



UAS and SmallSat Weekly News

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DroneUp shares live mission demo at the Virginia Governor's Transportation Conference Innovation Summit



November 1, 2018, (Chesapeake, VA) -- DroneUp, LLC attended The Virginia Governor's Transportation Conference at The Hilton Main in Norfolk, Virginia for the annual gathering of transportation professionals.

CEO, Tom Walker, one of five panelists for the session deemed "Eyes in the Sky", spoke to the emerging technology of sUAS operations and workforce collaboration.

The main event for this session was provided by DroneUp with the launch of **three simultaneous, live missions**. Walker streamed footage from DroneUp's Chief Pilot, in San Diego, California and two additional Pilot Engagement Specialists; one stationed in Northern Virginia and the other near the conference in the Tidewater area.

The missions were displayed on the ballrooms' main monitors as Walker explained the live streams to the audience while instructing DroneUp's team. The team demonstrated a search and rescue mission, a crash scene investigation and the use of thermal imaging to locate a fugitive. Walker continued to showcase how data collection from these missions and others similar to these across sectors will provide private and public organizations with timely deliverables and responsive services. <https://www.droneup.com/blog/>

ANALYSIS: How hot is DJI's new Mavic 2 Enterprise drone? HEADLINE NEWS ANDREW SEYMOUR NOVEMBER 2, 2018



The Mavic 2 Enterprise was given its first airing at AirWorks this week. It features a compact and foldable design with an array of controls and accessories. It carries a high-resolution, 12-megapixel camera that is stabilized by a three-axis gimbal. The camera provides a 2x optical and 3x digital zoom capability.

Accessories include a dual spotlight with a brightness of 2,400 lumens, a loudspeaker with a maximum projection of 100 decibels and a beacon featuring a bright flashing strobe visible three miles away.



It has 24GB of onboard data storage and password protection. Users are required to enter their password each time they activate the drone, link the

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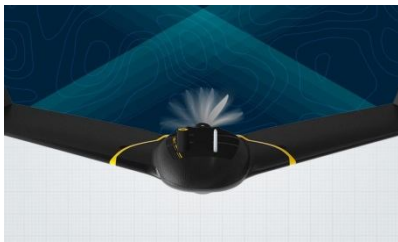
remote controller with the drone and access the drone's onboard storage. A new GPS timestamping feature encodes the time, date, and location of recorded images, aiding in pilot accountability.



It uses an integrated receiver to automatically alert pilots of ADS-B signals from nearby airplanes and helicopters, providing positioning alerts through the mobile app. The retail price, which includes an aircraft, a remote controller, one battery, all three mountable accessories and a protector case with flight tools, is **£2,069**.

http://www.commercialdroneprofessional.com/analysis-how-hot-is-djis-new-mavic-2-enterprise-drone/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281593-Commercial+Drone+Professional+DNA++2018-11-02

SenseFly to showcase new fixed-wing drone in free webinar NEW PRODUCTS NEWS TRAINING CARLY HACON NOVEMBER 2, 2018



SenseFly, one of the industry's leading providers of professional mapping drones, and a commercial drone subsidiary of Parrot Group, will host a free webinar exploring its new eBee X fixed-wing drone on Tuesday, **November 13**.

The online session will be led by Francois Gervais, fixed-wing drone lead for Parrot Business Solutions, Chris Healy of IN-FLIGHT Data and Scott Hiebert of Green Aero Tech, for the 45-minute live event.

They will discuss how they have employed the eBee X in a range of projects, from assessing open pits to flying beyond visual-line-of-sight.

Gervais said: "In our webinar, geospatial professionals will get an up-close look at the eBee X and learn from experienced operators who are already flying the platform and have seen how it can be utilized to map without limits, no matter the project."

http://www.commercialdroneprofessional.com/sensefly-to-showcase-new-fixed-wing-drone-in-free-webinar/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281593-Commercial+Drone+Professional+DNA++2018-11-02

What's Next for Drone Laws? The Commercial UAV Policy Panel at Airworks

Miriam McNabb November 02, 2018



One of the best aspects of this week's [DJI Airworks](#) conference in Dallas was the opportunity to hear the industry's biggest influencers speak about

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critical issues. The Commercial UAV Policy Panel represented manufacturers, drone ecosystem players, regulators and drone security. Topics ranged from the most important piece of current legislation, progress so far and the biggest threat the industry faces today.

Brian Wynne of AUVSI put it succinctly: "Remote ID is the piece that will solve the most problems." DJI's Brendan Schulman says that DJI has already implemented [Aeroscope](#): a system which could provide an example of a Remote ID technology which is low-cost, low-burden and protective of operator privacy.

Jaz Banga of Airspace Systems sees optimal counter UAS technology simply as an access system for protected areas. Effective security around protected areas keeps other areas open.

