



UAS and SmallSat Weekly News

Contents

- 2 Heathrow deploys Aaronia end-to-end anti-drone systems
- 2 Drone crop scouting app 'Skippy Scout' lands on market
- 3 Citadel Defense Secures \$9.2M Order for Titan C-UAS Systems
- 3 Drone helps in arrest of suspected prowler in Oxnard, California
- 4 Coronavirus: China's tech fights back
- 4 This New Coronavirus Spy Drone Will Make Sure You Stay Home
- 5 VIDEO: Police drones direct Madrid's coronavirus lockdown
- 5 Could a commercial drone replace the MQ-9 Reaper? The Air Force is considering it.
- 6 UK's Split from EASA Likely to Increase Burden on European Air Taxi Startups
- 7 A new way to provide internet for the masses from space
- 7 Study predicts small drone market to reach \$22.5 billion by 2026
- 8 Ehang to Bring Passenger Drones to Seville, Spain
- 8 "Flatten the Curve" – AIRT and DRONERESPONDERS Step Up to Combat COVID-19
- 9 Poison-laden drones hunt invasive pests in New Zealand wilderness
- 10 K Street looks to ride coronavirus relief efforts
- 10 Applications Open for Drone X Challenge 2020 Phase III
- 11 The World Needs Drone Delivery Now
- 12 Drone Delivery Canada reassures stakeholders with positive coronavirus statement
- 12 Drones in Brisbane to drop dye markers in life saving effort
- 13 Edgybees partners with US Air Force
- 13 This Cargo Drone Application Could Change this Huge Enterprise Sector
- 14 DELAIR and BASF Partner to Advance Agricultural Research with Drone Data
- 14 Researchers from Edinburgh University use drones to map Andes glaciers
- 15 Amid pandemic, SpaceX launches another batch of Starlink satellites
- 16 Drones in Healthcare
- 17 How Drones Are Helping To Prevent Coronavirus Spreading
- 17 DRONELIFE Exclusive: How Drones Will Change Power Line Stringing Forever
- 18 Drone Racing League launches DRL Academy
- 19 Ascent Makes UAM Plans With eVTOL Group Urban Aeronautics
- 19 Altitude Angel to offer 'unrivalled picture of airspace' with new Involi partnership
- 20 AeroVironment And Draganfly Announce Agreement For Distribution Of Quantix Mapper



UAS and SmallSat Weekly News

14Mar20

Heathrow deploys Aaronia end-to-end anti-drone systems APPLICATION BUSINESS COUNTER-DRONE INTERNATIONAL NEWS ALEX DOUGLAS MARCH 13, 2020



The system works by detecting and tracking drones in surrounding airspace and alerting airports of unauthorized drone use quickly and efficiently.

It also works to locate the drone pilots themselves and can be used to identify their location.

Aaronia explained how the technology has been specifically designed for Heathrow Airport and comprises of a variety of leading counter drone technologies, including systems from Aaronia as a central component of this anti-drone architecture.

https://www.commercialdroneprofessional.com/heathrow-deploys-aaronia-end-to-end-anti-drone-systems/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-325858-Commercial+Drone+Professional+DNA+-+2020-03-13

Drone crop scouting app ‘Skippy Scout’ lands on market APPLICATION HEADLINE NEWS UK ALEX DOUGLAS MARCH 13, 2020



It is an app that flies a drone out autonomously and allows for scouting of crops automatically.

Announcing the news, Jack Wrangham, founder of Skippy Scout, explained how the app was “fast and easy to use,” “fully automated,” “leaf-level detail” and can be used with off-the-shelf drones. Crowdfunding was used to allow the business to develop new features, hire new talent in-house and take the platform to market.

On the reasons for using a crowdfunding campaign, Wrangham explained: “Crowdfunding allows anyone to invest and to share in our success. We truly believe that Skippy Scout can bring huge improvements to efficiency in agriculture and food production, which is in everyone’s interest as we try to feed a growing global population.”

https://www.commercialdroneprofessional.com/crop-scouting-app-skippy-scout-lands-on-market/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-325858-Commercial+Drone+Professional+DNA+-+2020-03-13



UAS and SmallSat Weekly News

Citadel Defense Secures \$9.2M Order for Titan C-UAS Systems March 12, 2020

Counter UAS



Malicious use of small drones continues to impact military, government and commercial operations. After extensive testing, evaluation and operational assessments from over two dozen customer groups, Citadel Defense received **\$9.2M** in orders for their C-UAS capabilities in the first two months of the year.

