



## UAS and SmallSat Weekly News

### Contents

- 2 Air Force puts Lockheed Martin laser weapon to the test
- 2 Helios Visions is First Chicago Drone Company to Receive FAA Waiver to Fly over People
- 3 Pix4Dreact Provides Rapid Aerial Drone Mapping for Public Safety and Emergency Response
- 4 UPS Flight Forward and CVS make their first residential delivery by drone
- 4 Terra Drone conducts 160m chimney inspection at thermal power plant
- 5 xCraft Enterprises welcomes aviation 'legend' to board
- 6 John Deere and Volocopter present first large agriculture-adapted drone
- 6 Airport protection among UK counter drone contracts worth GBP2 million
- 7 Leonardo invests in the world's first solar-powered drone
- 8 AeroVironment-Softbank JV Conducts Second Test Flight of Solar-Powered Aircraft
- 9 PULLING SOCKS WITH DRONES. A SAFER WAY TO STRING POWER LINES
- 9 Successful launch continues deployment of SpaceX's Starlink network
- 10 General Atomics to demonstrate MQ-9 maritime patrols for Europe
- 10 New York is Putting Money on Drones for Economic Development
- 11 Article: Hydrogen-Powered Drone Package Delivery
- 11 Near Earth Autonomy Helps NASA Open The Skies For Business
- 12 Florida Power and Light uses DJI Phantom 4 drone for powerline maintenance
- 13 Iris Automation completes FAA approved BVLOS drone flight
- 13 Drone Mapping Platform DroneDeploy Scores \$35 Million Funding Round
- 14 National Press Photographers Association Partners with DRONERESPONDERS for Safety
- 15 GALLERY: The Commercial UAV Show 2019 in pictures
- 15 Navy Accepts First-of-its-kind HYCOPTER Hydrogen Powered UAS
- 16 Amid privacy backlash, China's DJI unveils drone-to-phone tracking
- 16 Flyability's Patrick Thévoz on Indoor vs. Outdoor Drones
- 17 Kansas DOT Notches Milestone BVLOS Flight
- 17 XPONENTIAL 2020 Will Feature Co-Located Public Safety Event
- 18 XAG takes top honour at 2019 Crop Science Awards
- 19 Drone Risk Management Now at Measure Ground Control Users' Fingertips
- 19 OCEANS UNMANNED, PARTNERS EXPAND DRONE TRAINING TO SCOTLAND



## UAS and SmallSat Weekly News

9Nov19

**Air Force puts Lockheed Martin laser weapon to the test** Jon Skillings November 7, 2019



It's laser versus drone in the latest round of testing for [directed-energy weapons](#). And according to Lockheed Martin, the lasers won. The defense contractor said Thursday that, in recent testing with the US Air Force, its Athena system locked onto and shot down multiple small drones, of both the fixed-wing and rotary-lift variety.

Athena (short for "advanced test high energy asset") is a spectral beam combined fiber laser, which means it's likely several lower-powered lasers hooked together to create a single higher-powered beam. Lockheed Martin declined to specify Athena's energy level in these tests.

The military is worried about the threat posed by drones, not just flying individually but also in swarms that could overwhelm conventional air defenses.

"The engagement scenarios were challenging, resembling real threat environments, ranges and flight paths," Lockheed Martin said. The testing took place at Fort Sill, Oklahoma.

<https://www.cnet.com/news/air-force-puts-lockheed-martin-laser-weapon-to-the-test/#ftag=CADf328eec>

**Helios Visions Is First Chicago Drone Company to Receive FAA Waiver to Fly Over People** November 6, 2019 News



The FAA's approval of Helios Visions 107.39 waiver makes the drone services organization the 47<sup>th</sup> company in the United States and one of approximately 30 Unmanned Aircraft Systems service providers to receive this designation. With the waiver to fly over people and the ability to operate a drone at night, Helios Visions demonstrates that the company takes proactive measures to make risk management a top priority.

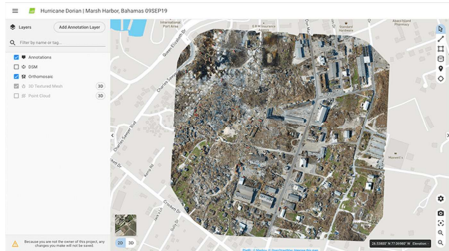
Utilizing a ParaZero parachute that complies with ASTM F3322-18 (specifications for UAS deployable parachutes), Helios Visions' operations exceed industry standards while complementing its risk management philosophy. <https://uasweekly.com/2019/11/06/helios-visions-becomes-first-drone-services-company-in-chicago-to-receive-faa-waiver-to-fly-over->



## UAS and SmallSat Weekly News

[people/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_daily\\_newsletter\\_11\\_07\\_2019&utm\\_term=2019-11-07](https://www.axcelinnovation.com/people/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_07_2019&utm_term=2019-11-07)

### **Pix4Dreact Provides Rapid Aerial Drone Mapping for Public Safety and Emergency Response** November 7, 2019 News



Pix4Dreact allows users to create 2D maps from aerial imagery in **a fraction of the time** needed by other mapping programs. This provides first responders and disaster response professionals with a much-needed edge when lives are on the line and time is of the essence.