PrecisionHawk's Diana Cooper says that FAA Reauthorization has, for the most part, "achieved the right balance," between protecting innovation and dealing with security issues.

Corbett is careful to point out that the IPP is a way of including state and local regulators in the process of regulation, but is "not a delegation of authority," says Corbett. "It's designed to see what state and local governments want, need and are afraid of. "

Kittyhawk's Elefant comments that LAANC has represented a big step for operators. "We're really excited about the opportunities is that LAANC brings a 90 day process down to 90 seconds."

In July of this year, Kittyhawk's Andrew Elefant published an [article in DRONELIFE](#) about the Uniform Law Commission proposed tort law on aerial trespass. The law would be a blow to the drone industry: potentially making operators subject to be sued for flying over homes and private property.

This is still an issue. Brian Wynne of AUVSI recently published an op-ed titled [The Biggest Threat to Drone Innovation is a Group You've Never Heard Of](#) to address the issue. "We're always on some continuum of safety, privacy, and security – but Federalism is a false promise," says Wynne. <https://dronelife.com/2018/11/02/whats-next-for-drone-laws-the-commercial-uav-policy-panel-at-airworks/>

AirWorks 2018: DJI and Kespry announce Mavic 2 Pro stockpile measurement team-up DJI AIRWORKS EVENTS HEADLINE NEWS ALEX DOUGLAS on OCTOBER 31, 2018

The solution will deliver Kespry's autonomous flight and aerial intelligence experience for stockpile measurement using a DJI drone.



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Kespry hopes that the addition to its services will enable large aggregates and mining companies to standardize and capture stockpile data across all of its sites. The company says the integration of data captured from a DJI drone is the next innovation in the development of the Kespry industrial sensor platform.



As part of a keynote talk at the DJI AirWorks conference in Dallas, CEO and Chairman at Kespry, George Matthew said: **“Drone data is now the standard approach** for measuring stockpiles at mine sites, however, millions of dollars are wasted through reconciling inconsistent data from different platforms and the time involved getting that data ready for analysis.”

He added: “Our goal with the addition of the Mavic 2 Pro to our solution is to respond to our customers wishing to use the Kespry aerial intelligence platform across all mine sites to standardize how stockpile data is generated.” http://www.commercialdroneprofessional.com/airworks-2018-dji-and-kespry-announce-mavic-2-pro-stockpile-measurement-team-up/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281631-Commercial+Drone+Professional+DNA++2018-11-03

AirWorks 2018: Head of strategic partnerships likens drone industry to beginnings of the PC market

BUSINESS DJI AIRWORKS ALEX DOUGLAS NOVEMBER 2, 2018



Jan Gasparic, DJI's head of strategic partnerships, has likened the current state of the drone industry to where the PC market was at the beginning of its development.

He made the statement as part of a keynote talk to industry professionals at DJI's third annual conference in the US. He said: “The drone industry is in the same place now the personal computer industry was 30 or 40 years ago.” A statement of this sort from DJI and its team is **unusual for a company which often remains conservative** on just how quickly and at what scale it thinks the industry is progressing.

However, this statement, as well as the partnerships made at AirWorks this year, show how DJI is preparing for the future and is clearly planning for the drone industry to continue with the fast pace of growth it has shown so far. http://www.commercialdroneprofessional.com/airworks-2018-djis-head-of-strategic-partnerships-likens-drone-industry-to-beginnings-of-the-pc-market/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281631-Commercial+Drone+Professional+DNA++2018-11-03



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Urban Air Mobility Grand Challenge Industry Day

The vision to revolutionize mobility within metropolitan areas is one of the most exciting frontiers in modern aviation. NASA remains committed to supporting accessible air transport systems for passengers and cargo by working with the urban air mobility (UAM) community to identify and address the key challenges ahead.



An artist's conception of an urban air mobility environment, where air vehicles with a variety of missions and with or without pilots, are able to interact safely and efficiently.

In 2020, NASA will host a UAM ecosystem-wide challenge for participants to execute system level safety and integration scenarios within a robust and relevant environment. The goal of this first in a series of UAM Grand Challenges, which we are calling GC-1, is to promote public confidence in UAM safety and facilitate community-wide learning while capturing the public's imagination.

For the UAM Grand Challenge to be successful, NASA is seeking expectations from industry partners who are highly motivated to participate and work with us to achieve a safe, commercial operating capability.

