



## UAS and SmallSat Weekly News

### Contents

- 2 **Bell Demonstrates Distributed Propulsion Aircraft**
- 2 **Silicon Valley's new fixed wing UAV designed for LIDAR completes test flights**
- 3 **Kingston University exploring 5G tech to give UK farmers eye in the sky**
- 3 **Piloting a Drone With Eye-Tracking Glasses**
- 4 **The Challenges to Unmanned Traffic Management and Drone Integration**
- 5 **Skyward Works to Redefine UTM as 'Universal Traffic Management'**
- 5 **Using Drones to Tell the Story of Climate Change**
- 6 **ParaZero and Botlink Prove the Case for Flight Over People**
- 7 **Drones for good: Mud-spraying UAVs help quickly construct emergency shelters**
- 7 **Are drones a solution to India's long-haul delivery woes?**
- 8 **A new study on the effectiveness of drones in finding lost individuals**
- 8 **First-ever recorded drone-hot air balloon collision prompts safety conversation**
- 9 **Orbital UAV Opens Operational Facility in USA**
- 10 **Topcon Releases Software to Manage Large UAV Inspection Datasets**
- 10 **French Authorities Choose Elistair's Orion Tethered Drone For Security At Ryder Cup 2018**
- 11 **Exyn Technologies Partners with University of Pennsylvania for DARPA Subterranean Challenge**
- 12 **FAA to get tough on rogue drone pilots**
- 12 **FAA Seeks Comments on Fire-Starting Drone**
- 13 **Could UAVs finally help locate missing flight MH370?**
- 14 **Fortem launches portable 360 degree drone detection capability device**
- 14 **Drones set to deliver popcorn to EE's 'flying cinema'**
- 15 **Astro Aerospace Completes Successful Flight Test Of Its "Elroy" eVTOL**
- 16 **Singapore's HES Unveils Plans for Regional Hydrogen-Electric Passenger Aircraft**
- 16 **FAA reauthorization would grant agency additional drone authority**
- 17 **Southern Co. Expands Drone Program by Teaming with Skyward**
- 18 **Travelers Invests in Kittyhawk**
- 19 **GA-ASI's second MQ-9B SkyGuardian aircraft concludes maiden flight**
- 19 **Drone company completes medical supply transportation in BVLOS flight testing project**
- 20 **Einstein unveils new long range drone detection radar sensors**



## UAS and SmallSat Weekly News

29Sep18

### Bell Demonstrates Distributed Propulsion Aircraft KATE O'CONNOR



Bell Helicopter demonstrated its unmanned Hybrid Drive Train Research Aircraft (HYDRA) at the first Tech Demo edition of the Unmanned Aircraft Systems Center of Excellence in Alma, Quebec, this week. According to the company, HYDRA uses **distributed propulsion technology and a circular wing** to

“sustain wing-borne flight at reduced power consumption, while increasing its speed and range over a traditional multi-rotor aircraft.” The demonstration flight lasted for 40 minutes and ran through automated maneuvers including takeoff, conversion into wing-borne flight, conversion into hover mode and landing.

Bell hopes the research done with HYDRA will eventually allow the company to develop passenger transports and large unmanned aircraft that use distributed propulsion technology. “HYDRA has already proved to be a great teacher,” the company said. “Our team has discovered the unexpected stability of a circular wing in flight and certain control laws that allow aircraft stability in VTOL mode, airplane mode, during transition and even in the event of a system failure.” <https://www.avweb.com/eletter/archives/101/4160-full.html?ET=avweb:e4160:2565185a:&st=email#231597>

### Silicon Valley's new fixed wing UAV designed for LIDAR completes test flights



SURVEILLANCE UNITED STATES JOE PESKETT SEPTEMBER 28, 2018

UAVOS Inc, whose European headquarters are in Switzerland, has successfully completed test flights for its new Sitaria UAV.

Among other tasks, the unmanned aircraft is designed to work with LIDAR airborne laser scanning equipment.

The Sitaria drone has a wide range of speeds (stall speed 65 km/h, maximum speed 150 km/h), which allows the aircraft to carry out missions at minimum flight speeds close to 70 km/h.

