



## UAS and SmallSat Weekly News

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### Uber Launches eVTOL Research Center MARY GRADY

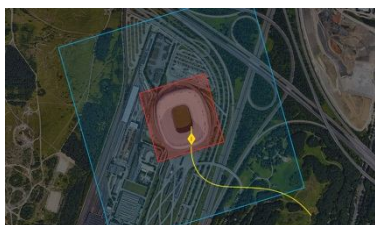


Uber will invest **\$23 million over the next five years** to create a new Advanced Technologies Center **in Paris** that will focus on the company's **Elevate** project, which aims to bring autonomous eVTOL taxis into urban areas, the company has announced. Initially, the project will focus on developing capabilities to support Uber's

goal of launching demo flights of its air-taxi system in three cities by 2020. These priorities include airspace management, autonomy, artificial intelligence, real-time communication networks, energy storage and charging systems.

The company already has established advanced-technology centers in Pittsburgh, Toronto and San Francisco, where they also have an artificial-intelligence lab. The Paris ATC will open this fall, Uber said, and will be the first of its technology offices to focus exclusively on Uber Elevate. The company also announced it has established **a five-year partnership with École Polytechnique, a Paris research university** known for its engineering programs. Uber will endow a research position to focus on "Integrated Urban Mobility" at the school. Initial collaborative research projects will include machine-learning-based transport-demand modeling, high-density low-altitude air traffic management simulations, integration of innovative airspace transport solutions with European aviation regulators and the development of smart grids to support future fleets of electric transport on the ground and in the air. <https://www.avweb.com/eletter/archives/101/4075-full.html?ET=avweb:e4075:2565185a:&st=email#230902>

### Pentagon Exploring Counter-UAS Software 6/1/2018 Connie Lee



Dedrone, an airspace security company, is working on technology that can **detect adversarial drones** on military installations.

Dedrone's software, called DroneTracker, can be integrated with radio frequency sensors, cameras and microphones. The software can then gather information and determine the flight path of the drone.



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Dedrone has already installed this type of protection on over 200 facilities in the last 20 months for customers such as gas companies and other enterprises.

Because the company already has an off-the-shelf system with this capability, the only experimental part is how the software will be employed. For instance, it could be used by the Navy or the Army to detect drones near helicopters and ships.

The company is working with the Defense Innovation Unit-Experimental, or DIUx, on ways this technology can be used to help the military.

<http://www.nationaldefensemagazine.org/articles/2018/6/1/pentagon-exploring-counter-uas-software>

## How Drones Are Helping Scientists Study and Protect Endangered Whales

JEFFREY KLUGER May 31, 2018

Jordan Lerma, 26, who was born in Hawaii and briefly worked in finance in San Francisco before moving back home, tumbled for drones before he tumbled for whales.

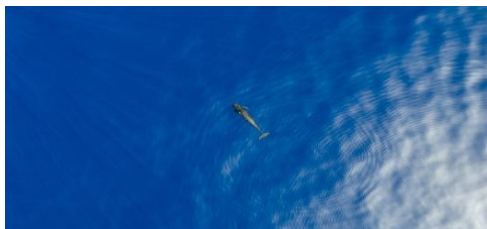


He begins by studying [depth charts](#) made available by the [National Oceanic and Atmospheric Administration](#) looking for the likeliest places particular types of whales might congregate. When Lerma spots the telltale spouting or breaching of a whale, he launches his drone in a hurry.

Groups of whales spend more time at the surface and make for much more dramatic imagery. Mothers and calves make for the best footage of all. "The calves are extremely playful," Lerma says. "And the mothers are very serious, constantly looking for danger."

Whales give away biological samples of themselves all the time. Every time they breach and spout, they're spraying not just sea water into the air, but a generous helping of whale mucus.

The ocean advocacy group [Parley](#), working with [Intel](#), has developed a drone equipped with petri dishes that flies through such whale spray, collects whatever samples it can get, and brings them back to a research vessel for analysis. Called the [Parley SnotBot](#), the drone, in combination with Intel's data analysis software, allows investigators to examine the





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whales' hormonal makeup, the level of contaminants like mercury and chromium in their systems, and even whether they have borne young. Intel's machine learning and modified facial recognition software also allow the drone to recognize a particular whale's fluke print, a pattern of nicks and other imperfections in a tail fin that are as personal as a human's fingerprint. That in turn provides new insights into whale population counts and migration routes. <http://time.com/5282213/whales-drones/>

### Shenzhen JTT Technology Released a Foolproof Industrial Drone – Spider C85

June 1, 2018 News



The conference featuring the new product 'Spider C85' of JTT Technology was held in Shenzhen. More than 200 domestic and foreign industry leaders, customers, guests, agents and media were present.

Apart from the advantage of an industrial drone having a heavy payload, long working time and flight distance, the Spider C85 is portable and easy to operate. Its wheelbase is 85 cm, and maximum payload weight is 2 kg. Its maximum working time also can reach **45 minutes**.

The C85 supports "easy flight mode", "intelligent return", "mobile phone control" and other flight modes as well as some functions like "interest point", "automatic cruise", "mobile following", "intelligent obstacle avoidance" and "optical flow positioning."

A JTT member demonstrated security patrol, assisting criminal arresting, mass incident responding, emergency rescue, crowded areas and major traffic roads smart surveillance and other public security applications. The company also provided a series of tasks for the army, police, fire control system, electric-power industry and petrochemical industry.