It has been field tested and validated by emergency teams operating drones for disaster response. The Miami-based Airborne International Response Team recently used it for aerial mapping with drones in Marsh Harbour, Bahamas to help assess the devastation from Category 5 Hurricane Dorian.

Unlike traditional mapping programs which typically require Internet access and can take several hours to render a map, Pix4D can process drone imagery directly on-scene without mobile connectivity.

“With the old workflow we needed to take the data off the drone, transport it back to a command post or emergency operations center, process the data – which might take several hours, and then push the end product back out to the field for use by response teams,” says Todd. “Pix4Dreact allows responders to quickly **process the data while still on-scene** so it can be used much more quickly to help assess damage, protect property, and save lives.”

With a workflow that is intuitive and simple to use, Pix4Dreact’s fast-stitching technology creates accurate 2D orthomosaic maps by combining a large number of aerial nadir images from UAS. Users can quickly measure, analyze, and mark these files, which are light enough to be easily sent via email as needed. [https://uasweekly.com/2019/11/07/pix4dreact-officially-released-to-provide-rapid-aerial-drone-mapping-for-public-safety-and-emergency-response-operations/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_daily\\_newsletter\\_11\\_08\\_2019&utm\\_term=2019-11-08](https://uasweekly.com/2019/11/07/pix4dreact-officially-released-to-provide-rapid-aerial-drone-mapping-for-public-safety-and-emergency-response-operations/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_08_2019&utm_term=2019-11-08)



## UAS and SmallSat Weekly News

### **UPS Flight Forward and CVS make their first residential delivery by drone** Haye

Kesteloo Nov. 8th 2019



[UPS Flight Forward](#) recently was awarded their Part 135 certification from the Federal Aviation Administration, which allows them to make deliveries by drone throughout the U.S. This week, UPS in partnership with CVS made their first residential delivery by drone by dropping off prescription drugs from a CVS pharmacy directly to a consumer's home.

The delivery by drone was then followed by a second delivery of prescription drugs to another customer in a nearby retirement community. Both flights occurred on Friday, November 1st, 2019 using the Matternet M2 drone system.

The two deliveries by drone were made as part of a collaboration between UPS and CVS and are a **milestone** for the drone industry. Both companies plan to continue expanding their drone delivery program in the coming months.

The drone delivery of prescription drugs from a CVS store took place in Cary, North Carolina. The unmanned aircraft flew to CVS customers' homes. The Matternet M2 flew autonomously but was monitored continuously by a remote operator who could intervene if needed.

During the delivery process, the drone **hovered** about 20 feet over the property as it slowly lowered to the package by a cable and a winch system to the ground. One of the packages was delivered to a CVS customer with limited mobility making it hard for that person to travel to a local store and pick up the prescription.

UPS Flight Forward and Matternet have successfully completed over 1,500 revenue-generating deliveries by drone at WakeMed Hospital in Raleigh, North Carolina, since launching the service in 2019. <https://dronedj.com/2019/11/08/ups-cvs-first-residential-delivery-by-drone/>

**11Nov19**

### **Terra Drone conducts 160m chimney inspection at thermal power plant**

APPLICATION INTERNATIONAL NEWS ALEX DOUGLAS NOVEMBER 11, 2019

Terra Drone Corporation has successfully demonstrated its non-destructive testing (NDT) capabilities by inspecting a 160-meter chimney at a thermal power plant in Japan.



## UAS and SmallSat Weekly News



The chimney inspection was conducted using an ultrasonic testing drone developed by Terra Drone group company Terra Inspectioneering.

A major component of the inspection was to measure the thickness of the steel plate in a chimney windshield or flue.

Conventionally, this would have been done manually by shutting down the facilities, putting up temporary scaffolding, and having human inspectors climb dizzying heights – in this case, 160 meters.

Leveraging unmanned robotics not only allowed the power company to save on labor costs but the company also managed to curtail losses that it would have incurred by facility shutdown for extended periods.

The data acquired in the inspection enabled further cost reductions by allowing the company to formulate comprehensive chimney maintenance plans.

[https://www.commercialdroneprofessional.com/terra-drone-conducts-160m-chimney-inspection-at-thermal-power-plant/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-316879-Commercial+Drone+Professional+DNA+-+2019-11-11](https://www.commercialdroneprofessional.com/terra-drone-conducts-160m-chimney-inspection-at-thermal-power-plant/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-316879-Commercial+Drone+Professional+DNA+-+2019-11-11)

## **xCraft Enterprises welcomes aviation ‘legend’ to board** BUSINESS NEWS PEOPLE UNITED STATES ALEX DOUGLAS NOVEMBER 11, 2019



In welcoming Rutan, the business described him as a “legendary aviation and space pioneer.” Rutan will provide expertise in the design, prototyping and production of xCraft flying robots for commercial, industrial and defense applications.

