



## UAS and SmallSat Weekly News

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**As drone demand soars, New Jersey poised to bar drunken droning** Barbara Goldberg JANUARY 4, 2018

NEW YORK (Reuters) - U.S. drone sales in 2017 topped \$1 billion for the first time ever, but don't raise a glass too quickly if you are in New Jersey, where lawmakers are poised to outlaw drunken droning next week.

New Jersey's Assembly is slated to vote on a bill approved by the state Senate to ban inebriated or drugged droning, as well as to outlaw flying unmanned aircraft systems over prisons and in pursuit of wildlife.

It was a drunken, off-duty employee of the National Geospatial-Intelligence Agency who flew the 2-foot-by-2-foot (60 cm by 60 cm) "quadcopter" from a friend's apartment balcony and lost control of it over the grounds surrounding the White House, the New York Times reported.

At least 38 states are considering restrictions on the devices this legislative year, including Illinois, Maryland, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, and South Carolina, said Amanda Essex, senior policy specialist for the National Conference of State Legislatures.

"Like any technology, drones have the ability to be used for good, but they also provide new opportunities for bad actors," said Assemblywoman Annette Quijano of Elizabeth, New Jersey. She backed the bill, which would impose a punishment of up to six months prison and a \$1,000 fine for drunk droning. <https://www.reuters.com/article/us-usa-drones-drunken/as-drone-demand-soars-new-jersey-poised-to-bar-drunken-droning-idUSKBN1ET15A>

### Improved drone technology gives farmers edge in scouting fields



Kent Shannon, right, shows agronomy specialist Dhruba Dhakal how to use a drone to take aerial images of a soybean field.

Shannon gave an update on drone technology at MU Extension's annual Crop Management Conference Dec. 18-19 in Columbia.

With the drone's birds-eye view, row crop farmers can scout for disease, pest and nutrient problems in crops. Livestock producers can check herds, fences and water. Better technology overcomes weather and mobility issues. Enhanced imaging allows



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farmers to zoom in on problem areas and respond quickly, he said. This results in better productivity and higher yields.

Shannon gave conference attendees a look at a recently released autonomous drone specially manufactured for agricultural use. The new industrial drone **self-charges and self-manages**. He also showed drones of varying prices and quality.

[http://bolivarmonews.com/agribusiness/improved-drone-technology-gives-farmers-edge-in-scouting-fields/article\\_34817452-efff-11e7-b6cf-5ff5ab7a33d2.html#tncms-source=article-nav-prev](http://bolivarmonews.com/agribusiness/improved-drone-technology-gives-farmers-edge-in-scouting-fields/article_34817452-efff-11e7-b6cf-5ff5ab7a33d2.html#tncms-source=article-nav-prev)

**7Jan18**

### **Growing number of horses bolting after being spooked by low flying drones**

Patrick Sawyer, senior reporter 6 JANUARY 2018



Increasing numbers of riders are being thrown from their horses and suffering injuries after their steeds have been spooked by low flying drones

Around a dozen incidents of drone horse scares have been reported over the past year, but the actual figure is feared to be far higher - with many riders not reporting their experiences.

The British Horse Society has now called for the law to be strengthened to allow police to clamp down on drone owners who fly them close to horses. The society has said the 11 incidents of drone scares reported to it between 2016 and 2017 is “just the tip of the iceberg” and that it has received numerous from members worried about the increased use of drones.

<http://www.telegraph.co.uk/news/2018/01/06/growing-number-horses-bolting-spooked-low-flying-drones/>

**Drone view discovers ancient Silk Road irrigation system** Gerry Everding-USTL January 5th, 2018

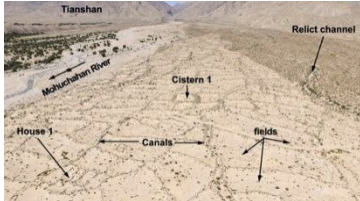
**Using satellite imaging and drone reconnaissance**, archaeologists have discovered an ancient irrigation system that once allowed a farming community in arid northwestern China—one of the world’s driest desert climates—to raise livestock and cultivate crops.

Lost for centuries in the barren foothills of China’s Tian Shan Mountains, the ancient farming community is hidden in plain sight—appearing to be little more than an odd scattering of round boulders and sandy ruts when viewed from the ground.



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Surveyed from 30 meters above using drones and specialized image analysis software, however, the site shows the unmistakable outlines of check dams, irrigation canals, and cisterns feeding a patchwork of small farm fields.



*Aerial view of an ancient irrigation system discovered in the foothills of Xinjiang, China. (Credit: Archaeological Research in Asia)*

Initial test excavations also confirm the locations of scattered farmhouses and grave sites, says Yuqi Li, a doctoral student in the anthropology department at Washington University in St. Louis.

Preliminary analysis, as detailed by Li and coauthors in [Archaeological Research in Asia](#), suggests that the irrigation system was built in the 3rd or 4th century CE by local herding communities looking to add more crop cultivation to their mix of food and livestock production.