[http://uasweekly.com/2018/06/01/shenzhen-jtt-technology-released-a-foolproof-industrial-drone-spider-c85/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_06\\_01&utm\\_term=2018-06-01](http://uasweekly.com/2018/06/01/shenzhen-jtt-technology-released-a-foolproof-industrial-drone-spider-c85/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_01&utm_term=2018-06-01)



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### Drone Delivery Canada's BVLOS Remote Communities Project Now Underway

June 1, 2018



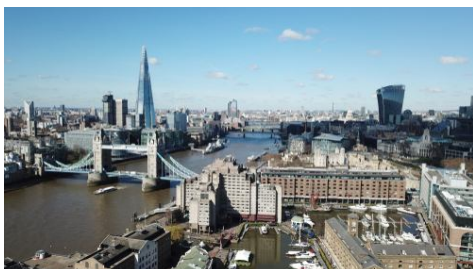
Drone Delivery Canada, is pleased to announce that Transport Canada has selected DDC to participate in the department's Beyond Visual Line-of-Sight Pilot Project.

The project looks to bring a new set of delivery services to meet the needs of **remote Northern communities**. It will take place in the Town of Moosonee and the Moose Cree First Nation in Northern Ontario with unmanned aircraft deliveries that will include letters, packages and medical deliveries from a large group of DDC's existing customer base.

Drone Delivery Canada will work alongside Transport Canada, The National Research Council and various technology and commercial partners including Toyota Tsusho Canada Inc. to deploy and operate this next generation drone delivery platform under this Transport Canada defined Project. [http://uasweekly.com/2018/06/01/drone-delivery-canadas-bvlos-remote-communities-project-now-underway/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_06\\_01&utm\\_term=2018-06-02](http://uasweekly.com/2018/06/01/drone-delivery-canadas-bvlos-remote-communities-project-now-underway/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_01&utm_term=2018-06-02)

4Jun18

### UK government introduces drone flight restrictions, registration system May 30, 2018 Philip Butterworth-Hayes UAS traffic management news



New laws are being introduced today in the UK which will restrict all drones from flying above 400 feet and within 1 kilometre of airport boundaries.

The changes will come into effect on 30 July 2018. The new laws will also require owners of drones weighing 250 grams or more to register with the Civil Aviation

Authority and for drone pilots to take an online safety test to ensure the UK's skies are safe from irresponsible flyers. These requirements will come into force on 30 November 2019. Users who fail to register or sit the competency tests could face fines of up to £1,000.





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There has been a significant increase in the number of commercial permissions issued by the CAA in the last year. The number of active **commercial licences** increased from 2,500 to 3,800 in 2017, **a year on year growth of 52%**. There has been a year on year increase in drone incidents with 71 in 2016 rising to 93 in 2017.

A recently released PwC report highlighted that the uptake of drones could be worth up to UKP41.7 billion to the UK GDP by 2030. The use of drone to deliver parcels significantly reduces costs, research by Deutsche Bank showed that drones cost less than USD0.05 per mile to deliver a parcel the size of a shoe box, compared to delivery costs of up to USD6.50 for premium ground services <https://www.unmannedairspace.info/uncategorized/uk-government-introduces-drone-flight-restrictions-registration-system/>

### **Counter-UAS market “worth USD1.85 billion by 2024” – new report** June 1, 2018 Philip Butterworth-Hayes UTM and C-UAS market analysis



The global **anti-drone market** size is anticipated to reach USD 1.85 billion by 2024, according to a new report by Grand View Research, Inc., registering a **24.1% CAGR** during the forecast period. Rising incidences of security violation by unauthorized UAVs and increased acts of terror and nefarious activities worldwide has primarily driven market growth.

“Sharp rise in adoption of UAVs for leisure and professional applications has augmented personal as well as government concerns regarding aerial attacks. Rising threats of aerial attacks have opened up **substantial new market opportunities** for the evolution of counter-UAV measures. Various commercial establishments and public safety departments worldwide are increasingly deploying counter-UAV measures to address the ever-growing need for security....Detection and disruption of Low, Slow, and Small (LSS) drones is rapidly becoming a critical factor for effective maintenance of security. Recreational and nano drones are progressively becoming sophisticated, resulting in the emergence of diverse new threats that need to be optimally dealt with by physical security systems of the future.

Military and defence is expected to emerge as the largest end-use segment over the forecast period due to increase in R&D activities by defence prime contractors; the market for **anti-drone systems** in military and defence applications is expected to cross **USD 900 million** by 2024. **Asia Pacific** is anticipated to witness a **CAGR of close to 30.0%** over the forecast period owing to increasing government expenditure in development of aerospace infrastructure across



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emerging economies. <https://www.unmannedairspace.info/utm-and-c-uas-market-analysis/counter-uas-market-worth-usd1-85-billion-2024-new-report/>

### Police in Orland Park, Illinois release footage from drone-assisted arrests [Haye](#)

[Kesteloo](#) May. 23rd 2018 2:22 pm ET



The police in Orland Park, Illinois released video footage of their drone assisting officers to apprehend an armed fugitive. It was not the only time that the police used a drone to help them make an arrest. Police officers started using a drone in. Now they say it has helped them to capture two suspects in less than a week.

[This video](#), from April 30, shows how the police use a drone to assist officers on the ground to track down a wanted armed fugitive on the loose. After the police had located him, the suspect managed to escape again. This time, however, the police used their drone to follow the suspect who took off on a busy street with officers chasing him on foot. Eventually, officers were able to catch up with him and handcuffed him.

