same airspace. LVC-DE is a capability developed by the Integrated Test and Evaluation (IT&E) subproject of UAS-NAS that interfaces live flights at AFRC with simulated airspace and traffic at NASA's Ames Research Center in California. https://uasweekly.com/2020/04/18/nasa-partners-work-with-faa-to-develop-uas-road-map/?utm_source=rss&utm_medium=rss&utm_campaign=nasa-partners-work-with-faa-to-develop-uas-road-map&utm_term=2020-04-20

21Apr20

Starlink space display 'set to continue all week' 20 April 2020

The 60 Starlink satellites launched by Elon Musk's SpaceX firm appear in a line crossing the night sky. They were launched into space in March but their current orbital position has made them easier to see in recent days. Stargazers have been using apps and websites to check when they can spot the display.

SpaceX has sent 300 satellites into space so far towards a planned network of 12,000, with the aim of improving global internet coverage.

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The most recent line of satellites has been spotted in Derbyshire, Manchester, London, Leeds and across Europe, with many people sharing their excitement on social media.

Sophie Allan, from the centre, said current good visibility was down to a combination of the batch's low orbit, clear night skies and the angle of the satellites in relation to the sun. https://www.bbc.com/news/uk-england-52355706

Whales blow rainbows in delightful drone footage Sean Captain Apr. 21st 2020

If you're at just the right angle, you can see a whale blow a rainbow. And a drone is the best way to get that angle.

A whale's blowhole emits a combination of warm air and mucus. When the warm air hits the colder air over the ocean, water vapor forms. And those droplets often catch the light to create a rainbow — or a "rainblow," as some whale watchers call it.

You can see many of these rainblows in beautiful video compiled by whale-watching companies off Orange County in Southern California. "We don't always see this rainbow appear from the breath of the whale, but if we're at the perfect angle on the right day with our drone, we can capture this rare occurrence," Jessica Roame, marine education program manager at Davey's Locker Whale Watching. See the whale rainbows at https://dronedj.com/2020/04/21/whales-blow-rainbows-in-delightful-drone-footage/

300 drones put on light show to thank China medical staff Josh Spires Apr. 21st 2020

Three hundred drones hit the skies a few nights ago above Zhuhai, China, in a show of thanks to the medical team on the coronavirus frontline in Hubei province which was hardest hit during the outbreak. The drones put on a synchronized light show that filled the sky with animations.

The drones appear forming various images, including a woman taking her mask off, stars, a bear with the words, "Welcome," and various other images related to the medical workers. The drones were sent up as part of a thank-you message for the medical workers who recently

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came out of self-isolation after working with coronavirus patients in Hubei province, where the pandemic originated.

China was quick to use drones to enforce quarantine policies. Among the first sightings were a megaphone-equipped drone calling out to people not following the stay-at-home order. Authorities in other countries have adopted the practice. In the US, it's now provoking a political backlash from critics who accuse police of unwarranted surveillance practices.

Many farmers around China have been able to use their drones, equipped with tanks and nozzles, to spray disinfectant through villages. Other countries, such as Spain and India, are also employing drones in disinfection duties.

What do you think about the drone light show? Do you think countries should do more to show appreciation for their medical workers and elevate the public mood? Let us know in the comments below. https://dronedj.com/2020/04/21/300-drones-fly-above-zhuhai-china-thank-medical-staff/

Draganfly's 'Pandemic Drone' to begin first test flights in US Josh Spires Apr. 21st 2020

Draganfly's "Pandemic Drone" will complete its first few test flights in the coming days with Westport Police Department in Connecticut. This is a key part of the Flatten the Curve Pilot Program created by Draganfly, healthcare data service Vital Intelligence and the University of South Australia.

The Pandemic Drone is equipped with sensors and a computer vision system capable of reading body temperature accurately. The drone can also measure heart and respiratory rates and detect if people are sneezing or coughing, even in crowds.

Westport Police Department is planning to use the drone to protect at-risk groups, such as seniors, along with monitoring public areas such as beaches, train stations, public parks, recreation areas, and shopping centers.