A [Request for Information](#) was released October 15, 2018, seeking information from industry and other potential partners to participate in the future NASA Urban Air Mobility Grand Challenge. Responses are due by November 16, 2018, 2:00 pm Pacific. Join NASA to Discuss the Urban Air Mobility Grand Challenge Plan November 1 – 2, 2018, Seattle Marriott Waterfront <https://www.nasa.gov/uamgc>

Reality verses hype for drone deliveries November 4, 2018 Feilidh Dwyer



It would seem to the casual observer that some of the talk surrounding drone deliveries is very far-fetched. However, we have a case study of one country where drone deliveries have been **highly successful: Iceland.**

The tiny Nordic nation, population 350,000, launched a delivery service in 2017 in collaboration with an Israeli company, Flytrex. Flytrex has delivered



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thousands of different types of items around Iceland including many varieties of food and electronic equipment. There are now 123,000 people in Iceland with access to drone deliveries. The drones launch from the country’s capital, Reykjavik and now fly 13 different routes. They also added a wire drop service that allows packages to be safely dropped into people’s back gardens.



Flytrex works through people downloading an app and choosing an item to be delivered. A worker at a local shop will load the item to a Flytrex drone, and the goods generally arrive at a customer’s house within minutes. Flytrex plans to launch **in Holly Town Springs Town Centre in Raleigh, North Carolina**, in the next couple of weeks. Customers in a three-mile radius of the mall will be able to order food from any of the 20 food outlets.



Drone deliveries are going well in Iceland but obviously, at 320 million people, the United States is a completely different kettle of fish. <https://www.wetalkuav.com/drone-deliveries-too-good-to-be-true/>

Kratos Unveils Oklahoma Facility for Tactical UAS, Target Drone Production Peter

Grahamon: November 05, 2018 Industry News



[Kratos Defense and Security Solutions](#) has opened a facility at the Will Rogers Business Park in Oklahoma City to manufacture unmanned aerial and target drone systems designed for military use.

Kratos [said Friday](#) it seeks to address current and projected demand for the company’s jet-powered *Tactical UAS* and *MQM-178 Firejet* threat representation platforms through the new 100K-square-foot production facility. The company aims to hire more than **350 workers** during the next five years to perform manufacturing, design and engineering work on the aerial products.

[Steve Fendley](#), president of Kratos’ unmanned systems division, said the expansion in Oklahoma is intended to augment the firm’s current production capacity at a similar facility in California. The company offers unmanned jet aircraft systems that are 10 to 30 feet long with wingspans that measure up to 27 feet.



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Kratos also expanded its space communications systems production facilities in Colorado Springs, Colo. and increased manufacturing capacity in Orlando for training and simulation systems. <https://blog.executivebiz.com/2018/11/kratos-unveils-oklahoma-facility-for-tactical-uas-target-drone-production/>

Drones for Good: Lifesaving Vaccines Will Be Delivered by Drone this December in this Unicef Project Miriam McNabb November 05, 2018



The country of Vanuatu is a stunning landscape – but the island country in the Pacific, an archipelago of 83 islands that covers 1,600 kilometres, has airfields and established roads on only about one-third of the inhabited islands.



Providing vaccinations to the children of Vanuatu, midwives travel over challenging terrain by foot, carrying the vaccines in insulated bags. With no refrigeration available, the vaccines must be administered immediately upon arrival.

Drones are an obvious choice to solve the problem. Proven successful on the African continent, drone delivery of medical supplies is a reliable and inexpensive way to provide delivery services without road infrastructure. After receiving over 20 bids for the project, the Vanuatu government has awarded two contracts to "[Swoop Aero](#) Pty Ltd of Melbourne, which will cover vaccine delivery to health facilities on Epi and the Shepherd Islands as well as Erromango Island," says Unicef. "[Wingcopter Holding GmbH & Co. KG of Darmstadt, Germany](#), was awarded the third contract to deliver vaccines to facilities on Pentecost Island."

"The first phase of the drone trials will take place during the week of 3-7 December when these two drone companies will test the viability of delivering vaccines to inaccessible areas."



"UNICEF is proud to partner with the Vanuatu Government in such an innovative initiative to trial drones for delivering a reliable supply of vaccines to children living in remote communities," said UNICEF Pacific Representative, Sheldon Yett.

<https://dronelife.com/2018/11/05/drones-for-good-lifesaving-vaccines-will-be-delivered-by-drone-this-december-in-this-unicef-project/>



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More than 40 drones crash in Hong Kong light show – no reported injuries

November 5, 2018 Philip Butterworth-Hayes UAS traffic management news



Investigations are underway following the crash on 27 October of more than 40 drones in Hong Kong after a GPS signal they were using was jammed, according to press reports. The incident, which caused some HK\$1 million in damage (USD127,500), is now under criminal investigation. No-one was reported to be injured in the event.

The drones were part of a **100-LED-equipped drone show** to celebrate the annual Hong Kong Wine & Dine Festival. "After initial checks, the GPS signals for the drones were found to be interfered [with] by external parties and the board reported the issue to police immediately," organizers said in a press release, according to the *South China Morning Post*.