The UAV weighs 35kg, its wingspan is just over five metres and the fuselage is nearly three metres long. Its flight time, with a payload of 4kg, is **three hours** and its operating altitude is up to 6,000m.

The range of the video transmission can be up to 60km and the backup Iridium command line is unlimited in its range.

The EW countermeasure function provides an opportunity to carry out research under jamming of satellite radio navigation signals and the command line channel. The Sitaria is part of the unmanned aerial system Sitaria, which includes a ground control system.



## UAS and SmallSat Weekly News

[http://www.commercialdroneprofessional.com/silicon-valleys-new-fixed-wing-uav-designed-for-lidar-completes-test-flights/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-276741-Commercial+Drone+Professional+DNA++2018-09-28](http://www.commercialdroneprofessional.com/silicon-valleys-new-fixed-wing-uav-designed-for-lidar-completes-test-flights/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-276741-Commercial+Drone+Professional+DNA++2018-09-28)

### Kingston University exploring 5G tech to give UK farmers eye in the sky as part of £2m Government project

AGRICULTURE HEADLINE NEWS INVESTMENT NEWS POLITICS RESEARCH UK ALEX DOUGLAS SEPTEMBER 24, 2018



Kingston University's Robot Vision team will be exploring how drones could harness 5G technology to carry out real time video monitoring and surveillance on farms. A total of £25m has been awarded to six 5G projects across the UK as part of the government's digital strategy.

Professor Remagnino, working on the project at Kingston University, said: "There would be a number of benefits to employing intelligent drones for this work, particularly on large-scale farms. Normally when you're talking about 5G you think about its use in video streaming to portable devices such as phones and tablets, but there are so many other possible applications."

Currently, flying a drone over farmland for several hours at a time would require huge amounts of processing power to be on board. However, as a way to find a solution to that, the Kingston University team will be looking at how 5G could be used to provide consistent, high-speed connectivity, allowing drones to carry out **monitoring for prolonged periods**.

[http://www.commercialdroneprofessional.com/kingston-university-exploring-5g-tech-to-give-uk-farmers-eye-in-the-sky-as-part-of-2m-government-project/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-276752-Commercial+Drone+Professional+DNA++2018-09-29](http://www.commercialdroneprofessional.com/kingston-university-exploring-5g-tech-to-give-uk-farmers-eye-in-the-sky-as-part-of-2m-government-project/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-276752-Commercial+Drone+Professional+DNA++2018-09-29)

### Piloting a Drone With Eye-Tracking Glasses [Malek Murison](#) September 26, 2018



The prospect of wall to wall autonomy isn't stopping researchers from developing new and intriguing ways for pilots to get behind the controls.

A team of researchers from across the United States is working on technology that could allow drone pilots to control their aircraft with their eyes and a pair of gaze-tracking glasses.

The concept is outlined in the paper '*Human Gaze-Driven Spatial Tasking of an Autonomous MAV*', written by Liangzhe Yuan, Christopher Reardon, Garrett Warnell, and Giuseppe Loianno, from the University of Pennsylvania, U.S. Army Research Laboratory, and New York University.



## UAS and SmallSat Weekly News

This new system is something of a feat: it's able to understand both the location and orientation of the drone and its pilot. And it does so without needing an external motion-capture system or GPS.

This is all achieved with some readily available hardware: [Tobii Pro's Glasses 2](#) are used to track the eye movements of the pilot.

The glasses are plugged into an [NVIDIA Jetson TX2](#) CPU and GPU. A deep neural network takes the incoming images from the glasses, crunches the numbers and is able to calculate how far away the drone is based on its perceived size.

From there it's just a case of gazing at your chosen location. **The glasses will translate that data into a vector for the drone.** <https://dronelife.com/2018/09/26/drone-eye-tracking-pilot/>

## The Challenges to Unmanned Traffic Management and Drone Integration Miriam

McNabb September 24, 2018



This month's edition of [Air Traffic Management magazine](#) featured an article written by [ANRA Technologies'](#) Amit Ganjoo. The article details the concepts – and challenges – of [Unmanned Traffic Management \(UTM\)](#) systems.