So far Orland Park police officers have used your drone 25 times, including just two weeks ago to locate a man on the Run. On May 6th a driver who had crashed his car ran away from the scene. Police officers were unable to find him, but with the help of a drone, they spotted the driver hiding in a field in Will County. Sheriff's police closed in and apprehended him.

Neighboring jurisdictions have asked the Orland Park police force to deploy their drone in five other situations to locate missing subjects. <https://dronedj.com/2018/05/23/police-in-orland-park-illinois-release-footage-from-drone-assisted-arrests/>

### Australians Integrate Nano UAVs at Squads, Troop Level [Tamir Eshel](#) Jun 3, 2018



*An 18 gram personal Reconnaissance System, Black Hornet is the smallest unmanned sensor currently available for use by troops.*

In recent months, the Black Hornet has been fielded with two new customers – the Australian and Dutch armies, while an enhanced system – Black Hornet III is undergoing testing with the US Army and Marine Corps, toward an acquisition of dozens of systems by the U.S. Army, for fielding with an infantry brigade.



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counterinsurgency.

The PD-100 was first deployed by the Norwegian and British forces in 2013 under an urgent operational requirement worth £25 million. At the time the Brits wanted to improve situational awareness for their troops in Afghanistan, and the PRS was called to provide remote surveillance to improve force protection and

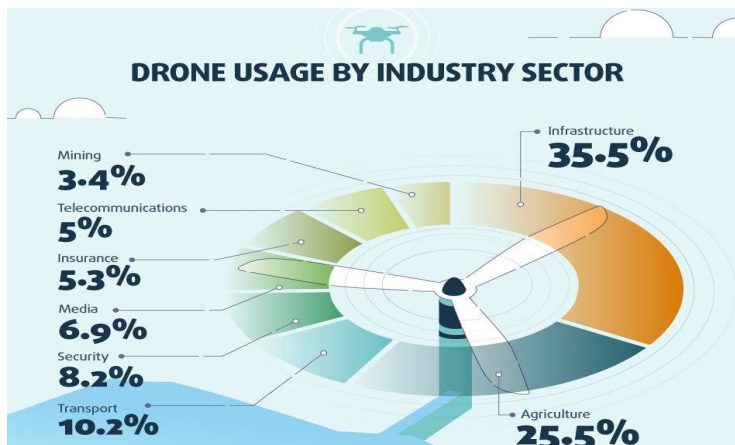
More recently, other countries began evaluating these nano drones as personal surveillance capability organic to infantry squads and platoons. The Australians pioneered this approach, deploying a large number of drones for testing with troops. The Australian Defense allocated A\$18 million by the end of 2017 to field the flying sensors as **organic surveillance and reconnaissance** supporting the combat brigades at the platoon and troop level.



*Australian Army soldier Trooper Sam Menzies with a PD-100 Black Hornet Nano unmanned aircraft vehicle during training exercise at Shoalwater Bay Training Area, Queensland. [http://defense-update.com/20180603\\_blackhornet.html](http://defense-update.com/20180603_blackhornet.html)*

## INSIDE TRACK: An aerial view of the future of drones in the construction sector

INSIGHT ANDREW SEYMOUR JUNE 4, 2018



*With reports that drones are predicted to give the UK economy a **£42 billion boost by 2030**, Roof Stores looks into how infrastructure, the most rapid and vast adopter of commercial drones, is using the technology to bring the industry into the future.*

Industries ranging from agriculture to entertainment and media are taking full advantage of the benefits drones offer. However, it's clear that one of the most rapidly growing sectors is infrastructure development which includes construction. The chart below shows which industries are the largest adopters of commercial SUAs (Small Unmanned Aircraft) according to PwC and how much of the market they control.





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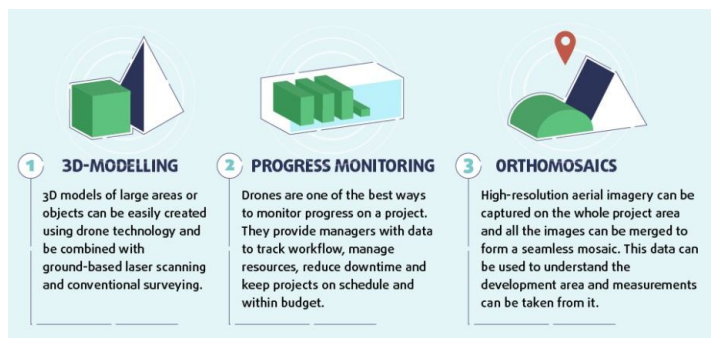
The success of drones within the construction sector is down to savvy early adoption by numerous high-profile companies – there are some big-name firms currently using drones as part of their offering.

In the construction industry, drones provide easy access to large or difficult sites as well as complex or tall structures. They can gather aerial data, mapping information and images used for:



BIM is the process of creating and managing information on a construction project across its lifecycle. It creates a shareable digital description of every aspect of the structure which all necessary stakeholders can update. The UK is at the forefront of this methodology which is being hailed as a 'digital revolution' for the construction

industry. Drones contribute to this approach in various ways including...



In spring 2018, leading Chinese manufacturer **DJI announced the largest ever order of commercial drones**. Partnering with US tech firm Skycatch, this is an unprecedented shipment that sets a benchmark for construction firms around the world to



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take note of. Japanese construction giant Komatsu will receive 1,000 aircraft to help survey and monitor their projects.