CEO and co-founder of the company, JD Claridge, said: “We are honored to welcome Mr. Rutan to the xCraft Team. He will be an incredible asset in advancing our autonomous flight technology and assisting to expand our product line to address specific needs of commercial customers and our U.S. government organizations. He particularly shares our vision for applying our technology to disrupt transportation as we know it.”

While Rutan commented: “My philosophy is that the best ideas come from the collaborative efforts of small, closely knit project teams in an environment unlimited by risk fears – and I will assist xCraft’s leadership to ensure we are a best-idea-factory. With the addition of Burt to our board, and the November product launch of our new quad-rotor, the Maverick, xCraft is taking big steps toward realizing our longer-term objectives.”



## UAS and SmallSat Weekly News

[https://www.commercialdroneprofessional.com/xcraft-enterprises-welcomes-aviation-legend-to-board/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-316879-Commercial+Drone+Professional+DNA+-+2019-11-11](https://www.commercialdroneprofessional.com/xcraft-enterprises-welcomes-aviation-legend-to-board/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-316879-Commercial+Drone+Professional+DNA+-+2019-11-11)

### John Deere and Volocopter present first large agriculture-adapted drone

AGRICULTURE APPLICATION BUSINESS EUROPE HEADLINE NEWS ALEX DOUGLAS NOVEMBER 8, 2019



A demonstrator model of the VoloDrone equipped with a John Deere crop protection sprayer is ready for its first field flight.

Offering a potential payload of 200kg, the VoloDrone is able to cover an enormous area, especially under difficult operating conditions.

The drone is the result of a collaboration between John Deere, who bring knowledge of farmers' needs, and the Urban Air Mobility pioneer Volocopter, whose flying taxis form the technological basis of the VoloDrone.

The companies detailed how they see great potential for the VoloDrone's use in agriculture, with capabilities ranging from difficult topography to increased efficiency in the use of crop protection agents, sowing seeds or frost control.

The development of this demonstrator is a first step towards bringing this innovative technology closer to commercial application after full testing in the field.

[https://www.commercialdroneprofessional.com/john-deere-and-volocopter-present-first-large-agriculture-adapted-drone/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-316879-Commercial+Drone+Professional+DNA+-+2019-11-11](https://www.commercialdroneprofessional.com/john-deere-and-volocopter-present-first-large-agriculture-adapted-drone/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-316879-Commercial+Drone+Professional+DNA+-+2019-11-11)

### Airport protection among UK counter drone contracts worth GBP2 million

November 8, 2019 Jenny Beechener



The UK Defence and Security Accelerator innovation hub has announced GBP2 million funding on new capabilities to detect, disrupt, and defeat the hostile and malicious use of drones. **Eighteen bids have been funded** as part of the Countering Drone competition launched in April 2019 by the Ministry of Defence. Among the proposal being developed are methods for detecting 4G and 5G controlled drones, cutting edge applications of machine



## UAS and SmallSat Weekly News

learning and artificial intelligence for sensors to automatically identify UAVs, and low risk methods of stopping drones through **novel** electronic defeat or interceptor solutions.

David Lugton, competition technical lead, said: “The threat from UAS has evolved rapidly and we are seeing the use of hostile improvised UAS threats in overseas theatres of operation. There is a similar problem in the UK with the malicious or accidental use of drones becoming a security challenge at events, affecting critical infrastructure and public establishments including prisons and major UK airports.”

There was a very high level of interest from industry with over **90 bids** from a wide range of organizations from micro businesses, small and medium-sized enterprises, large defense firms and academia. This led to a doubling of initial funding from around GBP1m to around GBP2m being awarded to organizations in Phase 1. The first phase of this competition is intended to demonstrate proof of concepts that can be further developed and integrated during later phases. <https://www.unmannedairspace.info/latest-news-and-information/airport-protection-among-uk-counter-drone-contracts-worth-gbp2-million/>

### **Leonardo invests in the world’s first solar-powered drone** November 11, 2019

Leonardo Press Release



Leonardo is accelerating the progress of technology and innovation in autonomous flight by investing in Skydweller Aero Inc., a U.S./Spanish start-up specializing in large-scale solar-powered unmanned air systems. The initiative will result in the development and deployment of the Skydweller drone, the **world’s first fully electric unmanned aircraft** capable of carrying **large payloads** with **unlimited range** and **ultra-persistent**

**endurance.**

Thanks to its unique features, Skydweller combines potentially unlimited persistence and range with the flexibility of an aircraft. It will operate from existing airbases around the world, deploy thousands of miles away to areas of high need, and remain overhead for orders of magnitude longer than current aircraft. This revolutionary platform will be used for purposes ranging from land and maritime surveillance to monitoring the environment and infrastructure, from industrial geo-information services to telecommunications and precision navigation. During emergencies and disaster-recovery situations, the system can be rapidly deployed from distant locations to provide backup communications and direct support to first responders.



## UAS and SmallSat Weekly News

The Skydweller project builds on a proven and mature aircraft that successfully circumnavigated the globe in 2016. The first phase focuses on converting the aircraft from a manned platform into an optionally-piloted vehicle by integrating autonomy algorithms and vehicle management systems. The second step of the project will culminate in the first production aircraft, designed solely for unmanned operations and hardened against a range of environmental conditions. Autonomous flights are projected for 2020, and the first production model of the unmanned version of the aircraft is expected in 2021.

