



## UAS and SmallSat Weekly News

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### Are drones the new UFOs? January 18, 2019 Feilidh Dwyer



Ten years back, if someone looked to the sky and noticed a mysterious light or object, hovering or moving in ways that didn't immediately make sense – a ready conclusion many would come to was, "I just saw a UFO!" Jump to the present day and someone witnessing the same thing, an object passing by in their peripheral vision is likely to say, "I just saw a drone!"

[Slate has written an article](#) on this topic. The author, Faine Greenwood, makes the point that the era we live in will heavily influence what we believe is behind a particular unexplained phenomenon, in this case, objects in the sky. During the middle ages, for example, people who saw mysterious lights in the sky would most likely assume it was some sort of sign from Gods. During the Cold War, Americans might attribute mysterious items in US skies as Russian spy planes or incoming missiles.

Drones are a hot commodity right now and have truly entered the public psyche. Most of the prominent stories relating to drones have a negative bent. Whether it is public disruption, near-misses with planes, surveillance, spying, killing people in distant lands – it's no wonder UAVs get a bad wrap!

Greenwood also makes the interesting observation that the decline in UFO sightings around 2014, coincided with an uptick in the popularity of small consumer drones.

We still don't know what exactly caused the 36 hours of chaos at Gatwick. More than 100 people claimed to see a drone, and those sightings came from the likes of pilots, police officers and airport staff. We're not saying they didn't see a drone, but the hysteria associating these sightings could be avoided if we get better detection technology.

The consequence of people being too quick to jump on drones, even in cases where the sightings near airports are not completely confirmed is that this useful technology **might be unfairly curtailed**. Hopefully we will soon establish a sure-fire method of identifying whether sightings are genuine or people are leaping to conclusions without having the proper evidence. <https://www.wetalkuav.com/are-drones-the-new-ufos/>



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### Stagecoach drivers celebrate anniversary with drone stunt APPLICATION NEWS UK

ALEX DOUGLAS JANUARY 18, 2019



The team in Swindon parked ten buses in the formation of the number 25 and took an aerial shot via drone to show off their celebrations.

Bill McCartney, the depot transport manager, told the Swindon Advertiser: "This was a bit of fun and a challenge for the drivers and the drone pilot to get the buses in position and perfectly lined up in what were difficult weather conditions."



He added: "It was quite time consuming, more so than we thought. The weather wasn't the best and we only had a five-minute window for the drone to capture the image, so we were fortunate that we got it spot on the first try and did not need to maneuver the buses all over again."

[https://www.commercialdroneprofessional.com/stagecoach-drivers-celebrate-anniversary-with-drone-stunt/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-288976-Commercial+Drone+Professional+DNA++2019-01-18](https://www.commercialdroneprofessional.com/stagecoach-drivers-celebrate-anniversary-with-drone-stunt/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-288976-Commercial+Drone+Professional+DNA++2019-01-18)

### Cyprus to be in a position to 'utilize parcel delivery' by drone in 2019, says postal services director APPLICATION EUROPE HEADLINE NEWS REGULATION RESEARCH

TECHNOLOGY ALEX DOUGLAS JANUARY 18, 2019



According to Andreas Gregoriou, director of the Department of Postal Services, the country hopes to at least have a pilot program by the end of 2019 with more specific terms in place for the start of next year.

Speaking to the Cyprus News Agency, he said: "We are at a very satisfactory level to see how we can utilize this new technology to render the Cyprus postal services more effective and enable them to deliver correspondence, in particular parcels and small packages on time." The department is in contact with researchers at the University of Cyprus Kios Research Centre as part of the plans.



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Gregooriou went on to describe how, when they are in a position to utilize drones for parcel delivery this year, all plans would be in line with civil aviation regulations.

[https://www.commercialdroneprofessional.com/cyprus-to-be-in-a-position-to-utilise-parcel-delivery-by-drone-in-2019-says-postal-services-director/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-288976-Commercial+Drone+Professional+DNA+-+2019-01-18](https://www.commercialdroneprofessional.com/cyprus-to-be-in-a-position-to-utilise-parcel-delivery-by-drone-in-2019-says-postal-services-director/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-288976-Commercial+Drone+Professional+DNA+-+2019-01-18)

### **FLIR Systems Awarded \$89 Million Contract from French Armed Forces to Deliver Black Hornet** January 18, 2019 Military News



FLIR Systems, Inc. announced today it has been awarded a contract from the French Defense Procurement Agency in support of the French Operational Pocket Drone program. The contract has a ceiling value of \$89 million to provide the FLIR Black Hornet® 3 nano-unmanned aerial vehicle and Personal Reconnaissance System to support French Armed Forces

operations.