There are also plans in place for these drones, known as the 'Skycatch Explore1' to control robotic construction vehicles. If successful, this could pave the way to a fully automated construction site. [http://www.commercialdroneprofessional.com/inside-track-aerial-view-future-drones-construction/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-263278-Commercial+Drone+Professional+DNA++2018-06-04](http://www.commercialdroneprofessional.com/inside-track-aerial-view-future-drones-construction/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-263278-Commercial+Drone+Professional+DNA++2018-06-04)

### **Danger warning for drone operators over visibility of agriculture aviators**

NEWS ANDREW SEYMOUR JUNE 4, 2018



*The National Agricultural Aviation Association (NAAA), which represents more than 1,900 members in 46 states of America and supports the interests of pilots licensed as professional commercial aerial applicators, fears there could be a collision if stringent safety measures aren't followed.*

One highly publicised near-miss last year saw a quadcopter UAV fly under the wing of an ag aircraft in Iowa before the pilot could take evasive action. Agricultural aviators fly as low as 10 feet off the ground, meaning they share airspace with UAVs that are limited to flying no more than 400 feet above ground level.

The NAA has therefore released a statement asking UAV operators to do everything they can to avoid ag aircraft carrying out low-level work.

"It's incredibly difficult, if not impossible, for agricultural aviators to see UAVs because our members are doing precision agricultural work while flying at speeds of up to 140 mph," explained Andrew Moore, executive director of the NAAA. "That's why it's so important for UAV operators to be aware of agricultural aviation operations in their area and take precautions to protect individuals both in the air and on the ground."

[http://www.commercialdroneprofessional.com/danger-warning-drone-operators-visibility-agriculture-aviators/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-263278-Commercial+Drone+Professional+DNA++2018-06-04](http://www.commercialdroneprofessional.com/danger-warning-drone-operators-visibility-agriculture-aviators/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-263278-Commercial+Drone+Professional+DNA++2018-06-04)



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### Drone Technology Can Help Insurance Companies Cut Costs and Reduce Response Times for Claims June 3, 2018 News

[DataWing Global](#), an aerial data collection company that works with independent drone pilots to help homeowners and insurance companies cover claims, estimates that drone technology could save insurance companies up to 40% during the upcoming storm season.

Rather than sending out traditional "ladder teams" to inspect roofs and other home facilities (which costs around \$150 to \$250 per inspection), insurance adjusters can sort through 2-3 times more claims every day by employing trained drone pilots to fly over properties, take pictures, and deliver the data via cloud. Not only is this service roughly **40% cheaper**, but it significantly **reduces safety-related risks**, ensuring fewer people are climbing onto roofs.



DataWing, is one company using drone technology to streamline the insurance claims process(<http://datawingglobal.com/insurance>). Once a homeowner files a claim, the company will respond in less than 4 hours.

Within 12-18 hours, data will be collected and given to the data analysis team, which then prepares and returns it to the insurance company.

DataWing uses SmartSky, an internal scheduling program that gives them eyes on their pilot in the field. It also provides pilots with the tools to respond to jobs immediately.

The company is helping insurance carriers in three ways: increasing adjustor efficiency in completing claims, decreasing safety risk by allowing personnel to stay off of the roofs, and also achieving faster payment turnaround for the benefit of the insured.

[http://uasweekly.com/2018/06/03/drone-technology-can-help-insurance-companies-cut-costs-and-reduce-response-times-for-claims/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_06\\_04&utm\\_term=2018-06-04](http://uasweekly.com/2018/06/03/drone-technology-can-help-insurance-companies-cut-costs-and-reduce-response-times-for-claims/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_04&utm_term=2018-06-04)

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### Dedrone Selected to Compete at ThunderDrone Game of Drones Competition

June 5, 2018 News



Dedrone announced today that its team of Echodyne Corporation, Squarehead Technologies, and Battelle, has been selected by SOFWERX for the ThunderDrone outdoor demonstration to take place at Nellis Air Force Base, Nevada and

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



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AFWERX Enclave on June 18-20, 2018. Team Dedrone will demonstrate the capabilities of a layered detection, tracking, and classification solution that **defends protected airspace against all drone threats**.

The Dedrone platform is a fully automatic counterdrone solution, designed to detect, classify, and mitigate drone-based threats. Dedrone's software, DroneTracker, gathers intelligence from Dedrone's RF sensors RF-100 and RF-300, Echodyne's MESA™ radar and Squarehead acoustic sensor. Once DroneTracker makes a positive identification of a drone, Battelle's non-kinetic defense system, DroneDefender™, is automatically triggered to defeat the drone and eliminate the threat.

The ThunderDrone project is a series of Rapid Prototyping Events that focus on different aspects of current drone technology. Team Dedrone will participate in the final event, ThunderDrone RPE III. During this event, select companies will compete for cash awards up to \$600,000 in the area of C-UAS capabilities. <http://uasweekly.com/2018/06/05/team-dedrone-selected-to-compete-at-thunderdrone-game-of-drones-competition/>

## Protonex Receives Orders from U.S. Navy for Fuel Cell Systems to Power UAV Field Trails June 5, 2018 Military



Ballard Power Systems (NASDAQ: [BLDP](#); TSX: [BLDP](#)) today announced that the Company's subsidiary, Protonex, has received purchase orders from the U.S. Navy for a total of **13 fuel cell propulsion systems** for unmanned aerial vehicle platforms. Deliveries of the systems are expected to occur in 2018. This continues a productive relationship with the U.S. Navy that began in 2006.

