



## UAS and SmallSat Weekly News

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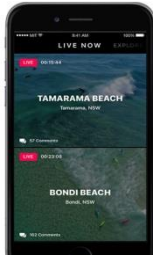


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### VIDEO: 'Life-saving' drone pilot spots Great White Shark metres away from

**Bondi Beach** APPLICATION BUSINESS EMERGENCY SERVICES HEADLINE NEWS INTERNATIONAL NEW PRODUCTS ALEX DOUGLAS MAY 3, 2019



Jason Iggleden who captured the footage, often flies along the beach to monitor surf conditions and spot potential dangers.

From his work, he started an app called **Drone Shark** which is used by beachgoers to monitor conditions from the drone footage.

Commenting on his work, Iggleden told the Guardian: "Potentially, I think on a couple of occasions over the past few years...we've saved a couple of lives." He went on to describe the app as **a world first**.

9 News in Australia detailed how in the footage, the shark can be seen eating a fish around 20 metres away from a swimmer. Watch some of the work done by the Drone Shark App here:

[https://www.commercialdroneprofessional.com/video-life-saving-drone-pilot-spots-great-white-shark-metres-away-from-bondi-beach/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-300571-Commercial+Drone+Professional+DNA+-+2019-05-03](https://www.commercialdroneprofessional.com/video-life-saving-drone-pilot-spots-great-white-shark-metres-away-from-bondi-beach/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300571-Commercial+Drone+Professional+DNA+-+2019-05-03)

### **This Is the First Plane in History to Fly Without Wing Flaps** Christopher Jasper May 2, 2019



A drone developed with the backing of U.K. defense giant BAE Systems has become the **first** plane since the dawn of aviation to be maneuvered without the aid of wing flaps.

The Magma model is flown by blowing air from its engine at supersonic speeds through slots in the wings. The technology is lighter, more reliable and cheaper to operate than conventional control surfaces as well as making the plane all but **invisible on radar** thanks to a reduced number of gaps and edges.



Built by researchers at Manchester University using titanium parts 3D-printed by BAE, the aircraft has made a series of flights from Llanbedr Airfield in north Wales, a specialist site for drone testing run by Snowdonia Aerospace LLP.



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The Magma model also maneuvers using thrust vectoring, in which exhaust gases in the engine itself are deflected in different directions to aid control. The plane and its technology could inform the development of Britain's Future Combat Air System project, which is being led by BAE and includes the [Tempest fighter model](#) unveiled last year.

<https://www.bloomberg.com/news/articles/2019-05-02/drone-makes-first-flight-guided-by-air-jets-instead-of-flaps>

### **Storm chaser captures tornado with his drone in Oklahoma** Haye Kesteloo May 2nd 2019



Storm chaser, [Brandon Clement](#) from [WxChasing](#) captures a tornado with his drone. The tornado touched down near Sulphur in Oklahoma. Brendan was able to follow the tornado at a pretty close distance and capture this amazing footage of the storm making its path through a rural area. Check out the 4-minute 4k video below.

He was able to follow the tornado with his drone at a close distance. At some point in the video, the tornado passes over a small body of water, which seems to drain some of the power from the storm. At the end of the video, the tornado loses steam and dissipates.

<https://dronedj.com/2019/05/02/storm-chaser-captures-tornado-drone-oklahoma/#more-16303>

### **AUVSI Forms Task Force On Drone Incursion Mitigation** KATE O'CONNOR



The Association for Unmanned Vehicle Systems International and Airports Council International-North America are forming a Blue Ribbon Task Force on the mitigation of unauthorized unmanned aircraft system operation at airports. According to AUVSI, the task force will be looking at ways to “refine procedural practices and provide a policy framework” to address **airport incursions** by unauthorized drones. The task force will begin work on May 2 and anticipates releasing findings this summer.

“UAS interfering with manned aviation is a serious issue, and it requires serious solutions. we are bringing together the best and brightest minds to recommend a plan to keep our skies safe for the flying public,” said AUVSI CEO Brian Wynne. “While UAS hold tremendous societal and economic benefits, occasional bad actors threaten to undermine the great progress we have made and put responsible, legal UAS operations in a negative light.”



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The task force will be made up of former government officials, security professionals and aviation executives. Participants include former FAA Administrator Michael Huerta, National Air Traffic Controllers Association Executive Vice President Trish Gilbert, EVP of Operations at Dallas Fort Worth International Airport Chad Makovsky, and John Pistole, former Administrator of the Transportation Security Administration and former FBI Deputy Director. In addition to talking with industry experts, defense, law enforcement and government personnel, the task force intends to meet with National Air Space users such as UAS operators, commercial and general aviation pilots, air traffic controllers, and airline and airport leadership. They will also be taking public comments [via their website](http://flash.avweb.com/eletter/4327-full.html?ET=avweb:e4327:2565185a:&st=email#232726).  
<http://flash.avweb.com/eletter/4327-full.html?ET=avweb:e4327:2565185a:&st=email#232726>

### Textron, USI Create Drone Pilot Pipeline KATE O'CONNOR



The Unmanned Safety Institute will be collaborating with Textron Systems to bring Aerosonde Small Unmanned Aircraft System training into university curriculums. According to the companies, the agreement will create an employment pipeline for college students, secondary students, exiting military personnel and adult learners “interested in pursuing an unmanned career pathway.” The new program will be designed to support classroom and flight training directly related to Textron’s UAS platforms.