UTM is a critical part of drone integration and greater adoption of commercial drones. The entire article (read on [ATM Magazine Website](#) or download the [PDF](#) version here) is a must-read for operators who want to understand the pieces of a working UTM system and what that might mean to them. Some of the key challenges that the UTM community faces are due simply to the fact that UTM hasn't been done before. The community needs to establish definitions that are technology agnostic, figure out which existing technologies are applicable and appropriate, and understand how other efforts – like Remote ID and Tracking – fit in with the whole. They need to make sure that any approach is flexible and agile enough to change with a rapidly growing industry. And they need to ensure that any solution is fair, allowing equitable access to the airspace.

Despite the challenges, UTM is well on its way. "This is all amazing technology and USS' are proving that they can keep multiple aircraft safe while successfully deconflicting and prioritizing **even when the unexpected happens**. While the acronyms can be cryptic and the technologies complex, this is exciting stuff for commercial operators everywhere," writes Ganjoo.

<https://dronelife.com/2018/09/24/the-challenges-to-unmanned-traffic-management-and-drone-integration/>



## UAS and SmallSat Weekly News

### Skyward Works to Redefine UTM as 'Universal Traffic Management' Jeremiah

Karpowicz September 26, 2018



A reliable UTM system will not only be able to open up opportunities for commercial operators related to operating beyond visual line of sight and flying over people but will also completely change the paradigm around urban air mobility logistics.

Understanding the opportunities as well as the challenges that are associated with enabling this kind of system was the primary focus of a [recent hearing of the House of Representatives Subcommittee on Aviation](#). Mariah Scott, President at [Skyward, A Verizon company](#), was one of the five people who testified in front of the committee. Her explanation around why UTM should be thought of as a system of systems, which will see the term come to mean "Universal Traffic Management", was especially prescient. She explained this transition would facilitate an environment that enables safe sharing of the airspace for aircraft that range from commercial airliners to package delivery drones to aerial taxis, The importance of this transition for the industry as a whole when it comes to remote identification, flying beyond line of sight and remote networked fleet deployments is something you can see for yourself when [watching Mariah's testimony](#) or reading through [her written testimony](#). <https://www.expouav.com/news/latest/skyward-works-to-redefine-utm-as-universal-traffic-management/>

10Oct18

### Using Drones to Tell the Story of Climate Change Jake Lucas Sept. 30, 2018 *New York Times*



Flying a drone over the Orkney Islands, an archipelago off the north coast of Scotland, the New York Times photographer Josh Haner was often working around the weather.

Like on the day he and Jim Dwyer, the Times reporter accompanying him, hiked along a bluff to the Broch of Borwick ruins to get a shot of the round, Iron Age stone structure. "Jim and I watched it and sort of gave each other a high five," Mr. Haner said. "We knew when we saw this footage that it captured the essence of what we were seeing on these islands."

The footage from the Broch of Borwick leads [an article](#) by Mr. Dwyer and Mr. Haner about how climate change is threatening Orkney's pieces of history and about the people working to save



## UAS and SmallSat Weekly News

them. The story is one in a series on the threat climate change poses to some of the world's most precious cultural sites. As many as half of the more than **3,000 archaeological sites** across Orkney's roughly 70 islands **are at risk** from rising seas and heavier, more frequent rain.

<https://www.nytimes.com/2018/09/30/insider/drones-orkney-islands.html>

### **ParaZero and Botlink Prove the Case for Flight Over People – This Weekend's Victory Started with the Tailgating** Miriam McNabbon October 01, 2018

This weekend's big game between North Dakota State University and South Dakota State



University provided a major victory for the drone industry – before the game began.

North Dakota drone services and software provider [Botlink](#) was granted a waiver to fly a DJI Phantom 4 equipped with drone safety company [ParaZero](#)'s SafeAir System **over the crowds** at the

tailgating event prior to the game in the Fargo Dome. The drone flew multiple times over the stadium's parking lots, providing real-time data to law enforcement so that they could better manage traffic and safety at the event. The footage was also shown during the game, giving fans a new perspective on the pre-game party. NDDOT had an information booth set up in the venue's "vendor alley" for ticket holders to see the drones and ask questions of the operators.



The event was **a major win** for all participants: law enforcement, the UAS Integration Pilot Program, the NDDOT, and the drone industry – who got to prove the safety and value of drones in a fun and accessible way.