“As research on ancient crop exchanges along the Silk Road matures, archaeologists should investigate not only the crops themselves, but also the suite of technologies, such as irrigation, that would have enabled ‘agropastoralists’ to diversify their economies,” Li says.

<http://www.futurity.org/silk-road-irrigation-system-1647852/>

## The Y6S Drone Could Get Londoners From Heathrow Airport to Central London in 12 Minutes

MARCO MARGARITOFF JANUARY 5, 2018

*Autonomous passenger drones are being tested more and more these days. Martin Warner thinks that, within 5 years, they'll be a common sight.*



A UK firm is currently hard at work on an autonomous passenger drone that could transport Londoners from the Charing Cross train station in Central London to Heathrow Airport in 12 minutes. [According to Sky News](#), entrepreneur Martin Warner’s start-up, [Autonomous Flight](#), might actually begin testing the autonomous Y6S drone this year. Warner

sees this not merely as a tool to get to the airport more rapidly, but as a stepping stone to an inevitable phase where everyday citizens take aerial cabs to work. “One day, absolutely, there’s going to be an air shuttle system and people using autonomous passenger drones or indeed piloted drones as another form of getting to work,” said Warner.



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Reportedly, when asked about the very real fear of flying—particularly when there’s no one at the helm—Warner is confident that our already established trust in the sophisticated tech and guidance systems implemented in contemporary aircrafts will be strong enough to get customers on his side. <http://www.thedrive.com/aerial/17404/the-y6s-drone-could-get-londoners-from-heathrow-airport-to-central-london-in-12-minutes>

### **Pentagon Wants To Develop Bat Drones With Lasers Which Sounds Like A ‘Black Mirror’ Episode Come To Life** Patricia Grannum <https://youtu.be/xejjA2AF05I>

The Pentagon is looking to develop drones modeled after living organisms like bats and insects. The Department of Defense’s DESI pilot program has made a call for proposals that will solve certain “defense challenges.” One of these challenges is the development of “highly maneuverable drones.”

According to *Defense One*, the announcement states that the pilot program is focused on creating new forms of [autonomous flight technology](#) with advanced algorithms for flight control and **decision-making ability**. Their view is that drones inspired by animals like bats will improve this technology.

“The biological study of agile organisms such as bats and flying insects has yielded new insights into complex flight kinematics of systems with a large number of degrees of freedom, and the use of multi-functional flight surface materials,” the announcement reads.

“As a result of these advances, there exists a possibility of creating autonomous unmanned aerial vehicles (UAVs) that have significant improvements in maneuverability, survivability and stealth over traditional quadcopter or fixed-wing designs.”

<https://www.inquisitr.com/4721518/pentagon-wants-to-develop-bat-drones-with-lasers-which-sounds-like-a-black-mirror-episode-come-to-life/>

### **Circular runways: Engineer wants to use design for drones** Dougal ShawWorld Hacks, BBC News 7 January 2018



Henk Hesselink is collaborating with Valkenburg airport, a disused naval base near The Hague, which has ambitions to become a drone innovation centre.

His design for circular runways at passenger airports captured global attention last year, in aviation circles and on [social media](#).



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The point, he explained, was **to make more efficient use of space, reduce tricky crosswind landings and cut down on noise pollution.**



Valkenburg airport between The Hague and Leiden is the proposed site for the circular runway for drones

Mr Hesselink, a senior research and development manager at the Netherlands Aerospace Centre, says growing demand for drone delivery services will call for "a network of drones, surfing distribution centres".

While small drones will be used to deliver goods direct to your home, larger drone aircraft will be needed to carry goods to out-of-town distribution centres, he argues. These larger drones would be of a fixed-wing design like aeroplanes, rather than the quadcopter design favoured by hobbyists. These are more fuel efficient, fly for longer and can carry more cargo. But they need a runway to land and take-off - and this infrastructure, he points out, is not yet in place.

<http://www.bbc.com/news/stories-42443334>

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**Bill Seeks to Stop Drone Use to Spy on People, Harass Cows** GRANT SCHULTE,  
Associated Press Jan. 7, 2018

LINCOLN, Neb. (AP) — Using a drone to spy on neighbors, drop drugs into prisons or harass cows could lead to criminal charges under a new bill [Nebraska](#) lawmakers will consider later this year. Sen. Carol Blood of Bellevue said she introduced the bill to protect the public **without overregulating drones**, the kind of technology she said is critical to the state's economic growth.

If the measure passes, Nebraska would join 40 other states with laws regulating drones, according to the National Conference of State Legislatures. The Nebraska bill would create a variety of new restrictions for drone users. Pilots who use drones to peep inside homes without permission could face a misdemeanor charge, and so could sex offenders who use drones to violate a protection order.

Drone users who fly lower than 300 feet over private property after receiving a trespass notice could also be charged, as could pilots who fly too close to a prison or cordoned-off crime scene. The bill would prohibit pilots from strapping weapons to their drones or harassing livestock.