The Black Hornet is the **world's smallest** combat-proven Unmanned Aerial System and is currently deployed in more than **30 countries**. The Black Hornet enables the warfighter to maintain situational awareness, threat detection and surveillance no matter where the mission takes them. Equipped with electro-optical and infrared sensors and the ability to fly up to 25 minutes, the Black Hornet bridges the gap between aerial and ground-based sensors, provides the same situational awareness and threat detection capabilities as larger unmanned air and ground vehicles. The contract will be managed and executed by FLIR in Hvalstad, Norway.

<https://uasweekly.com/2019/01/18/flir-systems-awarded-89-million-contract-from-french-armed-forces-to-deliver-black-hornet/>

### **The best drone photos from around the world will take your breath away** Parker Hall January 18, 2019



Drone-based aerial imaging is changing the field of photography, and even photojournalism as we know it. To illustrate this burgeoning photography market, SkyPixel, an aerial photography



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community run in conjunction with drone manufacturer DJI, received more than 27,000 photo submissions from 131 countries during its 2016 annual photography contest.

We have included some of these winners, as well as choice selections from sites like [Dronestagram](#) — an Instagram account entirely dedicated to aerial drone photography — and others in this gallery of truly epic drone photos. From awe-inspiring views of [World Heritage Sites](#) and tantalizing up-close glimpses of lava-spewing volcanoes to sights of the shifting sands along the Arabian Desert, here are 50 of our favorite drone photos from around the globe. <https://www.digitaltrends.com/cool-tech/best-drone-photos/#/27>

21Jan19

### **FAA takes to the skies above Nevada in new pilot program** APPLICATION FAA NEWS REGULATION UNITED STATES ALEX DOUGLAS JANUARY 21, 2019



The UAS Test Site Smart Silver State program, which will test UAVs in urban airspace, will take place in Reno while additional testing will be overseen in Henderson and Laughlin.

According to a report from the Washington Post, Elaine Chao, the U.S. Transportation Secretary, said the new nine-month project is separate from the traditional FAA air traffic management system. Its aim is to integrate drone flights within the country's airspace system, create a shared information network and gather for FAA rulemaking.

Chris Walach, executive director of the Nevada Institute for Autonomous Systems, told the Post that the project will help the industry take steps towards BVLOS in built up areas for the likes of deliveries and surveillance. He said: "This is going from the little league of within-visual-line-of-sight for drone operations to advanced protocols and concepts. This will certainly contribute to advancing the industry for package delivery and other operations that need to occur inside a city." [https://www.commercialdroneprofessional.com/faq-takes-to-the-skies-above-nevada-in-new-pilot-program/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-289175-Commercial+Drone+Professional+DNA+-+2019-01-21](https://www.commercialdroneprofessional.com/faq-takes-to-the-skies-above-nevada-in-new-pilot-program/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-289175-Commercial+Drone+Professional+DNA+-+2019-01-21)

### **Parazero expecting more commercial opportunities from new regulations**

APPLICATION BUSINESS DRONES AT WORK FAA NEWS REGULATION ALEX DOUGLAS JANUARY 21, 2019

The UAV **safety solutions firm** thinks the regulations, which could allow routine flights over people and at night, will push expansion in the commercial drone industry.



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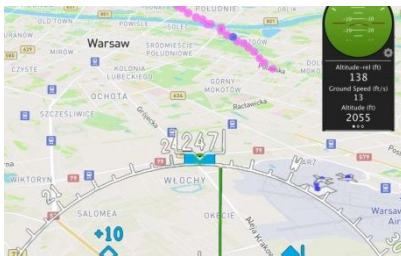
ParaZero says its SafeAir systems, when combined with certain drones, are designed to fit in line with certain aspects of the regulation, especially for flight over people, as its **parachutes** help to reduce the kinetic energy of a malfunctioning drone before it reaches the ground.

Current FAA regulations restrict the flight of drones over unprotected people as a safety precaution, something Parazero believes has led to a slower rate of industry growth, due to the prevention of most drone operations in urban areas. It thinks the new rules would therefore replace the need for waivers for certain operations and pave the way for accelerated growth.

For the unmanned aircraft industry, the proposed regulations are the equivalent of requiring all cars to contain airbags as a standard safety feature. The inclusion of parachute safety systems has already been approved by the FAA in waiver applications for flights over people.

[https://www.commercialdroneprofessional.com/parazero-expecting-more-commercial-opportunities-from-new-regulations/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-289175-Commercial+Drone+Professional+DNA++2019-01-21](https://www.commercialdroneprofessional.com/parazero-expecting-more-commercial-opportunities-from-new-regulations/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-289175-Commercial+Drone+Professional+DNA++2019-01-21)

**BVLOS flight restrictions lifted in Poland at the end of January** January 19, 2019 Philip Butterworth-Hayes UAS traffic management news



After an in-depth analysis and hundreds of hours of consultations, the Polish CAA issued a law that allows BVLOS flights in non-segregated airspaces. Until now, BVLOS operations have been generally treated as IFR flights, with the level of training required from drone operators equal to the IFR rating. This approach was not propelling to the drone industry in which hundreds or even thousands of flights are to be carried out automatically. The BVLOS Regulation published on January 2019 applies to unmanned aircraft below 25kg. The condition of operation must include:

- the method of limiting the risk of flight operations
- control activities carried out before takeoff and after landing
- procedures and principles of performing air operations
- general emergency procedures
- the procedure for inspection of the technical condition of unmanned aircraft

An aircraft must be equipped with adequate lighting and navigational elements. It must have an emergency system and an automatically-triggered emergency procedure, recording of flight parameters and equipped with a camera allowing observation of the unmanned aircraft's



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environment to reduce collision risk with another aircraft or obstacle.

