



## UAS and SmallSat Weekly News

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### Dominion Energy Completes First Offshore Wind Project in U.S. Federal Waters



VIRGINIA BEACH, Va., June 29, 2020 /[PRNewswire](#)/ -- Dominion Energy announced today the successful installation of the two turbine, 12-megawatt [Coastal Virginia Offshore Wind](#) (CVOW) pilot project 27 miles off Virginia Beach. The first offshore wind farm to be approved by the Bureau of Ocean Energy Management (BOEM) and installed in federal waters, and second constructed in the

United States, was built safely and on schedule despite the worldwide impact from the coronavirus pandemic. The turbines will now undergo acceptance testing before being energized later this summer and producing enough clean, renewable energy, at peak output, to power 3,000 Virginia homes.

Dominion Energy will apply the valuable permitting, design, installation and operations experience from the pilot project to its proposed 2,600-megawatt commercial project. That project, which is the largest announced offshore wind project in North America, is on track to commence construction in 2024, and upon completion, will provide enough renewable electricity to power up to 650,000 homes. <https://news.dominionenergy.com/2020-06-29-Dominion-Energy-Completes-Construction-of-First-Offshore-Wind-Project-in-U-S-Federal-Waters>

See the [drone video](#) at <https://vimeo.com/432484731> from Jimmy Olivero, Owner/Chief Pilot, LyftedMedia.com, contracted with Dominion Energy and Orsted.

### States Play Catch-Up to Industry in Adoption of Drone Technology [Miriam McNabb](#)

July 02, 2020 By DRONELIFE staff writer, Jim Magill



Over the past decade, industry has embraced the use of unmanned aerial vehicles, or drones, to do everything from detect for leaks in natural gas pipelines to inspect electric transmission towers, but it has only been within the last few years that state agencies that regulate those same industries have begun to use drones in their own oversight work.

The Texas Railroad Commission, the agency that regulates the operations of the state's far-flung oil and gas industry, earlier this year launched its first drone program. The Commission



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employs a fleet of eight drones, six DJI Mavic 2 Dual Enterprise Edition drones and two Mavic 2 Enterprise Zoom drones, to help inspectors respond quickly to view oilfield sites made unsafe or inaccessible due to fires, flooding and other natural disasters.

In Alaska, where the oil and gas industry has been employing drones in its operations since the early years of the last decade, the state has recently begun work to coordinate all the UAV programs operated by its various agencies.

The North Dakota Industrial Commission's Department of Mineral Resources began its drone program in 2017. The department operates a fleet of six DGI Phantom 4s quadcopters; five are maintained by the DMR's Oil & Gas Division and one by the North Dakota Geological Survey.

The Oil and Gas Division employs its UAVs to conduct pre-site inspections, inspect oilfield reclamation sites and spills and survey a region's topography for geohazards hard to discern from ground level. While the state's drone fleet is currently only equipped with visual cameras, the state is considering purchasing a fixed-wing aircraft outfitted with a multi-spectral sensor or LIDAR. <https://dronelife.com/2020/07/02/states-play-catch-up-to-industry-in-adoption-of-drone-technology/>

### **Mars Is About to Have Its 'Wright Brothers Moment'** Kenneth Chang June 23, 2020

As part of its next Mars mission, NASA is sending an experimental helicopter to fly through the red planet's thin atmosphere.



*An animation depicting the test flight of NASA's Ingenuity helicopter on Mars. Video by NASA/JPL-Caltech*

As part of its next mission to Mars, leaving Earth this summer, the space agency will attempt to do something that has **never been done before**: fly a helicopter through the rarefied atmosphere of Mars. If it works, the small helicopter, named Ingenuity, will open a new way for future robotic explorers to get a bird's-eye view of Mars and other worlds in the solar system.

Flying on Mars is not a trivial endeavor. There is not much air to push against to generate lift. At the surface, the atmosphere is just 1/100th as dense as Earth's. The lesser gravity — one-third of what you feel here — helps with getting airborne. But taking off from the surface of Mars is the equivalent of flying at an altitude of 100,000 feet on Earth. No terrestrial helicopter has ever flown that high.



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The copter will hitch a ride to the red planet with Perseverance, the fifth robotic rover NASA has sent there. The mission is scheduled to launch on July 20, one of three missions headed to Mars this year. [https://www.nytimes.com/2020/06/23/science/mars-helicopter-nasa.html?surface=home-discovery-vi-prg&fallback=false&req\\_id=290859139&algo=identity&imp\\_id=637674284&action=click&module=Science%20%20Technology&pgtype=Homepage](https://www.nytimes.com/2020/06/23/science/mars-helicopter-nasa.html?surface=home-discovery-vi-prg&fallback=false&req_id=290859139&algo=identity&imp_id=637674284&action=click&module=Science%20%20Technology&pgtype=Homepage)

### Draper and the Department of Defense Work Together on Military Drones July 2, 2020 Military News



The goal is to provide soldiers with an unmanned system that can fit in a backpack and serve as eyes and ears in areas too dangerous for troops to physically enter, such as suspicious buildings or a turn in the road ahead. [Draper](#) is working with the Department of Defense under a three-year contract to address these challenges—and improve [UAVs](#)—by focusing on the most challenging aspects of **autonomous navigation**.