Citadel's [Titan C-UAS technology](#) will be used to protect assets in urban, rural and maritime environments. As new drones are released to the market, Titan develops new software to address the threats. If Titan's algorithms do not detect the threat right away, the company explained that it can deliver an end-to-end capability in 72 hours for most drones and less than 4 weeks for the most complex drone signals. The use of AI, deepnets and adaptive countermeasures can address the needs of the small unit, a large base or mobile vehicle. https://uasweekly.com/2020/03/12/citadel-defense-secures-9-2m-order-for-titan-c-uas-systems/?utm_source=rss&utm_medium=rss&utm_campaign=citadel-defense-secures-9-2m-order-for-titan-c-uas-systems&utm_term=2020-03-13

Drone helps in arrest of suspected prowler in Oxnard, California Haye Kesteloo Mar. 13th 2020



On Thursday morning, the Oxnard Police Department arrested a man for suspicion of prowling. Two residents in the Pleasant Valley Estates housing tracts saw the man suspiciously looking into the backyards of their neighbors' homes. They kept following the suspect and contacted the police, who later deployed a drone to help in the arrest of the man.

Once the police officers arrived, the suspect climbed fences into a backyard to flee. The officers set up containment perimeters and launched a drone to assist in the search. With the help of the drone, the police officers were able to track the fleeing suspect and coordinate with other officers to locate the man. He was contained in the backyard of the 800 block of Yale Place.

A police dog named Leo was used to pursue the suspect to surrender. The man was arrested for resisting arrest and an additional drug-related charge. He is now being investigated and is suspected in a series of recent burglaries and thefts in the neighborhood.



UAS and SmallSat Weekly News

<https://dronedj.com/2020/03/13/drone-helps-in-arrest-of-suspected-prowler-in-oxnard-california/#more-25108>

15Mar20

Coronavirus: China's tech fights back Pratik Jakhar BBC Monitoring 3 March 2020

Disinfecting robots, smart helmets, thermal camera-equipped drones and advanced facial recognition software are all being deployed in the fight against Covid-19 at the heart of the outbreak in China.

Several Chinese firms have developed automated technologies for contactless delivery, spraying disinfectants and performing basic diagnostic functions, to minimize the risk of cross-infection. MicroMultiCopter, in Shenzhen, is deploying drones to transport medical samples and conduct thermal imaging.



China is using drones to detect if anyone has a fever

Alibaba, the Chinese e-commerce giant, claims its new **AI-powered diagnosis system** can identify coronavirus infections with 96% accuracy. Its founder Jack Ma has just announced that his charity, the Jack Ma Foundation, [will donate \\$2.15m \(£1.6m\) towards the development of a vaccine.](https://www.bbc.com/news/technology-51717164)

This New Coronavirus Spy Drone Will Make Sure You Stay Home Zak Doffman Contributor Cybersecurity Mar 5, 2020



XINHUA NEWS AGENCY

China's vast surveillance industry fuels [the biggest and boldest experiment in population monitoring and control the world has ever seen](#). China's security and surveillance giants have a real-world laboratory to conduct their research and hone their technologies that is not available anywhere else.

If ever a country was fully prepared to establish who was where and when, meeting who and doing what, it is China. Where else would we find phone tracking and facial recognition used at vast scale to [monitor millions of people](#), or citizens loading software onto smartphones ["that dictates whether they should be quarantined or allowed into subways, malls and other public spaces."](#)



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And then we turn to the West. Police standing guard outside a Tenerife hotel to [enforce a quarantine](#), strong-arm [policing](#) as soon as it's deemed necessary, [action plans](#) and emergency measures [ready](#) to be put into action.



Shenzhen Smart Drone Cloud IIS

But for the pick of the coronavirus surveillance stories buzzing around this week, we need to go back to the source, to China.

The *South China Morning Post* [reported](#) on March 5 that the country is now adapting “surveying, mapping and delivery drones to **enforce** the world’s biggest **quarantine** and to contain the coronavirus outbreak.”

<https://www.forbes.com/sites/zakdoffman/2020/03/05/meet-the-coronavirus-spy-drones-that-make-sure-you-stay-home/#3fa481731669>

16Mar20

VIDEO: Police drones direct Madrid’s coronavirus lockdown APPLICATION EMERGENCY SERVICES EUROPE HEADLINE NEWS HEALTH ALEX DOUGLAS MARCH 16, 2020

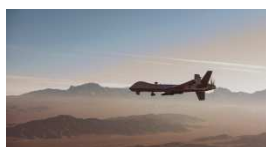


Drones have been used by police in Madrid to direct members of the public to stay at home.

The drones, deployed by Policia Municipal de Madrid, have been used to shout orders at anyone disobeying the state of emergency guidelines, announced over the weekend.

The drones were deployed in public areas, such as Buen Retiro Park, to urge people to return to their homes. With 297 deaths and close to 9,000 cases of infection, Spain is Europe’s **worst-hit country after Italy**. Europe is now described as the ‘epicentre’ if the pandemic. Watch the drones in action here: https://www.commercialdroneprofessional.com/video-drones-used-by-police-in-madrid-to-direct-coronavirus-lockdown/?utm_medium=push&utm_source=notifications

Could a commercial drone replace the MQ-9 Reaper? The Air Force is considering it. Valerie Insinna



WASHINGTON — The Air Force is looking for a replacement [to the stalwart MQ-9 Reaper](#) and intends to explore options ranging from commercial drones built by emerging tech firms to high-end unmanned



UAS and SmallSat Weekly News

aircraft, the service's top acquisition official said Tuesday.