The day was the **culmination of months of test flights** and communications with the FAA, as ParaZero and Botlink provided detailed data on safety statistics and performed test after test in a variety of conditions. <https://dronelife.com/2018/10/01/parazero-and-botlink-prove-the-case-for-flight-over-people-this-weekends-victory-started-with-the-tailgating/>

### **Drones for good: Mud-spraying UAVs help quickly construct emergency shelters**

September 28, 2018 Feilidh Dwyer



A French architect has showcased an experimental project in which drones spray layers of a mud mixture onto prefabricated frames, rapidly resulting in habitable structures suitable for emergency housing.

The base structure of the house is a geodesic dome, a



## UAS and SmallSat Weekly News

light framework arranged as a set of polygons. Once the wooden frame is assembled, it is covered in small burlap sacks filled with sand which form the base on top of which the tethered drone sprays its clay mixture.

Each drone follows a programmed pattern to spray the wet mud on the frame, and as mud quickly dries, it creates a hard shell and protective coating. The design was inspired by the wattle and daub technique of construction which has been in use for some 6,000 years.



This style of housing is ideal for use in places like disaster zones or refugee camps. Once constructed, they are warm and resistant to the elements. <https://www.wetalkuav.com/mud-spraying-drones-rapidly-build-shelter/>

## Are drones a solution to India's long-haul delivery woes? September 30, 2018 Feilidh Dwyer



India's high temperatures, heavy traffic and poor quality roads mean that most trucks cannot carry goods greater than 150 miles. Two Bulgarian brothers, Svilen and Konstantin Rangelov, may have the answer. This year, their company Dronamics **finished a prototype** of the first aircraft produced in Bulgaria in 70 years, the Black Swan. It is a fixed-wing drone, capable of carrying loads of up to 800 pounds at distances of up to 1,550 miles.

It is designed to carry gear that would normally be in small delivery vans like computer components or medical supplies that may need to get somewhere quickly and can't sit in traffic for long periods of time.

The aircraft needs only a small runway to take off, uses a single propeller and is powered by a petrol engine. The Rangelov brothers are targeting developing countries and went with an engine that locals would know how to repair anywhere in the world.

It took the brothers four years to bring their product to market, and they plan to roll it out for trials in various countries in late 2019 for full operation in 2020.

<https://www.wetalkuav.com/india-delivery-drones/>



## UAS and SmallSat Weekly News

20Oct18

### **A new study on the effectiveness of drones in finding lost individuals demonstrates drones can be an excellent tool, but a drone alone is no guarantee of a successful outcome.** October 1, 2018 By Steve Rhode



DJI, the European Emergency Number Association, and Black Channel put drones to the test in a series of simulated search-and-rescue scenarios in Europe, and found that while drones can find subjects faster than ground teams, protocols and procedures need to be developed to make the most of the aerial perspective.

The study on the effectiveness of drones in search-and-rescue operations involved a series of simulated scenarios in Ireland and Wales, with drone-equipped teams searching for simulated victims alongside ground-only teams. They found that while drones could find victims about three minutes faster, the overall success rates were similar. The study was presented at a recent conference [and posted online](#).

I can see a time in the future when we will be able to launch a small swarm of autonomous drones to cover a geofenced area and fly to locate likely missing person targets. Until that day comes, the use of drones to successfully find a missing person is often **more luck than skill**.

[https://www.aopa.org/news-and-media/all-news/2018/october/01/drone-study-reveals-potential-and-limits?utm\\_source=drone&utm\\_medium=email&utm\\_campaign=181002drone](https://www.aopa.org/news-and-media/all-news/2018/october/01/drone-study-reveals-potential-and-limits?utm_source=drone&utm_medium=email&utm_campaign=181002drone)

### **First-ever recorded drone-hot air balloon collision prompts safety conversation**

JULIA TELLMAN Teton Valley News Sep 28, 2018



On the morning of Aug. 10, Margaret Breffeilh, owner of Elevated Ballooning, was flying a hot air balloon with two passengers near the Teton County Fairgrounds in Driggs. At the same time, a man on the ground worked the controls of a drone he wasn't familiar with.