According to the *Hong Kong Standard*: "Rex Ngan, from the Hong Kong Professional Unmanned Aerial Vehicles Association, told RTHK's Candice Wong that even interference from mobile phone networks could be to blame and he doubted anyone had ruined the show deliberately." <https://www.unmannedairspace.info/uncategorized/40-drones-crash-hong-kong-light-show-no-reported-injuries/>

Drones replacing fireworks could make Bonfire Night traditions a thing of the past

HEADLINE NEWS UK ALEX DOUGLAS NOVEMBER 5, 2018



Drones have been used as a replacement for fireworks at a variety of events across the world this year.

UAVs were incorporated as part of displays at this year's Winter Olympics in South Korea and also on July 4 celebrations in the US.

Tonight, people across the UK will celebrate Bonfire Night as they have always known with huge firework displays and large fires but this could soon change. Year on year, safety is always a worry for officials at events for not only people but also for the environment surrounding the display.

To combat this, drones could soon be implemented to replace traditional fireworks and put on a light display instead, ensuring a safer event. Costs would also be saved as the devices can be used not only again the following year but also for a variety for other tasks depending on who owns them.



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Following the display for the Winter Olympics in Pyeongchang, onlookers took to Twitter to give their feedback and it was mostly positive. One Twitter user said "Give the drone pilots a gold medal," another said "You've gotta admit that drone show was pretty awesome" while another described how a drone tiger was her "favorite thing of the year."

http://www.commercialdroneprofessional.com/drones-replacing-fireworks-could-make-bonfire-night-traditions-a-thing-of-the-past/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281787-Commercial+Drone+Professional+DNA+-+2018-11-05

Fifteen year-old Rudi Browning from Australia has been crowned World Drone Racing Champion. EVENTS INTERNATIONAL NEWS ALEX DOUGLAS NOVEMBER 5, 2018



Browning beat over 120 other competitors taking part in the event in Shenzhen, China.

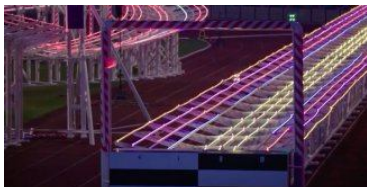
According to a report by the BBC, his victory meant the Australian team also emerged victorious ahead of Sweden in second, as the fastest country overall. Browning beat three others in Sunday's final to take home the **\$24,000** cash prize.

Browning reflected on the win. He said: "I'm still shaking actually. I have had a lot of ups and downs in races, like everyone, and this is definitely one massive high."

This competition is one of many around the world in what is becoming a fast-growing sport. The likes of Sky and ESPN televise the US-based Drone Racing League.

http://www.commercialdroneprofessional.com/australian-teen-wins-world-drone-racing-championships/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281787-Commercial+Drone+Professional+DNA+-+2018-11-05

Drone Goes 0-70 In 328 Feet RUSS NILES



Federation Aeronautique Internationale (FAI) has added the aerial equivalent of drag racing to its popular World Drone Racing Championships, and the new record holder got his specialized quadcopter to **70.98 mph** in a 328-foot straight-line course.. "When you get a good start you can just go full throttle all the way to the end," said first-place finisher and new record holder Timothy Trowbridge, of Switzerland, after beating 61 other contenders at the event held in Shenzhen, China.



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Meanwhile, Australia's Rudi Browning, 15, is the new world champion after besting 127 challengers on a course of turns and loops that pilots navigate using point-of-view goggles receiving streaming video from onboard cameras. He won **\$24,000**. The junior champion is 11-year-old Wanraya Wannapong, of Thailand. <https://www.avweb.com/eletter/archives/101/4184-full.html?ET=avweb:e4184:2565185a:&st=email#231808>

6Nov18

North Carolina drone startup PrecisionHawk makes fifth acquisition of 2018 with Uplift Data Partners ANNA HENSEL@AHHENSEL NOVEMBER 5, 2018



The commercial drone industry in the U.S. is still very young — it was only two years ago that the Federal Aviation Administration [passed rules](#) giving companies the green light to fly their own drones. That means some of the first movers in the industry are scaling at eye-popping rates, as embodied by Raleigh drone

startup [PrecisionHawk](#), which today announced its **fifth acquisition in one year**.

PrecisionHawk announced that it's acquiring Uplift Data Partners, a Chicago-based provider of drone-based inspection services for the construction and facilities management industry, for an undisclosed amount.

"Uplift had not only referenceable accounts but also great expertise and understanding of the market that set them apart," PrecisionHawk CEO Michael Chasen told VentureBeat in a phone interview.