<https://www.unmannedairspace.info/uncategorized/bvlos-flight-restrictions-lifted-poland-end-january/>

### Singapore's CAAS to develop UAS traffic monitoring system January 16, 2019 Philip Butterworth-Hayes UAS traffic management news



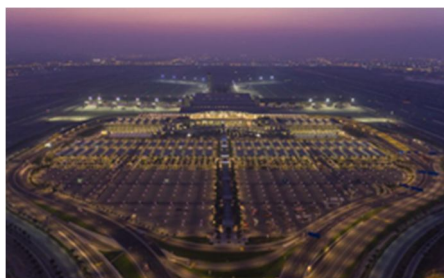
Singapore's "Straits Times" reports that the Civil Aviation Authority of Singapore intends to develop a system that can monitor unmanned aircraft systems. "This system will allow Singapore to check if individual drones are operating under valid permits. Dr Lam said this is part of an approach to deal with cooperative unmanned aircraft.

"As for uncooperative unmanned aircraft systems, CAAS actually cooperates with Changi Airport Group, the Defence Science and Technology Agency, Ministry of Defence as well as Ministry of Home Affairs to neutralise either by **force down or destroying** rogue (aircraft) swiftly," he added.

Dr Lam was reported as saying eight instances of unauthorized unmanned aircraft systems flying within 5km of Changi Airport were recorded in the past three years. But none of these cases involved intrusions into Changi Airport.

<https://www.unmannedairspace.info/uncategorized/singapores-caas-develop-uas-traffic-monitoring-system/>

### Muscat International Airport to install \$10 million Aeronia counter-UAS system January 21, 2019 Philip Butterworth-Hayes Counter-UAS systems and policies



Aeronia AG reports it will install its AARTOS drone detection system at Muscat International Airport, **Oman**, in a deal worth \$10 million.

It is able to detect drones and other devices using radio frequency with range of up to 50. The system can detect multiple drones at various frequencies simultaneously and comes equipped with long-range cameras for additional verification. Aeronia has been working with high end RF and Microwave systems for over 15 years in Germany. Over **50 AARTOS systems were installed in 2017**, while Aeronia has already received more than **300 new orders in 2018**. <https://www.unmannedairspace.info/counter-uas-systems-and-policies/muscat-international-airport-install-usd10-million-aeronia-counter-uas-system/>



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### Drones Shown To Make Traffic Crash Site Assessments Safer, Faster and More Accurate January 18, 2019



“It’s the people at the back of the queue where you have traffic stopped who are most vulnerable and an approaching inattentive driver doesn’t recognize that traffic is stopped or moving very slowly until it is too late,” said Darcy Bullock, the [Lyles Family Professor of Civil Engineering](#) and [Joint Transportation Research Program](#) director at [Purdue](#)

[University](#).

Conventional mapping a severe or fatal crash can take **two to three hours** depending on the severity of the accident, according to Bullock. “Our procedure for data collection using a drone can map a scene in **five to eight minutes**, allowing public safety officers to open the roads much quicker after an accident,” said Ayman Habib, Purdue’s [Thomas A. Page Professor of Civil Engineering](#), who developed the photogrammetric procedures.

“It can cut 60 percent off the down-time for traffic flow following a crash,” said Capt. Robert Hainje of the Tippecanoe County Sheriff’s Office. “The collaboration with Purdue faculty and students has been tremendously effective in helping our law enforcement, first responders and special teams.”

John Bullock, a sophomore in the [School of Mechanical Engineering](#) and research assistant on the project, worked with local public safety colleagues to develop field procedures and post processing of images to create orthorectified images that clearly illustrate the position of vehicles, infrastructure and general terrain adjacent to the crash site. The drones are programmed to use a grid-type path and record about 100 photos in two-second intervals. This post processed data is used to develop an accurate scale map that with photos at the scene provides enough data to create a **3D print of the scene**.

“It is very rewarding to see how this technology can be used to improve safety by reducing secondary crashes and exposure of colleagues to the hazards of working adjacent to highway traffic.” <https://uasweekly.com/2019/01/18/drones-shown-to-make-traffic-crash-site-assessments-safer-faster-and-more-accurate/>





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### Commercial drone that came within 22 yards of an Airbus coming into Heathrow was one of 120 near misses in the last 12 months as the airport finally deploys new technology to combat the gadgets JAMES WOOD FOR MAILONLINE 18 January 2019



*The Anti-UAV Defence System is able to detect, track and ground drones*

A large 'commercial drone' that came within 22 yards of an Airbus was one of 120 near misses in the last year - as Heathrow airport finally deploys new technology to combat the gadgets.