“Through this collaboration, students will be prepared for employment within the unmanned systems industry,” said Textron Systems Vice President of Tactical Mission Systems Chris Mallon. “Over the past couple years, we have seen an increased demand for Aerosonde operations, making this certification program a valuable asset for those wishing to join the Textron Systems team.”

Students will be able to cover program costs using traditional student financing, financial aid and GI Bill financing.. Textron’s Aerosonde is capable of both land- and sea-based operations. It can carry a payload of 20 pounds and has wingspan of 11.9 feet and a maximum endurance of more than 14 hours. <http://flash.avweb.com/eletter/4327-full.html?ET=avweb:e4327:2565185a:&st=email#232730>



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### Elistair unveils its new generation of drone tether system at AUVSI

**Xponential** BUSINESS INTERNATIONAL NEW PRODUCTS NEWS ALEX DOUGLAS MAY 2, 2019



Launched at AUVSI Xponential in Chicago, the newest development in a product first released in 2015 has a 230-foot micro-tether. Throughout its four year development, emergency services and public service bodies have all had input.

The new version provides unlimited power to a wide range of drones thanks to the Plug and Fly Air modules. Unlimited data transfer is also possible through the device's micro-tether. It is also equipped with a new Dual Mode Tether Management system, enabling motorized control of tether tension while allowing the user to wind and unwind manually in case of power outage. The system allows full monitoring of the tether station's state during each flight.

<https://www.commercialdroneprofessional.com/elistair-unveils-its-new-generation-of-drone-tether-system-at-auvsi-xponential%EF%BB%BF/>

### Bell Nexus: The passenger drone / Air Taxi of the future Jack Towne May. 3rd 2019



The Bell Nexus was arguably the exhibit to see at this year's [AUVSI Xponential 2019](#) in Chicago. It is an impressively large passenger drone / Air Taxi capable of carrying **five passengers**. Bell built this behemoth to be able to be flown **either autonomously or by an onboard pilot**. While the model on display at the McCormick Center was not capable of flight, it was still quite the attraction.

It **isn't the world's first** passenger drone. We've seen the [Hoversurf Hoverbike](#), [Ehang 184](#) and [Volocopter](#). There are a few things that set the Nexus apart from the others. First is the sheer size and look of the **giant** drone. It is the size of a small school bus. Its shiny black exterior is illuminated by sleek blue LEDs. Stepping into the machine, you are greeted by an LCD screen that spans the entire inner roof. It can be classified as a drone and can be flown by either an onboard pilot or autonomously. The other passenger drones must be flown by an onboard pilot. None of them are nearly as large or bold as the Nexus. <https://dronedj.com/2019/05/03/bell-nexus/#more-16308>



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### The XM2 drone used to film *Star Wars Episode 9* Chris Monti May. 3rd 2019



At AUUSI's XPonential 2019, I was lucky enough to stumble into a presentation called "Drones in Hollywood." Rather than provide a dry lecture devoid of details, the presenter, Aaron Corera of [XM2 Cine](#), told us all about the drones and cameras used on Hollywood sets. He also revealed that it was their company contracted to film *Star Wars Episode 9* in which they

used the XM2 drone.

They all sported Star Wars T-shirts on the conference floor. They have worked on other big-budget productions including *Pirates of the Caribbean*, *Aquaman*, and *WestWorld*. The Australia-based company got their first big break with *Lion*, the award-winning film about an orphan child in search of his birth mother.



*An XM2 employee is dwarfed by the 150-pound XM2 Sierra*

[XM2](#) got its start as a cinematography company, using off-the-shelf drones. That worked until directors asked for more. Every drone has its limit, and XM2 couldn't find what they needed. So naturally, they built a bigger drone.

Btw – If you have not seen the trailer for *Episode 9, The Rise of Skywalker* then you totally need to check it out. The footage is heavily featured in the trailer. If you are like me then you will feel the hairs on your neck stand up watching the teaser. <https://dronedj.com/2019/05/03/star-wars-episode-9-xm2-drone/#more-16317>

### Ballard Launches Turnkey Fuel Cell Solutions for Commercial Unmanned Aerial Vehicles May 2, 2019 News



Ballard Unmanned Systems, Inc. – a subsidiary of Ballard Power Systems, Inc. – today announced the launch of the FCair™ fuel cell product line, a long duration fuel cell power solution for commercial Unmanned Aerial Vehicles.