Will Roper, the Air Force's assistant secretary for acquisition, technology and logistics, said the service is working on a study that [will inform the fiscal 2022 budget](#) and lay out a path for replacing the MQ-9 Reaper made by General Atomics.



There likely won't be a single, one-size fits all solution for replacing the MQ-9, Roper said. The Air Force may need drones that "are more high-end, military-unique" systems, and "they'll likely be expensive," he acknowledged. There may also be room for [unmanned attritable aircraft](#), which are reusable but are cheap enough that they can be shot down in battle without incurring massive financial losses.

For lower-end missions, the Air Force sees promise in the emerging unmanned systems market, where new entrants have begun creating long-loiter drones for applications in agriculture, communications and the oil and gas sector. By buying from promising commercial drone makers, the Air Force may be able to influence those companies to keep their supply chains out of China and to incorporate military-specific features — potentially even weapons. <https://www.airforcetimes.com/air/2020/03/12/could-a-commercial-drone-replace-the-mq-9-reaper-the-air-force-is-considering-it/>

UK's Split from EASA Likely to Increase Burden on European Air Taxi Startups

Brian Garrett-Glaser March 13, 2020



The United Kingdom will withdraw as a member of the European Union Aviation Safety Agency at the end of 2020, gradually transitioning responsibility for safety regulation and new aircraft type certification to its Civil Aviation Authority.

Transportation secretary Grant Shapps said the move would "bring expertise home," suggesting that much of the top talent at EASA is British. One of the things we'll want to do is be particularly forward-leaning in technology and automation. We'll make sure our legislative framework is in a great place to enable those kinds of organizations to excel in the UK market."

But urban air mobility developers in Europe — many of which are startups without the deep pockets of established aerospace companies — raised concerns about the impact the UK's withdrawal will have on their ability to certify their aircraft in multiple markets.

<https://www.aviationtoday.com/2020/03/13/uks-split-easa-likely-increase-burden-european-air-taxi-startups/>



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A new way to provide internet for the masses from space JACQUELINE FELDSCHER 03/13/2020



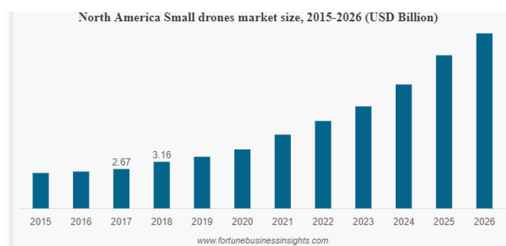
San Francisco-based Astranis, a microsatellite company founded in 2015, is set to launch its first satellite later this year to bring internet to parts of Alaska that now only have slow connectivity or no access at all.

Instead of launching a group of hundreds or thousands of satellites into low-Earth orbit, Astranis will launch **very small satellites** into a higher **geostationary** orbit for a constant presence over a particular country or state.

"Once you get to this size, the whole business model changes," said Gedmark, a former executive director of the Commercial Spaceflight Federation. "The satellite is just big enough to serve one country or a large U.S. state like Alaska, which is our first customer.

Astranis' Alaska satellite will launch at the end of the year on a SpaceX Falcon 9 rocket and start providing internet services in early 2021. Gedmark spoke about how Astranis' approach will lead to lower prices and why he's initially focusing only on commercial customers and not government agencies. <https://www.politico.com/news/2020/03/13/a-new-way-to-provide-internet-for-the-masses-from-space-127314>

Study predicts small drone market to reach \$22.5 billion by 2026 March 16, 2020 Jenny Beechener UTM and C-UAS market analysis



A study by Fortune Business Insights expects the small drone market to increase from \$6.46 billion in 2018 to \$22.55 billion in 2026. The company's Aerospace & Defense division says this reflects a compound annual growth rate of 15.92% over the forecast period.

A summary by Fortune Business Insights reports North America as the largest market, due to growing investments in the small drone by several business firms and rising research and development. Border surveillance and maritime surveillance is also boosting the market.

The Asia Pacific meanwhile shows fastest growth rates, attributed to high demand from emerging economies including China, India and Japan. China is the lead manufacturer of drones and has a wide range of applications and strong domestic policy which supports usage of small drones.



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Growth in Europe is also strong, with the UK revealing one of the largest fleets of small drones. The Middle East represents considerable growth opportunity and commercial applications are emerging in Africa and Latin America. For more information visit:

<https://www.fortunebusinessinsights.com/small-drones-market-102227>

<https://www.unmannedairspace.info/latest-news-and-information/study-predicts-small-drone-market-to-reach-usd22-5-million-by-2026/>

Ehang to Bring Passenger Drones to Seville, Spain Miriam McNabb March 16, 202



Guangzhou, China, March 16, 2020 — EHang Holdings Limited today announced that the company entered into a cooperation agreement with the city government of Seville, Spain to execute the first Urban Air Mobility pilot program in Spain.