The Hybrid Tiger UAV was designed by the U.S. Naval Research Laboratory to explore new power system technologies for UAV propulsion. Fuel cells from Protonex, in combination with other technologies, are expected to enable **greater endurance than the 26 hours** demonstrated by Ion Tiger in 2009. [http://uasweekly.com/2018/06/05/protonex-receives-orders-from-u-s-navy-for-fuel-cell-systems-to-power-uav-field-trails/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_06\\_05&utm\\_term=2018-06-05](http://uasweekly.com/2018/06/05/protonex-receives-orders-from-u-s-navy-for-fuel-cell-systems-to-power-uav-field-trails/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_05&utm_term=2018-06-05)





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### IN-FLIGHT DATA AND SENSEFLY PARTNERING ON CANADA'S LARGEST BVLOS UAS OPERATIONS TRIAL TO DATE AUVSI NEWS JUN 5, 2018



In-Flight Data has announced that starting this week, it is embarking on Canada's largest BVLOS UAS Operations trial to date.

With support from senseFly, this project will seek to “demonstrate that BVLOS UAS flights can be conducted safely and efficiently, to the benefit of all Canadians, while providing cost reductions and operational efficiencies for the different use-cases involved.”

During the trial, which is **expected to run until early November**, In-Flight Data will look to complete **one BVLOS mission per week**. The missions, which are defined by the trial's 20 partner organizations, will cover a wide variety of operations, including pipeline surveys, graveyard inventory assessments, and search and rescue applications.

The flight safety data collected during the trial will be provided to Unmanned Systems Canada and Transport Canada to “help define BVLOS risk models for different categories of unmanned aircraft,” which will ultimately contribute to the growth of Canada's commercial UAS industry.

Some of the key trial statistics for this project **include 14 different test sites, flights up to 10 kilometers in length, and more than 1,500 kilometers total linear flight distance**.

Two UAS—the senseFly eBee Plus & senseFly eBee—will be used to perform the flights. They are “designated 'Compliant' systems by TC, fall within Canada's TC's proposed 'Very Small' (sub-1kg) and 'Complex operations (urban)' commercial drone categories respectively.”

The UAS will be controlled using senseFly's eMotion ground station software, which includes integrated air traffic and geoawareness data, which is important to running safe BVLOS operations in non-controlled airspaces. <http://www.auvsi.org/industry-news/flight-data-and-sensefly-partnering-canadas-largest-bvlos-uas-operations-trial-date>

### Federal Agency Deploying UAS Over Grand Coulee Dam Betsy Lillian June 4, 2018



The Bureau of Reclamation, a federal agency under the U.S. Department of the Interior, is planning to conduct unmanned aircraft system flights over and around Grand Coulee Dam in Washington state.





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The agency says it will take photos and video of the structure while water is spilling over the drum gates this month. The last aerial videography of the dam was taken in 2002, and because many improvements have been made to the facility since then, current video footage will capture the updated infrastructure, the bureau says.

The team will operate a small quadcopter primarily on federal lands, but the drone may fly over adjacent private lands such as the Town of Coulee Dam, Grand Coulee and Electric City.

Although **there is a federal no-fly zone over Grand Coulee Dam**, Reclamation has obtained the required authorization from the Federal Aviation Administration and DOI. Strong safety requirements and practices will be observed, including not flying over people. <https://unmanned-aerial.com/federal-agency-deploying-uas-over-grand-coulee-dam>

### **Rogue Drones: What Does the FAA Do to Enforce Drone Laws? New Report from GAO Offers Insight** Miriam McNabbon: June 05, 2018



"FAA officials told us that the agency is following its "compliance philosophy" to help ensure users abide by the small UAS regulations," says the GAO report. "Under this philosophy, FAA's approach involves three types of possible actions: (1) compliance actions, (2) administrative actions, and (3) legal enforcement actions.

"Compliance Actions" are about education, on-the-spot correction and notification. "Administrative Actions" are letters of correction or warning letters; and "Legal Enforcement Actions" may involve civil penalties and/or suspending or revoking an operator's license. "According to FAA's data, **from June 7, 2007 through May 2, 2018 the agency took 420 compliance actions, 49 administrative actions, and 49 enforcement actions against small UAS users.**

Fines seem rarely used. As of May 2018, the FAA reports imposing only one civil penalty in the amount of \$9,700; there is one other case still open. (An attached table in the report states that 46 civil penalties have been imposed by the FAA.)

Perhaps far more serious for commercial operators are the other options for legal enforcement: suspension or revocation of certificate. Chris Korody, author of the [Dronin' On newsletter](#), says that option could represent a significant deterrent: "In practical terms, the threat to pull a ticket carries a massive economic penalty. They don't need to throw people in jail, just drive them to the poor house." The report indicates that this option has been used rarely: the FAA



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has suspended 1 certificate and revoked 2. <https://dronelife.com/2018/06/05/rogue-drones-what-does-the-faa-do-to-enforce-drone-laws-new-report-from-gao-offers-insight/>

6Jun18

**Air authorities seek to curb Dubai's stray drones** Samuel Burke and Tom Page, CNN 5th June 2018

(CNN) — Eighty-seven million passengers passed through Dubai International in 2017, making it one of the busiest airports in the world. So when there's a hiccup in operations, the effect can be profound.

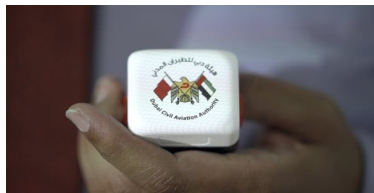
Shutdowns can cost the airport as much as [\\$1 million a minute](#), and in recent times drones have been a big issue. **Drone incursions** into airport airspace were responsible for **three shutdowns in 2016** -- one for as long as 90 minutes.