He was an inexperienced operator flying a drone within 5 miles of the Driggs-Reed Memorial Airport without contacting air control, which in itself is illegal. Software in his drone warned him of the proximity of the airport but he overrode the warning and sent the device skyward.

Then he made his second mistake: He lost sight of the nearby balloon on his monitor and didn't realize that he was driving the drone repeatedly into the fabric of the balloon, shearing off its





## UAS and SmallSat Weekly News

propellers until it dropped and became entangled in the balloon's load lines. Destroyed, the drone then fell to the ground.

Fortunately, the drone didn't damage the balloon. Her passengers stayed calm and after they'd safely landed, they helped her find the drone operator. He was a nice guy, she said, and very contrite. "This case was lucky but there were so many factors that could have made it worse," she added. "People need to realize that this is a big deal."

[https://www.postregister.com/news/local/first-ever-recorded-drone-hot-air-balloon-collision-prompts-safety/article\\_7cc41c24-6025-5aa6-b6dd-6d1ea5e85961.html](https://www.postregister.com/news/local/first-ever-recorded-drone-hot-air-balloon-collision-prompts-safety/article_7cc41c24-6025-5aa6-b6dd-6d1ea5e85961.html)

### **Orbital UAV Opens Operational Facility in USA** 28 Sep 2018 Author: Mike Rees

[Orbital Corporation Ltd](#) has announced the official opening of its purpose-built operational facility in Hood River, Oregon, USA. This milestone marks the next step in the company's UAV focused strategy, providing a base in the heart of the growing U.S. tactical UAV market.



The U.S. site offers a second facility from which Orbital UAV will focus on the development, build and overhaul of UAV propulsion systems, extending the company's existing global supply and service capabilities.

"The delivery of the Hood River facility has been a strategic imperative for the growth of our business," said Todd Alder, CEO and Managing Director of Orbital UAV. "Not only will it provide Orbital UAV with an operational base that will better support our key North American customers from a logistical perspective, it also provides the additional capacity to meet increased engine volumes and service demands. The state of the art production environment replicates the technology and engineering expertise of our established facility in Perth, Western Australia." [https://www.unmannedsystemstechnology.com/2018/09/orbital-uav-opens-operational-facility-in-usa/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=e59a84f0cc-eBrief\\_2018\\_Oct\\_01&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-e59a84f0cc-119747501](https://www.unmannedsystemstechnology.com/2018/09/orbital-uav-opens-operational-facility-in-usa/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=e59a84f0cc-eBrief_2018_Oct_01&utm_medium=email&utm_term=0_6fc3c01e8d-e59a84f0cc-119747501)

### **Topcon Releases Software to Manage Large UAV Inspection Datasets** 01 Oct 2018

Mike Rees



[Topcon Positioning Group](#) has announced the release of new software designed to facilitate data processing workflow for UAV infrastructure inspection — MAGNET Inspect. The software

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)



## UAS and SmallSat Weekly News

efficiently manages large UAV data sets to **create inspection reports**.

“MAGNET Inspect will work with models from virtually any UAV. The software enables operators to efficiently navigate, annotate and create reports with inspection photos,” said David Ahl, director of software product management. “MAGNET Inspect is designed to allow operators to visually navigate UAV photos — aligning 3D reality meshes with raw georeferenced images in one location and filtering them based on selected criteria including field of view.

“Images from the inspection can be flagged to indicate whether there are structural issues and annotated with built-in free-hand graphical tools. Data reports can then be created to include a preview image and link to high resolution annotated images,” said Ahl.

[https://www.unmannedsystemstechnology.com/2018/10/new-software-manages-large-uav-infrastructure-inspection-datasets/?utm\\_source=Unmanned+Systems+Technology+Newsletter&utm\\_campaign=e59a84f0cc-eBrief\\_2018\\_Oct\\_01&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-e59a84f0cc-119747501](https://www.unmannedsystemstechnology.com/2018/10/new-software-manages-large-uav-infrastructure-inspection-datasets/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=e59a84f0cc-eBrief_2018_Oct_01&utm_medium=email&utm_term=0_6fc3c01e8d-e59a84f0cc-119747501)

## French Authorities Choose Elistair’s Orion Tethered Drone For Security At Ryder Cup 2018

October 2, 2018 News



A tethered drone built by Elistair was used by the French authorities to ensure continuous aerial surveillance of one of the biggest international sports competitions, The Ryder Cup 2018 held in Paris from September 25 to September 30.