The use of the drone will ensure the police officer's safety is enhanced, allowing officers to stay further away from people who are potentially carrying the coronavirus. The officers are also able to gather data much faster than by manually recording it per-person. In comparison to a team of officers scouting an area and manually checking each person, using the pandemic

drone requires only one police officer as a drone pilot.
https://dronedj.com/2020/04/21/draganflys-pandemic-drone-begins-first-flight-us/#more-27154

California cities use police drones as 'first responders' Sean Captain Apr. 21st 2020

The first officer on the scene might be a drone pilot. Cities in California are utilizing police drones as the "first responder" on some calls. The goal is to get eyes on a scene as soon as possible, for instance to track suspects fleeing a crime.

Police in the City of Clovis, near Fresno, are launching a 90-day trial in which they dispatch a police drone to all emergency calls. "If the drone can respond and get on the scene first, it will be able to provide our officers with real-time video and give us some good situational awareness as to what's happening," said a department spokesperson.

Drones aren't new to the Clovis PD, which established a program in 2018. It owns 15 drones and has nine officers trained as drone pilots. But making drones the first responder in all emergencies is the new aspect for the department.

The Clovis experiment is inspired by a program in Chula Vista near San Diego. Since October 2018, the police there have dispatched drones on 2,000 emergency calls. Flying straight to the scene, drones arrive before officers in 50% of cases, say the police, who credit the drone program with assisting in more than 270 arrests. Chula Vista PD also says it's been able to resolve over 480 calls just by sending a drone, with no officers dispatched. https://dronedj.com/2020/04/21/california-cities-police-drones-first-responders/

22Apr20

CASE STUDY: 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. Once approaching the radioactive remnants of the nuclear reactors, the rapidly spreading fires raised alarms that the site of the nuclear plant, located northwest of Ukraine's capital Kyiv, could be threatened.

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More than 1000 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. On April 14th, the fires were completely extinguished.

A fleet of 10 drones were deployed by response teams of the State Agency of Ukraine for Management of Exclusion Zone and State Forest Guard to capture aerial intelligence that helped incident commanders quickly understand the situation and make the right decisions.

It was impossible to get a visual view with such dense smoke. The thermal cameras gave my team the eyes to see through the smoke." said Sirota, adding that the drone with dual sensors (visual and thermal) could be almost instantly flown in the air when taken out of the box. https://www.commercialdroneprofessional.com/case-study-chernobyl-wildfire-extinguished-with-help-of-drones/?utm_medium=push&utm_source=notifications

Flying coronavirus-killer: How this drone fights COVID-19 Andrew Altman April 21, 2020

A Kansas-based tech company found itself in a unique position to help address a crucial area in the fight against the coronavirus: keeping people out of places that have likely been exposed to COVID-19.

Digital Aerolus builds drones that are designed to go where people normally can't, or at least would prefer not to (think nuclear power plants and sewer systems). Most recently the company developed the Aertos 120-UVC drone, equipped with ultraviolet lights which are already used in hospitals and other facilities to kill viruses and bacteria. Operated by a pilot, the drone can disinfect surfaces without a person having to go near them.

CNET recently spoke with Digital Aerolus. Watch the video to see how the drone works. https://www.cnet.com/news/flying-coronavirus-killer-how-this-drone-fights-covid-19/

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FAA has granted over 4,000 Part 107 waivers, most for night flights Sean Captain - Apr. 21st 2020

The Association for Unmanned Vehicle Systems International just did a tally of all the Part 107 waivers the FAA has issued since 2016, finding just over 4,000 cases and some interesting trends.

Most applicants want to fly at night. Nearly 95% of the waivers issued (3,810) are for the ability to fly after the sun goes down. The next biggest category was an allowance to fly over people, with 125 waivers. Other categories include operating beyond visual line of sight (53), flying more than one aircraft at once (53), and flying from a moving vehicle or other aircraft (4).

As AUVSI described the breakdown: "Many of these businesses offer aerial imaging solutions for a range of applications including real estate/landscape photography, infrastructure inspections, and agricultural/ environmental surveys. First responders comprise 19% of the organizations most of which enable nighttime operations for search and rescue or firefighting. A handful of first responders have also been granted the ability to fly over people."