To counter the problem, the Dubai Civil Aviation Authority has implemented Skytrax, a system that monitors domestically registered drones to prevent shutdowns.



Skytrax works by fixing a tracker weighing 58 grams (2 ounces) to every drone licensed for use in the emirate. Developed in collaboration with drone company Exponent Technology Services, chief executive Asam Khan says **no other city has gone to such lengths to monitor and manage drone activity.**

Real-time tracking is monitored by the DCAA 24 hours a day, and if a drone strays close to a no-fly zone such as Dubai International, **the system will send text alerts** to DCAA officials and the drone operator, warning them to change course.



No drone is allowed within 16,400 feet horizontally or 3,000 feet vertically of commercial air traffic, says Khan.

*The two-ounce tracking device fitted to licensed drones in Dubai by the DCAA.*

Mike Rudolph, head of airspace safety at the DCAA, says it's "relatively rare" they'll have to call up a drone pilot over a potentially dangerous flight path. The system can't take down a drone from the air mid-flight, but Rudolph says due to Skytrax's ability to hold pilots to account, it's proving an effective deterrent when it comes to airport airspace incursions. **"We've had no**



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incidents from the time that we've implemented the system."

<https://www.cnn.com/travel/article/dubai-airport-drone-tracking/index.html>

### Kittyhawk Raises \$5M Funding Round to Build Next-Generation Enterprise Drone Solutions June 6, 2018 News



[Kittyhawk](#), the enterprise drone solutions company, today announced it raised \$5M in funding, bringing the company's total capital raised to \$6.5M.

Jim Andelman of [Bonfire Ventures](#), a Santa Monica-based seed fund focused on enterprise software, led the round with participation by Boeing [HorizonX Ventures](#) and [Freestyle Capital](#); [Kluz Ventures](#)' [The Flying Object](#) also participated as a returning investor.

Designed for commercial drone operations both large and small, Kittyhawk's enterprise solution unifies the mission, the aircraft, and the data to empower companies to manage in-house commercial drone operations. "Kittyhawk is in the unique position of **being central to all of the enterprise stakeholders** — from data collectors to data consumers," said Michael Blades, Senior Analyst at Frost & Sullivan. "Therefore, their market spans across a multitude of industries and verticals, they go deeper and wider than any other solution currently in the market." [http://uasweekly.com/2018/06/06/kittyhawk-raises-5m-funding-round-to-build-next-generation-enterprise-drone-solutions/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_06\\_06&utm\\_term=2018-06-06](http://uasweekly.com/2018/06/06/kittyhawk-raises-5m-funding-round-to-build-next-generation-enterprise-drone-solutions/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_06&utm_term=2018-06-06)

### Bridger Aerospace Team selected by DOI Type 1 Air Attack Service June 6, 2018 News



Bridger Aerospace is pleased to announce that it has been awarded a contract by the Department of Interior ("DOI") to supply unmanned service support for wild land fire management on a "call when needed" basis. The **five-year IDIQ contract**, which is the **first of its kind awarded by DOI**, will allow DOI to deploy contractor-operated and maintained small unmanned air systems ("UAS") that are ready when needed to support wildland fire operations, search and rescue, emergency management and other resource missions in the Continental United States and Alaska.



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Bridger's Founder and President Tim Sheehy stated, "We are humbled and proud to be awarded a spot on DOI's pioneering UAS firefighting contract." Bridger will be partnering with Silent Falcon UAS Technologies. James McBurney, President at Silent Falcon, stated, "We are extremely fortunate to partner with Bridger in this first of its kind UAS services contract, and to deploy the Silent Falcon™, the **only** solar electric, long range, long endurance UAS."

[http://uasweekly.com/2018/06/06/bridger-aerospace-team-selected-by-doi-type-1-air-attack-service/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_06\\_06&utm\\_term=2018-06-06](http://uasweekly.com/2018/06/06/bridger-aerospace-team-selected-by-doi-type-1-air-attack-service/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_06&utm_term=2018-06-06)

7Jun18

### With Fresh Funding, Verity to Keep Growing Indoor Drone Shows Betsy Lillian June 6, 2018



Zurich, Switzerland-headquartered Verity Studios AG, a provider of indoor drone technology, has **raised \$18 million** in a Series A funding round, led by Fontinalis Partners, a venture capital firm with offices in Detroit and Boston.

Other investors include Airbus Ventures, Sony Innovation Fund and Kitty Hawk. Verity plans to use this funding to expand its live-events business – with a heavy focus on U.S. growth – as well as to expand into other commercial markets.

Founded in 2014 as a spin-off of the Swiss Federal Institute of Technology (ETH Zurich), Verity brings autonomous indoor drones to live events. "We worked hard to identify the right investors who share our vision for Verity. We are thrilled to work with our new investment team to accelerate our growth and expand operations," notes D'Andrea. In the four years since its inception, the company's autonomous drone swarms have been used by [Cirque du Soleil](https://unmanned-aerial.com/with-fresh-funding-verity-to-keep-growing-indoor-drone-shows?utm_medium=email&utm_source=LNH+06-07-2018&utm_campaign=UAO+Latest+News+Headlines), Madison Square Garden, Princess Cruises and even Metallica. [https://unmanned-aerial.com/with-fresh-funding-verity-to-keep-growing-indoor-drone-shows?utm\\_medium=email&utm\\_source=LNH+06-07-2018&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/with-fresh-funding-verity-to-keep-growing-indoor-drone-shows?utm_medium=email&utm_source=LNH+06-07-2018&utm_campaign=UAO+Latest+News+Headlines)

### Trump aide: The future of American aviation is all about drones Michael Kratsios June 6, 2018



Michael Kratsios is **deputy assistant to the president for technology policy** at the White House. Prior to joining the White House, he was a principal at



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Thiel Capital, where he invested in and advised technology companies. The views expressed in this commentary are his own.