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The legislation also would shield police officers and firefighters from lawsuits if they damage a drone while performing their official duties and believed it was interfering with their work. Law enforcement agencies could use information from drones with a warrant or in certain emergencies and situations. <https://www.usnews.com/news/best-states/nebraska/articles/2018-01-07/bill-seeks-to-stop-drone-use-to-spy-on-people-harass-cows>

### **FBI: Drones spotted in sky before title game despite ban** JANUARY 7, 2018

ATLANTA (AP) - The FBI says drones have been spotted in restricted air space surrounding the Atlanta stadium where college football's title game will be held, despite a temporary ban. FBI spokesman Kevin Rowson said Sunday that flying drones or aircraft in the area of Mercedes-Benz stadium and the nearby entertainment venues is **a violation of federal law**.

The Federal Aviation Administration banned aircraft including drones from Saturday through Monday night, when the University of Georgia faces the University of Alabama in the College Football Playoff Championship. Despite the ban, Rowson said drones were spotted in the restricted area Saturday, and he warned that violators would be prosecuted. [http://www.philly.com/philly/wires/ap/news/20180107\\_ap\\_b9d35ea82bad4dd482cabbd562b40295.html](http://www.philly.com/philly/wires/ap/news/20180107_ap_b9d35ea82bad4dd482cabbd562b40295.html)

### **New drone tech could make crashes a thing of the past** JACK MORSE



**Collision-avoidance algorithm**," the drones are capable of maneuvering and environment — all without any human input.

"360Fusion is a flexible solution that is compatible with all types of sensors and that can leverage data from the best of them," explained Marie-Sophie Masselot, Leti's industrial partnership manager, in a press release. "Fitted on a low-cost microcontroller, this technology can be embedded in drones to detect any dynamic obstacle and guide the drone away from a collision."

A class of drones (like the [DJI Phantom 4 Pro](#)) have been able to avoid fixed objects for some time now. What Leti is offering is supposedly a better version of this, and at **a significantly lower cost**. Like, a tenth of the cost of what's on the market now, if Leti is to be believed.

While hobbyists are sure to find this extremely useful, the Leti representative at CES also had his sights set on industrial use. Picture a factory humming with aerial drones, scanning barcodes



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or inspecting equipment, all without any direct human guidance.

<http://mashable.com/2018/01/08/ces-drone-crash-avoidance/#t9qNW8GrLkqo>

### **Drones to be tested with passengers on board this year** Alys Key 7 January 2018



*The drones could cut the journey to Heathrow to just 12 minutes*

Martin Warner's Autonomous Flight Y6S will carry passengers for the first time in **spring 2018**, having only so far performed flights without people on board.

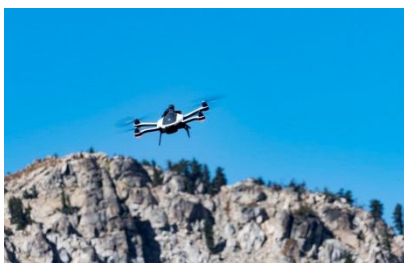
If the flights are successful, it could lay the way for two-person drones to fly over London in the near future, going between Charing Cross and Heathrow in just 12 minutes. Warner [told Sky News](#) that enthusiasts might be able to purchase the passenger drone for around £20,000.

The growth of drones for urban uses has [raised the possibility](#) that they could assist the emergency services or deliver parcels. But some are still concerned that the proliferation of the technology is creating safety hazards, especially to aircraft. [The government has promised to introduce new rules](#) on drones. <http://www.cityam.com/278331/drones-tested-passengers-board-year>

**9Jan18**

### **GoPro exits drone market, hints at search for a buyer, partner** JOSHUA GOLDMAN JANUARY 8, 2018

*The leader in the action cam market continues to reduce its size and product lines in its fight to stay profitable.*



In the company's [fourth quarter 2017 results announcement](#), GoPro said it will discontinue its Karma drone and exit the category. It cited "margin challenges in an extremely competitive aerial market" and "a hostile regulatory environment in Europe and the United States" as causes.

GoPro was the already facing an uphill battle when it launched the [Karma](#), its first drone designed for the company's cameras, in September 2016. The drone was set back by production delays and entered a market dominated by drone maker DJI. The





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Karma launch was followed by a full recall to fix an issue with the drone's battery that caused it to lose power in flight.