The number of near misses between drones and aircraft were up 29 per cent from 2017 - where just 93 were recorded. While in 2014 just six incidents were recorded.

Now an anti-drone system has been placed on top of a commercial vehicle at Heathrow in a bid to stop the rising tide of drone related incidents.

Over [Christmas](#) a drone sighting at Gatwick led to 120,000 passengers unable to take off or land at the airport. Passengers were stuck on planes for several hours and were forced to sleep on floors inside the airport as flights were cancelled between December 19 and 21. While on January 8 this year flights halted for almost 90 minutes at Heathrow Airport after a drone was spotted at around 5.05pm. Travel experts estimated that around 40 flights were delayed in the shutdown, with Scotland Yard later confirming that 'military assistance [had] been implemented' to bring the incident to an end. <https://www.dailymail.co.uk/news/article-6608413/Heathrow-Airport-deploys-new-technology-combat-drones-near-miss-Airbus.html?ito=1490>

### Drones Are the New Flying Saucers FAINE GREENWOOD JAN 16, 2019



There's something *weird* in the sky. It's blinking, it's hovering, it's making loud noises. But how do you describe what you saw? Your answer is probably dependent on the time you live in. In 1561, you might have called the weird flying thing a [heavenly portent](#). In the U.K., just before the start of World War I, you would probably say you'd been startled by an [unexpected zeppelin](#). During the [Cold War](#)



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[era](#), you might have called the thing a flying saucer of possible alien origin, or perhaps a secretive Soviet spy weapon: objects that fell into the category of UFOs. And in 2019, you might assume the weird thing twinkling in the sky is a drone.

The FAA states that it receives “[over 100 reports](#)” each month from citizens who believe they’ve sighted a drone near a manned aircraft or an airport. Yet many drone specialists are skeptical of these FAA reports. In 2015, the Academy of Model Aeronautics analyzed these FAA sightings and found that many of them were “[vague](#),” some were reports of apparently legal flights, and only 3.5 percent described incidents where a manned pilot had a near-miss with an drone. Some reporters and experts ([including the U.S. Government Accountability Office](#)) have criticized the [FAA’s collection](#) of these reports, citing the [iffy quality of the data](#) and their inherently unverifiable nature.

It’s possible that almost all of these unconfirmed drones were actually there, and we simply failed to find them, due to the (very real) current [inadequacy of drone identification technology](#). But we should also consider the possibility that at least some of these maybe-drones never existed. Perhaps **drones are taking the place of UFOs**—in the extraterrestrial or mysterious sense, rather than the literal meaning of “unidentified flying object”—as humanity’s preferred catch-all explanation for weird stuff in the sky. <https://slate.com/technology/2019/01/drone-paranoia-gatwick-heathrow-airport-sightings-ufos.html>

### Drone project underway to predict the spread of wildfires using UAV tech

APPLICATION EMERGENCY SERVICES NEWS ALEX DOUGLAS JANUARY 22, 2019



The Columbia Missourian reported that the project aims to use UAVs to collect real-time data and send it to firefighters on the ground to contain the fire and prevent it from spreading.

Sponsored by the U.S. Department of Agriculture and National Science Foundation, the project’s professor, Ming Xin, said the drones follow a simulation that can predict where a fire will spread within the next half-hour period.

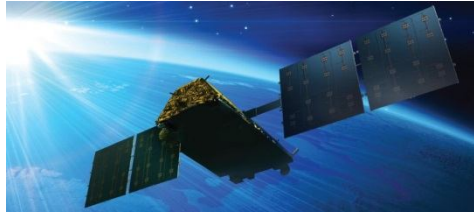
The simulation is based on thermal imagery of an area and data on wind, terrain and vegetation and enables the drones to collect real-time data with thermal imaging cameras and sensors that help estimate the wind field. [https://www.commercialdroneprofessional.com/drone-project-underway-to-predict-the-spread-of-wildfires-using-uav-tech/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-289332-Commercial+Drone+Professional+DNA+-+2019-01-22](https://www.commercialdroneprofessional.com/drone-project-underway-to-predict-the-spread-of-wildfires-using-uav-tech/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-289332-Commercial+Drone+Professional+DNA+-+2019-01-22)



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### Global Satellite Broadband Service Launched for Unmanned Applications 22 Jan

2019 Mike Rees



[Iridium Communications](#) has announced the commercial launch of its Iridium Certus broadband service, the first new capability activated from the company's Iridium NEXT satellite replacement program. Iridium Certus is a unique platform designed for the development of specialty applications such as **unmanned aerial vehicles**

and other autonomous vehicles, and is **the world's only truly global broadband service**, offering on-the-move internet and high-quality voice access. This announcement marks the end of an extensive global testing phase, including beta trials with live customers; the initial service is targeted at maritime and terrestrial applications, with Iridium Certus aviation solutions expected later once certified.