That future is increasingly unmanned. Unmanned aircraft systems, or drones, offer tremendous benefits to our economy and society. They promise to create [countless American jobs](#) within and around the aviation industry, transform the delivery of household goods, improve the safety of dangerous occupations and expand access to life-saving medical supplies.

The Trump administration is committed to advancing the technologies to further bring about that future.



*Michael Kratsios*

Last October, President Donald J. Trump [signed](#) a presidential memorandum to increase testing of [innovative drone operations](#) in communities across the United States through a new pilot program. Over the following months, the FAA heard from [more than 2,500 interested parties](#), ranging from Fortune 500 companies to small businesses, and more than 300 state, local and tribal governments indicating interest in taking part.

[Ten partnerships](#) among industry, academia, and state, local and tribal entities have since been selected by Secretary of Transportation Elaine L. Chao, enabling the operation of drones in innovative ways for the benefit of the American people. These pilot programs will also provide the FAA with essential data to improve remote identification and tracking systems, drone traffic management and collision avoidance technologies.

The future of our domestic drone industry is an exciting one. As drone integration pilot projects begin operations across the country in the coming months, we will see novel uses of this technology to help local communities and to improve the quality of American lives.

The economic impact of the integration of drones into United States airspace is estimated to reach [tens of billions of dollars](#). Providing the necessary legal authority to counter potential threats from drones will ensure that the United States benefits from this rapidly developing sector of the economy. <https://us.cnn.com/2018/06/06/opinions/trump-administration-drone-technology-kratsios/index.html>





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### U.S. Officials Warn Congress on Risks of Drones, Seek New Powers Reuters June 6, 2018

WASHINGTON — The Trump administration urged Congress on Wednesday to give it new powers to disable or destroy threatening drones. "Terrorist groups overseas use drones to conduct attacks on the battlefield and continue to plot to use them in terrorist attacks elsewhere. This is a very serious, looming threat that we are currently unprepared to confront," the officials' written testimony said.

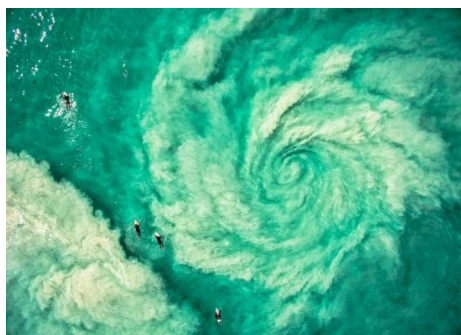
A bipartisan group of senators including Senate Homeland Security Committee Chairman Ron Johnson, a Republican, and the committee's top Democrat, Claire McCaskill, last month **introduced legislation** to give DHS and the Justice Department authority to "to protect buildings and assets when there is an unacceptable security risk to public safety posed by an unmanned aircraft." Johnson said the number of drone flights over sensitive areas or suspicious activities has jumped from eight incidents in 2013 to an estimated 1,752 incidents in 2016, citing federal statistics.

The American Civil Liberties Union said in a letter to the committee that it **opposes the bill**, which "amounts to an enormous unchecked grant of authority to the government to forcefully remove drones from the sky in nebulous security circumstances."

FBI deputy assistant director Scott Brunner told the committee the agency is "concerned that criminals and terrorists will exploit (drones) in ways that pose a serious threat to the safety of the American people." Threats could include surveillance, chemical, biological or radiological attacks or attacks "on large open air venues" like concerts and sporting events and attacks against government facilities, he said.

<https://www.nytimes.com/reuters/2018/06/06/technology/06reuters-usa-drones-security.html>

### Drones Are Here to Stay. Get Used to It Alex Fitzpatrick May 31, 2018



#### *Surfers avoid riptides off Australia's southwestern coast*

When Hurricane Maria hit Puerto Rico last September, it ravaged the island's electrical grid and communications systems. For weeks, many of the approximately 5 million Puerto Ricans living in the mainland U.S. were unable to reach their loved ones. To get its service back up and running, [AT&T](#) tried something new: a tethered drone that



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beamed mobile data signals up to 40 miles in all directions. "As soon as we turned it on, people just started connecting to it instantly," says Art Pregler, AT&T's Unmanned Aircraft Systems program director.



### *Dubai, a favorite skyline of drone photographers*

Some **3 million drones were sold worldwide in 2017**, and more than 1 million drones are registered for U.S. use with the Federal Aviation Administration. They're being used by tech-savvy farmers to monitor and spray crops, by researchers to measure environmental pollution and by Hollywood studios to capture action-packed footage for blockbuster movies. Drones are even saving lives, as first responders in places like Menlo Park, Calif., use them to coordinate operations and search for missing hikers. And of course, drones are being flown by hundreds of thousands of amateurs, who use them for everything from taking vacation photos to buzzing around their local park.