Draper’s engineers demonstrated their software on a small UAV to navigate narrow interiors in simulated urban environments, create 3D maps of their interior, identify and avoid objects and return autonomously to base. Unmanned systems equipped with Draper’s autonomy architecture and software package need no remote pilot, no GPS guidance, no communications link for navigation and no pre-programmed map of the area—the onboard software, lightweight processor and low-cost sensors do all the work autonomously in real-time.

“The new generation of small UAVs need to be able to fly independently and plan an obstacle-free route in real-time without any prior knowledge of the environment,” said Jon Cash at Draper. “The goal is closed-loop and fully autonomous flight, but until now that goal has been out of reach for the UAV community.” [https://uasweekly.com/2020/07/02/draper-and-the-department-of-defense-work-together-on-military-drones/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=draper-and-the-department-of-defense-work-together-on-military-drones&utm\\_term=2020-07-03](https://uasweekly.com/2020/07/02/draper-and-the-department-of-defense-work-together-on-military-drones/?utm_source=rss&utm_medium=rss&utm_campaign=draper-and-the-department-of-defense-work-together-on-military-drones&utm_term=2020-07-03)

### Victorian police to use drones to monitor COVID-19 hotspots Josh Spires Jul. 3rd 2020



As COVID-19 rise in what’s being called the second wave in Australia, police are turning to drones to help. **One thousand extra police will be deployed alongside the drones** to stop the spread of the virus.



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The Victorian state government has sent in the army to ensure those who are in coronavirus hotspots aren't leaving the area unless it's for work or shopping for essentials. The government has also deployed 1,000 extra police officers roaming the streets and drones monitoring public spaces from above to ensure people are isolating.

Many of the states in Australia have used drones to manage the COVID-19 pandemic, with Western Australia police using drones to ensure the public are following social distancing laws. Drones were also looked at as a possible method to disinfect streets and Australian malls. Australian company Swoop Aero has come up with a plan to use its medical drones to deliver COVID tests around the country. <https://dronedj.com/2020/07/03/victorian-police-to-use-drones-to-monitor-covid-19-hotspots/>

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### India deploys helicopter, 12 drones to stop fast-spreading locusts July 01, 2020

World



**NEW DELHI:** India on Tuesday deployed a helicopter and a dozen drones spraying insecticide to stop desert locusts that have spread to nine heartland states of the world's second-biggest producer of rice and wheat.

India, battling its worst desert locust outbreak for decades, pressed into service **12 drones** to track the movement of locusts and spray insecticides on the swarms. The locust infestation has not caused significant damage so far because it has fallen in the lean season – the gap between the previous harvest and the next planting season.

Representatives from India, Iran, Pakistan and Afghanistan have had weekly talks to try to stem locust swarms across the wider region.

The U.N. Food and Agriculture Organization has warned of **a new wave** of locusts coming across the Indian Ocean from Somalia just as farmers are planting an array of summer crops.

[https://thehimalayantimes.com/world/india-deploys-helicopter-12-drones-to-stop-fast-spreading-locusts/?utm\\_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm\\_campaign=72dc20d67b-](https://thehimalayantimes.com/world/india-deploys-helicopter-12-drones-to-stop-fast-spreading-locusts/?utm_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm_campaign=72dc20d67b-)

[EMAIL CAMPAIGN 2020 07 05 12 57&utm\\_medium=email&utm\\_term=0\\_2ecada6f57-72dc20d67b-33089729](https://thehimalayantimes.com/world/india-deploys-helicopter-12-drones-to-stop-fast-spreading-locusts/?utm_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm_campaign=72dc20d67b-33089729)



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### Israel Unveils Airspace-Compliant Big Drone Russ Niles July 6, 2020



An Israeli company says its new Bonanza-sized drone can mix it up safely with regular civilian air traffic thanks to a **triple redundant** detect-and-avoid system to keep out of the way. The StarLiner from Elbit Systems is compliant with NATO's Standardization Agreement known as STANAG 4671, meaning it is approved for missions where airliners and other civilian aircraft fly, [according to Yahoo News](#). The

idea is to push the envelope for large-drone operations to allow them to carry out missions in more developed areas. The possibilities are endless, of course, and several countries have already placed orders.

Based on the 2500-pound Hermes 900, the aircraft can fly for 36 hours as high as 30,000 feet powered by a diesel engine. It has "radar cooperative and non-cooperative Detect and Avoid features for Remotely Piloted Aircraft Systems" and is specifically designed to fly in regular airspace. Although it meets the NATO standard, individual countries will have to approve the sorts of operations envisioned by Elbit. <https://www.avweb.com/aviation-news/israel-unveils-airspace-compliant-big-drone/?MailingID=389>

### Business of drones gets boost in Dubai as emirate passes new law APPLICATION HEADLINE NEWS INTERNATIONAL NEWS ALEX DOUGLAS JULY 6, 2020



The law, issued by Ruler of Dubai Sheikh Mohammed bin Rashid Al Maktoum, aims to reduce risks associated with drone activity and specifies the duties and responsibilities of relevant authorities. As reported by [Arabian Business](#), it will also help promote Dubai as a hub

for drone manufacturing, smart transportation and innovation, as well as enable public and private entities to use drones and provide drone-related services.