<https://www.verticalmag.com/press-releases/leonardo-invests-in-the-worlds-first-solar-powered-drone/>

### **AeroVironment-Softbank JV Conducts Second Test Flight of Solar-Powered Aircraft** Nichols Martin November 11, 2019 News, Technology



[HAPSMobile](#), a joint venture between Japan-based [SoftBank](#) and [AeroVironment](#), has completed the second trial flight of a solar-powered unmanned aircraft.

The HAWK30 solar-powered high-altitude platform system, or HAPS, flew on Oct. 23 from NASA's California-based Armstrong Flight Research Center. The company intends to use HAWK30 to provide mobile connectivity.

The aircraft flew for about an hour and 30 minutes with the achievement of altitudes higher than those recorded during its [first](#) test flight. HAWK30 also demonstrated 180-degree turns, controlled runway landing and further performance of power, propulsion and avionics systems.

"We'll carefully verify the data from this test and move forward with preparations to conduct stratospheric flight tests," said Junichi Miyakawa, president and CEO at HAPSMobile as well as representative director and chief technology officer at SoftBank.

The company will bring HAPSMobile to Hawaii for stratospheric test flights before March 31 next year. <https://blog.executivebiz.com/2019/11/aerovironment-softbank-jv-conducts-second-test-flight-of-solar-powered-aircraft/>





## UAS and SmallSat Weekly News

12Nov19

PULLING SOCKS WITH DRONES. A SAFER WAY TO STRING POWER LINES November 11, 2019 Zach Ryall



The term “sock pull” describes the high-wire act of stringing lightweight lines known as “socks” over pulleys and stretching the rope to the next tower so that the much heavier power cable can then follow. The drone must guide the rope into the orange guide rail and then snap the line through a gate before flying to the next tower.



To oversimplify a sock pull, a drone lifts a lead line, and flies it to pulley. The drone eases the line into a guide rail and then lowers it, guiding the line carefully into a gate. Once the line is in position, a tug on the rope is required to snap it into the gate, much as a mountain climber clips a rope into a carabiner.

SkyScopes uses a second drone to provide greater situational awareness and to help guide the lead pilot precisely to the next target while remaining clear of the tower structure and other cables. Think of the second pilot as an airborne visual observer. The second drone also serves as a capable camera platform to document each job. The two pilots usually stand next to each other. Dunlevy said that communication and teamwork are critical when flying these complex operations, designed with help from engineering professors at the University of North Dakota. [https://www.aopa.org/news-and-media/all-news/2019/november/11/pulling-socks-with-drones?utm\\_source=dronepilot&utm\\_medium=email](https://www.aopa.org/news-and-media/all-news/2019/november/11/pulling-socks-with-drones?utm_source=dronepilot&utm_medium=email)

**Successful launch continues deployment of SpaceX’s Starlink network** November 11, 2019 Stephen Clark



**Sixty** upgraded satellites for SpaceX’s Starlink broadband network rocketed into orbit Monday from Florida’s Space Coast, debuting performance enhancements and notching new firsts in SpaceX’s list of **rocket reuse** accomplishments.

SpaceX’s second batch of Starlink satellites joined 60 previous spacecraft in orbit after deployment from a Falcon 9 rocket Monday, adding to a network that may eventually include **thousands** of satellites broadcasting high-speed Internet signals from space.



## UAS and SmallSat Weekly News

The 229-foot-tall Falcon 9 climbed away from Cape Canaveral's Complex 40 launch pad at 9:56 a.m. EST, turned toward the northeast and soared through scattered clouds on a gorgeous Veterans Day morning. <https://spaceflightnow.com/2019/11/11/successful-launch-continues-deployment-of-spacexs-starlink-network/>

### **General Atomics to demonstrate MQ-9 maritime patrols for Europe** 11 NOVEMBER 2019 FLIGHTGLOBAL.COM BY FLIGHTGLOBAL NEWS LOS ANGELES

The company is working with the Greek air force to conduct several demonstration flights from the Greek air base of Larissa. It also plans to **showcase its detect-and-avoid system** which helps the UAV fly near civilian or other manned aircraft without risking collision.

"The demand for affordable, long-endurance airborne surveillance of the seas surrounding Europe is growing," says Linden Blue, chief executive officer of General Atomics.



The UAV is based on the MQ-9 operated by the US Department of Homeland Security for maritime surveillance, says General Atomics.

The MQ-9's detect-and-avoid technology uses air-to-air radar connected to the Traffic Alert and Collision Avoidance System as well as an Automatic Dependent Surveillance-Broadcast system.

Demand for maritime patrol aircraft is growing in Europe as older aircraft, such as the Lockheed P-3 Orion, are nearing retirement. <https://www.flightglobal.com/news/articles/general-atomics-to-demonstrate-mq-9-maritime-patrol-462144/>

### **New York is Putting Money on Drones for Economic Development** Miriam McNabb November 11, 2019



New York's investment in the drone industry is paying off – and as the first segment of the state's drone corridor receives BVLOS authority, opportunities for new businesses are expanding. The state has made a major investment in economic development for the Center State region, and part of that has been directed towards the drone industry.