The service enables mobile functionality for deployed teams and two-way remote communication and safety-of-life services for the critical communications needs of teams operating beyond the reach of cellular coverage, including first responders and search and rescue organizations. This includes keeping unmanned systems safely connected and maintaining consistent communication, regardless of location.

"It will enable us to provide broadband connections to teams, vehicles and the important IoT "things" that are in the 80-plus percent of the world that lacks cellular coverage," said Iridium CEO Matt Desch. [https://www.unmannedsystemstechnology.com/2019/01/iridium-certus-global-satellite-broadband-service-launched/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=c90517ee12-eBrief\\_2019\\_Jan\\_22&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-c90517ee12-119747501](https://www.unmannedsystemstechnology.com/2019/01/iridium-certus-global-satellite-broadband-service-launched/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=c90517ee12-eBrief_2019_Jan_22&utm_medium=email&utm_term=0_6fc3c01e8d-c90517ee12-119747501)

### Drone Developed for Automated Inventory Checking 18 Jan 2019 Mike Rees

[Pensa Systems](#), a developer of autonomous perception systems, has announced that it has



developed a UAV-based retail inventory visibility system designed to inform retailers and brands of what is actually on shelves – across all stores, everywhere, at any time.

Pensa's approach uses computer vision to "see," artificial intelligence to learn, analyze and conclude, as well as autonomous



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drones as roving eyes to automate visual tasks. The system provides complete, real-time and actionable data and insights, enabling retailers to automatically track in-store inventory.

"In-store inventory visibility remains a giant black hole for the retail supply chain," said Richard Schwartz, president and CEO of Pensa Systems. "Retailers and brand manufacturers have tried all combinations of robots, cameras and smart shelving, but these solutions are too expensive, inaccurate and brittle. By combining AI smarts in the cloud with inexpensive drones for remote data collection, we have created a scalable solution that can break the logjam."

[https://www.unmannedsystemstechnology.com/2019/01/drone-based-computer-vision-technology-developed-for-automated-inventory-checking/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=c90517ee12-eBrief\\_2019\\_Jan\\_22&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-c90517ee12-119747501](https://www.unmannedsystemstechnology.com/2019/01/drone-based-computer-vision-technology-developed-for-automated-inventory-checking/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=c90517ee12-eBrief_2019_Jan_22&utm_medium=email&utm_term=0_6fc3c01e8d-c90517ee12-119747501)

### **Hobbyist View: FAA's First Take on New Drone Regulations, and Strict New Rules in Canada**

staff on January 22, 2019 *The following is a guest post from John Saginario: FPV flyer, writer and host of the [Wild Flyers](#) podcast.*



As DroneLife [has reported](#), DOT Secretary Elaine Chao recently announced the department's new proposals (mainly directed at commercial UAS, but the rules would apply to hobbyist craft as well) to allow drones to fly at night and over crowds of people under certain controlled circumstances.

The FAA is also proposing those pilots be required to undergo additional testing and certification. Other proposed rules seek to research how best to incorporate UAVs into the national airspace, and ensure the public's safety as the number of multicopters in the sky grows exponentially.

Certainly, opening up the skies and easing some restrictions are welcomed by the hobbyist community. In fact, the Academy of Model Aeronautics' own safety guidelines go a step further than the proposed rules. The AMA rules forbid flying over people or crowds, and outline certain conditions for safe night flying.

"AMA's safety guidelines allow night flying as long as a lighting system that provides the pilot with a clear view of the model's attitude and orientation at all times is in place. We believe this



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policy continues to make sense and, at first glance, is similar to what the FAA is proposing," says Chad Budreau, AMA Executive Director. <https://dronelife.com/2019/01/22/hobbyist-view-faas-first-take-on-new-drone-regulations-and-strict-new-rules-in-canada/>

### **AerialWayz™ granted Flight-Over-People & Moving-Vehicles Waiver with Fruity Chutes Inc.** January 22, 2019 News



AerialWayz™ found that just adding a parachute to a waiver application would not be enough. The applicant needs to know why they need it, the safety applications involved, what heights, including what minimum heights the drone will be flown and why. Applicants have to answer questions such as: does it have an Automatic Trigger System (ATS) and Independent power source that allows deployment in event of drone power failure, and will the applicant be able to conduct a training program for all of the above subjects to their team?

Fruity Chutes Inc. is **the first drone parachute company** to have a customer be granted a **long-term flight-over-people waiver** (previous waivers have only been for one day events). Fruity Chutes is also the first drone parachute company to have a customer gain a flight-over-moving-vehicle waiver.