The Uplift acquisition was preceded by the acquisitions of [Hazon and InspecTools](#) in September, and [Droners and AirVid](#) in February. Those acquisitions were enabled by a [\\$75 million funding round](#) in January.

Founded in 2010, PrecisionHawk initially focused on the agriculture industry. Its investors include Intel Capital, Verizon Ventures, and Comcast Ventures, and it has about 150 employees.

Droners and AirVid were both platforms that allowed companies to hire licensed drone pilots, enabling PrecisionHawk to build up its network of contract pilots. Today, the company has a network of **15,000 contract drone pilots, as well as 30 full-time pilots on staff** that can be hired out for jobs. <https://venturebeat.com/2018/11/05/north-carolina-drone-startup-precisionhawk-makes-fifth-acquisition-of-2018-with-uplift-data-partners/>



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General Atomics Receives \$263M Air Force UAV Production Contract Brenda Marie Rivers November 6, 2018 Contract Awards, News



A [General Atomics](#) business unit has secured a potential three-year, \$263.4M contract to produce *MQ-9 Reaper* unmanned aerial vehicles for the U.S. Air Force.

The Air Force will obligate the full contract amount from its FY 2017 and FY 2018 aircraft procurement funds at the time of award. Work will occur at a company facility in Poway, Calif., through Nov. 30, 2021.

MQ-9 is an armed, medium-altitude, long-endurance system designed to support terminal air guidance, target development, precision-strike, close air support, combat search-and-rescue, intelligence, surveillance and reconnaissance missions.

The UAV's baseline employs a multispectral targeting technology composed of multiple visual sensors. <https://www.govconwire.com/2018/11/general-atomics-gets-263m-mq-9-uav-contract-from-air-force/>

AUVSI Launches UAS Operator Certification Program 01 Nov 2018 Mike Rees



The [Association for Unmanned Vehicle Systems International](#) has announced the launch of its new Trusted Operator Program (TOP) – giving unmanned aircraft systems operators a way to increase their safety and boost their standing in the marketplace.

Interest in becoming a commercial drone operator has been growing, but so far, from a regulatory perspective, there has been little available to demonstrate competency or proficiency. While numerous training courses exist, there has been no industry unification for competency training or testing.

AUVSI has worked with industry experts to create TOP, to raise the trust and acceptance of the use of unmanned aircraft around the world. Under the program, UAS operators will be able to achieve **three levels of certification**, each a series of checklists of practices, skills and competencies "that all professional remote pilots and operators should follow, no matter in what part of the world they operate," Lamb says.

TOP uses a set of protocols from relevant standards from such bodies as ICAO, ANSI, SAE, ASTM and NIST. It also includes aviation regulations from the Federal Aviation Administration, Civil



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Aviation Safety Authorities, and Directorates General of Civil Aviation.

All three TOP levels are aimed at both individual remote pilots and commercial UAS organizations. Each level of certification reflects the level of skills, knowledge and safety require to operate in different industries. https://www.unmannedsystemstechnology.com/2018/11/auvsi-launches-uas-operator-certification-program/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=766d4d75c0-eBrief_2018_Nov_06&utm_medium=email&utm_term=0_6fc3c01e8d-766d4d75c0-111778317

Delair Unveils Fixed-Wing UAV for Agricultural Surveying 06 Nov 2018 Mike Rees



[Delair](#) has announced the launch of a new drone platform for the agriculture industry, the Delair UX11 Ag. It combines long-range/BVLOS flight operations with mapping and plant data collection.

The drone includes sensing technologies and a multispectral camera for plant-level measuring, including bird level, biomass and chlorophyll. The automatic geolocation enables an overlay of maps for temporal analysis or machine guidance as well as real-time review of data.

Capabilities include inventory control to optimize operations management and crop planning, increased traceability for sustainability, health monitoring of crops, extraction of production metrics and crop response assessment in field trials and research.

It can typically cover up to 900 hectares in a single day with only six flights at 150-meter altitude. Its geolocation capabilities and wide area imaging further decrease operational costs.

It includes a multispectral camera to see the plant level of most crops. The sensor generates plant health indexes and RGB (color) images and is calibrated for repeatable measurements. https://www.unmannedsystemstechnology.com/2018/11/new-fixed-wing-delair-uav-optimized-for-agricultural-surveying/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=766d4d75c0-eBrief_2018_Nov_06&utm_medium=email&utm_term=0_6fc3c01e8d-766d4d75c0-111778317



Sophisticated autonomy to provide solution for search and rescue connection issues APPLICATION

HEADLINE NEWS TECHNOLOGY ALEX DOUGLAS NOVEMBER 6, 2018

Drones using sophisticated autonomy could provide the solution to unreliable GPS signals when flying in dense forest



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canopy.