Dubai Civil Aviation Authority will oversee the implementation of the law and manage all related operations and activities. Dubai Air Navigation Services will establish the airspace within which drones can operate. It will also provide air traffic movement and meteorological information to drone operators. Dubai Aviation Engineering Projects will set out the



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specifications, standards and conditions for ‘Drone Airports’ and present them to the DCAA for approval.

Dubai Police will manage all the security aspects of drone activity and coordinate with the DCAA to put in place security measures to prevent the illegal use of drones and crimes committed by using drones, as well as measures to deal with the loss of control of drones, especially when they are flying outside their designated areas and not complying with regulations.

The DCAA, in coordination with Dubai Police, may allow government agencies to use drones for security, rescue, firefighting, surveillance or other purposes that are in the public interest.

<https://www.commercialdroneprofessional.com/business-of-drones-gets-boost-in-dubai-as-emirate-passes-new-law/>

### **Inventory Drones: Practical Help in Post-COVID Production** Miriam McNabb July 03, 2020



The idea of using robots for inventory isn’t new – and drones are becoming increasingly common in warehouses. Singapore’s Dexion Infinium Scan System claims to be the **world’s first** practical autonomous drone stocktaking system, successfully deployed since 2017.

In the midst of the COVID-19 crisis, however, inventory drones and autonomous systems for stocktaking and warehouse management have **become more critical**. In an effort to maintain continuity with fewer onsite staff – and less contact between them – [Chevron Oronite](#), Asia’s largest producer of lubricant additives, has deployed [Infinium Robotics](#)’ inventory drone solution.

Chevron Oronite has “just inked a three-year contract with Dexion -Infinium Scan System deploying an autonomous drone and a ground robot to conduct safe and cost-effective automation of inventory counts,” says an Infinium release. “The Dexion Infinium Scan™ Inventory Management Robotics System, as it is called, is an ideal solution during this unprecedented crisis where warehouses are working with limited manpower and having to abide by safety distancing and business continuity protocols.”



Wong Su Leong, Team Lead, Procurement Operations of Chevron Oronite Singapore, said: “With the Infinium Scan Inventory system, we have drastically reduced our costs and time in stocktaking. What could take days to complete, can be completed in hours with the automated drone



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stocktaking system.” <https://dronelife.com/2020/07/03/inventory-drones-practical-help-in-post-covid-production/>

### **NASA preparing second round of smallsat launch services program** Jeff Foust July 2, 2020



WASHINGTON — NASA plans to issue multiple contracts in the coming months for smallsat launch services in the second phase of a program intended to support the emerging small launch vehicle industry. NASA’s Launch Services Program released [a draft request for proposals July 1](#) for its proposed Venture Class Launch Service Demonstration 2 procurement. The agency requested comments on the draft RFP by July 14, and will host an online industry day discussion July 7.

The RFP mentions two classes of missions. One would be a dedicated launch of a set of cubesats weighing 30 kilograms, placing them into a 500-kilometer orbit at an inclination of between 40 and 60 degrees.

The second mission would carry two separate constellations of cubesats. One, called Constellation A, would weigh 75 kilograms and be placed into a 550-kilometer sun-synchronous orbit. Constellation B, weighing 20 kilograms, would go into a similar orbit but with a plane change of at least 10 degrees. <https://spacenews.com/nasa-preparing-second-round-of-smallsat-launch-services-program/>

### **Sky-Futures to conduct telecoms inspections with new four-year contract**

APPLICATION DRONES AT WORK SAM LEWIS JULY 6, 2020



The global framework contract was awarded by a Scandinavian telecommunications company. It will see Sky-Futures working **worldwide**, using its bases in the USA, Europe, Middle East and South East Asia, as well as leveraging its ongoing experience conducting drone based operations in 31 countries.

Chris Blackford, Sky-Futures CEO, said: “Traditionally, conducting cell site surveys requires a team with several different skill sets and the need to climb the towers. With the introduction of drones, site surveys can now be completed with a much smaller team, collecting high quality data more quickly and more safely.” Sky-Futures will upload the data into AI-enabled cloud



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software. Engineers can then make decisions using the 3D-model tower data from a remote desktop without having to incur unnecessary site visits. This not only supports enhanced health and safety but also reduces costs through improved efficiencies of the global network build program. <https://www.commercialdroneprofessional.com/sky-futures-to-conduct-telecoms-inspections-with-new-four-year-contract/>

### **Solar sail spacecraft begins extended mission** Jeff Foust July 2, 2020



WASHINGTON — A smallsat launched a year ago to demonstrate solar sail technologies continues to operate and is now beginning an extended mission. LightSail 2, a cubesat launched in June 2019 to demonstrate that a solar sail could change the orbit of a spacecraft, formally started an extended mission June 25, the one-

year anniversary of its launch on a Falcon Heavy as one of the payloads on the Space Test Program 2 mission.