The agreement specifies that EHang will work with the Seville government to develop urban air mobility including passenger transportation, air logistics and command and control platforms in the city. The city will also collaborate on applications for permission to conduct test flights, in accordance with Spanish and European legislation, and will coordinate in planning flight routes.

Furthermore, the company will perform an aerial light show to celebrate the 500th anniversary of Ferdinand Magellan’s voyage around the world, which started in Seville. EHang is honored to partner with Seville in celebrating its place in the history of exploration, and looks forward to working with Seville to make real a new phase in transportation technology.

<https://dronelife.com/2020/03/16/ehang-to-bring-passenger-drones-to-seville-spain-video/>

“Flatten the Curve” – AIRT and DRONERESPONDERS Step Up to Combat COVID-

19 Miriam McNabb March 16, 2020



In an email today, Airborne International Response Team Executive Director Christopher Todd described the actions that AIRT and its public services division, DRONERESPONDERS are taking to respond to the Presidential Declaration of a National Emergency issued on Friday, March 13 due to the coronavirus pandemic.

This weekend, the team compiled drone video shot at their home base in South Florida to produce “Flatten the Curve” – a Public Service Announcement to “increase community awareness of the need to maintain social distancing in an effort to help save lives surrounding



UAS and SmallSat Weekly News

COVID-19 penetration within the U.S. population.” For more information on the DRONERESPONDERS COVID-19 Task Force, please contact: taskforce@droneresponders.org.

AIRT is also stepping up to ensure that the drone army is ready to address future pandemics by tracking drone use cases in the emergency. We’ve seen drones equipped with loudspeakers used for public service announcements; modified crop spraying drones used for disinfecting large areas; and drones equipped with thermal cameras used to detect fevers; and delivery drones used to bring supplies to quarantined patients. As the crisis continues, more uses for drones may become apparent. <https://dronelife.com/2020/03/16/flatten-the-curve-airt-and-droneresponders-step-up-to-combat-covid-19/>

Poison-laden drones hunt invasive pests in New Zealand wilderness Haye Kesteloo

Mar. 14th 2020



A New Zealand startup called Environment & Conservation Technologies (ECT) has been awarded \$478,000 to come up with a drone solution designed to deal with the unique challenges of the Kiwi wilderness and unpredictable weather.

ECT has experience with similar projects in which drones were used in the Galápagos Islands. Using poison-laden mini-helicopter drones, ECT was able to drop 1.5 tons of bait over 450 acres in just two days to stop an **infestation of black and brown rats** that was a **threat** to the survival of a vulnerable **ground-dwelling bird population**.

According to Karl Campbell, the South American regional director of Island Conservation, the drones saved the conservation group hundreds of thousands of dollars and got the work done much faster and less intrusive than helicopters that were used before to eradicate pests. It is thought to be the **first time** in the world that poison-laden drones were used successfully to eradicate rats on the Galápagos Islands.

The mini-helicopter, poison-laden drone that is being developed for use in New Zealand’s back country will be able to carry more than 440 pounds of bait and only requires one drone pilot and an office worker to operate. The New Zealand government has been able to completely eradicate introduced pests from 117 offshore islands and is now targeting the mainland. The test program with the drone will take more than two years.



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What do you think of the use of poison-laden drones to eradicate pests? Do you see use for drones like this here in the United States? Let us know what you think in the comments below.

<https://dronedj.com/2020/03/14/poison-laden-drones-hunt-invasive-pests-in-new-zealand-wilderness/#more-25138>

17Mar20

K Street looks to ride coronavirus relief efforts THEODORIC MEYER 03/16/2020



Lobbyists for drone makers and hog farmers — not to mention the oil and gas industry, among others — are looking to hitch a ride on the federal government’s coronavirus response.

A drone industry group, called the Small UAV Coalition, [asked the Trump administration](#) this month to rush through consideration of **waiver requests** for drones to be operated at night, above people and beyond the operator’s line of sight, arguing that they could be used for deliveries of medical supplies or samples.

The Federal Aviation Administration has been working on rules governing such flights, but the industry had been frustrated at the slow rate of progress.

“The Coalition believes that [drones] may help deliver needed medicines and other medical supplies, as well as to deliver samples being used to develop a vaccine, even before a vaccine is developed for public use,” the group wrote in the letter.

<https://www.politico.com/news/2020/03/16/lobbyists-coronavirus-relief-efforts-131541>

Applications Open for Drone X Challenge 2020 Phase III 15 Mar 2020 Caroline Rees



Krypto Labs, the global innovation hub based in Abu Dhabi, has announced the shortlisted teams from Phase II of the [Drone X Challenge \(DXC\) 2020](#), and the opening of Phase III. This global \$1.5+ million challenge is pushing the frontiers of drone development, focusing on transportation and delivery.

The shortlisted teams from Phase II, where applicants were required to develop a viable drone system capable of achieving specific minimum endurance and payload carrying capacities, have automatically qualified to participate in Phase III – the final stage of the challenge, set to award \$1 million in prizes.