The volume of approvals has gone up and down over the years. They hit a highpoint of 405 in the first quarter of 2017 as applicants were rushing in to take advantage of the new policy. Approvals reached their highest level yet in the first quarter of 2020, with 502 granted. COVID-19 is presenting ever more use cases for drones: such as monitoring crowd sizes and issuing public alerts. And the pandemic helps make the case for the contact-free nature of drone deliveries. So perhaps we can see even more waivers coming later this year. https://dronedj.com/2020/04/21/faa-has-granted-over-4000-part-107-waivers/

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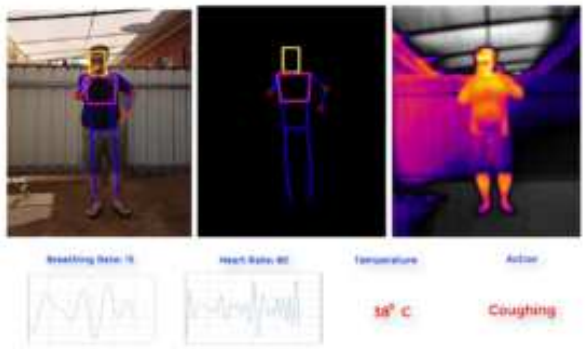
Drone Tech Can ID COVID-19 Symptoms From Above Jason Reagan April 21, 2020



A Connecticut town is testing a drone that can measure social distancing and detect COVID19 symptoms from the air.

The Westport Police Department recently partnered with Canadian drone company Draganfly to deploy unmanned aircraft equipped with a sensor package that can display body temperature, heart and respiratory rates, as well as detect people sneezing and coughing in crowds.

A Draganfly press releases states the equipped drone can "accurately detect infectious conditions from a distance of 190 feet, as well as measure social distancing for proactive public-safety practices." Westport has reported some of the highest infection rates in the Connecticut, and officials consider Fairfield County the epicenter of COVID19 spread within the state. https://dronelife.com/2020/04/21/drone-tech-can-id-covid-19-symptoms-from-above/

UPS Drone Delivery: DroneUp Flies to Prove the Case for Coronavirus Response

Miriam McNabb April 21, 2020

UPS drone delivery took another big step forward recently. UPS partnered with leading U.S. drone service providers DroneUp, UPS subsidiary UPS Flight Forward (UPSFF), Virginia's Center for Innovative Technology (CIT), and Workhorse Group to test drone delivery exhaustively – proving the case for drones to take a role in helping medical professionals respond to Covid-19.

UPS drone delivery became big news last year when the company received FAA certification to operate a drone airline, opening the door to revenue generating, commercial drone delivery. Having begun drone delivery operations on medical campuses, UPS was a logical leader to inform the White House – quickly – how drone delivery might be leveraged to respond to the current pandemic. With its network of trained drone pilots, DroneUp was able to respond to the call to help provide the data needed, flying for 3 days on the vacant campus of St. Paul's College in Lawrenceville, Virginia. "DroneUp and UPS did the most extensive delivery of packages that has ever been done," says Tom Walker, DroneUp CEO. "Hundreds, if

not thousands of flights – it was an exhaustive exercise. We took a 55-acre college campus, we made it a town, and by the end of day two, we were doing deliveries every 3 minutes."

The thousands of data points generated helped the team evaluate issues like safe operational capacities; airspace de-confliction and operator safety policies; processes, policies and training necessary; and proposed policy changes that would further enable drone delivery. https://dronelife.com/2020/04/21/ups-drone-delivery-droneup-partners-fly-to-prove-the-case-for-coronavirus-response/

Good shot of the campus supplied by DroneUp

https://www.foxnews.com/tech/ups-droneup-test-drone-delivery-of-medical-supplies

UPS and Workhorse Group test drones for COVID-19 fight Josh Spires Apr. 22nd 2020

UPS partnered with Workhorse Group, Virginia's Center for Innovative Technology, and DroneUp to complete various tests to see how drones can be used to assist medical professionals in the fight against COVID-19.