LightSail 2 was deployed by another smallsat, Prox-1, days after launch and, later in July, deployed a 32-square-meter Mylar sail. The Planetary Society, which funded the mission, [declared the mission a success at the end of July 2019 because the spacecraft had changed its orbit using the sail](#). “We are going to a higher orbital altitude without rocket fuel, just from the push of sunlight,” Bill Nye, chief executive of The Planetary Society, said in a briefing.

A closer analysis of the spacecraft’s orbital parameters showed that its apogee, or high point in its orbit, had indeed increased by several kilometers. However, its perigee, or low point in orbit, had decreased by several kilometers. The spacecraft’s average altitude had not increased; rather, **the eccentricity of its orbit had increased**. <https://spacenews.com/solar-sail-spacecraft-begins-extended-mission/>

### **Lyfted Media gets off the ground with new COVID-19 disinfecting service** June 24, 2020 By Tim Ryan From Inside Business By SANDRA J. PENNECKE



Jimmy Olivero, CEO Lyfted Media in Virginia Beach, said, “They shut down the NBA and the NHL, which caused us to miss out on the remainder of our contract, and that hurt our business pretty bad.” In response, he pivoted to a new type of drone-related service — disinfecting. The business already had drones used to spray pesticides over crop farms and

vineyards.



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“We put the EPA approved COVID-19 solution inside the tanks and started spraying,” Olivero said. “Now we’re ready to go.” Following a test flight at Norfolk Scope this month, Lyfted Media was officially ready to provide COVID-19 cleanup of large spaces including arenas, stadiums, convention centers and city parks.

The Agras MG-1-S-8 rotor spray drone holds up to 10 liters of a non-hazardous disinfectant solution and will not harm seat materials such as leather, cloth or wood. The drone flies 5 to 10 feet above affected areas, sprays 13 to 20 feet in width and covers up to 15,000 square feet an hour. The cost starts at 26.5 cents per square foot.

Olivero said he wants to help the Hampton Roads community get back to work. And then he’d like to take the service wherever else it is needed to help fight the virus.

<https://startwheel.org/lyfted-media-gets-off-the-ground-with-new-covid-19-disinfecting-service/>

## AggieAir Works with BLM to Assist Endangered Species



**May 28, 2020** -- The AggieAir Service Center recently traveled down to Vernal, UT to assist in a Bureau of Land Management funded project to **estimate the colony size of white-tailed prairie dogs**. The scientific imagery gathered will be used to help the BLM reintroduce the **endangered black-footed ferret** in the area, as white-tailed prairie dogs are a key component to the species’ survival.

Sometimes called “the rarest mammal in North America”, the black-footed ferret was believed to be extinct until its rediscovery in Wyoming in the early 1980s. Since then, the species has been undergoing a reintroduction to several areas in Utah. Because these ferrets eat prairie dogs as their main source of food and live in prairie dog burrows, they need prairie dog towns to survive. However, prairie dog habitats are also threatened by plague, poisoning, and habitat loss and can be difficult to find and measure. Being able to correctly identify and count the white-tailed prairie dog colonies will help BLM biologists reintroduce black-tailed ferrets more successfully in the area and keep both populations healthy.

On April 14, 2020, the AggieAir team completed 3 flights, with the polygons flown ranging in size from 130 to 150 acres. These flights were completed with the team’s DJI Matrice 600 Pro and a MiacSense Altum Camera at 12 meters above ground level. These flights will act as a test to see if drones can be used to efficiently cover large areas while also accurately estimating prairie dog colony size. <https://uwrl.usu.edu/aggieair/news/main-feed/2020/aggieair-prairie-dogs>



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### Parrot Partners with AIRT’s Drones for Good and DRONERESPONDERS for Public Safety DRONERESPONDERS



MIAMI BEACH - Christopher Todd and Tony Loperfido of the Airborne International Response Team (AIRT) evaluate the new Parrot ANAFI USA over a closed Miami Beach on July 3, 2020.

PARIS -- July 6, 2020: [Parrot](#), a European drone group, is pleased to announce a new partnership with the Miami, Florida-based Airborne International Response Team ([AIRT](#)), the leading non-profit organization supporting Drones For Good™ and the official home of [DRONERESPONDERS](#), supporting the use of UAS by public safety and emergency services organizations across the U.S. and around the globe.

Parrot will support the disaster response and humanitarian missions of AIRT and the public safety testing conducted by DRONERESPONDERS with donations of both financial support as well as Parrot’s most advanced drone technology. Available in August 2020, the Parrot ANAFI USA features an industry-first 32x zoom, 4K HDR video and thermal imaging capabilities.