GoPro was able to offer something different with the Karma's simple gaming-style controls, folding body and a unique design that let you remove its camera stabilizer to use handheld. Those things -- and the GoPro name -- helped put Karma into second place in its price band in 2017 behind category leader DJI. But **it wasn't enough** and the Karma is now part of [the company's other cost-cutting measures](https://www.cnet.com/news/gopro-exits-drone-market-hints-at-search-for-a-buyer-partner/). <https://www.cnet.com/news/gopro-exits-drone-market-hints-at-search-for-a-buyer-partner/>

**Secretive new Kratos UAS enters production** 08 JANUARY, 2018, FLIGHT DASHBOARD BY: STEPHEN TRIMBLE, WASHINGTON DC

A new jet-powered unmanned air system developed by Kratos Unmanned Systems Division (USD) will enter production under a **\$23 million contract** awarded by an unidentified customer, the California-based company announced on 8 January. Most of the work under the contract will be completed within a year, but Kratos expects "multiple years of additional production" of the new UAS, the company says.

Kratos confirmed the existence of a high-performance, jet-powered UAS development programme last year, but continued in the new announcement to offer few details, including the identity of the customer. In previous statements about the project, Kratos chief executive Eric DeMarco has described the new UAV as capable of high-subsonic speeds and high-g manoeuvres. <https://www.flightglobal.com/news/articles/secretive-new-kratos-uas-enters-production-444693/>

**AMS meeting investigates roles for commercial and small satellites in weather forecasting** Debra Werner — January 8, 2018



*Attendees line up to ask questions during a Jan. 7 Town Hall meeting at #AMS2018.*

During a Jan. 9 Town Hall meeting, "The Weather Value Chain of the Future: From NewSpace to NOAA," government and industry representatives will discuss the opportunities and challenges posed by commercial technologies and businesses.

AUSTIN, Texas — Atmospheric and space scientists gathering at the 98th Annual Meeting of the American Meteorological Society this week will be sharing information on a wide range of



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topics, including **future government and commercial weather satellites of all sizes**. The event is expected to draw about 4,500 people and feature expert reports on the role U.S. Defense Department, NASA, National Oceanic and Atmospheric Agency and commercial weather satellites will play in future weather forecasts.

**For the first time**, the AMS meeting **includes an Earth Observing Smallsats conference** to focus attention on satellites weighing less than 500 kilograms and used to monitor Earth's atmosphere, water, ecosystems and frozen regions. That conference agenda includes presentations by many of the companies and organizations obtaining weather data with cubesats, including San Francisco-based Spire Global, which plans to employ a large constellation of cubesats to gather global weather and climate data. <http://spacenews.com/ams-intro/>

### **Justice Dept. scrambles to jam prison cellphones, stop drone deliveries to inmates** Sari Horwitz January 8



The Justice Department will soon start trying to jam cellphones smuggled into federal prisons and used for criminal activity, part of a broader safety initiative that is also focused on preventing drones from airdropping contraband to inmates.

Deputy Attorney General Rod J. Rosenstein told the American Correctional Association's conference in Orlando on Monday that, while the law prohibits cellphone use by federal inmates, the Bureau of Prisons confiscated 5,116 such phones in 2016, and preliminary numbers for 2017 indicate a 28 percent increase.

When he was the U.S. attorney in Maryland, Rosenstein prosecuted an inmate who used a smuggled cellphone to order the murder of a witness. A gang member in North Carolina used a contraband cellphone to direct a hit on a prosecutor's father, who was subsequently kidnapped and assaulted by the inmate's associates. And an inmate in Tennessee used a smuggled cellphone to download and transmit child pornography, Justice Department officials say.

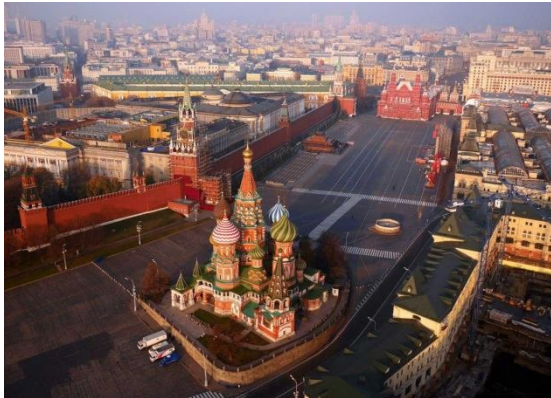
Next week, the department will begin testing a **"micro-jamming" system** to evaluate whether such technology can be used to halt inmates' calls without disrupting services in the surrounding area, including those used by first responders.

[https://www.washingtonpost.com/world/national-security/justice-dept-scrambles-to-jam-prison-cellphones-stop-drone-deliveries-to-inmates/2018/01/08/42492896-f4a0-11e7-b34a-b85626af34ef\\_story.html?utm\\_term=.5b7746276d89](https://www.washingtonpost.com/world/national-security/justice-dept-scrambles-to-jam-prison-cellphones-stop-drone-deliveries-to-inmates/2018/01/08/42492896-f4a0-11e7-b34a-b85626af34ef_story.html?utm_term=.5b7746276d89)



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### 37 incredible drone photos from across the globe that would be totally illegal today [Melia Robinson](#) and [Christian Storm](#) Apr. 1, 2015



*Above the Kremlin at the heart of Moscow, Russia.*

One of the most interesting ways to utilize drone technology is photography. Photographer [Amos Chapple](#) knows this better than most. As soon as consumer drones came on the market, Chapple knew he needed one. After purchasing one and learning how to fly it, he began traveling the globe, photographing famous landmarks before such photography was made illegal.