The tests took place over a three-day period earlier in the month at St. Paul's College in Virginia and a Brunswick County facility where various delivery conditions were able to be simulated. The tests focused on deliveries to residential and commercial areas with the following being at the forefront of the tests:

- Safe operational capacities based on existing technologies, policies, personnel, and environmental restrictions
- Airspace de-confliction and operator safety policies necessary for peak optimal capacity
- Processes, policies and training necessary to conduct efficient, safe, and effective delivery operations during day and night
- Proposed policy changes that would further enable the use of these autonomous airborne advanced technologies

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The drones will be used to transport lab specimens along with medical products. This could include COVID-19 vaccines once they are ready for public use.
https://dronedj.com/2020/04/22/ups-workhorse-group-fight-covid-19/

Chilean town turns to drones for medical deliveries Sean Captain Apr. 22nd 2020

The Chilean beach town of Zapallar is famous for the palatial homes of the country's rich and famous dotting its coastline. But in the interior, it's a low-income community with poor infrastructure. Now the town is using drones to help cut travel times for delivering medical supplies and to support social distancing.

In its parched interior lands, Zapallar is employing heavy-duty quadcopters to deliver bags of medication and COVID-19 related supplies, such as masks and hand sanitizer, to elderly residents in remote regions. The drones are not autonomous, but rather are remote-controlled by trained city workers.

These elderly residents live up to a two-hour walk away from the nearest pharmacy. In addition to being an arduous trip, visiting the pharmacy would risk exposure to the coronavirus. "Now we have a solution to help them get their medications without exposing a public worker or a member of the family of the person in quarantine," said Mayor Gustavo Alessandri.

This is not the town's first experience with drones. It has already been using them to assist in ocean rescues and to monitor forest and brush fires. https://dronedj.com/2020/04/22/chilean-town-turns-to-drones-for-medical-deliveries/

Kongsberg Geospatial Selected for Ohio UTM Drone Project Team April 22, 2020 News

Kongsberg Geospatial, an Ottawa-based geospatial technology was selected as part of the project team which recently secured a $1.4M contract with the Ohio Federal Network (OFRN) to lead the development of a contingency management platform (CMP) for Beyond Visual Line-of-Sight drone operations. The project brings together private companies, including prime contractor CAL Analytics, ResilienX, TruWeather Solutions, and Kongsberg Geospatial, with higher education partners – Kent State University, and The Ohio State University.

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OFRN is a program of the Wright State Applied Research Corporation, and has the mission to stimulate Ohio's innovation economy through job and product creation by building statewide collaborations between university researchers, Ohio-based federal laboratories and businesses.

As the prime contractor, CAL Analytics will lead system integration on the ground in Ohio, deploying the CMP to two customers: the Ohio Department of Transportation in Columbus, and the Air Force Research Lab in Springfield. https://uasweekly.com/2020/04/22/kongsberg-geospatial-selected-for-ohio-utm-drone-project-team/?utm_source=rss&utm_medium=rss&utm_campaign=kongsberg-geospatial-selected-for-ohio-utm-drone-project-team&utm_term=2020-04-22

23Apr20

SpaceX launches 60 Starlink satellites, aces rocket landing in milestone flight Amy Thompson April 22, 2020

The Falcon 9 has now flown 84 times, more than any other currently operational U.S. rocket.

CAPE CANAVERAL, Fla. — SpaceX successfully launched a new batch of 60 Starlink satellites into orbit today and nailed a rocket landing at sea to cap the mission.

The extra-sooty Falcon 9 rocket — whose first stage had already flown three times before today's mission — lifted off at 3:30 p.m. EDT from NASA's Kennedy Space Center, its white exterior marred by its previous trips through the atmosphere. The launch marked the 84th Falcon 9 flight, making SpaceX's workhorse rocket the most flown U.S. rocket in use today.

It was smooth sailing for SpaceX's Starlink satellites in today's launch, unlike the company's last flight. On that mission, one of the nine first-stage engines on the Falcon 9 shut down early. SpaceX engineers later determined that a small amount of isopropyl alcohol (a cleaning agent) was trapped in an area it could not flow through, causing the early engine shutdown.