AIRT already uses the Parrot ANAFI Thermal with great success. Christopher Todd, Executive Director of AIRT, expects the ruggedness and increased capabilities of combined zoom and thermal sensing offered by the new Parrot ANAFI USA will bolster AIRT’s response capability for the 2020 hurricane season. <https://www.droneresponders.org/post/parrot-partners-with-airt-s-drones-for-good-and-droneresponders-public-safety-uas-programs?postId=5f038a7e2bb7e60017537da4>

### ANSI Publishes Standardization Roadmap for Unmanned Aircraft Systems, Version 2.0 July 5, 2020 News



The [American National Standards Institute](#) announced today the publication of the [Standardization Roadmap for Unmanned Aircraft](#)

rea | Axcel Innovation | Charlottesville and Portsmouth, VA  
[info@axcel.us](mailto:info@axcel.us) | 757-309-5869 | [www.axcelinnovation.com](http://www.axcelinnovation.com)



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[Systems \(Version 2.0\)](#). \*The roadmap was developed by the Institute's [Unmanned Aircraft Systems Standardization Collaborative](#), a group established to coordinate and accelerate the development of the standards and conformity assessment programs needed to facilitate the safe integration of unmanned aircraft systems into the national airspace system of the United States. More than **400 individuals from 250 public- and private-sector organizations** supported the document's development, including representatives of the Federal Aviation Administration, other U.S. federal government agencies, standards developing organizations, industry and academia. A webinar with UASSC leaders providing an overview of the roadmap will be held on July 15 at 12 noon Eastern. [Register here](#).

The release of the updated roadmap represents the culmination of the UASSC's work over the last nine months to identify existing standards and standards in development, assess gaps, and make recommendations for priority areas where there is a perceived need for additional standardization including pre-standardization research and development. Issues are addressed under the broad headings of airworthiness; flight operations; personnel training, qualifications, and certification; infrastructure inspections; environmental applications; commercial services; workplace safety; and public safety operations. The aim of the UASSC roadmap is to support the growth of the UAS market with an emphasis on civil, commercial and public safety applications. While the UASSC does not itself develop standards, its roadmap recommendations are anticipated to see wide adoption by the standards community.

[https://uasweekly.com/2020/07/05/ansi-publishes-standardization-roadmap-for-unmanned-aircraft-systems-version-2-0/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=ansi-publishes-standardization-roadmap-for-unmanned-aircraft-systems-version-2-0&utm\\_term=2020-07-06](https://uasweekly.com/2020/07/05/ansi-publishes-standardization-roadmap-for-unmanned-aircraft-systems-version-2-0/?utm_source=rss&utm_medium=rss&utm_campaign=ansi-publishes-standardization-roadmap-for-unmanned-aircraft-systems-version-2-0&utm_term=2020-07-06)

### **Korean sky lit up by drones sharing COVID-19 message** Josh Spires Jul. 6th 2020



A swarm of drones has lit up the [Korean](#) city of Seoul's skies displaying motivational and awareness messages about COVID-19. [300 drones](#) were sent up in the sky to remind people to continue to follow the social distancing measures and thank those working on the frontlines. The [300 drones](#) were sent up above the Han river to create a 10-minute aerial show put on by South Korea's Ministry of Land, Infrastructure, and Transport.

The video opens with two people wearing masks slowly separating demonstrating social distancing measures in place. It then shows two hands with water droplets falling towards them



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signifying that you should be washing your hands often. The next image is a hand showing a thumbs up resting on another hand, saying good work to the people of Korea for following the new rules. It finishes with the words “Thanks to You” and a large heart as a way to show that the efforts of the frontline workers aren’t going unnoticed. See the video:

<https://dronedj.com/2020/07/06/korean-sky-lit-up-by-drones-sharing-covid-19-message/>

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### **WATCH: Acecore Technologies demonstrates airplane part delivery at quiet Schiphol Airport** APPLICATION EUROPE NEWS ALEX DOUGLAS JULY 7, 2020



Working together with Dutch Drone Delta, Schiphol aimed to test the technical as well as the social aspect of drones flying at an active airport.

Under the temporary exemption and in close contact with the ASN, drones were allowed to fly in the CTR to test applications such as runway inspection and delivery of airplane parts across the airport.

The drone was fitted with Acecore’s maglock cargo module. This remote controlled electro magnetic link can hold two packages up to 9 kilograms total, released on command by the operator. A compact gimbal stabilized 10x optical zoom camera can be used for orientation at the drop site.

On the issue of flying drones at an active airport, Jorrit Linders, CEO and founder of Acecore Technologies, said: “While most people will think we’re insane for flying our drone at The Netherlands’ largest airport, I actually think it’s one of the safer environments to do testing. The control tower oversees everything that goes on and is able to guide the licensed drone operators to a safe mission.” Watch the demo [here](#):

<https://www.commercialdroneprofessional.com/watch-acecore-technologies-demonstrates-airplane-part-delivery-at-quiet-schiphol-airport/>

### **DARPA Eyes 20 Blue Canyon-Built Smallsats for ‘Blackjack’ Effort** Brenda Marie Rivers July 6, 2020



The Defense Advanced Research Projects Agency plans to procure up to 20 satellite buses from [Blue Canyon](#) for the Blackjack mesh-network initiative

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA  
[robert.rea@axcel.us](mailto:robert.rea@axcel.us) | 757-309-5869 | [www.axcelinnovation.com](http://www.axcelinnovation.com)



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as part of a potential **\$99.4M** contract with the company, SpaceNews [reported Friday](#). Last month, DARPA [selected](#) Blue Canyon and SA Photonics to produce satellites and payloads to support the proposed network in low-Earth orbit.