While businesses used the first wave of drones to take overhead real estate photos and deliver pizza for public relations stunts, now companies are experimenting in ways that could dramatically change entire industries. [Amazon](#) is working on drones that could deliver packages within minutes, technology that could one day be used for time-sensitive health emergencies like organ shipments. [Facebook](#) is working with drones to beam Internet connectivity to isolated corners of the world; the energy giant Shell employs the technology to keep its network of offshore rigs running smoothly. Meanwhile, **investors** are pouring **hundreds of millions of dollars** into drone startups with names like Skycatch (which creates aerial maps) and Skydio (which makes video-recording drones that automatically track a subject). The drone business is heavily dominated by China. Roughly 72% of the global market is controlled by DJI, which is headquartered in Shenzhen, often referred to as the Silicon Valley of China.

All this investment raises both possibilities and **concerns**. Privacy advocates are worried about the unchecked growth of aerial surveillance. Drones have been used to smuggle drugs into prisons, and the U.S. military is spending hundreds of millions of dollars to develop methods to prevent them from becoming terrorists' weapon of choice.



Inequality is found around the globe, but the World Bank says South Africa qualifies as the starkest example. For a vivid perspective on it, Johnny Miller of the Unequal Scenes Project



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sent a drone over northwest Johannesburg. On the left is Kya Sands, a shack city that is home to many economic migrants who arrived from other African nations. Across the road is Bloubastrand, a middle-class suburb known for its diverse mix of residents.

At least 122,000 people in the U.S. are now certified to fly drones professionally, according to the FAA, which sparked the drone explosion in 2016 when it simplified its process for allowing their commercial use.

The surge in drone use presents a challenge for regulators. The FAA rules governing drone operation, which include no flying outside a pilot's line of sight, have been criticized by drone entrepreneurs for hampering a burgeoning industry. How can Amazon deliver your toothpaste with a drone if it has to stay within eyesight of a pilot? The Department of Transportation is working with drone-flying companies in 10 states as it tries to strike a balance between safety and innovation, and groups like NASA are studying ways to safely integrate drones into an already crowded airspace.



*A man later identified as a 24-year-old citizen of India attempts to illegally enter the United States near San Diego. He was apprehended by the U.S. Border Patrol on Jan. 19.*

Developments in artificial intelligence and automation will make it possible to operate massive drone fleets simultaneously, increasing efficiency and greatly expanding their capabilities. First responders envision highways lined with drones ready to zip lifesaving medicine to accident scenes. Global transportation firms are designing helicopter-size versions that could zip people around like flying taxis, *Jetsons*-style, without a pilot on board.

Like it or not, the sky above is about to become far busier. <http://time.com/longform/time-the-drone-age/>

**Swiss Partnership Launches BVLOS Medical Drone Flights** Jason Reagan on June 05, 2018



National Swiss postal company Swiss Post will partner with drone maker Matternet to create a UAV transport system to save lives.

The project will transport lab samples via BVLOS flights between Tiefenau hospital and University Hospital Insel in Berne with more



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pilot projects expected later in Zurich.

When it comes to lab samples, transport speed between medical facilities can make the difference between life and death. Samples delivered by drones cannot be stopped by heavy street traffic and can drastically cut down courier transport time.

“When lab samples need to be transported as quickly as possible from A to B, **every minute counts**. This is why this pilot project is so visionary,” Insel Gruppe CEO Uwe E. Jocham said. “Within two weeks, we want to evaluate whether the use of the drone offers real added value to them and, ultimately, to patients,” added Claudia Pletscher, Head of Development and Innovation at Swiss Post.

During the test period, drones will be launched for at least 10 successful flights over two weeks. Insel Gruppe will decide at that point if the test warrants further deployment. If so, Swiss Post will create a similar program, between ZLZ Entrhaller, a lab in Zurich, and the ZLZ emergency laboratory at the Hirslanden Klinik Im Park.

Last year, Swiss Post and Matternet created **the first hospital-to-hospital drone project** in Lugano with more than 1,000 successful flights to date. <https://dronelife.com/2018/06/05/swiss-partnership-launches-bvlos-medical-drone-flights/>

**8Jun18**

### **Dropcopter Drone Autonomously Pollinates Apple Trees** Betsy Lillian June 6, 2018



Today, along with Beak & Skiff Apple Orchard in New York State, Dropcopter showcased what it claims was **the first autonomous pollination of apples in the U.S.**

Dropcopter, which uses a drone to pollinate tree crops, successfully demonstrated its Worker-Bee pollinator at the 800-acre orchard, which is home to more than 350,000 trees, in Lafayette, N.Y.

Each year, 400 hives of bees help pollinate Beak & Skiff's crops. However, the potential to have drones supplement the pollination performed by bees offers the ability to distribute precise amounts of pollen five to 10 feet above the tree canopy and provide backup support to Mother Nature.



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Dropcopter was recently awarded a \$250,000 investment in [round two of the yearlong GENIUS NY program](#). The company, which is from California, is operating from The Tech Garden in Syracuse, N.Y.



"Beak & Skiff has been proudly growing apples in central New York for more than 100 years, and we owe that longevity to our commitment to deploying innovative technologies that enable us to grow a high-quality product," says Pete Fleckenstein of Beak & Skiff. "Dropcopter is excited to partner with Beak & Skiff, as this effort brings together the region's legacy industry, agriculture, with the burgeoning drone sector," adds Adam Fine, co-founder of Dropcopter. [https://unmanned-aerial.com/dropcopter-drone-autonomously-pollinates-apple-trees?utm\\_medium=email&utm\\_source=LNH+06-07-2018&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/dropcopter-drone-autonomously-pollinates-apple-trees?utm_medium=email&utm_source=LNH+06-07-2018&utm_campaign=UAO+Latest+News+Headlines)