In a paper being presented at the International Symposium on Experimental Robotics conference next week, researchers from Massachusetts Institute of Technology described an autonomous system for a fleet of drones to collaboratively search under dense forest canopies.

The drones use only on-board computation and wireless communication and require no GPS. Each autonomous drone is equipped with laser-range finders for position estimation, localization, and path planning.

It creates an individual 3-D map of the terrain as it flies around, and algorithms help it recognize unexplored and already-searched spots meaning it knows when it's fully mapped an area.

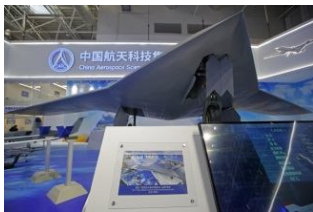
An off-board ground station fuses individual maps from multiple drones into a global 3-D map that can be monitored by human rescuers.

MIT went on to confirm the researchers had tested multiple drones in simulations of randomly generated forests, and tested two drones in a forested area within NASA's Langley Research Centre. In both experiments, each drone mapped a roughly 20-square-meter area in about two to five minutes and collaboratively fused their maps together in real-time.

http://www.commercialdroneprofessional.com/video-sophisticated-autonomy-to-provide-solution-for-search-and-rescue-connection-issues/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-281861-Commercial+Drone+Professional+DNA+-+2018-11-06

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China unveils stealth combat drone in development DAKE KANG and CHRISTOPHER BODEEN 7Nov2018



China's new-generation stealth unmanned combat aircraft prototype, the CH-7, is displayed during the 12th China International Aviation and Aerospace Exhibition, also known as Airshow China 2018

ZHUHAI, China (AP) — A Chinese state-owned company says it is developing a stealth combat drone in the latest sign of the country's growing aerospace prowess.

The CH-7 unmanned aerial vehicle also underscores China's growing competitiveness in the expanding global market for drones. China has won sales in the Middle East and elsewhere by offering drones at lower prices and without the political conditions attached by the U.S.



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The CH-7's chief designer Shi Wen says the aircraft can "fly long hours, scout and strike the target when necessary." Shi said manufacturer Chinese Aerospace Science and Technology Corporation plans to test fly the drone next year and begin **mass production by 2022**. He said the drone will likely be sold abroad but had no information on potential clients.

A model of the aircraft is being displayed at this week's Zhuhai air show in southern China, a biannual event that showcases China's latest advancements in military and civilian aviation.

With a wingspan of 72 feet and a length of 33 feet, the swept-wing CH-7 is the size of a combat aircraft, and its single engine can propel it at roughly the speed of a commercial jet airliner.

<https://www.apnews.com/6b2d2857f73c4fa387379c16b0dc60b9>

DHS S&T Applies Machine Learning Approach to Visual Drone Detection Nichols

Martin November 6, 2018 News, Technology



The Department of Homeland Security is combining machine learning with video technology to boost the precision of visual drone detection.

DHS [said Friday](#) it is working with Sandia National Laboratories to explore **temporal frequency analysis**, an approach focusing on an image's pixel fluctuation. This machine learning-based approach analyzes the pixel fluctuation frequency of an image to determine the drone's temporal frequency signature.

"You can train neural networks to recognize patterns, and the algorithm can begin to pick up on certain features," said Jeff Randorf, an engineering adviser at DHS' Science and Technology Directorate. TFA relies purely on **visuals**, and does not require thermal, radio and acoustic elements. The approach focuses on a drone's movements through time, and addresses the gap of radio signal detection that may not be applied to autonomous drones.

Sandia tested the TFA approach with three drone types in a high-clutter environment consisting of birds, cars and helicopters. Researchers found through the experiment that TFA significantly helped the detection system distinguish drones from birds.

<https://www.executivegov.com/2018/11/dhs-st-applies-machine-learning-approach-to-visual-drone-detection/>

Northrop Sets Nov. 7 Launch for NASA's ICON Satellite Aboard Pegasus Rocket

Jane Edwards November 07, 2018 News, Space

[Northrop Grumman](#) is set to launch on Wednesday, Nov. 7, a NASA satellite built to explore Earth's space environment aboard its *Pegasus XL* rocket.



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The company [said Tuesday](#) Pegasus carrying the Northrop-built *Ionospheric Connection Explorer* satellite will be dropped in mid-air by the *Stargazer L-1011* carrier aircraft once the plane takes off from Cape Canaveral Air Force Station in Florida.

The launch will mark the 44th flight of the commercial rocket designed to bring **small satellites** into low-Earth orbit as a certified category 3 launch vehicle.