Blue Canyon's contract has a base value of \$14.1M and covers system design and integration services to **ensure the small satellites are compatible** with the "Pit Boss" autonomous command-and-control platform. William Schum, program manager at Blue Canyon, said the company based the Blackjack satellites on its 330.7-pound X-SAT microsatellite designed for commercial clients.

DARPA intends to conduct assembly, integration and testing in 2021 ahead of the smallsats' deployment by 2022. <https://www.govconwire.com/2020/07/darpa-eyes-20-blue-canyon-built-smallsats-for-blackjack-effort/>

## Detect-and-Avoid Technology Selected for Industrial and Military-Grade Drones

06 Jul 2020 Mike Ball



[Iris Automation's](#) Casia detect and avoid system has been selected for integration into [ZM Interactive's](#) xFold industrial military-grade drones, allowing users to conduct Beyond-Visual-Line-of-Sight (BVLOS) operations. It detects, tracks and classifies other aircraft and makes decisions about potential collisions, triggering automated avoidance maneuvers as necessary and

alerting the drone pilot.

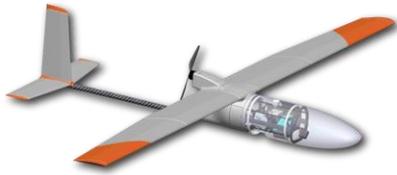
ZMI's xFold multi-rotor drones are available in different sizes and configurations for commercial, industrial, military and emergency response applications including aerial cinematography, 3D mapping and inspections, cargo delivery and firefighting. The platform features a frame that can be reconfigured as a quad, hexa, octo, or dodeca (12-rotor) platform in minutes and a heavy payload capability of over 300lbs. xFold drones are the **only** FAA-approved airworthy drone at this level.

[https://www.unmannedsystemstechnology.com/2020/07/detect-and-avoid-technology-selected-for-industrial-and-military-grade-drones/?utm\\_source=UST+eBrief&utm\\_campaign=a607eac563-eBrief\\_2020\\_07Jul&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-a607eac563-119747501](https://www.unmannedsystemstechnology.com/2020/07/detect-and-avoid-technology-selected-for-industrial-and-military-grade-drones/?utm_source=UST+eBrief&utm_campaign=a607eac563-eBrief_2020_07Jul&utm_medium=email&utm_term=0_6fc3c01e8d-a607eac563-119747501)

## UAS Conducts Soil Moisture Mapping Mission 06 Jul 2020 Mike Ball



## UAS and SmallSat Weekly News



[Black Swift Technologies](#) has released a whitepaper outlining how the company's Black Swift S2 fixed-wing UAS has been used to create an environmental monitoring solution for mapping soil moisture, providing an enhancement to traditional satellite-based methods.

Accurate and rapid mapping of soil moisture, down to the scale of individual farms, is a useful tool for the conservation of water resources. NASA's Soil Moisture Active Passive project uses satellite technology to monitor drought, predict flooding and assist in crop productivity. However, the nuances of the Earth's surface can easily be missed by satellite imaging. Obtaining additional high-resolution data would greatly improve NASA's ability to track soil moisture, and would also provide valuable data to agricultural professionals.

BST's UAS solution for gathering soil moisture data is based around its fixed-wing [Black Swift S2](#) airframe and features a sensor payload designed to provide both spatial and temporal resolution for better understanding soil drainage and moisture retention at typical root depths. The payload incorporates a passive microwave radiometer that provides soil moisture measurements over 600 acres per flight. Low altitude missions in the range of 15m-30m above ground level are required to accurately map soil moisture down to 5cm in depth at up to a 15m resolution.

The payload was developed and tested under NASA's Small Business Innovation Research program, and BST has been working with several agriculture research groups and companies to use the data for reduction of water use.

[https://www.unmannedsystemstechnology.com/2020/07/soil-moisture-mapping-with-uas/?utm\\_source=UST+eBrief&utm\\_campaign=a607eac563-eBrief\\_2020\\_07Jul&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-a607eac563-119747501](https://www.unmannedsystemstechnology.com/2020/07/soil-moisture-mapping-with-uas/?utm_source=UST+eBrief&utm_campaign=a607eac563-eBrief_2020_07Jul&utm_medium=email&utm_term=0_6fc3c01e8d-a607eac563-119747501)

## **NAWCAD Seeks Participants for Expeditionary UAS Tech Project** Matthew Nelson July 07, 2020 News



The Naval Air Warfare Center Air Division is seeking qualified U.S. companies to join a multiphase sourcing process for the development and demonstration of an unmanned aerial system that **would not require support equipment** to function in an austere environment. Responses are due July 24.



## UAS and SmallSat Weekly News

High-scoring candidates in the first phase will receive an invitation to participate in the live demo event that is scheduled to take place between Nov. 30 and Dec. 18 at Yuma Proving Ground in Arizona. NAWCAD expects the demo to inform procurement strategies and address merit-based competition requirements for prototyping contracts.