FCair™ includes a hydrogen fuel cell power system, hydrogen storage vessels, pressure regulators, refueling solutions and hydrogen gas supply. The product line supports commercial UAV manufacturers and operators providing 3x the flight duration of





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batteries, 5x the reliability, a fraction of the noise of small internal combustion engines and significantly reduced operational expenses.

Phil Robinson, Vice President & General Manager, Ballard Unmanned Systems said, "This year's AUVSI Xponential Conference marks a milestone, with our display of the **first** fully integrated commercial multi-rotor UAV utilizing Ballard's FCair™ solution, including the support components and systems that make this integration possible. We see significant long-term market opportunities for zero-emission commercial drones and, eventually, vertical takeoff and landing vehicles and autonomous flying cars." [https://uasweekly.com/2019/05/02/ballard-launches-turnkey-fuel-cell-solutions-to-power-commercial-unmanned-aerial-vehicles/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_daily\\_newsletter\\_05\\_03\\_2019&utm\\_term=2019-05-03](https://uasweekly.com/2019/05/02/ballard-launches-turnkey-fuel-cell-solutions-to-power-commercial-unmanned-aerial-vehicles/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_05_03_2019&utm_term=2019-05-03)

**5May19**

**Could high-flying drones power your home one day?** Jessica BownTechnology of Business reporter 3 May 2019



Winds at altitudes above 500m (1,640ft) - blow stronger and more consistently than at the surface.

"Wind turbines have been getting bigger and bigger in a bid to access winds at high altitude," says Udo Zillmann of trade association Airborne Wind Europe. "But that means huge, expensive towers." So hi-tech drones and kites are now

becoming accepted, lower-cost supplements.



*Makani readies its kite before a test flight in Hawaii*

"These systems require between 1% and 10% of the materials used to construct a turbine and can also be grounded if required, for example to ease the passage of migrating birds."

Makani, part of Google's parent company Alphabet, is one of the companies working in the high-altitude wind space. Its huge prototype kite is tethered to the ground and guided in loops by flight computers that use GPS and other sensors. As the kite completes its loops, rotors on the 26m (85ft) wing spin in the wind, powering generators to produce electricity down the tether to the grid.



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There are also a number of companies working on ways to use wind power-generating drones over land. Swiss start-up Skypull has developed an autonomous drone that can fly as high as 600m - about **three times** the height of a traditional wind turbine. Its current prototype is a rigid wing, multi-copter "box-wing" drone that can take off and land by itself, with no need for a launcher or ground wind.



*Skypull's "box-wing" drone takes flight on its winch*

The take-off is battery powered, but once in the air the battery is recharged every time the kite loops back down towards the ground.

"Once it has climbed to operating height, it transitions to kite mode by turning 90 degrees from the upright position, and generates traction on the tether which is attached to a winch that is linked to a generator. It enables flying between 200m and 600m above the ground in any location. <https://www.bbc.com/news/business-48132021>

## DoD Taps Auterion for Open-Source UAS Control Software Nichols Martin May 03, 2019 Contract Awards, News



The Department of Defense's Defense Innovation Unit has awarded a \$2M contract to Swiss firm Auterion for drone operation software, Nextgov [reported Thursday](#). The company's PX4 open-source platform is designed to establish a common, **standardized control system** for different kinds of unmanned aircraft systems. The software's open-source design would allow DoD to apply future technologies without the need for system updates.

The company will use DIU funds to augment the software's cybersecurity, user interface, communications protocols and computer vision. <https://blog.executivebiz.com/2019/05/dod-taps-auterion-for-open-source-uas-control-software/>

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## Drones are a 'real threat,' but U.S. doesn't know how many are out there U.S. NEWS May 3, 2019 Richard Engel and Kennett Werner

WASHINGTON — The Department of Homeland Security is beefing up its anti-drone efforts away from the country's borders as it takes aim at potential national security threats. "In the





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wrong hands, they're a real threat," said Tim Bennett, who oversees counter-drone technologies at the DHS.



While it is unclear how many drones are owned in the United States, "tens of thousands" are believed to be flying in American skies at any given time. "One of the biggest problems is that we don't have a true understanding of the complete air picture, and that's what we are now just starting to get into."



Bennett said that while the DHS knows "a lot of what goes on" at the border, it is now trying to "pinpoint" other sensitive areas that may prove to be vulnerable to a drone attack. Counter-drone technology became a priority after a recreational drone [accidentally crashed on the White House grounds](#) in 2015.



*Officials watch from a rooftop after the runway was reopened following a drone scare at London's Gatwick Airport on Dec. 21, 2018*

A burgeoning counter-drone industry has emerged, with some 300 products on the market including [nets](#), lasers and radars that jam a drone's GPS signal. Police in the Netherlands have [even trained eagles to catch drones](#).

But drone technology is also developing so fast that countermeasures can quickly be made obsolete. "As they come up with new technologies, we are going to have to counter the new technologies," Bennett said. "It's a **never-ending** circle of events."