New York's 50-mile UAS Corridor will provide a legal testing ground for a wide variety of new technologies: hardware, software, counter-drone solutions and drone detection. It's a pathway



## UAS and SmallSat Weekly News

for new companies to test their products legally and safely; helping them to gather the data they need to make the necessary safety case to the FAA and the public. Testing of unmanned traffic management solutions could take the industry closer to drone integration.

<https://dronelife.com/2019/11/11/new-york-is-putting-it-money-on-drones-for-economic-development/>

### Article: Hydrogen-Powered Drone Package Delivery 11 Nov 2019



[Ballard Power Systems](#), a developer of hydrogen fuel cells for unmanned aerial vehicles, has released an article exploring whether hydrogen-powered drone technology is ready for commercial package delivery.

Major UAV manufacturers are currently designing delivery drones to meet the anticipated need, and the three main power technologies are battery-powered electric motors, internal combustion engines and hydrogen fuel cell powered electric motors.

The article discusses:

- Drawbacks of batteries and internal combustion engines, and advantages of hydrogen fuel cells for drone delivery
- Is fuel cell technology mature?
- Is hydrogen fuel available, cost-effective and practical?
- Is the fuel cell power system reliable in bad weather and at high altitudes?
- Progress in UAV regulations and standards

To learn more about the benefits of hydrogen fuel cell technology for drone delivery and the current state of the industry [read the full article on Ballard's website.](#)

[https://www.unmannedsystemstechnology.com/2019/11/article-hydrogen-powered-drone-package-delivery/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=cc2d00b3af-eBrief\\_2019\\_12\\_Nov&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-cc2d00b3af-119747501](https://www.unmannedsystemstechnology.com/2019/11/article-hydrogen-powered-drone-package-delivery/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=cc2d00b3af-eBrief_2019_12_Nov&utm_medium=email&utm_term=0_6fc3c01e8d-cc2d00b3af-119747501)

**13Nov19**

### Near Earth Autonomy Helps NASA Open The Skies For Business November 11, 2019

News



NASA's Unmanned Aircraft Systems Air Traffic Management system (UTM) is providing industry leaders with the opportunity to demonstrate to regulators that multiple aircraft can be flow simultaneously in complex urban environments.



## UAS and SmallSat Weekly News

NASA and the FAA have just completed the final testing phase of its UTM to enable safe autonomous drone operations in cities. For five years, NASA has been testing the concept in phases, with the final phase concluding August 23rd in Corpus Christi, Texas.

An ecosystem from private industry has created UAS Service Supplier platforms to facilitate communication between unmanned air vehicles and NASA's UTM, which serves as oversight for the airspace. Other test partners supplied drones, pilots and additional services, such as Pittsburgh-based company, Near Earth Autonomy, who provided a drone with sensing/computing payload for handling contingencies requiring emergency autonomous landing.

Near Earth's system is shown below on a drone flying over downtown Corpus Christi, TX.



Collaborating with ANRA as their USS, Near Earth's drone repeatedly demonstrated the ability to react to contingencies that required flying to the closest designated landing site and finding a safe place to land. Nearly twenty simulated and seven live vehicles simultaneously communicated with the USS providers who relayed data to NASA's UTM during the experiment. Landing sites are

evaluated by rapid three-dimensional reconstruction of the terrain using onboard lidar. Near Earth's drone was able to land successfully over **25 times** during the demonstration.

[https://uasweekly.com/2019/11/11/near-earth-autonomy-helps-nasa-open-the-skies-for-business/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_daily\\_newsletter\\_11\\_12\\_2019&utm\\_term=2019-11-12](https://uasweekly.com/2019/11/11/near-earth-autonomy-helps-nasa-open-the-skies-for-business/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_12_2019&utm_term=2019-11-12)

## Florida Power and Light uses DJI Phantom 4 drone for powerline maintenance

Haye Kesteloo Nov. 12th 2019



"Drones offer a huge advantage," according to the utility's technology manager, Eric Schwartz. He showcased FPL's drone operation as part of National Drone Safety Awareness Week, an educational awareness campaign initiated by the FAA.

*"A drone gives us the ability to see a 360-degree view from above," Schwartz said. "Our lines get a lot of damage from natural sources from above the lines, which you can't see from the ground."*

*FPL's main drone model is the DJI Phantom 4 Pro... "These drones are ones you can get off-the-shelf at [Best Buy](#) or [Amazon](#)," Schwartz said. "They're among the least expensive and the most technologically advanced."*



## UAS and SmallSat Weekly News

In 2018, the power company assessed more than 4,000 miles of overhead power equipment using drones. *In 2019, so far, FPL has covered more than 12,000 miles.*

*“On average, we do 10 to 20 drone flights a day, which cover an average of 5 to 10 miles, depending on the circuit,” Schwartz said. Pilots must file a flight plan with the FAA and must operate drones in a line-of-sight pattern that extends from ‘-mile to ‘-mile, generally operating from power pole to pole.* <https://dronedj.com/2019/11/12/rida-power-and-light-uses-dji-phantom-4/>