The division's AIRWorks program and IMPAX partnership intermediary are working together to explore UAS platforms that could operate without a launch or recovery system.

<https://blog.executivebiz.com/2020/07/nawcad-seeks-participants-for-expeditionary-uas-tech-project/>

### **C-Astral Develops Fixed-Wing UAS for Long-Range Tactical & Surveying Applications** 04 Jul 2020 Mike Ball

[C-Astral Aerospace](#), a leading developer of fixed-wing UAS (unmanned aerial systems) for tactical, long-range and high-precision data gathering applications, has partnered with Unmanned Systems Technology to demonstrate their expertise in this field. The 'Silver' profile highlights how their unmanned aircraft can provide unparalleled efficiency and productivity for a wide range of missions.

The [BRAMOR C4EYE UAS](#) is a state-of-the-art C4ISR solution designed to provide real-time situational awareness. It features a flight endurance of 3 hours, a range of 180 km and a standard line-of-sight datalink range of up to 40km.



The aerodynamic blended-wing modular airframe design, constructed from composite materials, provides a high level of durability and wind resistance and is very hard to detect with conventional radars. The

system includes the drone with sensor payload, a foldable takeoff catapult and a rugged ground control station, fitting neatly into a rain-resistant backpack. Designed for fast deployment, it can be made flight-ready in less than five minutes and is intended to be operated by a two-person crew, with safe single-operator command if necessary.

[https://www.unmannedsystemstechnology.com/2020/07/c-astral-develops-fixed-wing-uas-for-long-range-tactical-surveying-applications/?utm\\_source=UST+eBrief&utm\\_campaign=a607eac563-eBrief\\_2020\\_07Jul&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-a607eac563-119747501](https://www.unmannedsystemstechnology.com/2020/07/c-astral-develops-fixed-wing-uas-for-long-range-tactical-surveying-applications/?utm_source=UST+eBrief&utm_campaign=a607eac563-eBrief_2020_07Jul&utm_medium=email&utm_term=0_6fc3c01e8d-a607eac563-119747501)

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## UAS and SmallSat Weekly News

### Researchers discover how to pinpoint the location of a malicious drone operator

July 7, 2020

Researchers at Ben-Gurion University of the Negev have determined how to pinpoint the location of a [drone](#) operator who may be operating maliciously or harmfully near airports or protected airspace by analyzing the flight path of the drone.



“Currently, drone operators are located using [RF techniques](#) and require sensors around the flight area which can then be triangulated,” says lead researcher Eliyahu Mashhadi, a BGU computer science student. “This is challenging due to the amount of other Wi-Fi, Bluetooth and IoT signals in the air that obstruct drone signals.”

The researchers trained a deep [neural network](#) to predict the location of drone operators, using only the path of the drones, which does not require additional sensors. “Our system can now identify patterns in the drone’s route when the drone is in motion, and use it to locate the drone operator” Mashhadi says.

When tested in simulated drone paths, the model was able to predict the operator location with 78% accuracy. The next step in the project would be to repeat the experiment with data captured from real drones. <https://www.helpnetsecurity.com/2020/07/07/researchers-discover-how-to-pinpoint-the-location-of-a-malicious-drone-operator/>

### Rantizo seals FAA authorization to “swarm multiple drones” nationwide

APPLICATION DRONES AT WORK NEWS UNITED STATES ALEX DOUGLAS JULY 8, 2020



The waiver allows for the safe operation of [three](#) autonomous drone sprayers by a single pilot and one visual observer.

The firm’s CEO, Michael Ott, said: “Our vision is to Fly & Apply on large areas with autonomous drone sprayers, so swarming is a critical component. With our ability to now fly three drones at once, we are moving closer and closer to full autonomy of operation.”

Drone application productivity will increase to [40 acres per hour](#), nearly tripling the current rate of 14 acres per hour. In tandem with a soon-to-be-released Mix & Fill auto-tendering station, Rantizo productivity is slotted to reach [60 acres per hour before the end of the summer](#).



## UAS and SmallSat Weekly News

He explained: “Waivers are typically limited by geographical area. To our knowledge, we are the **first** drone company to receive a waiver for **nationwide rural swarm spraying.**”

<https://www.commercialdroneprofessional.com/rantizo-seals-faa-authorisation-to-swarm-multiple-drones-nationwide/>

### Show combines drones with fireworks [Scott Simmie](#) Jul. 8th 2020



A Baltic company, SPH Engineering, has released a new video filmed on the 4th of July. The video captures programmed drones flying in concert with a fireworks display – and even appearing to carry some pyrotechnics. The company produces something called Drone Show Software and also puts on technology demonstrations to

show what it can do.

We’re impressed by the segment where it appears that there’s actually a drone carrying a firework that appears to be drizzling sparks.