<https://www.nbcnews.com/news/us-news/drones-are-real-threat-u-s-doesn-t-know-how-n1000146>

### **DroneBullet, a kamikaze drone missile can eliminate the aerial threats** Amit

Malewar May 6, 2019



As drones are getting more portable and available, there is a real risk of people using them for harm. You need some way to take them down. Vancouver, Canada based [company](#), AerialX claims that it has come up with a magic bullet, a patent-pending solution called the DroneBullet.



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It is a kamikaze drone that looks like a miniature missile while having the ability of a quadcopter. It weighs just 910 grams and has a four-kilometer range. This pocket-sized rocket is able to reach speeds of up to 350 kilometers-per-hour in a dive attack.



It is designed to lock onto enemy drones, pursue them and crash into them, knocking them out of the sky.

Most other solutions come with complexity like massive costs, huge power draw, or the need for a highly-trained pilot. The operator only needs to identify a drone target in the sky and let the DroneBullet take care of the rest.



It is equipped with a [camera](#) and neural net components to calculate things like the optimal trajectory and flight path to hit its foes. It does not load any explosives. Its destructive power comes from the kinetic energy supplied by its impact. It also has the ability to recalibrate to pursue a second target or return to the ground.

“This is for situations in which you really need to take a drone down before it causes real damage,” Kenig added. “You don’t want to mess around with solutions that involve manually chasing drones with nets. You don’t have time for it and want to be able to press a button and get rid of the threat immediately. This is what we’ve built.”

<https://www.techexplorist.com/dronebullet-a-kamikaze-drone-missile-can-eliminate-the-aerial-threats/22877/>

## Here are the 5 Winners of the 2019 AUVSI XCELLENCE Humanitarian Award

Malek Murison May 03, 2019



The 2019 AUVSI XCELLENCE Humanitarian Award was dedicated to celebrating drone operations and technologies that have had a profound impact for good. The proper type of good, not just the financial type of good. The five winners included disaster relief and public safety operations, education and training, firefighting and wildlife conservation. This year’s winners are:

- **North Carolina Department of Transportation** – Using drones in an [innovative response to Hurricane Florence](#) (United States)
- **Swoop Aero** – [Vaccine and health supply delivery on the island nation of Vanuatu](#) (Vanuatu)



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- **NASA/MIT Search and Rescue Under the Canopy (SARUC)** – Locating people and other important targets lost in challenging and cluttered forest areas (United States)
- **Project Lifesaver International** – Search and rescue for ‘at risk’ individuals who are prone to the life-threatening behavior of wandering (United States)
- **Zipline International** – [Medical drone delivery operations in Africa](#)

“The Humanitarian Awards demonstrate the profound ability of the recipients to positively impact lives through unmanned systems technology,” said Brian Wynne, president and CEO of AUVSI. “We proudly recognize the five winners and hope their accomplishments will serve as an inspiration to utilize unmanned aircraft systems to accomplish remarkable achievements for our society.” <https://dronelife.com/2019/05/03/winners-2019-auvsi-xcellence-humanitarian-award/>

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### Hollywood drone pilots reveal the cameras used on feature films at AUVSI 2019

Chris Monti May 5th 2019



I met with the drone maker and operator [XM2 Cine](#) to learn more about the cameras used in the movies and the massive drones they build to carry them.

XM2 isn't satisfied just making drones or just using drones to film – they do both. The Australia-based company builds and customizes the drones they need in order to be sure they have the best drone for the job. Their biggest drone, the Sierra has a maximum payload of 65 lbs. With that kind of lifting power, the Sierra can carry more than 5 times the weight of the Matrice 600. You can buy one for yourself, but it will set you back 100,000 Aussie bucks (about \$70,000).



*This beast of a drone carries 8 huge lithium batteries and weighs 150 pounds.*

Despite being based in Australia, XM2 is no stranger to Hollywood.

The list of movies and series that they have worked on includes Pirates of the Caribbean, Aquaman, and [the upcoming Star Wars, Episode 9](#). They are specialists not only in traditional video capture but also in aerial video “plates” that are intended as backdrops for complex visual effects. <https://dronedj.com/2019/05/05/hollywood-drone-pilots-reveal-the-cameras-used-on-feature-films-at-auvsi-2019/#more-16298>



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### CU Boulder drone testing at Table Mountain CHARLIE BRENNAN Boulder Daily Camera May 2, 2019



A University of Colorado Boulder Integrated Remote and In Situ Sensing drone flies during a test at the National Oceanic and Atmospheric Administration Table

Mountain Test Facility in Boulder County on Thursday.