"There was a window of about 18 months where it was possible to fly these things anywhere and people were excited to see it. I'm glad I made use of that time," Chapple told Business Insider.

Now, with drone use illegal in many of these locations, his collection of beautiful drone images has some of the only aerial photos of their type. Chapple shared many of them with us and told the stories behind his shots. Check out more on [his site](#). *And see them at:*

[http://www.businessinsider.com/illegal-drone-photos-of-the-most-beautiful-places-on-earth-2015-3?pt=385758&ct=Sailthru\\_BI\\_Newsletters&mt=8&utm\\_source=Triggermail&utm\\_medium=email&utm\\_campaign=email\\_article/#s-amazing-to-be-able-to-explore-an-aerial-image-chapple-says-theres-such-an-immensity-of-information-37](http://www.businessinsider.com/illegal-drone-photos-of-the-most-beautiful-places-on-earth-2015-3?pt=385758&ct=Sailthru_BI_Newsletters&mt=8&utm_source=Triggermail&utm_medium=email&utm_campaign=email_article/#s-amazing-to-be-able-to-explore-an-aerial-image-chapple-says-theres-such-an-immensity-of-information-37)

10Jan18

### Collaborative Operations in Denied Environment (CODE) Phase 2 Flight Tests

January 10, 2018 by Nicholas Hoffman

DARPA's Collaborative Operations in Denied Environment (CODE) program aims to extend the capability of the U.S. military's existing unmanned aircraft systems (UASs) to conduct dynamic, long-distance engagements of highly mobile ground and maritime targets in denied or contested electromagnetic airspace. Multiple CODE-equipped unmanned aircraft would navigate to their destinations and find, track, identify, and engage targets under established rules of engagement—all under the supervision of a single human mission commander.



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In its pursuit of these goals, the program has conducted successful Phase 2 flight tests with teams led by Lockheed Martin Corporation (Orlando, Fla.) and the Raytheon Company (Tucson, Ariz.). The CODE teams completed numerous flight tests at Naval Air Weapons Station China Lake in California. Both teams demonstrated numerous CODE capabilities with two real UASs and four virtual UASs flying together, including adapting to dynamic situations such as attrition of friendly forces or the emergence of unanticipated threats. For more information, please visit <http://www.darpa.mil/news-events/2018...>

### Intel's new Shooting Star Mini drones can make indoor light shows Dieter

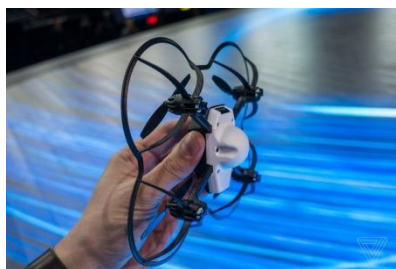
Bohn@backlon Jan 8, 2018 *You can't buy just one, sorry*



Intel has long been proud of its drone-based light shows — including airing a (pre-taped) [halftime show at the last Super Bowl](#). Today at its CES keynote, the company introduced a new version of those drones, called “Shooting Star Mini.” The innovation here? They’re tiny and totally safe to fly indoors, above the heads of the audience. They are interesting because they can locate themselves in space without the need for GPS.

Intel capped its keynote with a light show that was impressive (at least if you were in the arena to get the full effect of the tiny drones flying in 3D space). The song they danced to was Kygo’s “Stargazing,” of course.

Want to buy one? Sorry, you can’t. “This is not the type of drone you can buy in the store,” says CEO Brian Krzanich. Even though these little drones seem like they might be the perfect in-house drone toy, that’s not what Intel intends for them. Intel says **a single pilot can fly up to 100 of them at once.**



Photography by Dieter Bohn / The Verge <https://www.theverge.com/2018/1/8/16866880/intel-shooting-star-mini-drones-indoor-light-shows-ces-2018>



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**AeroVironment to Develop Solar-Powered HALE UAS** 04 Jan 2018 | Author: Caroline Rees



[AeroVironment](#) has announced the formation of a joint venture with Japanese telecommunications firm HAPSMobile to develop solar-powered high-altitude long-endurance, or HALE, UAS (unmanned aircraft systems) for commercial operations. This category of UAS is also referred to as high-altitude pseudo-satellites, or HAPS. The joint venture will fund the development program up to a net maximum value of **\$65,011,481**.

“This is a historic moment for AeroVironment. For many years, we have fully understood the incredible value high-altitude, long-endurance unmanned aircraft platforms could deliver to countless organizations and millions of people around the world through remote sensing and last mile, next generation IoT connectivity,” said Wahid Nawabi, AeroVironment chief executive officer.