Today's flight is the seventh operational Starlink mission, bringing the total number of satellites launched for the nascent broadband network up to 422. https://www.space.com/space-starlink-satellites-launch-rocket-landing-success-april-2020.html

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Musk says SpaceX is 'fixing' brightness from satellites 23 April 2020

Responding to a question about the brightness of the Starlink satellites on Twitter, Mr Musk said it was due to the angle of the satellites solar panels, and the company was "fixing it now". The project aims to eventually create a network of 12,000 satellites that beam broadband internet access back to Earth.

SpaceX is working on a "sunshade" that will reduce reflection of satellites sent in future launches. According to astronomers, the visibility of the satellites now is less of a problem for them than it will be as the constellation grows and becomes operational.

"Astronomers' cameras are designed to take pictures of really faint thing and bright light could ruin data," explained Dr Jonathan McDowell an astronomer at the Centre for Astrophysics at Harvard University. "I applaud the fact that [SpaceX] has really been trying to find ways to make them less bright," he said.

Wednesday's launch from Cape Canaveral, Florida was the fourth for Starlink this year and the seventh time it has sent a large batch of the spacecraft into orbit.
https://www.bbc.com/news/technology-52391758

COVID-19 fast-tracks N. Carolina Zipline, Matternet, Flytrex drone deliveries Sean Captain Apr. 22nd 2020

The North Carolina Department of Transportation just announced test programs with three leading companies in the nascent drone delivery industry. The programs, slated to begin sometime in May, are all in response to the needs of the COVID-19 pandemic. Two are in conjunction with medical facilities, and one is a pilot food-delivery program to enable social distancing.

In Charlotte, Zipline will deliver personal protective equipment around the campuses of the Novant Health medical network.

Drone company Matternet will take to the skies in Raleigh and the town of Garner. This takes advantage of an existing partnership between Matternet and UPS. The companies have previously made medical deliveries on WakeMed's campus in Raleigh. Now the service will expand to runs between WakeMed's main hospital in Raleigh and its Healthplex in Garner.

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Flytrex will make food deliveries from several restaurants in a shopping center to nearby neighborhoods in the town of Holly Springs.

The drone companies and their partners will be funding all three projects. The North Carolina Department of Transportation is providing oversight. The goal is to take lessons from these operations and expand them to drone delivery efforts across the country.
https://dronedj.com/2020/04/22/zipline-matternet-flytrex-start-drone-deliveries-north-carolina/?mkt_tok=eyJpIjoiWkRCaU1EWTJPVFF6T1dZMiIsInQiOiIrd3BmSUZyM0dsNkhsYzc0RmE2bVpLUktkZzdBMWEwXC85bnFEZThwNTY1V2FsbGpCMU0xWk94MHpOZXpncGRpRWJZbkhSeDVrV1pKNzZTTTNOa3ptemIrdUtHUnlmRHhVK1BNalVZNmxLaXFibGFrc0Q2MnhnNEtWUU9JN0c2RngifQ%3D%3D

Anemoment's TriSonica Mini Sensor Provides Real-Time Atmospheric Data APRIL 21, 2020 Danielle Gagne

EMRC Heli's hexacopter outfitted with weather sensor package.

Most pilots rely on local weather forecasts to determine whether or not it is safe to fly, and there are a number of applications out there that can give up to date information about flying conditions.

It is still difficult to obtain accurate, real-time weather notifications for hazardous, localized weather conditions like strong gusts. The TriSonica Mini claims to be the world's smallest and lightest 3D ultrasonic anemometer, and it is capable of providing drone pilots with real-time localized weather and wind data that can help them make in-flight decisions and corrective actions.