Scientists with the University of Colorado Boulder were out at the National Oceanic and Atmospheric Administration's Table Mountain Test Facility north of Boulder on Thursday, testing drone equipment they will be using this spring and summer in Project TORUS (Targeted Observation by Radars and UAS of Supercells). CU Boulder is one of a team of universities taking part in the project, which will run May 13 to June 16, as project scientists and engineers take to the road to examine **how severe weather events form and evolve** over the Central Plains, with the goal of designing **better storm alerts**. The overall project is led by the University of Nebraska-Lincoln and also includes Texas Tech University, the University of Oklahoma and the National Severe Storms Laboratory. It is funded by the U.S. National Science Foundation. <https://www.dailycamera.com/2019/05/02/cu-boulder-drone-testing-at-table-mountain/>

### Tailoring Counter-drone Programs to Fit Specific Security Needs João Antunes May 6, 2019



[DroneTracker](#), Dedrone's detection and security solution, provides a way to assess airspace activity, protect assets, and neutralize the threat. To assess airspace activity, it relies on RF sensors, cameras, microphones, and radar. [DroneTracker 4](#) includes flight pattern recognition, enabling users to better understand the intention of

the drone flight and the potential impacts of the incursion. Heatmaps create visual cues providing a quick overview of drone activity in a broad area and indicate locations of interest and hot spots to investigate further. Scheduled reports provide a framework to compare data and assess airspace activity patterns.

Active defeat systems still remain highly restricted. The Preventing Emerging Threats Act of 2018 enables the Departments of Homeland Security Justice to acquire and use counter-drone equipment to detect, identify, track and interdict unauthorized drones. First responders, corporations, airports, stadiums and public events must continue to rely on passive counter-



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measures. In all cases, whether the response to an incursion is to defeat or defend, **early detection** of drone activity is the **critical** foundation of any counter-drone program.”

<https://www.expouav.com/news/latest/counter-drone-program-security/>

### North Dakota Invests \$33 million in UAS infrastructure to support BVLOS operations

May 01 2019

BISMARCK, N.D. – Gov. Doug Burgum, in partnership with the North Dakota Department of Commerce, today announced a \$33 million investment in the UAS industry – of which a majority will be used to build out infrastructure to support beyond visual line of sight operations for unmanned aircraft systems across North Dakota. It will supply the infrastructure required for the command and control of UAS and the required surveillance equipment to support the safe integration of unmanned aircraft in the National Airspace System.

The \$33 million investment includes \$28 million for statewide BVLOS infrastructure, \$3 million to upgrade infrastructure at Grand Sky business development park and \$2 million to support operations of the Northern Plains UAS Test Site. With this new commitment, North Dakota will have invested approximately **\$77 million** to advance UAS research and development within the state.

<https://www.commerce.nd.gov/news/NorthDakotaInvests33millioninUASinfrastructuretosupportstatewidebeyondvisuallineofsightoperations/>

### The FAA's Aerospace Forecast is Out: and There are a Few Surprises in the Drone Data

Miriam McNabb May 07, 2019



The FAA has [released their annual aerospace forecast](#) – and the drone industry figures are both impressive and surprising. At the time of last year's forecast, the FAA predicted growth of 40% in the commercial drone sector. *The commercial drone industry outpaced predictions by 80%.* The FAA predicted a healthy growth rate of more than 40% – but they

underestimated the industry: *Last year, we forecasted that the non-model sector would have around 229,400 sUAS in 2019, a growth rate exceeding 44 percent from the year before (2018). Actual data **far exceeds** that trend with over 277,000 aircraft already registered by the end of 2018. Our forecast of non-model sUAS last year thus fell short by almost 80 percent for 2018 (or 277,000 actual aircraft vs 158,900 that we projected last year).*



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The FAA Aerospace Forecast is optimistic for the commercial drone industry. *Hardware continues to grow, with larger “professional” grade aircraft becoming more common as delivery and other applications develop.* The FAA differentiates between “consumer” grade commercial drones – average unit price about \$2500 – and “professional” grade commercial drones, which have an average unit price of \$25,000. While professional grade drones make up about 95% of the market now, FAA sees that percentage moving to only 85% in 5 years as professional grade drones – and their applications – become more common. In fact, should drone delivery move forward to scale, the FAA says that the growth in professional grade drones could be “phenomenal.”

*The uses for commercial drones continue to expand.* “As the sector grows,” says the FAA, “we anticipate there will be many more uses of non-model sUAS as they are increasingly evident from the participants’ activities, for example, under the Integration Pilot Program (IPP).”

<https://dronelife.com/2019/05/07/the-faas-aerospace-forecast-is-out-and-there-are-a-few-surprises-in-the-drone-data/>

### uAvionix Introduces Drone Avionics Line KATE O'CONNOR May 6, 2009



uAvionix has announced a new line of certified avionics for Unmanned Aircraft Systems. The company says its ping200X Mode S ADS-B transponder and truFYX Satellite Based Augmentation System Global Positioning System navigation source are designed to **enable** UAS type certifications and **Beyond Visual Line of Sight** mission capabilities. Until now, certified solutions meeting the Size, Weight, and Power profile of unmanned systems simply didn't exist.

The ping200X weighs in at 50 grams and is a 250W Class 1 Level 2els Mode S transponder. The company expects certification by July 2019. According to uAvionix, the 40-gram truFYX will be “the world's first SBAS GPS position source certified under TSO-C145e as a Class Beta 1 device.” It was previously certified as an integrated component uAvionix's skyBeacon ADS-B unit. Certification is expected by the end of May.