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During the second phase of the challenge, Krypto Labs received a total of **495 applications from 50 countries**, with the final shortlist including: ITRI (Industrial Technology Research Institute) from Taiwan, Weslax from Germany, Richen Power and Autoflight from China, Vulcan UAV from the United Kingdom, Forward Robotics and UAVita Systems from Canada, LAUREN (Tecnalia Electric Aircraft Lab) from Spain, and Avimech International Aircraft Inc from the USA.

Companies wishing to apply for Phase III will have to demonstrate the utilization of a drone in an innovative commercial application, while satisfying all the specifications of the chosen category. The finalists will be flown to Abu Dhabi to compete for the final grand prizes of \$1 million during a drone summit organized by Krypto Labs in Q4 of 2020.

https://www.unmannedsystemstechnology.com/2020/03/applications-open-for-drone-x-challenge-2020-phase-iii/?utm_source=UST+eBrief&utm_campaign=89a717543a-eBrief_2019_17Mar&utm_medium=email&utm_term=0_6fc3c01e8d-89a717543a-119747501

The World Needs Drone Delivery Now Miriam McNabb March 17, 2020



With “**social distancing**” the phrase of the week around the world, the time may have come for communities and governments to embrace drone delivery – not just for speed and convenience, but to protect themselves and vulnerable members.

The World Economic Forum has [published a blog post](#) highlighting the contributions that drones have made in the fight against COVID-19. “3 Ways China is Using Drones to Fight Coronavirus” brings out the contributions made by drone delivery in an environment where limiting human-to-human contact is of paramount importance.

In China, drone delivery company [JD](#) worked with government stakeholders to dramatically increase service areas to bring supplies to quarantined and isolated areas. “With the support of the local government, JD deployed its drone team. That team quickly conducted ground surveys, designed flight corridors, requested airspace access and conducted flight tests. In just a few days, several drone delivery corridors were put in place replacing hours-long drives with a 2 km flight that could be completed in just 10 minutes,” says the World Economic Forum’s article.

JD explains that the drones drop parcels at a fixed point, allowing customers to pick them up without human-to-human contact – which minimizes the risk for both the courier and the customer. <https://dronelife.com/2020/03/17/the-world-needs-drone-delivery-now/>



UAS and SmallSat Weekly News

Drone Delivery Canada reassures stakeholders with positive coronavirus

statement APPLICATION ALEX DOUGLAS MARCH 17, 2020



Drone Delivery Canada has released a statement in which it reassures its stakeholders that even before COVID-19, it had ‘robust health, safety and security protocols’ in place and is following all recommendations from Health Canada as the country deals with COVID-19.

Commenting, Michael Zahra, president and CEO, said: “The Company is in dialogue with Governments at various Ministries emphasizing that the current situation is an ideal use-case for our proven drone logistics solution to limit person-to-person contact; bring needed medical and pharmaceutical supplies to remote, rural and suburban communities; transport blood samples to laboratories for testing and deliver other relevant supplies needed to effectively manage the current situation.”

He added: “The Company commends all those fighting this pandemic, and we hope that you and your loved ones remain safe and healthy as Canada effectively navigates through this successfully.” <https://www.commercialdroneprofessional.com/drone-delivery-canada-issues-positive-coronavirus-statement-reassuring-stakeholders/>

Drones in Brisbane to drop dye markers in life saving effort

APPLICATION BUSINESS EMERGENCY SERVICES INTERNATIONAL NEWS ALEX DOUGLAS MARCH 17, 2020



As reported by the Brisbane Times, the drones have been developed by The Ripper Group, and CEO Ben Trollope told the local news source they had specially modified the drones for the work.

He explained: “Sea marker dye has been used for many years in marine search and rescue operations to see the direction of water currents. “We’ve taken the concept and custom-built a new system to go onto the smaller drones, so it’s accessible to organizations like Surf Lifesaving.”

The Ripper Group has been operating the larger sea dye drones for the past three years, and has been using the new smaller drones in trials for six months. A fleet of 51 drones is being deployed nationally. “Having that bird’s-eye perspective gives us the ability to spot hazards and identify potential risks, it just opens up another world to us.”

<https://www.commercialdroneprofessional.com/drones-in-brisbane-to-drop-dye-markers-in-life-saving->



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[effort/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-326045-Commercial+Drone+Professional+DNA+-+2020-03-17](https://www.commercialdroneprofessional.com/edgybees-partners-with-us-air-force/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-326045-Commercial+Drone+Professional+DNA+-+2020-03-17)

18Mar20

Edgybees partners with US Air Force BUSINESS FINANCIAL MILITARY NEWS UNITED STATES SAM LEWIS MARCH 18, 2020



This news comes after AFWERX awarded the Washington-headquartered Edgybees a number of other contracts at the end of last year. The latest contract is the largest yet, while 20 other small businesses have been slated to receive similar four-year fixed contracts with a combined worth of over \$550m.