AerialWayz™ specializes in aerial security surveys and systems as well as offering an aerial security training program. We are currently integrating drones with CCTV camera systems to offer a complete aerial security platform.. <https://uasweekly.com/2019/01/22/aerialwayz-granted-flight-over-people-moving-vehicles-waiver-with-fruity-chutes-inc/>

**23Jan19**

### **Drones Cause Newark Ground Stop** RUSS NILES



Flights were disrupted at Newark Liberty Airport on Tuesday evening after two drones were spotted over Teterboro Airport, 17 miles away. The FAA said the drones were flying at about **3,500 feet**. The FAA issued a ground stop at Newark and inbound flights were put in holds. The holding aircraft were allowed to land starting about 5:45 p.m. but Newark-bound aircraft that hadn't taken off yet were held at their departure airports to allow the backlog of arrivals at Newark to clear. Assuming no more drone sightings, normal operations were expected to resume. <https://www.avweb.com/eletter/archives/101/4237-full.html?ET=avweb:e4237:2565185a:&st=email#232170>



## UAS and SmallSat Weekly News

### Airobotics receives first and only CASA approval for BVLOS remote location flight in Australia

APPLICATION DRONES AT WORK INTERNATIONAL NEWS ALEX DOUGLAS JANUARY 23, 2019



Taking place from its Remote Operations Centre, the approval also requires **no** aircrew to be present at the client site. Niv Russo, vice president of Aviation and Compliance at Airobotics said: "This landmark approval is a major achievement for Airobotics and its future growth across Australia. Removing aircrews from potentially dangerous environments, like mines, enables customers to extract maximum value and reduce risk from their business operations by leveraging technology and automation."

He added: "This progression marks the next step for Airobotics as we continue to break new ground in unmanned drone technology to deliver safer and more accurate, data-driven solutions."

In October, CDP reported on how Airobotics had raised an additional **£23m** in funding to scale up drone solutions. [https://www.commercialdroneprofessional.com/airobotics-receives-first-and-only-casa-approval-for-bvlos-remote-location-flight-in-australia/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-289452-Commercial+Drone+Professional+DNA++2019-01-23](https://www.commercialdroneprofessional.com/airobotics-receives-first-and-only-casa-approval-for-bvlos-remote-location-flight-in-australia/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-289452-Commercial+Drone+Professional+DNA++2019-01-23)

### 5 Technologies Improving Drone Safety

Malek Murison January 23, 2019

With increasing public unrest *and* more advanced drone flights on the horizon, now is a good time to look at some of the technologies being developed within the industry to help keep operations safe.



**Parachutes.** Parachutes have been a part of the aviation world for decades. In the case of a commercial drone, the emphasis switches to the safety of people and structures below, as well as the preservation of valuable payloads. [Airobotics announced it was granted a waiver](#) from the FAA for BVLOS flights over people with the adoption of [ParaZero's safety systems](#).

**Geofencing** Geofencing creates virtual, location-based barriers that prevent drone flights and take-offs in sensitive areas: usually around airports and locations where crowds will be present, like festivals and sporting events. The system is there to reassure authorities in



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sensitive locations that any drones flying have permission and aren't up to no good. Remote ID is another part of this equation: By requiring manufacturers to build-in software that broadcasts identifying information for the drone and its pilot in real time, officials are kept in the loop.

**Computer Vision.** This sector of AI has allowed companies like [Movidius](#), DJI, Intel and Skydio to provide drones with the visual awareness required to avoid obstacles and, in some cases, navigate around them completely. As soon as you take the pilot out of the equation, advanced computer vision is a must-have.

**Lighting.** The standard lights that come with consumer models are rarely bright enough to meet night flight requirements. They can also be tough for pilots to spot in gloomy conditions. More powerful lighting accessories are needed in many circumstances. They can also be [great creative tools](#).

**DJI AirSense.** In October DJI [announced](#) AirSense, a feature that displays warnings to pilots when a signal from a nearby airplane or helicopter is detected. <https://dronelife.com/2019/01/23/5-technologies-improving-drone-safety/>

### **Rocket Lab to launch DARPA satellite** Jeff Foust January 22, 2019



WASHINGTON — Small launch vehicle developer Rocket Lab will launch an experimental satellite for the Defense Advanced Research Projects Agency in February, the first of a planned dozen launches in 2019.

Rocket Lab announced it will launch a small satellite for DARPA on the company's Electron rocket from its launch site in New Zealand. That launch will take place in February, likely late in the month. The payload is a satellite developed by DARPA called Radio Frequency Risk Reduction Deployment Demonstration (R3D2) that will test technologies for deployable antennas. Once in orbit, R3D2 will deploy a Kapton membrane that will expand to a diameter of 2.25 meters to demonstrate **the ability of small satellites to carry large deployable antennas** needed to support high-bandwidth communications.