### **Iris Automation completes FAA approved BVLOS drone flight** Haye Kesteloo Nov. 12th 2019



The flight is seen as an important step towards making commercial drone flights routine across the country. The onboard drone collision-avoidance system was created by Iris Automation. The company said that routine flights may start taking place in a matter of months. Jacob Douglas writes for

CNBS:

*The flight was a joint project under KDOT’s [Unmanned Aircraft Systems Integration Pilot Program](#), involving Kansas State Polytechnic, utility company Evergy and Iris Automation. Using a fixed-wing drone, the team was able to fly BVLOS to inspect power lines for the utility.*

*“I was just in New Zealand speaking with their Civil Aviation Authority,” Alexander Harmsen, CEO of Iris Automation said. “I was in Canada talking to their Civil Aviation Authority. A lot of them look to the U.S. as the gold standard for this sort of thing. So getting this approval from Kansas is a big deal for the entire world.”*

You can read the entire article [here](https://dronedj.com/2019/11/12/iris-automation-completes-faa-approved-bvlos-drone-flight/). <https://dronedj.com/2019/11/12/iris-automation-completes-faa-approved-bvlos-drone-flight/>

### **Drone Mapping Platform DroneDeploy Scores \$35 Million Funding Round** Miriam McNabb November 13, 2019



While media articles proclaiming the death of the drone industry get a lot of play, investment in the industry is still going strong. As evidence, enterprise mapping platform [DroneDeploy](#) has announced a \$35 million Series D funding round.

It’s true that venture capital firms are throwing fewer small amounts at drone startups just to see what sticks. Companies with a proven track record, a real value proposition, and actual clients, however, are



## UAS and SmallSat Weekly News

doing well. In a conversation with drone industry analysts [DRONEI](#) earlier this year, analyst Kay Wackwitz says the trend is clear: fewer, but more substantial, investments in strong companies.

That's why DroneDeploy's announcement is **no surprise**. At this year's user conference, the company announced new partnerships, new products and new customers. They've grown with the drone industry, now serving multiple clients with fleets of more than 100 drones. The product is mature, feature-rich and reliable. They've invested in people and product, and it shows. Co-founder Mike Winn's vision of "a drone on every jobsite" is getting closer. <https://dronelife.com/2019/11/13/drone-mapping-platform-dronedeploy-scores-35-million-funding-round/>

## National Press Photographers Association Partners with DRONERESPONDERS to Promote Drone Safety DRONERESPONDERS 13Nov2019



**NEW YORK** – The National Press Photographers Association today announced a partnership with DRONERESPONDERS – the world's fastest growing non-profit program supporting public safety UAS – to help promote increased safety and communication between the news media and first responders operating drones in the National Airspace System (NAS).

"We are seeing both news media and public safety organizations rapidly adopting drones for use in their everyday operations," says Mickey Osterreicher, General Counsel for NPPA. "Our partnership with DRONERESPONDERS will focus on providing **education** for, and enhancing **communication** between, both groups to ensure a safe and productive environment for flight operations."

"It's all about establishing communication protocols and ensuring that all remote pilots are operating from the same script with a focus on safety," says Charles Werner, retired Charlottesville, Virginia fire chief who is the director of the DRONERESPONDERS program. "We believe NPPA represents an ideal partner for DRONERESPONDERS to work with in bridging the gap between public safety and news gathering operations."

<https://www.droneresponders.org/post/national-press-photographers-association-partners-with-droneresponders-to-promote-drone-safety>



## UAS and SmallSat Weekly News

**GALLERY: The Commercial UAV Show 2019 in pictures** DRONES AT WORK HEALTH MINING AND AGGREGATES NEWS UK MATTHEW TRASK NOVEMBER 13, 2019



**Commercial Drone Professional is in attendance at this year's Commercial UAV Show in London.** Held at the ExCeL Arena, the event ran from on November 12-13.

The industry was out in force with some of the latest and greatest drone tech on display.

Take a look at some of CDP's photo's from the event:

[https://www.commercialdroneprofessional.com/gallery-the-commercial-uav-show-2019-in-pictures/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-317072-Commercial+Drone+Professional+DNA+-+2019-11-13](https://www.commercialdroneprofessional.com/gallery-the-commercial-uav-show-2019-in-pictures/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317072-Commercial+Drone+Professional+DNA+-+2019-11-13)

**Navy Accepts First-of-its-kind HYCOPTER Hydrogen Powered UAS** November 12, 2019 News



The six-rotor UAS "[HYCOPTER](#)" has a blade tip-to-blade tip diameter of 7 feet, a takeoff weight of about 35 pounds with a five-pound payload, and a flight duration of about **2 ½ hours**. The all-electric platform is powered by an ultralight PEM fuel cell fed with compressed hydrogen gas. The only exhaust product is water vapor.

It will be used to support a Naval Research Program project which studies the feasibility of using compressed hydrogen as a power source onboard naval platforms. In addition, it could be used to support future research projects that require long-endurance aerial data collection. Hydrogen fuel cell technology offers a **step change** in UAS productivity and widens the scope of applications that are currently limited by battery-based technologies.