Every two years, the Ryder Cup gathers 24 of the world’s top golfers from the United States and Europe. The competition is internationally renowned for its exciting level of Golf, as well as for its large media impact with over one billion television spectators in 200 countries. This year, the 42nd edition held in Paris at Le Golf National next to Versailles, delighted 300,000 live spectators over six days with extraordinary performances, incredible players and prestigious attendees.

Tasked with securing 193 hectares, 50 000 visitors per day, international personalities such as John McEnroe, Samuel L. Jackson, Michael Phelps and Tiger Woods to mention just a few; the French authorities in charge of coordinating the security arrangements drew on a range of resources with **800 police officers**, security forces, firemen, police dog teams and anti-drone technology deployed.



## UAS and SmallSat Weekly News

From Thursday to Sunday, Elistair's Orion flew continuously during daylight hours, **8 to 11 hours per day**, watching over the 300 000 attendees of the Ryder Cup. The Orion was **tethered** to the ground which ensured continuous power supply, secure communications and physical safety of the drone. The live imagery from its day/night camera was broadcasted to the main control room, providing situational awareness to commanders for quick decision making. The control room had on-demand access to aerial views of the entrance, greens, stands and the perimeter. This allowed the security forces to prevent intrusions, detect incidents as well as monitor crowd movements. [http://uasweekly.com/2018/10/02/french-authorities-choose-elstairs-orion-tethered-drone-for-security-at-ryder-cup-2018/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_10\\_02&utm\\_term=2018-10-02](http://uasweekly.com/2018/10/02/french-authorities-choose-elstairs-orion-tethered-drone-for-security-at-ryder-cup-2018/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_10_02&utm_term=2018-10-02)

## Exyn Technologies Partners with University of Pennsylvania for DARPA Subterranean Challenge

October 2, 2018 News



Exyn Technologies ([Exyn](#)) announced today that they have partnered with the University of Pennsylvania to compete in the DARPA Subterranean (SubT) challenge.

Team PLUTO, which is short for the Pennsylvania Laboratory for Underground Tunnel Operations, is one of nine teams exclusively selected and funded by the Defense Advanced Research Projects Agency to develop **novel robotic systems to explore underground tunnels**, which includes mines, natural caves, and urban sub stations as part of the challenge.

The challenge is composed of a \$2M "Systems Track" competition that will focus on the development and demonstration of physical technologies in real-world settings and a \$750K "Virtual Track" competition that will seek physics-based environments and simulation models.

Exyn has developed groundbreaking autonomous solutions for aerial robots (or drones) that can be used to complete complex missions including autonomous exploration. Exyn's full-stack software solution, exynAI™, is a flexible and modular system that enables mission-level control and **fully autonomous flight in GPS-denied environments**. [http://uasweekly.com/2018/10/02/exyn-technologies-partners-with-university-of-pennsylvania-for-darpa-subterranean-challenge/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_10\\_02&utm\\_term=2018-10-02](http://uasweekly.com/2018/10/02/exyn-technologies-partners-with-university-of-pennsylvania-for-darpa-subterranean-challenge/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_10_02&utm_term=2018-10-02)



## UAS and SmallSat Weekly News

**FAA to get tough on rogue drone pilots** LEGISLATION NEWS POLITICS REGULATION ALEX DOUGLAS on OCTOBER 2, 2018



The FAA made it clear that drones interfering with wildfires, law enforcement efforts, or other first responders, such as medical flights, will now face more serious civil penalties.

The authority made the announcement in a statement last week and went on to say how it would be just as strict with first time offenders too.

In July 2016, Congress authorized the FAA to impose a civil penalty of up to \$20,000 for anyone who operates a drone and deliberately or recklessly interferes. Under FAA guidance, inspectors generally use non-enforcement methods; however, given the potential for direct and immediate interference with potentially life-saving operations, offenders will now be immediately considered for enforcement actions including revocation or **suspension of a pilot certificate in addition to the \$20,000 civil penalty** per violation.