The 150-kilogram satellite will be the only payload on the launch as it takes up all the mass and volume available on the rocket. <https://spacenews.com/rocket-lab-to-launch-darpa-satellite/>



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### Boeing Autonomous Passenger Air Vehicle Completes First Flight January 23, 2019

News



Boeing yesterday completed the first test flight of its autonomous passenger air vehicle (PAV) prototype in Manassas, Virginia. Boeing NeXt, which leads the company's urban air mobility efforts, utilized Boeing subsidiary **Aurora Flight Sciences** to design and develop the electric vertical takeoff and landing (eVTOL) aircraft and will continue testing to advance the safety and reliability of **on-demand autonomous** air

transportation.

The PAV prototype completed a controlled takeoff, hover and landing during the flight, which tested the vehicle's autonomous functions and ground control systems. Future flights will test forward, wing-borne flight, as well as the transition phase between vertical and forward-flight modes. Powered by an electric propulsion system, it is designed for fully autonomous flight from takeoff to landing, with a range of up to 50 miles. Measuring 30 feet long and 28 feet wide, its airframe integrates propulsion and wing systems to achieve efficient hover and forward flight.

John Langford, president and chief executive officer of Aurora Flight Sciences, said "**Certifiable autonomy** is going to make quiet, clean and safe urban air mobility possible."

<https://uasweekly.com/2019/01/23/boeing-autonomous-passenger-air-vehicle-completes-first-flight/>

24Jan19

### Amazon tests drone traffic management systems to prevent aerial collisions January 23, 2019 Feilidh Dwyer



One of the biggest challenge facing the roll-out of drone deliveries is **legislative**. The technology is there – drones have been successfully delivering goods in countries such

as [Australia](#) and [Iceland](#) for several years now ([although not without controversy](#)). The logistics and laws governing the movements of hundreds of drones in the air, however, have proven to be far more complex than early proponents of the idea could have anticipated.

Amazon's traffic management system would allow the drones to communicate with others in the network and keep a safe distance from each other at all times. But what about UAVs from other people? Amazon's team is working with regulators as well as NASA and Single





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European Sky ATM research to test how different drones from different operators can fly together **harmoniously**.

Some of the features of a good aerial traffic system for drones would be to give the FAA easy tools for knowing the location of any airborne drone at any time as well as a system for grounding all drones in a particular zone during an emergency such as wildfires.

<https://www.wetalkuav.com/amazon-tests-drone-traffic-management-systems-to-prevent-aerial-collisions/>

### **AFRL, U.K. Partner Holding Contest for Search & Rescue AI Applications** Nichols

Martin January 23, 2019 News, Technology



The U.S. Air Force Research Laboratory and the U.K.'s Defense Science and Technology Laboratory are hosting a competition to identify new planning approaches for search and rescue missions with unmanned aircraft systems. *Swarm and Search AI Challenge: 2019 Fire Hack* will task participants to develop artificial intelligence applications to map wildfires, support mission planning and respond to dynamic changes, Wright-Patterson Air Force Base [said Tuesday](#).

Teams will perform their work on an online collaboration platform and study various fire maps via USAF-approved software. Wright Brothers Institute and University of Dayton Research Institute will serve as academic partners for the program to take place in the U.S. and the U.K. and conclude by the end of March. The program will select **10 finalists** to compete for cash prizes at the challenge's culminating round. The entrants to receive the highest score will be featured at the Association for Unmanned Vehicle Systems International's 2019 conference and the U.K. Embassy in Washington DC.

<https://www.executivegov.com/2019/01/afri-uk-partner-holding-contest-for-search-rescue-ai-applications/>

### **New York Power Authority Investigates LiDAR with Drones** Betsy Lillian January 23,

2019



NYPA was awarded a \$125,000 grant from the American Public Power Association's Demonstration of Energy & Efficiency Development program. NYPA owns and operates approximately one-third of New York's high-voltage power lines.

In February, NYPA will begin a yearlong pilot project to determine the **optimal combination** of drone and LiDAR technology for use in utility industry inspections. NYPA's research and development team will evaluate combinations of drone and LiDAR technology aimed at keeping



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the total weight of a drone with LiDAR equipment under 55 pounds in order to comply with the Federal Aviation Administration's Part 107 regulations for the operation of small UAS.

Currently, NYPA's vegetation management program relies on contracting specialized companies with LiDAR-equipped manned aircraft, and the inspection cycle for the entire transmission system is repeated every four years. NYPA expects the drone operations to reduce the inspection cycle through improved responsiveness and shorter inspection times and **greatly reduce hazards** by eliminating the need to place contractors or employees near energized equipment. <https://unmanned-aerial.com/new-york-power-authority-investigates-lidar-with-drones>

### **Heathrow 'drone' arrest turns out to be model aircraft pilot** CRIME HEADLINE NEWS LEGISLATION REGULATION UK ALEX DOUGLAS JANUARY 24, 2019



Appearing in court in Uxbridge on Tuesday to admit the charge of 'flying a small unmanned aircraft without permission of air traffic control', the judge branded George Rusu 'reckless' for flying his £160 model aircraft in nearby proximity.