Having an onboard wind and weather sensor can also add value to the data being collected. Sensors are capable of helping with a variety of data collection needs, from determining the location of a methane gas leak to predicting where things like fire, debris, and even contagions (like COVID-19) will spread. To find out more about the various applications and use cases of the TriSonica Mini and the kind of data it produces we spoke with the team at Anemoment and some of their clients. See the interview:
https://www.commercialuavnews.com/energy/anemoment-s-trisonica-mini-wind-and-weather-sensor-provides-real-time-atmospheric-data-during-drone-flights?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiWkRCaU1EWTJPVFF6T1dZMiIsInQiOiIrd3BmSUZyM0dsNkhsYzc0RmE2bVpLUktkZzdBMWEwXC85bnFEZThwNTY1V2FsbGpCMU0xWk94MHpOZXpncGRpRWJZbkhSeDVrV1pKNzZTTTNOa3ptemIrdUtHUnlmRHhVK1BNalVZNmxLaXFibGFrc0Q2MnhnNEtWUU9JN0c2RngifQ%3D%3D

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FAA issues first COVID-19 related drone waiver Sean Captain Apr. 23rd 2020

The Federal Aviation Administration is a very conservative organization, and rules for commercial drones are strict. But the agency does have a mechanism for issuing waivers to these rules. And it appears that the FAA has finally issued its first COVID-19 drone waiver.

On April 5, an unnamed oil and gas company asked for a waiver to use drones for inspecting its equipment. With workers kept inside due to lockdown orders, robots were the only choice. The FAA approved the waiver within 24 hours. That's something the agency has promised to do when emergencies arise but not something we have seen much of.

The waiver specifically mentions COVID-19, and the Financial Times reports that this is the first waiver issued in response to the pandemic. It grants the company the ability to operate drones "beyond visual line of sight." The pilot can rely on the drone's camera to navigate and does not have to be able to see the drone with the naked eye. The waiver extends "to June 30, 2020 or the expiration of the federal, state, or local COVID-19 recommendations or requirements." The inspection drones are provided by US-Israeli start-up Airobotics.
https://dronedj.com/2020/04/23/faa-issues-first-covid-19-drone-waiver/

24Apr20

AeroVironment launches Quantix Recon, a military variant of its farm surveying drone Garrett Reim 23 April 2020

AeroVironment has launched its Quantix Recon unmanned air vehicle, a military variant of its farm surveying drone. The tail-sitting, vertical-take-off-and-landing UAV requires little to no training to operate, the company says.

The drone is based on the company's Quantix, a civilian UAV designed to help farmers survey crops. The Quantix Recon is able to do aerial reconnaissance using automated flight paths and two 18-megapixel cameras that can capture true color and multispectral images."

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Quantix Recon addresses high-resolution mapping and image collection in both full color and multispectral bands, whereas our other Group 1 [UAVs] are designed to deliver real-time, full-motion video," the company says. "This high-resolution mapping requires flight controls and image processing, [via particular hardware and software], that are tailored to this distinct mission, creating consistent imagery that is georectified in near real-time onboard the aircraft."

AeroVironment says the drone can fly radio silent by relying on its GPS for navigation. The company is touting that feature as a means to avoid detection and radio frequency jamming. Also, the ability to fly disconnected from a radio controller increases the range out to 10.8nm for out-and-back flights or 21.6nm for one-way flights, compared to the 1.1nm radio-range limit on the commercial type.

The drone has a battery pack that gives 45min of flight endurance. The UAV can fly at altitudes ranging from 150ft to 800ft in winds up to 20mph. The company says it is nearly inaudible at 360ft above ground level. https://www.flightglobal.com/military-uavs/aerovironment-launches-quantix-recon-a-military-variant-of-its-farm-surveying-drone/138024.article

Orbital UAV and Northrop Grumman launch new partnership 23rd April 2020 The Shephard News Team

Australia-based Orbital UAV on 23 April announced that it is teaming up with Northrop Grumman to develop a new hybrid UAV propulsion system. The system will be designed for use in VTOL UAS and will combine electric motors with the Orbital UAV-developed heavy fuel engine. Prototype development work will take place at Orbital UAV sites in Perth, Western Australia.

Orbital UAV plans to deliver two prototypes of the system in 2021, with flight tests to follow.

Rob Sova, director of the Autonomous Systems operating unit at Northrop Grumman, said that the US company is 'developing the next-generation of VTOL UAVs'.
https://www.shephardmedia.com/news/uv-online/orbital-uav-and-northrop-grumman-launch-new-partne/

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