The partnership will see the US Air Force take advantage of Edgybees' augmented reality software solution Argus. It will provide commanders detailed insight into operational environments by **augmenting live video footage** with layers of real-time geospatial information.

https://www.commercialdroneprofessional.com/edgybees-partners-with-us-air-force/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-326161-Commercial+Drone+Professional+DNA+-+2020-03-18

This Cargo Drone Application Could Change this Huge Enterprise Sector Harry McNabb March 17, 2020



[Drone Delivery Canada](#) has announced that the project with DSV Air & Sea will go live in March. It's a big step for the drone delivery company, which produces both hardware and software- and an even bigger move for the logistics and shipping industry – which some valuations estimate at more than \$40 billion.

Drone delivery has made major progress in recent years, but DSV's first paying customer isn't a pizza delivery service or even a healthcare facility. Danish company DSV Air & Sea is a global transport and logistics company, and their integration of drones into their workflow is an indication that the vertical could be a major adopter of unmanned systems in the near future.

DSV's new facility in Milton, Ontario, is the largest facility in the company's global network – and the largest multi-tenant warehouse in Canada. DDC has installed landing pads and battery management systems for their Sparrow drones, which can carry a cargo payload of up to 10



UAS and SmallSat Weekly News

pounds. The Sparrow will operate on the facility site to start and then perform pickup and delivery for customers. <https://dronelife.com/2020/03/17/cargo-drone-company-announces-first-revenue-generating-commercial-flights/>

DELAIR and BASF Partner to Advance Agricultural Research with Drone Data

Miriam McNabb March 18, 2020



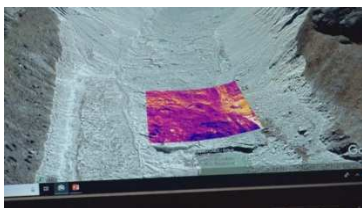
This week, French drone data services company Delair announced a major contract with German agricultural solutions firm BASF. “BASF’s agricultural research stations worldwide will now use the delair.ai cloud platform to streamline the information gained through drone-based field studies and scale up their projects for seeds, traits and crop protection,” Collet writes.

While precision agriculture was among the first major markets for the drone industry that has continued to expand. Regulations enabling flight beyond visual line of sight have made drones more useful for larger agricultural operations, and better data processing has enabled more applications. With this partnership, Delair will support BASF research projects world-wide, giving scientists access to data that could significantly advance innovations in agriculture.

See the Delair press release: <https://dronelife.com/2020/03/18/delair-and-basf-partner-to-advance-agricultural-research-with-drone-data/>

Researchers from Edinburgh University use drones to map Andes glaciers

Haye Kesteloo Mar. 18th 2020



[Researchers](#) from Edinburgh University have started to use drones to capture an aerial view of some of the highest glaciers in South America. Rosie Bisset is part of a project to map out the Andes glaciers that are shrinking because of global warming despite their high altitude.

In Peru, glaciers have shrunk by about 30 percent in the last couple of decades. This could have a devastating effect on local people according to Peter Nienow, a professor of geology at the University of Edinburgh. “Their retreat impacts downstream communities because they rely on the water resources for agriculture, for industry, and for hydroelectric power.”



Doctoral student, Rosie Bisset traveled to the Andes with her drones as she wanted to find out more about both the extent of the retreats and exactly

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
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UAS and SmallSat Weekly News

how glaciers are melting. Flying drones at around 15,000 feet present a major obstacle. “At that altitude the air is really thin, making it difficult to operate many drones,” she said. “So we collaborated with a local company called Skytec Aerial to help us build a drone that would cope with the high-altitude but also have the sensors we needed.”

Together with her assistant, Rosie climbed to the glaciers and brought the drones along. They spent a couple of nights in sub-zero temperatures to capture images in both visible and infrared light. She is now building a 3D digital model of the Llaca glacier.

“We can compare this to 3D models that were collected in previous years to tell us how the glacier’s structure and size is changing. Using the thermal imagery, we can generate a map of surface temperature on the glacier. This will tell us more about the properties of the surface and how it’s influencing the melt rates of the glaciers.”

<https://dronedj.com/2020/03/18/researchers-from-edinburgh-university-use-drones-to-map-andes-glaciers/#more-25255>

19Mar20

Amid pandemic, SpaceX launches another batch of Starlink satellites Jackie



Wattles, CNN Business March 18, 2020

SpaceX is racing against time — and now a pandemic — to build a satellite-internet business.

One of SpaceX's Falcon 9 rockets fired 60 [Starlink satellites](#) into Earth's orbit Wednesday, the sixth launch of its kind that Elon Musk's company has sent up over the past year. About 350 Starlink satellites now orbit Earth. They're all part of SpaceX's plan to beam cheap, high-speed broadband internet from space. The venture will sign up its first customers this year.

SpaceX plans to launch 24 dedicated Starlink missions this year, with each one carrying 60 satellites. But it's not yet clear if rocket launches will be impacted by the workplace closures and isolation orders that have halted much of the world's business activity as communities combat the spread of coronavirus.