The HYCOPTER is manufactured by [H3 Dynamics](#), in Austin, Texas. The Austin team conducted the acceptance training and flight demonstration held in Monterey, CA.

[https://uasweekly.com/2019/11/12/navy-accepts-first-of-its-kind-hycopter-hydrogen-powered-uas/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_daily\\_newsletter\\_11\\_13\\_2019&utm\\_term=2019-11-13](https://uasweekly.com/2019/11/12/navy-accepts-first-of-its-kind-hycopter-hydrogen-powered-uas/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_13_2019&utm_term=2019-11-13)



## UAS and SmallSat Weekly News

14Nov19

### Amid privacy backlash, China's DJI unveils drone-to-phone tracking Allison Lampert NOVEMBER 13, 2019



MONTREAL (Reuters) - China's DJI, the world's largest commercial drone maker, said on Wednesday it is developing technology that would allow the public to track the registrations of drones in flight using just a smartphone, amid a broader industry push to make such data available.

SZ DJI Technology Co Ltd aims to roll out a **free app in 2020**, pending regulatory approval, which would allow its users for the first time to identify any modern drone with a phone, company executives told Reuters.

The push for remote identification technology comes amid regulatory calls for greater oversight of drone flight, on fears that untraceable, unmanned aircraft could be used for spying or accidentally disrupt commercial flights. <https://www.reuters.com/article/us-aviation-drones/amid-privacy-backlash-chinas-dji-unveils-drone-to-phone-tracking-idUSKBN1XN2JR>

### Flyability's Patrick Thévoz on Indoor vs. Outdoor Drones Harry McNabb November 13, 2019



[Flyability](#) is the Swiss company with a unique and powerful solution for indoor inspections – and at [London's Commercial UAV Show](#) this morning, CEO and co-founder Patrick Thévoz explained why indoor drone programs have a high return on investment – along with lower risks.



The Flyability Elios series is a unique product designed to roll off of walls and narrow spaces – like the inside of bridge girders, mine tunnels, or around the lights and ventilating systems over a factory floor. It's made to handle challenging conditions: those dark, dirty and dangerous places that pose real risk to human inspectors and add additional difficulties to the inspection process.

Drones can significantly reduce inspection costs in dangerous indoor environment. "Although some of the manned costs are the same, we can remove the use of spotters outside of the structure during inspections, reducing costs. Most of the time the costs of scaffolding can be reduced also."

Another significant factor is reduced downtime. When inspecting a boiler or stack, the system needs to be shut down to be safe for human inspectors – but it can keep running, or run longer, when inspected





## UAS and SmallSat Weekly News

by drone. In those cases, says Thévoz: “The ROI is often over 100 times the cost of the drone just for one application.”

And, not having a human exposed to areas like boilers, stacks, or the insides of nuclear power facilities is an incredible benefit. “The risk factors are really in our favor”.

<https://dronelife.com/2019/11/13/flyabilitys-patrick-thevoz-on-indoor-vs-outdoor-drones/>

### **Kansas DOT Notches Milestone BVLOS Flight** Michael Bates November 13, 2019



The Kansas Department of Transportation’s Unmanned Aircraft Systems Integration Pilot Program has successfully completed the first beyond-visual-line-of-sight drone **operation using only onboard detect-and-avoid systems.**

The flight marks **the first time** the FAA has authorized an operation to fly BVLOS without a requirement for visual observers or a ground-based radar. The FAA’s approval for the flight was granted based on the utilization of Iris Automation’s detect-and-avoid system, called Casia, which provides commercial drones with automated collision avoidance maneuvers.

The nine-mile flight was conducted by a fixed-wing drone and allowed a Kansas State University Polytechnic Campus team and Iris Automation flight team to inspect power lines in collaboration with the state’s largest energy provider, Eversource Inc. In the first two days of flights, the team completed more than **150 miles BVLOS.**

Historically, all FAA-issued Part 107 BVLOS waivers have required visual observers or ground-based radar. These mitigations limit the possibility of true BVLOS flights, as they are typically prohibitively expensive and limit operations to pre-defined corridor areas with radar coverage. This approval is the first of its kind for long line linear infrastructure and is the first step to enable routine commercial inspection across the state. <https://unmanned-aerial.com/kansas-dot-notches-milestone-bvlos-flight>

### **XPONENTIAL 2020 Will Feature Co-Located Public Safety Event** Michael Bates November 13, 2019



AUVSI and the Airborne International Response Team are partnering to produce the DRONERESPONDERS Global Public Safety UAS Summit and Major Cities Meeting, set to be co-located with XPONENTIAL 2020 at the Boston Convention and Exhibition Center and start on **May 4, 2020.**

“Increasingly, drones are proving to be essential tools for a wide range of lifesaving missions around the world,” says Brian Wynne, president and CEO of AUVSI. “The meeting will provide



## UAS and SmallSat Weekly News

an educational forum to further unite this vital community to provide training, use studies and best practices for implementing drones to support and protect public safety professionals.”