AeroVironment developed the concept for a high-altitude solar-powered UAS in the 1980s, and developed and demonstrated multiple systems for NASA’s Environmental Research Aircraft and Sensor Technology program in the late 1990s and early 2000s. In August 2001, the AeroVironment Helios prototype reached an altitude of 96,863 feet, setting the world-record for sustained horizontal flight by a winged aircraft. In 2002, the AeroVironment Pathfinder Plus prototype performed the world’s first UAS telecommunications demonstrations at 65,000 feet by providing high-definition television signals, third-generation mobile voice, video and data and high-speed internet connectivity. Multiple United States government agencies funded the development of the hybrid-electric Global Observer unmanned aircraft system from 2007 through 2011. Global Observer represents a solution for extended operation over high Northern and Southern latitudes during local winters, when the sun’s energy is insufficient to maintain continuous solar aircraft operation at high altitude.

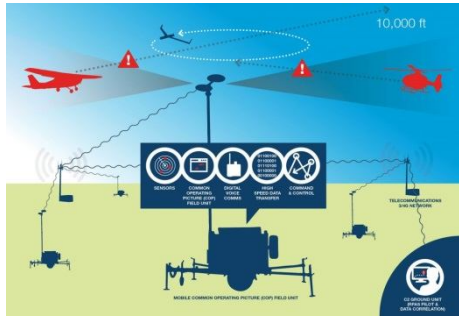
[http://www.unmannedsystemstechnology.com/2018/01/aerovironment-develop-solar-powered-hale-uas/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=71f82290f1-eBrief\\_2018\\_Jan\\_9&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-71f82290f1-111778317](http://www.unmannedsystemstechnology.com/2018/01/aerovironment-develop-solar-powered-hale-uas/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=71f82290f1-eBrief_2018_Jan_9&utm_medium=email&utm_term=0_6fc3c01e8d-71f82290f1-111778317)





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### Insitu Demonstrates Situational Awareness System for UAS 09 Jan 2018 | Caroline Rees



*Insitu* has announced that it has successfully completed a flight demonstration for its ground-based Unmanned Aerial Systems (UAS) airspace situational awareness system. *Insitu* is tackling one of the toughest challenges for UAS — the ability to detect nearby aircraft flying both within and beyond UAS operators' line of sight.

Insitu — in collaboration with Boeing Phantom Works International — designed, developed, and tested the airspace situational awareness system in Australia under a program sponsored by the Queensland Government. The system is designed as one of the optional “layers” of safety to enable broad-area, beyond visual line of sight (BVLOS) capability for commercial UAS operations by providing airspace situational awareness for UAS operators, specifically to help detect and avoid so called “non-cooperative” traffic. The system incorporates radio over internet protocol (ROIP) to expand its ability to communicate with air traffic control and local traffic in the operations area.

Using either mobile or fixed infrastructure, the system combines Airborne Dependent Surveillance Broadcasts (ADS-B) and transponder returns to provide a correlated common operating picture — enabling UAS operators at ground control systems to see real-time information about the local airspace.

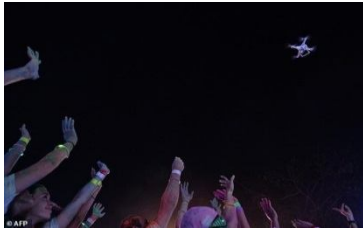
Remotely detecting and tracking other airspace users, the system immediately sends the air traffic information back to a ground-control station — assisting operators in safely operating UAS over extended ranges. [http://www.unmannedsystemstechnology.com/2018/01/insitu-demonstrates-situational-awareness-system-uas/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=71f82290f1-eBrief\\_2018\\_Jan\\_9&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-71f82290f1-111778317](http://www.unmannedsystemstechnology.com/2018/01/insitu-demonstrates-situational-awareness-system-uas/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=71f82290f1-eBrief_2018_Jan_9&utm_medium=email&utm_term=0_6fc3c01e8d-71f82290f1-111778317)





## UAS and SmallSat Weekly News

### Thailand says drone users must register or face jail, fines AFP 9 January 2018



*Teenagers wave to a drone camera in Bangkok in 2016: users must now register or face punishment*

Drone users who fail to register their devices in Thailand by Tuesday could face up to five years in jail or a \$3,000 fine, officials said, tough new rules that may hit tourists and media alike.

The regulations, which were announced in October but take effect this week, cover nearly all forms of drone use from commercial and recreational to scientific.

Anyone using an unregistered drone after Tuesday risks a 100,000 baht (\$3,100) fine or a maximum of five years' imprisonment, according to the National Broadcasting and Telecommunication Office.

"All type of drones except toy drones must be registered," an NBTC official told AFP, exempting unmanned aerial vehicles under 250 grams (eight ounces) -- which tallies with new US rules.

Thailand says it has registered almost 8,000 unmanned aerial vehicles so far, a process that requires users to obtain a license from the Civil Aviation Authority.