<http://flash.avweb.com/eletter/4328-full.html?ET=avweb:e4328:2565185a:&st=email#232740>



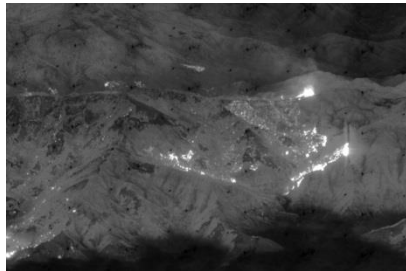


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### **Fire fight: using military drone swarms to tackle civil emergencies** 8 May 2019 Grant Turnbull

Defense researchers are examining ways that emergency responders could use next-generation technologies – particularly those that have been developed for use on the battlefield – to help prevent the deadly spread of wildfires and save lives at home. To this end, the US Air Force Research Laboratory has kickstarted the first-of-its-kind “hackathon” project in collaboration with the UK’s Defence Science and Technology Laboratory, known as the “Swarm and Search AI Challenge: 2019 Fire Hack”.



“Unmanned aerial vehicles, either in collaboration with each other, more than one drone talking to another, maybe they are swarming, maybe they are going around the back of the fire, staying upwind and downwind; what we are looking for is really, what is the best, most innovative way that we can make these drones work together to best effect.”

Individuals and teams can apply to be involved in the hackathon, whether they are from academia, industry, tech start-ups or coders with an interest in drones and autonomy. Teams will be supported by experts from industry, academia, the Ministry of Defence and the Fire & Rescue Service. They will tackle a series of increasingly challenging scenarios and work remotely using an online collaboration platform to explore different fire map scenarios using an air force-licensed synthetic environment software known as AMASE. The event will occur completely in the simulated arena, with no live flying of drones. <https://www.airforce-technology.com/features/military-drone-swarms/>

### **First-of-its-kind drone program in North Carolina is helping diagnose patients faster** CBS NEWS May 7, 2019



away.

A North Carolina hospital is pioneering the use of drones to speed up the delivery of critical medical samples across WakeMed Hospital's campus. The first-of-its-kind delivery program in the U.S. -- a partnership with UPS -- carries a small cooler of medical samples to a lab three quarters of a mile



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A trip that would take a person up to **45 minutes** on foot takes less than **four minutes** with a drone. It's a race against time carrying medical samples, like blood, to a lab across WakeMed's sprawling one million square foot medical campus. The pioneering program is the brainchild of Dr. Stuart Ginn, a former United Airlines pilot, who saw a way to speed up diagnosing patients.

That means faster results—and faster answers for his patients. To do it, WakeMed partnered with shipping giant UPS and drone-maker Matternet to launch the program in March. It's the **first** revenue-producing commercial drone flights approved by the FAA. Eight flights carry up to **200 samples a day**. <https://www.cbsnews.com/news/north-carolina-hospital-partners-with-ups-for-drone-delivery-program/#>

### Wood Adopts Delair UX11 UAV For Large Scale Surveying And Quantity

**Measurement** May 7, 2019 Mapping and Surveying



Delair, a leading supplier of commercial drone solutions, along with one of its regional resellers, Frontier Precision, today announced that Wood has adopted the Delair UX11 UAV for its work in site planning and asset management in mining and quarry projects in the western US. Wood is initially deploying the drone to do 3D topographic surveys and materials quantification for mineral mining in Idaho and Wyoming. It is the **first** fixed-wing UAV Wood has deployed in the Western US.

“The Delair UX11’s long-range capabilities allow us to cover areas not feasible with other data collection methods, like hover craft drones or by foot, so it reduces cost and time. It integrates well with our existing work flows and provides the precision and flexibility required in challenging environments,” said Greg Meinecke, Technical Services Manager at Wood. He is deploying the drone in remote areas performing excavation and site preparation for phosphate mining activities, a project covering more than 200 acres. Of critical importance for operations is an ability to precisely quantify the volume of materials being removed to ensure a high degree of accuracy in planning and invoicing. [https://uasweekly.com/2019/05/07/wood-adopts-delair-ux11-uav-for-large-scale-surveying-and-quantity-measurment/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_daily\\_newsletter\\_05\\_07\\_2019&utm\\_term=2019-05-08](https://uasweekly.com/2019/05/07/wood-adopts-delair-ux11-uav-for-large-scale-surveying-and-quantity-measurment/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_05_07_2019&utm_term=2019-05-08)



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### UK drones detect 'unexpected hotspots' in Chernobyl Red Forest mapping

APPLICATION DRONES AT WORK HEADLINE NEWS UK ALEX DOUGLAS MAY 8, 2019



*Scientists from the UK's National Centre for Nuclear Robotics (NCNR) have used drones to map Chernobyl's Red Forest.*

The robotic fixed wing aircraft flew sensors over the forest, located 500m away from the nuclear site, to give local authorities more information on where the greatest contamination lies. The drone-mapping system, developed by the NCNR, allows scientists to investigate hazardous places from a safe distance.