Based on Northrop's *LEOStar-2* spacecraft bus, ICON was developed at the company's production facilities in Virginia and Arizona. The company will carry out the mission under NASA's *Launch Services Program*. <https://blog.executivebiz.com/2018/11/northrop-sets-nov-7-launch-for-nasas-icon-satellite-aboard-pegasus-rocket/>

FAA Readies For An Autonomous Future MARY GRADY November 7, 2018



"We find ourselves on the cusp of the third great era of aviation," acting FAA administrator Daniel Elwell said on Monday—"the **age of autonomous and unmanned aircraft**." In a talk at the Aero Club of Washington, Elwell said, "I'm not sure we appreciate how much of a seismic change it's going to be—for all of us.... We

want to be ready." Elwell said he wants to create an "**innovation incubator**" inside the FAA, "so that good ideas don't die on the vine. We'll measure success by our ability to disrupt the status quo and break down obstacles—so that new ideas can be transformed into concrete actions without disturbing current operations."

Elwell also noted the recent five-year authorization for the FAA is the longest the administration has had in more than 35 years. "We have a mandate to accelerate our momentum on unmanned aircraft. It clears the way to remote identification standards. It supports us moving forward on long-awaited rules for drone operations over people and at night." The bill increases commercial space funding by 236 percent over the next five years, and empowers the FAA to create an Office of Spaceports.

<https://www.avweb.com/eletter/archives/101/4185-full.html?ET=avweb:e4185:2565185a:&st=email#231822>



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Is the Public Really Ready for Drones in Public Safety? Here's What a New Study Reveals

Miriam McNabb November 07, 2018



A new study reveals what the public really thinks about using drone technology to increase public safety. Published by commercial drone platform provider [Cape](#), the study was the result of a survey of over **684 U.S. consumers**. The study offered several interesting insights, but one theme is clear – communities are ready and willing to see drones used for public safety.

The survey indicates that for many Americans, safety is a primary concern. 95% of consumers surveyed say that safety plays an important role in deciding where to live; over 80% said it was a deciding factor in attending a major event. While consumers expect law enforcement to respond quickly to their needs, the vast majority also want to *know that law enforcement is present*: 93% expect law enforcement to be “highly visible” in their communities.

“When attending large events, 79% expect security personnel to be highly visible throughout and 66% expect security to have total visibility of the event regardless of venue or crowd size,” says the report.

When educated about a case study of drones in law enforcement, consumers were twice as likely to view drones as a tool for public safety, and 26% more likely to feel safer due to the use of drones. “According to our study, when it comes to use of drones for public safety, U.S. consumers agree that better education about potential impact (84%) and more transparent communications about their use (88%) are key to increasing their comfort levels,” says the paper.

As the public begins to see drones as a tool for their service and safety, acceptance of more commercial applications will follow. For more information, download the full report [here](https://dronelife.com/2018/11/07/is-the-public-really-ready-for-drones-in-public-safety-heres-what-a-new-study-reveals/).



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DARPA Selects Potential Launch Sites, Initial Teams for Planned Payload Launch Competition Monica Jackson November 7, 2018 News



The Defense Advanced Research Projects Agency has announced the potential locations for a competition that seeks to **launch small payloads on short notice**.

The agency [said Tuesday](#) details of the launch sites for the *DARPA Launch Challenge* will be finalized, along with the necessary payloads and the orbit they will be placed in, a few weeks before the planned space flight missions. The potential launch locations are:

- California Spaceport
- Cape Canaveral Spaceport
- Cecil Spaceport
- Mid-Atlantic Regional Spaceport
- Mojave Air and Space Port
- Naval Outlying Field
- Pacific Spaceport Complex – Alaska
- Spaceport America

DARPA has also reviewed an initial wave of proposed launch strategies and shortlisted 18 teams that will possibly compete in the *Launch Challenge*. The participants are encouraged to coordinate with the Federal Aviation Administration before submitting their applications for a launch license to address potential regulatory concerns and reduce risks.

DARPA will award a \$400K prize to contestants passing the qualification step and \$2M for completing the first launch. Three teams will be awarded the grand prizes of \$8M, \$9M and \$10M for passing the second flight mission. <https://www.executivegov.com/2018/11/darpa-selects-potential-launch-sites-initial-teams-for-planned-payload-launch-competition/>

Researchers Develop Drone-Charging System With Diamonds, Lasers Betsy Lillian November 7, 2018

Swiss researchers are [developing](#) a tiny, lab-grown diamond that they say could one day enable drones to be recharged mid-flight through a laser.



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LakeDiamond, a spin-off of the École polytechnique fédérale de Lausanne (EPFL) is creating a power beaming system: an energy-rich laser beam that is guided by a tracking system built around diamonds that are grown in the company's lab and subsequently etched at the atomic level.