*See those trails of sparks? They appear to be coming from something being carried by drones!*

If you’re curious about how it works, here’s what the company has to say about the process: “The timecode with music is started from one controlling computer and passed over to all the receiving hardware – fireworks control panel and drone show controlling computer. Once the timecode is started, the show is initialised and all components wait for starting command. The video recording presents how accurate the drones and fireworks create synchronised formations and interact with the music rhythm.” If you’re interested in a little more info, you can find it [here](https://dronedj.com/2020/07/08/companys-software-allows-drones-to-integrate-with-fireworks-in-a-single-show/#more-31697). <https://dronedj.com/2020/07/08/companys-software-allows-drones-to-integrate-with-fireworks-in-a-single-show/#more-31697>

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### Hampton hopes drone testing at Fort Monroe will be a hotbed for a growing industry LISA VERNON SPARKS DAILY PRESS JUL 08, 2020



HAMPTON —A Hampton aviation consulting firm wants to start an **unmanned systems research and test center** on vacant areas that face

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA  
[robert.rea@axcel.us](mailto:robert.rea@axcel.us) | 757-309-5869 | [www.axcelinnovation.com](http://www.axcelinnovation.com)



## UAS and SmallSat Weekly News

Mill Creek at the former military post. The site, at 100 Stilwell Road, is on an 11.5-acre parcel the city leases from the Fort Monroe Authority annually for \$1. The Hampton City Council is scheduled to vote Wednesday on the proposed deal with the aviation firm, Longbow Group LLC. A two-year licensing agreement, with three possible one-year extensions, would allow the company to test drones using proprietary technology developed by NASA Langley Research Center.

“We are on the cusp of doing a lot (of) research and becoming a center of excellence,” Mayor Donnie Tuck said. “This is a project that will enhance that.”

Longbow will pursue \$1.5 million in GO Virginia grants for the endeavor and team up with local universities and the city’s economic development department. The company plans to renovate the vacant bowling alley — empty since the Army pulled out in 2011 — into a research center to do education, training and outreach and create hundreds of jobs.

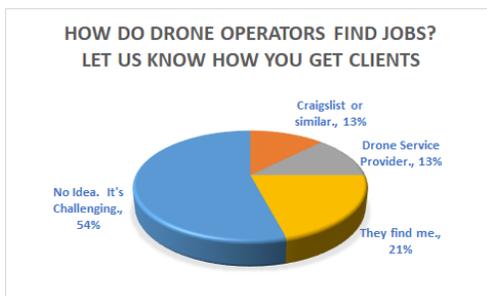
<https://www.dailypress.com/business/dp-nw-hampton-fort-monroe-drone-site-20200708-fhtkgum4mzbn7ooggdh3xt53xe-story.html#nws=true>

### How Do Drone Operators Get Clients? DRONELIFE Minute Survey Harry McNabb July 08, 2020



We asked social media followers one simple question: How do drone operators find jobs? Let us know how you get clients.

If you’re an independent operator and finding clients is challenging, you aren’t alone. More than half of the respondents answered with choice #4: finding jobs is challenging. Of those drone operators who are succeeding in finding clients, many get clients by making themselves known – clients find them. The remaining split roughly equally between finding jobs by working with a larger drone services provider and finding jobs on job listing boards.



- Craigslist or equivalent: 12.5%
- A drone services provider: 12.5%
- They find me: 20.8%
- No idea, it’s challenging: 54.2%

<https://dronelife.com/2020/07/08/how-do-drone-operators-get-clients-dronelife-minute-survey/>



## UAS and SmallSat Weekly News

### **SwellPro releases new product for drone fishing** Scott Simmie Jul. 9th 2020



Drone fishing is becoming a real thing. And SwellPro has just released something that will allow SplashDrone owners to safely troll a baited line without fear of losing the drone with a snag or large catch.

[SwellPro](#) has come up with [three devices](#) that allow the pilot to carry out a fishing line and drop it precisely where you want. Trollsafe is an adjustable device that allows you to set the tension for holding your line while trolling. Think, for a second, what might happen if you were trolling and a fish struck the hook. If that fish was of any reasonable size and decided to dive or run, it might be taking your drone with it. And while the SwellPro line is designed to handle the water, who wants their drone dragged underwater?

So the device has your line threaded between two ball bearings. You control the tension those bearings place on each other, allowing you to set for variable weights. Point is, when something hard pulls on your hook — whether it's a fish or a snag — the line will release from the drone.

<https://dronedj.com/2020/07/09/new-accessory-for-drone-fishing-from-swellpro/#more-31762>

### **AO Drones Says Thank You to COVID Workers with Light Show** Jason Reagan July 09, 2020



Aerial light show provider [AO Drones](#) found a unique way to say “Thank You” from above to Dubai’s COVID workers for their heroism during the pandemic.

The June event included a drone-based light show as well as an aerial film depicting emergency vehicles arranged on the ground to spell out “Thank You” in English and Arabic. Since then, the [film](#) has blown up on social media.

AO Drones producer Marco Niedermeier created the event, calling on friends from other Dubai event-production companies as well as collaborating local police agencies.

“Everybody was keen to be involved,” Niedermeier said. “We all wanted to say thank you.”

Due to Dubai’s COVID lockdown, producers and government officials had to plan the event via video conferencing. <https://dronelife.com/2020/07/09/ao-drones-say-thank-you-to-covid-workers-with-light-show/>



## UAS and SmallSat Weekly News