Musk said in a tweet Wednesday that one of the rocket's nine first-stage engines ended up [shutting down prematurely](#) on the way to orbit — but it didn't impact the overall mission. Musk has long touted the Falcon 9's ability to fly, even if one or more of its engines



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malfunction. <https://www.cnn.com/2020/03/18/tech/spacex-launch-starlink-coronavirus-scn/index.html>

Drones in Healthcare João Antunes MARCH 17, 2020



With more than \$300 million invested since 2012, drone deliveries will become the fastest-growing application method within the drone market, according to [DRONEII's 2019 Drone Delivery report](#).

By using drones to deliver blood donations, vaccinations, medications, anti-venom solutions, organ transplants, and other medical supplies, the medical segment of drone delivery is gaining quite a bit of traction. Between drone service providers and business-internal services, there are more than **30 companies** using drones to deliver medical supplies. Here is a breakdown of a few medical delivery services.

A New Matternet Station By replacing slow and expensive on-demand courier services, hospitals can move blood diagnostics, pathology specimens and medicine between their facilities, and suppliers with secure, extremely fast and predictable aerial delivery.

UPS and Henry Schein Partner to Test Medical-Supply Drone Deliveries Under the oversight of the FAA, UPS Flight Forward and Henry Schein will explore methods to test final-mile delivery where traditional road transport may be less effective or timely, including health campuses, remote communities, or temporarily inaccessible areas due to natural disasters.

UC San Diego Health New Drone Project to Transport Medical Supplies [UC San Diego Health](#) launched a UAV between Jacobs Medical Center, Moores Cancer Center and the Center for Advanced Laboratory Medicine. Together with UPS and Matternet, the project will see drones following predetermined, low-risk flight paths within visual line of sight, under the [FAA's](#) Part 107 rules, with no cameras and monitored by remote operators. See more applications at: https://www.commercialuavnews.com/public-safety/drones-in-healthcare?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiWVRSbE5tUXINR1k0WWpaaCIsInQiOiI0WDBaUXpPdjljSFVubWpHV0g1MmtzNzhVSWp6dUtuRmJ3eG1SQ3QyUWo3MURvb3R6U1VUMTdLQ2FiYmV0Nk5aYm9QekJER3pyOVIRTWg3d3A3dm5od1ZES29TZ3JnUW9JODI2UzdjVzFucTc4Nm96ckRjeklmdm41aWFzUUVUNiJ9



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How Drones Are Helping To Prevent Coronavirus Spreading Jess Brown March 6, 2020



We have listed some ways in which drones are being utilised to aid the disease from spreading further:

Drones Delivering Light Drones have been used to hover over construction sites for two emergency hospitals being built in Wuhan and provide light for construction staff that were working through the night.

Drones Delivering Medical Supplies A technology company called [Antworks](#) has used a drone to transport medical supplies and patient samples from the People’s Hospital of Xinchang County and a local disease center. Antwork’s parent company [Terra Drone](#) has said that using a drone was 50% faster than roads and helped cut the risk of spreading the disease.

Drones Disinfecting Affected Areas [DJI](#) has pledged \$1.5 million in aid to help contain the outbreak and adapted its Agras series of agricultural spraying drones to spray chlorine or ethyl alcohol – based disinfectant in potentially affected areas.

Taking Temperatures Remotely With Thermal Drones Drones are being outfitted with thermal cameras and are being used to monitor body temperatures, allowing medical staff to identify new potential cases without having to touch those who may be infected.

Although we hope that another situation like this does not occur again, it is good to know that in the future, society can count on drones to help! <https://www.coverdrone.com/how-drones-are-helping-to-prevent-coronavirus-spreading/>

DRONELIFE Exclusive: How Drones Will Change Power Line Stringing Forever

Miriam McNabb March 19, 2020

DRONELIFE spoke with Matt Dunlevy, President and CEO of [SkySkopes](#), consistently named one of Frost & Sullivan’s Top 5 Drone Service Providers globally. SkySkopes was the first drone services company to perform power line stringing in the U.S., working with forward thinking energy companies like Xcel Energy and Duke Energy.



“We use multiple UAS to carry a lead line onto a pulley system’s guide rail and trip the spring loaded “gate” by exerting force created by the drone’s directed thrust and lift characteristics. When the line is maneuvered to the middle of the pulley, a pilot drops the end not suspended in the air using some of our



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proprietary technology. The line can then pull a conductor wire through and voila – a powerline is closer to being energized. These lines were some of the most massive in the country: and at 765 kV, they proved that the mission can be done with UAS on any type of power line.”

“The flight first takes place at the base of the structure, and then, depending on battery power and endurance, the aircraft will ferry the line in the air to the next tower in the corridor. After the aircraft detaches the line, it lands: we replace batteries, rinse, and repeat. Weather, terrain, daylight, climate, and other factors affecting UAS missions in general are magnified when stringing lines. Sometimes the line itself, a pseudo-tether, can act as a safety measure in case a UAS would want to fly away.”