The system produces a laser beam with a wavelength of 1.5 μm that, in addition to being safe, can travel much farther without losing strength. "Systems developed by other companies and labs employ lasers that are more powerful and thus more dangerous for humans," says Pascal Gallo, CEO of LakeDiamond.

On the other hand, this beam has a larger diameter, and its rays remain parallel over a longer distance – in this case, up to several hundred meters. In LakeDiamond's laser, the light produced by a diode is directed at a booster composed of reflective material, an optical component and a small metal plate to absorb the heat. The breakthrough lies with the fact that the emitted beam is only a few dozen watts strong. The **secret** is using a small, square, lab-grown diamond as the optical component. The lab-grown diamonds' key properties include high transparency and thermal conductivity, which took the researchers more than 10 years to develop. LakeDiamond grows its diamonds through a process of chemical vapor deposition, an approach that ensures their purity and reproducibility. The surfaces of the resulting diamonds are then sculpted at the nano level using expertise developed in Niels Quack's lab at EPFL. The company's remote recharging system works in the lab but will require further development and refinement before it's ready for field use. https://unmanned-aerial.com/researchers-develop-drone-charging-system-with-diamonds-lasers?utm_medium=email&utm_source=LNH+11-08-2018&utm_campaign=UAO+Latest+News+Headlines

Intel Drones Join the Rockettes at Radio City Music Hall Betsy Lillian November 7, 2018



One-hundred Intel drones will take flight during this year's production of the Christmas Spectacular Starring the Radio City Rockettes in New York City.

The Madison Square Garden Co. announced that Intel has joined the creative team for the 2018 production of the show, presented by Chase.

The Intel Shooting Star mini drones will create a light show over the Great Stage of Radio City Music Hall by using choreographed movements to create holiday-themed silhouettes in the all-new finale scene, "Christmas Lights."



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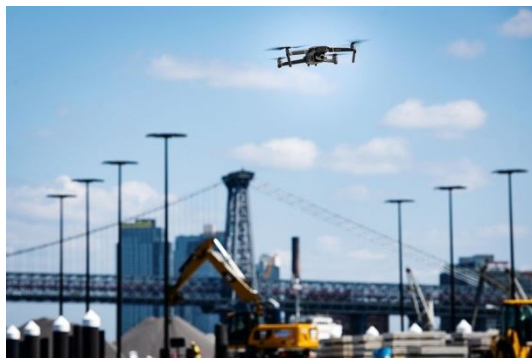
"Intel's innovative technology and unique expertise helps propel our ambitious vision into reality with the first-of-its-kind large-scale drone performance in a theatrical setting," says Victoria Parker, executive vice president of productions for The Madison Square Garden Co.

Intel will perform at the approximately 200 shows at Radio City Music Hall from Nov. 9 to through Jan. 1. Other Intel Shooting Star performances have taken place at the [Olympics](#), [CES 2018](#), [Super Bowl LI](#), [Walt Disney World](#), [Dodger Stadium](#) and [Coachella](#). https://unmanned-aerial.com/intel-drones-join-the-rockettes-at-radio-city-music-hall?utm_medium=email&utm_source=LNH+11-08-2018&utm_campaign=UAO+Latest+News+Headlines

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Hackers Gain Access to Data Collected by Drones Giant Gwen Ackerman November 8, 2018

Check Point found loophole in customer identification process. No signs that the vulnerability was exploited.



Hackers had access to the flight paths, photos, and aerial video footage collected by the world's largest seller of drones for consumers, adding to fears about the security of pilotless flying devices.

Access to customer accounts of Chinese-based drone maker [SZ DJI Technology Co](#) could be gained via a vulnerability on the company's website forum, according to a report from [Check Point Software](#)

[Technologies Ltd.](#)

DJI dominates the \$6 billion market for consumer drones, but has been subject to criticism over security holes. Last year, the U.S. Army directed its personnel to stop using drones made by DJI and to uninstall all DJI software, after it became aware of [security breaches](#) in the Chinese company's products.

Following the Army ruling, DJI set up a bug bounty program, where it pays independent hackers who find flaws in its systems. DJI marked Check Point's discovery a high risk but low probability because the vulnerability required a complicated set of preconditions to be successfully exploited. It installed a patch and said there were no signs that the breach was exploited.



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If left unpatched, the vulnerability could have given attackers access to information including maps providing intricate details and images of critical infrastructure facilities, among others, Check Point said. In addition, hackers could get access to real-time activity of drones after obtaining entry to the DJI flight hub. The data could have been used as reconnaissance information and used in a possible attack.

"All technology companies understand that bolstering cybersecurity is a continual process that never ends," said Mario Rebello, head of U.S. at DJI, in a statement.

<https://www.bloomberg.com/news/articles/2018-11-08/dji-drone-vulnerability-allowed-access-to-flight-paths-footage>