#### *A Model Aircraft Similar To the One Used*



Deputy district judge Robert Roscoe, sentencing, said: "To my mind, the word reckless seems to be appropriate. It was **stupid** of you, to say the very least. You didn't engage with your brain to think about the consequences of what you were doing."

In a statement asking for caution in drone sighting incidents, Brendan Schulman, DJI's VP for policy and legal affairs, said: "As more airports and airlines use drones for their own inspection, surveying and security purposes, aviation stakeholders must determine how to respond to drone sightings in ways that help ensure safety but cause the least disruption."

The statement also described how drone blame had been wrong in the past, referencing a plastic bag in the UK in 2016, structural failure in Mozambique in 2017, a bat in Australia in 2017 and a balloon in New Zealand last year. [https://www.commercialdroneprofessional.com/heathrow-drone-arrest-turns-out-to-be-model-aircraft-pilot/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-289585-Commercial+Drone+Professional+DNA+-+2019-01-24](https://www.commercialdroneprofessional.com/heathrow-drone-arrest-turns-out-to-be-model-aircraft-pilot/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-289585-Commercial+Drone+Professional+DNA+-+2019-01-24)



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### Verity Studios completes 100,000 drone flights APPLICATION DRONES AT WORK INNOVATION INTERNATIONAL NEWS TECHNOLOGY ALEX DOUGLAS JANUARY 24, 2019



The indoor drone show firm took to Twitter yesterday and said it would continue with its work 'full steam ahead.'

Based in Switzerland, Verity Studios' drones have been involved in a number of significant events in recent years. Its most high profile events include going on tour with Drake, putting on shows at the Dubai Mall and Madison Square

Garden and working with Metallica.

Last week, Commercial Drone Professional covered the news from Verity that it was expanding its drone choreography team. [https://www.commercialdroneprofessional.com/verity-studios-completes-100000-drone-flights/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-289585-Commercial+Drone+Professional+DNA+-+2019-01-24](https://www.commercialdroneprofessional.com/verity-studios-completes-100000-drone-flights/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-289585-Commercial+Drone+Professional+DNA+-+2019-01-24)

25Jan19

### Drones released on Galapagos Islands to wipe out invasive rats Josh Gabbatiss Science Correspondent @josh\_gabbatiss 25January 2019



The invasive rodents have caused enormous damage to the fragile and unique ecosystems where [Charles Darwin](#) began to form his theory of evolution.

They have been the target of major eradication campaigns throughout the archipelago and North Seymour Island was declared rat-free in 2007. However, last year local experts realized the rats had returned and declared a state of **emergency**.



Local officials and the Island Conservation NGO coordinated a response to prevent the rodents feasting on the eggs and seeds of the island's seabirds and plants. The team deployed drones to fly across the island, depositing 3,000kg of poison.

Drones provided a practical way of rapidly addressing the threat on the rugged island terrain, which was far simpler than traditional operations involving helicopters and specialized pilots. "The use of drones is more precise; it also increases feasibility, and



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reduces eradication costs of invasive rodents in small and midsize islands worldwide,” said Karl Campbell, South American regional director of Island Conservation.

The conservationists hope the success of the drone operations in the Galapagos will set the stage for similar campaigns in other parts of the world where inaccessibility make efforts to exterminate pests difficult. <https://www.independent.co.uk/environment/drones-galapagos-island-rats-invasive-species-seabirds-conservation-a8746086.html>

### **Swarm raises \$25 million for smallsat constellation** Caleb Henry — January 24, 2019



*One of Swarm Technologies' pico satellites.*

WASHINGTON — Swarm Technologies, the startup that ran afoul of the FCC last year for its unauthorized launch, has raised \$25 million to continue building and deploying a constellation of **150 very small satellites**.

Palo Alto, California-based Swarm said Jan. 24 that it has raised more than \$28 million in total since forming in 2017. The new Series A funds will go toward deploying the company's full constellation over the next 18 months. Craft Ventures, a SpaceX investor, and Sky Dayton, founder of the internet service providers EarthLink and Boingo, led Swarm's Series A, with NJF Capital, Social Capital and 4DX Ventures participating.

Swarm's satellites, each one-fourth the size of a single-unit cubesat, are designed to provide two-way communications for Internet-of-Things sensors and devices around the world.

Swarm joins a growing number of companies that are fielding small satellites for Internet-of-Things connectivity. Canadian startup [Kepler Communications](#) is deploying a constellation of 140 satellites, Australian startup [Fleet](#) is preparing a 100-satellite constellation, and French company [Kineis](#) is planning a system of 20 satellites. Additional competitors include Astrocast, Hiber and OQ Technologies.

“Swarm has developed something **entirely new**: a low-bandwidth, latency-tolerant network that is extremely inexpensive, low-power and very easy to integrate for things that need to be connected anywhere in the world — and Swarm is doing it in **a tenth the time** of a traditional satellite network build,” Dayton said. <https://spacenews.com/swarm-raises-25-million-for-smallsat-constellation/>