The fixed wing drones first produce a general radiation map by flying over the tree tops in a grid pattern at around 40mph. Rotary wing drones then take a closer look at places of interest and can hover to acquire high-resolution 3D information. The survey, conducted in April, reaffirmed to Ukrainian authorities their picture of radiation distribution in the forest but in greater detail. The drones also identified a few **unexpected hotspots**.

[https://www.commercialdroneprofessional.com/uk-drones-detect-unexpected-hotspots-in-chernobyl-red-forest-mapping/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-300899-Commercial+Drone+Professional+DNA+-+2019-05-08](https://www.commercialdroneprofessional.com/uk-drones-detect-unexpected-hotspots-in-chernobyl-red-forest-mapping/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300899-Commercial+Drone+Professional+DNA+-+2019-05-08)

### AeroVironment to expand engineering capacity after launch of new innovation center

APPLICATION BUSINESS NEWS ALEX DOUGLAS MAY 7, 2019



*AeroVironment has launched the New England Innovation Center, the company's first engineering operation outside of California.*

The new office will lead development of solutions to complement AeroVironment's small UAS and further the company's growth strategy. Wahid Nawabi, president and CEO, commented: "We are expanding our capabilities, our team and our footprint to achieve our growth objectives."

"The greater **Boston** region is a dynamic center of advanced development and talent in technologies key to the future of our customers' operations, including robotics and artificial intelligence. Our latest Innovation Center will expand AeroVironment's capabilities so that we may translate advances in key technologies into ever more valuable solutions that support our customers across the globe." <https://www.commercialdroneprofessional.com/aerovironment-to-expand-engineering-capacity-after-launch-of-new-innovation-centre/>



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### **FAA to U.S. airports: Do not install drone countermeasures on your own** MAY 8, 2019 David Shepardson

WASHINGTON (Reuters) - The Federal Aviation Administration told U.S. airports in a letter released on Wednesday they could not install drone countermeasures without federal consent, warning they could pose an aviation safety risk by interfering with aircraft navigation and air navigation services. The FAA said only federal agencies with explicit authority should install systems designed to detect and potentially destroy drones. Last year, Congress granted the Justice and Homeland Security departments authority to disable and destroy drones.

The FAA told airports that the law did not “provide authority to deploy and use (drone countermeasures) as a standing asset to protect airports.” But the agencies are assessing how they could respond “to a persistent serious (drone) disruption of operations at an airport.”

Congress tasked the FAA in 2016 with issuing regulations or guidance by July 2018 that could permit the public, the FAA, law enforcement and others to remotely track and identify drones and their operators during flight. The agency told a Senate panel on Wednesday it would publish the rule by July. <https://www.reuters.com/article/us-usa-drones-airports/faa-to-us-airports-do-not-install-drone-countermeasures-on-your-own-idUSKCN1SE2QZ>

### **Drones Benefiting Society** Jess Brown April 30, 2019



Over the last few weeks, the news has been full of people discussing the way in which drones are currently being utilized to benefit society. From finding missing people to tracking and stopping fires, we have collated some of the recent stories in which drones have been used in **fantastic** ways.

**Drones Support Search & Rescue Activity.** The [RNLI](#) announced the start of a year-long drone trial with their partners, [Maritime & Coastguard Agency](#) and [Essex Police](#). Through the trial, the police force’s drones will be operational assets that the Maritime & Coastguard Agency can call upon to assist with searches along the Essex coastline.

**DJI Drones Used To Help Track and Stop the Notre Dame Fire.** Following the incident, Parisian firefighters revealed that they had used DJI drones to track the progression of the fire and to find the best positions to aim fire hoses.



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**Police To Use Drones in Aberdeen and Inverness Operations.** Police Scotland said that the drones will allow for faster searches of large areas. Missing people operations are huge part of police work, as last year 3,494 people were reported missing in the North East and 2,343 in Highlands and Islands. [https://www.coverdrone.com/drones-benefiting-society/?utm\\_source=Coverdrone+email+subscribers&utm\\_campaign=95eed2c08c-EMAIL\\_CAMPAIGN\\_3\\_28\\_2019\\_11\\_1\\_COPY\\_45&utm\\_medium=email&utm\\_term=0\\_3033eb7817-95eed2c08c-113470153](https://www.coverdrone.com/drones-benefiting-society/?utm_source=Coverdrone+email+subscribers&utm_campaign=95eed2c08c-EMAIL_CAMPAIGN_3_28_2019_11_1_COPY_45&utm_medium=email&utm_term=0_3033eb7817-95eed2c08c-113470153)

## U.S. Senators Urge FAA to Move Forward on Remote ID Betsy Lillian May 8, 2019



U.S. Sens. Edward J. Markey, D-Mass., and John Thune, R-S.D., are calling on the Federal Aviation Administration to swiftly publish a proposed rule for the remote identification of unmanned aircraft systems.