The Summit will kick off on Monday, May 4, with the Major Cities Meeting – a special invitation-only conclave for UAS program managers and remote pilots representing public safety agencies from the world’s largest metropolitan areas. On Tuesday, May 5, the summit will officially open to all registrants, with two full days of programming surrounding the use of drones by law enforcement, fire services, search and rescue, emergency management and humanitarian organizations. [https://unmanned-aerial.com/xponential-2020-will-feature-co-located-public-safety-event?utm\\_medium=email&utm\\_source=LNH+11-14-2019&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/xponential-2020-will-feature-co-located-public-safety-event?utm_medium=email&utm_source=LNH+11-14-2019&utm_campaign=UAO+Latest+News+Headlines)

## **XAG takes top honour at 2019 Crop Science Awards** AGRICULTURE APPLICATION NEWS UK ALEX DOUGLAS NOVEMBER 14, 2019



**XAG has been awarded ‘Best Innovation in Precision Farming Technology’ for its smart agriculture solutions presented in London.**

The awards recognizes XAG as the trailblazer of precision agriculture which integrates drone, Artificial Intelligence and Internet-of-Things to build a sustainable agroecosystem that grows more nutritious food with minimal ecological footprint on earth.

XAG was selected as a finalist in the following three categories: Best Innovation in Precision Farming Technology for accelerating developments in precision agriculture technology, Best Application Technology Innovation for improving the precision and safety of pesticide application and Best Company from an Emerging Region for making the greatest contribution to the crop protection industry.

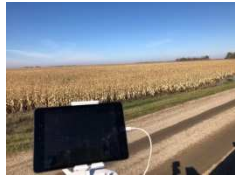
The smart agriculture solutions are designed with four aspects, which include building digital farming infrastructure such as Real-time Kinematic navigation network and high-definition field maps, developing automated drones and robots for precision operation, connecting land, crop, farmers and consumers through the Agricultural IoT System and cultivating Agriculture AI for prescription map application. [https://www.commercialdroneprofessional.com/xag-takes-ton-honour-at-2019-crop-science-awards/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-317158-Commercial+Drone+Professional+DNA+-+2019-11-14](https://www.commercialdroneprofessional.com/xag-takes-ton-honour-at-2019-crop-science-awards/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317158-Commercial+Drone+Professional+DNA+-+2019-11-14)



## UAS and SmallSat Weekly News

### Drone Risk Management Now at Measure Ground Control Users' Fingertips

Michael Bates November 13, 2019



REIN's DronelInsurance.com, a digital drone risk management platform, is collaborating with Measure to enable commercial drone operators to access customizable coverage options that match their unique operational and organizational needs, as integrated within Measure's Ground Control app.

"As commercial drone applications soar to widespread adoption, it's becoming increasingly critical for commercial drone operators to streamline their operations," says Christopher Dean, CEO at REIN. "This integration is focused on empowering businesses, operating drone fleets of all sizes, to quickly view and manage the tools they need to ensure operational success – including hardware, flight planning software, safety and risk management solutions."

DronelInsurance.com's tiered approach to coverage allows drone operators to protect against risks both on the ground and in the air. Starting with Base Coverage, operators can protect their ground operations. Then, to match the commercial drone industry's dynamic and seasonal workflow, drone operators can add on-demand Flight Coverage for as little as a day, or as long as a year, and select the liability limit that best suits their business needs. Drone operators can also add coverage for sensors and ground equipment such as base stations. [https://unmanned-aerial.com/drone-risk-management-now-at-measure-ground-control-users-fingertips?utm\\_medium=email&utm\\_source=LNH+11-14-2019&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/drone-risk-management-now-at-measure-ground-control-users-fingertips?utm_medium=email&utm_source=LNH+11-14-2019&utm_campaign=UAO+Latest+News+Headlines)

### OCEANS UNMANNED, PARTNERS EXPAND DRONE TRAINING TO SCOTLAND AUVSI

NEWS NOV 12, 2019



In an effort to provide UAS support for **marine mammal disentanglement** response efforts in Sweden, Oceans Unmanned Inc., the Scottish Entanglement Alliance and DARTdrones have expanded their freeFLY initiative into the country.

Through the program, which was launched in 2018, networks of local volunteer drone operators that are available to support regional response groups are provided with equipment and hands-on training. UAS operators were provided with initial flight training and advanced safe launching, operating, and recovering drones from small boats and support vessels over the course of a two-day session that it hosted.



## UAS and SmallSat Weekly News

“The addition of aerial imagery from on-scene, vessel-launched drones will provide improved situational awareness and increased safety for both the animal and responders.”

One of SEA’s goals is to improve reporting rates of marine animal entanglements. SEA also wants to provide fisherman with opportunities to get involved with entanglement research and disentanglement efforts through workshops and training courses.

The entities note that the freeFLY training was part of a larger workshop that focused on “encouraging better reporting of entanglements, widening Scotland’s existing entanglement response network, and sharing insights to better understand, mitigate and respond to incidents.” <https://www.auvsi.org/industry-news/oceans-unmanned-partners-expand-drone-training-scotland>