### Sen. John Hoeven Urges DHS Leaders to Use North Dakota's UAS Expertise for Border Protection Efforts Scott Nicholas January 9, 2018 Defense & National Security, Latest News



Sen. John Hoeven (R-North Dakota) has asked Department of Homeland Security and Customs and Border Protection agency officials to take advantage of the state's unmanned aerial systems knowledge to formulate strategies to protect the northern border.

According to a report [published Thursday](#) on Hoeven's website, the senator met with DHS and CBP leaders to discuss how the state supports efforts to integrate UAS platforms into the nation's airspace without compromising privacy rights and potential misuse of drones.

DHS Secretary Kirstjen Nielsen has committed to utilize UAS for the development of national security and she will visit North Dakota to witness ongoing efforts at the Grand Sky Technology Park, Northern Plains UAS Test Site, CBP UAS facility and the Grand Forks Air Force Base.



## UAS and SmallSat Weekly News

Hoeven looks to build on previous efforts to further the UAS industry through work on low altitude beyond-line-of-flight applications, NASA's unmanned traffic management platform and the development of UAS detection and counter-UAS technologies.

He also secured **\$8 million** in fiscal year 2017 to keep the CBP UAS operations and training facility in Grand Forks. <http://www.executivegov.com/2018/01/sen-john-hoeven-urges-dhs-leaders-to-use-north-dakotas-uas-expertise-for-border-protection-efforts/>

### Intel CEO Demos the Volocopter: a Drone for Passenger Transport Miriam

McNabbon: January 09, 2018



Intel did not disappoint the audience at CES 2018. During his opening keynote speech, CEO Brian Krzanich showed off Intel technology with everything from a weird and wonderful “digital band” to their now-signature Shooting Star light show (new and improved for indoor use – and **setting a Guinness Book world record for the most drones flown simultaneously by a single pilot indoors.**) But for the drone industry, there was a clear highlight: the first ever North American demonstration of the Volocopter.

The Volocopter is the German-based passenger drone that has made history as the world's first drone taxi, **implemented in Dubai last summer**. While “Urban Air Mobility” has become a new catchphrase for the drone industry, the Volocopter brings the concept into the realm of possible – or maybe even likely.

Powered by Intel technology, the Volocopter Is “the first fully electric, vertical take-off and landing aircraft, designed for passenger transport,” says Intel. “The Intel® Flight Control Technology used in the Volocopter is based on the intelligence found in the Intel Falcon™ 8+ drone used for inspection, surveying, and mapping, showing the powerful intersection of data and autonomous technology. The Intel flight control technology analyzes environmental data with highly redundant sensors and is able to compensate for certain flight malfunctions. It can also accommodate for certain wind gusts and shifts in the center of gravity to help stabilize the position of the aircraft.” <https://dronelife.com/2018/01/09/intel-ceo-demos-volocopter-drone-passenger-transport/>



## UAS and SmallSat Weekly News

### The Best Drones in the Game JANUARY 10, 2018 8:01 AM by [ELISE TAYLOR](#)



Drones are no longer just for professional photographers or villains in a sci-fi films—[The Economist reported in 2016](#) that over two million recreational drones were purchased around the world.

Whether you're looking to capture a sports superstar, remember the vacation of a lifetime, or just improve your Instagram feed, here are the drones and accessories you should be considering.



#### [DJI Spark \(\\$399\)](#)

Photography enthusiast, but never "droned" before? Then go with the mini DJI Spark, the perfect flying robot for those looking to get the lay of the air. It can stay in the air for up to 16 minutes, and the transmission distance is 1.2 miles. Its small size makes it perfect to pack on a scenic trip.



#### [DJI Mavic Pro \(\\$1,099\)](#)

For the more advanced drone user, there's the DJI Mavic Pro. It flies faster, farther, and longer than its beginner counterpart, and, with better obstacle avoidance, is less likely to crash into that mountainside, jagged rock, or crashing wave. And, if you are wondering what to do with your new, powerful drone, pick up [Above the World—Earth Through a Drone's Eye](#), a stunning photography book that'll serve up some serious aerial inspiration.



#### [Parrot Swing \(\\$139.99\)](#)

If you want a drone that's as aesthetically pleasing as the photos you can take with it, then go with the Parrot Swing, the quadcopter that flips and flies in the sky like a robot bird from the 22nd century.



#### [Hover Camera Passport \(\\$499.99\)](#)

For a focus on people, not places, get the Hover Camera Passport, which bills itself as "Your Self-Flying Personal Photographer." Using face detection technology, the Hover will fly high, focus on the people below, and snap some pictures that'll make your selfie-stick feel as outdated as an iPhone 4.

<https://www.vogue.com/article/best-drones-with-cameras>



## UAS and SmallSat Weekly News

11Jan18

### North Wales Police use drones to fight crime 10 January 2018



*Drones were used to capture aerial footage of the Gateway to Wales Hotel fire in Deeside*

Fifteen officers and staff have been trained to use the unmanned aircraft to capture video and images to be used in investigations.