The senators – members of the Commerce, Science, and Transportation Committee – recently sent a letter to the U.S. Department of Transportation to urge the FAA to move forward on a remote ID rulemaking. According to the senators, [remote identification](#) could permit the public, the FAA, law enforcement and others to remotely track and identify drones and their operators during flight. Markey and Thune argue that this would help address the rise of unauthorized drone flights in sensitive areas, including near airports and large gatherings.

“In recent months, a series of UAS sightings in safety-sensitive areas have underscored the need to quickly adopt and implement remote identification,” the senators wrote in an April 29 [letter](#) to Elaine Chao, DOT secretary. “Remote identification will enhance safety, security and privacy and serve as a critical tool for law enforcement to respond to and address reports of illegal and unauthorized drone operations.” [https://unmanned-aerial.com/u-s-senators-urge-faa-to-move-forward-on-remote-id?utm\\_medium=email&utm\\_source=LNH+05-09-2019&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/u-s-senators-urge-faa-to-move-forward-on-remote-id?utm_medium=email&utm_source=LNH+05-09-2019&utm_campaign=UAO+Latest+News+Headlines)

## Updates and Insights from AUVSI XPONENTIAL 2019 Jeremiah Karpowicz May 8, 2019



**From Gatwick to Switzerland and Beyond.** “What you have to realize is that Gatwick got all the headlines, but there have been over 10 shutdowns at other airports since then,” said David Hose, CEO at AirMap. “It’s the reason that efforts to create a UTM system are ultimately about making a safety case for the technology.”

Switzerland has become [one of the world leading locations](#) for the



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development of core technology and high-end applications for drones. Switzerland's [efforts to safely integrate manned and unmanned aircraft](#) have created a model around what U-space could look like across Europe and the entire world.

**Urban Air Mobility and 5G.** The [Bell Nexus air taxi](#) was probably the highlight of the show floor, partly because attendees could actually get into the vehicle to experience what it would be like to fly in it. 5G is set to be in 30 cities by the end of this year, and the benefits that enterprises will be able to see from that are considerable.

**Machine Learning and AI.** [PrecisionAnalytics Energy](#) is a complete aerial mapping, modeling, and inspection platform that uses the latest generation of artificial intelligence and machine intelligence to automate analysis of aerial data. [https://www.expouav.com/news/latest/updates-and-insights-from-auvsi-xponential-2019/?mkt\\_tok=eyJpIjoiTURObFlUVTNnak0wTTJGaSIsInQiOiJNa28ybEJCNRWnM3eStNT1FsbU4wTEYralZEQjhWR1lrWFBuQ0ZrStKSEFYK0FzMEg3QXg3d0NNdWNORlFuVG5venVyRzRjZ2xBSIN3TnpnenFXT2xJenhRbmtlWTdoS W9CZHJIRHlqSDN5UWp1UjVkaHhWM2pQbXF5QktWUSJ9](https://www.expouav.com/news/latest/updates-and-insights-from-auvsi-xponential-2019/?mkt_tok=eyJpIjoiTURObFlUVTNnak0wTTJGaSIsInQiOiJNa28ybEJCNRWnM3eStNT1FsbU4wTEYralZEQjhWR1lrWFBuQ0ZrStKSEFYK0FzMEg3QXg3d0NNdWNORlFuVG5venVyRzRjZ2xBSIN3TnpnenFXT2xJenhRbmtlWTdoS W9CZHJIRHlqSDN5UWp1UjVkaHhWM2pQbXF5QktWUSJ9)

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### Terra Drone successfully surveys 4,200 sq km for smart water

**management** AGRICULTURE BUSINESS INTERNATIONAL NEWS ALEX DOUGLAS MAY 9, 2019



The Water Resources Department of the Maharashtra Krishna Valley Development Corporation said it wanted to make its water management methods more efficient and that was the reason for bringing Terra Drone in. A total of **1,085 villages and farm boundaries** were identified for surveying using drones, with the corporation surveying an average of 120 sq km of area per day, acquiring images with 2 cm/pixel resolution.

The Water Resources Department also needed information about the types of crops being sown and the irrigation methods adopted by the farmers. For this, Terra Drone India deployed field surveying teams which collected supplemental information to bolster the data acquired by the drones.

Commenting on the benefits of using drones for surveying and mapping, Prateek Srivastava, CEO at Terra Drone India, said: "When we superimposed the aerial images acquired by our drones on the Maharashtra government's old maps, it was discovered that in some areas, unirrigated land was being used for cultivation purposes, while in others, previously fertile land





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had been converted into human settlements.” [https://www.commercialdroneprofessional.com/terra-drone-successfully-surveys-4200-sq-km-for-smart-water-management%E2%82%AC/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-301240-Commercial+Drone+Professional+DNA+-+2019-05-10](https://www.commercialdroneprofessional.com/terra-drone-successfully-surveys-4200-sq-km-for-smart-water-management%E2%82%AC/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-301240-Commercial+Drone+Professional+DNA+-+2019-05-10)