As more companies learn about the potential for power line stringing – and execute their own pilot programs– drones could change the way that power line stringing is done around the world. It’s an application with benefits for all stakeholders: power line workers, power companies, their customers and the drone industry. <https://dronelife.com/2020/03/19/dronelife-exclusive-how-drones-will-change-power-line-stringing-forever/>

Drone Racing League launches DRL Academy Josh Spires Mar. 19th 2020



The [Drone Racing League](#) has announced its latest venture, the DRL Academy, a [STEM program](#) for students studying science, engineering, and [unmanned aircraft technology](#). DRL has also partnered with various education groups to integrate the DRL Academy into **school curriculums** as quickly as possible.

DRL has also announced a partnership with [Eduscape](#) to allow students to access to engaging and educational content from home as a result of the coronavirus. DRL CEO and Founder, [Nicholas Horbaczewski](#) had the following to share on the DRL Academy and what to expect from it in the near future.

“Drone racing is the ultimate sport to facilitate STEM programming and **inspire students** to learn about robotics, engineering, and physics. Through DRL Academy, we’ll leverage our cutting edge drone technology, custom content and futuristic sports competition to provide teachers and students with a digital-first curriculum during this challenging time and beyond.”



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DRL has also partnered with the National Geospatial Technology Center of Excellence and West Valley College in an effort to support teachers that need educational content and activities throughout the semester. <https://dronedj.com/2020/03/19/drone-racing-league-launches-drl-academy/>

20Mar20

Ascent Makes UAM Plans With eVTOL Group Urban Aeronautics Charles A 4 PM



Hydrogen-powered eVTOL aircraft developer Urban Aeronautics has launched a partnership with Singapore-based helicopter charter booking service Ascent to develop urban air mobility services in Asia. The Israel-based company's Metro Skyways subsidiary is developing the six-seat CityHawk eVTOL model,

which it believes will be well suited to **autonomous** air taxi operations.

Ascent's app currently allows travelers to book individual seats on chartered helicopters in several Southeast Asian countries. Along with Urban Aeronautics, the company believes that autonomous eVTOL aircraft could lower the price point for air taxi rideshare flights to as little as **\$2 per mile** for each passenger.

In a March 18 announcement, the companies did not explain what work their partnership will cover, beyond indicating that Ascent's market analysis may drive refinements to the design for the CityHawk. Urban Aeronautics has not published a detailed timeline for when it intends to achieve service entry with the aircraft. <https://www.ainonline.com/aviation-news/business-aviation/2020-03-19/ascent-makes-uam-plans-evtol-group-urban-aeronautics>

Altitude Angel to offer 'unrivalled picture of airspace' with new Involi partnership NEWS SOFTWARE TECHNOLOGY UK SAM LEWIS MARCH 20, 2020



The duo has a proven track record of working successfully together – on the Gulf of Finland trials last year as well as at the African Drone Forum and Lake Kivu Challenge 2020.

This new partnership will provide an 'unrivalled picture of airspace' for ANSPs, operators, pilots and drone-centric risk management applications.



UAS and SmallSat Weekly News

It will integrate Involi's low-altitude air traffic awareness data stream with Altitude Angel's airspace and ground hazard data via the latter's GuardianUTM platform. Altitude Angel will also be able to propagate data from Involi to other applications and partner platforms, including, DroneSafetyMap.com and Guardian App.

Richard Parker, who founded Altitude Angel in 2014 and is its CEO, said: "Strategic partnerships, like the one we have formed with Involi, are a clear demonstration of how two businesses with a mutual vision for future drone flights can collaborate and in doing so, move an **entire industry** forward. https://www.commercialdroneprofessional.com/altitude-angel-to-offer-unrivalled-picture-of-airspace-with-new-involi-partnership/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-326433-Commercial+Drone+Professional+DNA+-+2020-03-20

AeroVironment And Draganfly Announce Agreement For Distribution Of Quantix Mapper

March 19, 2020 News



AeroVironment, Inc., a global leader in unmanned aircraft systems, and Draganfly, a manufacturer within the unmanned vehicle sector, today announced a teaming agreement for Draganfly's distribution of AeroVironment's Quantix Mapper systems to commercial markets worldwide.

Under the teaming agreement, AeroVironment will provide Draganfly sales, marketing collateral and product technical support for the Quantix Mapper system. Draganfly will provide e-commerce, enterprise and direct sales operations and oversee development of a network of resellers and strategic distribution partners worldwide.

In advance of the approaching agriculture season in the Northern Hemisphere, Draganfly has procured a significant number of Quantix Mapper systems from AeroVironment. Draganfly plans to expand commercial distribution of Quantix Mapper to the Southern Hemisphere over the next year and to other industries including environmental resource management, oil & gas, construction, insurance and public safety. https://uasweekly.com/2020/03/19/aerovironment-and-draganfly-announce-agreement-for-distribution-of-quantix-mapper/?utm_source=rss&utm_medium=rss&utm_campaign=aerovironment-and-draganfly-announce-agreement-for-distribution-of-quantix-mapper&utm_term=2020-03-19