This includes searching for missing people as well as gathering evidence from road traffic investigations and major crime incidents.



The team's two drones, which can also carry a thermal imaging camera, have already been used to search for missing people and investigate incidents during a trial last year.

Insp Craig Jones from the force's operational planning unit said **they were highly effective** in gathering images over difficult terrain or hard to reach areas and helped officers gain information, quickly and safely.



The live images they take can be seen by police on the ground and they were recently used to help firefighters tackle a large blaze at the Gateway to Wales Hotel.

The drones also have thermal imaging cameras which were used to search for hotspots at the Gateway to Wales Hotel fire



Stuart Millington, of North Wales Fire and Rescue Service, said the ability to see aerial moving images that show fire hotspots was a "significantly useful tool" in ongoing incidents.

An agreement with the force means the fire service can call on the police drone pilots to help them deal with incidents when needed.

North Wales Police's Deputy Chief Constable Gareth Pritchard added the drones were a highly cost effective tool in fighting crime and helping communities. "Being able to launch a drone in the air in a few minutes could help save lives and secure vital evidence if a crime was in progress," he said. <http://www.bbc.com/news/uk-wales-42636797>



## UAS and SmallSat Weekly News

### DOT Secretary Says More than 1,000,000 Drones Registered Miriam

McNabbon: January 11, 2018



Secretary of Transportation Elaine Chao delivered remarks to the audience at CES 2018 yesterday. During her remarks, she commented that the FAA has registered more than **1,000,000 drones** – a figure that the DOT press office says includes “878,000 hobbyists, who receive one identification number for all the drones they own, and 122,000 commercial, public and other drones, which are individually registered.”

Chao’s speech focused on the DOT’s efforts to integrate autonomous vehicles, including drones, into the existing U.S. transportation system. Chao acknowledged that integration would require big changes. Chao mentioned drones as an example of the success of a new industry – and new regulations. Saying that when developing new policies to accommodate automated vehicles, the agency would adopt a “tech neutral and flexible — not top-down, command and control” approach, she referenced drone registrations and the new UAS Integration Pilot Program as “...a few specific things the Department is doing to encourage innovation.”

<https://dronelife.com/2018/01/11/dot-secretary-says-1000000-drones-registered/>

### Boeing built a giant drone that can carry 500 pounds of cargo Andrew J.

Hawkins@andyjayhawk Jan 10, 2018



Boeing today unveiled a giant drone that’s capable of lifting a 500 pound payload. Calling it an “unmanned electric vertical-takeoff-and-landing (eVTOL) cargo air vehicle (CAV) prototype,” the aerospace giant said it could serve as **a precursor** for future autonomous flying aircraft.

The heavy-duty drone took Boeing’s engineers only three months to design and build, the company says. It successfully completed initial flight tests at Boeing’s research lab in Missouri.

Powered by an electric propulsion system, the CAV prototype is outfitted with eight rotors allowing for vertical flight. It measures 15 feet long (4.57 meters), 18 feet wide (5.49 meters), and 4 feet tall (1.22 meters), and weighs 747 pounds (339 kilograms). Boeing didn’t provide any other details about the flight.





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The unveiling of the new eVTOL aircraft comes just four months after Boeing announced it had [acquired Aurora Flight Sciences](#), an aviation and aeronautics research company that is one of a handful of firms that have [partnered with Uber](#) in an effort to develop [a network of "flying taxis."](#) Boeing said that its CAV prototype would "**complement**" the eVTOL air taxis that Aurora is designing for Uber. <https://www.theverge.com/2018/1/10/16875382/boeing-drone-evtol-cav-500-pounds>

**12Jan18**

**Watch this: Intel put on a light show at CES using 250 drones** Cal Jeffrey on Jan 11, 2018 *They call it the "Intel Shooting Star Drone Light Show"*

Twice a night throughout CES, Intel has been putting on a light show over the fountains of the Bellagio. Typically when we think of light shows, we think of lasers. In this case, it's drones. Intel calls it the Shooting Star Light Show and it's pretty amazing to watch as 250 drones fly in formations to animate a scene to music.

"All of these drones, whether it be 10 or 100 or even 500 or more, they're all controlled by one pilot," said Natalie Cheung, GM of Intel Drone Light Shows, in an interview with [CNET](#).

The drones used have no cameras or sensors and only weigh 330 grams. Each craft is fitted with an array of LEDs capable of producing four billion color combinations. When programmed, the drones can fly precise patterns to create stunning animations.

Before shows, an animation team will listen to a song and come up with a storyboard. After they have a theme, they use a custom animation tool that allows them to simulate and view the drones from every angle. The crew spends a lot of time ensuring the show looks good from every perspective.



The drones are made from lightweight plastic and foam for safety. The props are fully enclosed in cages as well. Another safety precaution is a crew of observers who can give the command to pull down the entire fleet in the event of an approaching aircraft.

See the show at <https://www.techspot.com/news/72714-watch-intel-put-light-show-ces-using-250.html>