[http://www.commercialdroneprofessional.com/faa-to-get-tough-on-rogue-drone-pilots/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-277192-Commercial+Drone+Professional+DNA++2018-10-02](http://www.commercialdroneprofessional.com/faa-to-get-tough-on-rogue-drone-pilots/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-277192-Commercial+Drone+Professional+DNA++2018-10-02)

**30Oct18**

**FAA Seeks Comments on Fire-Starting Drone** DEE ANN DIVIS OCTOBER 2, 2018 AIR, FAA

Aviation regulators are asking for public comment on an exemption for a drone that would, while in flight, release ping pong-ball sized chemical spheres designed to burst into flame upon impact.



Silver Wings Drone Services of Metairie, Louisiana, wants to use such a drone to help limit the impact of wildfires and protect habitat by supporting planned, **controlled burns to clear out underbrush**.

The firm plans to use a DJI Matrice 600 Variant fitted with an IGNIS Fire System, according to its waiver request. Upon command, the spheres will be injected with glycol, starting a chemical reaction that will generate flames after being dropped and upon landing on the ground.



## UAS and SmallSat Weekly News

This type of drone application has been under study at the Nebraska Intelligent MoBILE Unmanned Systems Lab at the University of Nebraska-Lincoln. Nebraska officials are particularly interested in using controlled fires to fight woody shrubs and an invasive tree species called the Eastern Red Cedar which are destroying grasslands in the Great Plains. One of the challenges is that current techniques do not create fires hot enough to kill the shrubs.

Supported by grants from the National Science Foundation and Nebraska Games and Parks the NIMBUS team has done testing as well as fire modeling for trajectory and ignition planning and optimization. <http://insideunmannedsystems.com/faa-seeks-comments-on-fire-starting-drone/>

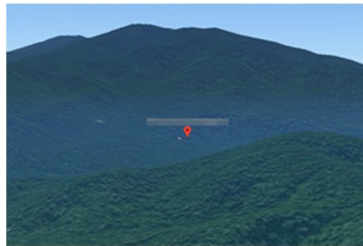
### Could UAVs finally help locate missing flight MH370? October 1, 2018 Feilidh Dwyer

The most recent theory? The plane crashed into thick, high-altitude Cambodian jungle. The



source of this potential discovery? A British photographer scouring the area using Google Map images.

The photographer, Ian Wilson, shared his findings with the [Daily Star](#) and the exact location he pegged is 60 miles west of Cambodia's capital, Phnom Penh. The screenshot of the area does resemble a plane (see below) and would be within the potential area MH370 could have reached. The Google Map screenshot may also, however, just be a jet caught during its flight. Whether or not this latest hope is just another red herring remains to be seen, but a UK-based computer expert specializing in aviation software has called for drones or helicopter to examine the area.



Yijun Yu, who works as a senior computing lecturer says that the cost of sending drones to investigate the site would be relatively low. Compared to helicopters, drones could also hover low to the ground and either confirm or eliminate the possibility that the plane is lying there. No immediate plan have been made by Cambodia authorities to do this.

<https://www.wetalkuav.com/missing-flight-mh370/>



## UAS and SmallSat Weekly News

**Fortem launches portable 360 degree drone detection capability device** September 25, 2018 Philip Butterworth-Hayes Counter-UAS systems and policies



Fortem Technologies has announced the launch of Fortem Portable SkyDome, a counter-UAS technology that establishes a 360-degree view of a designated airspace and enables Fortem’s autonomous DroneHunter, to investigate specific areas and provide ground and airspace security with the ability to mitigate drone intrusions safely.

According to the company, key benefits of Portable SkyDome are

- The system can be set up and torn down quickly at an event or venue and requires no radar or sensor expertise
- Boundaries and zones can be created to send automated alerts, texts and emails when intruders enter a zone
- Rules can be applied to automatically launch a DroneHunter for additional observation, surveillance, pursuit and capture
- When a careless or clueless drone is identified by Portable SkyDome then DroneHunter can be activated to pursue and capture it and **tow it away** from populated and sensitive areas for safe disposal, regardless of their navigation capabilities
- The stand-alone system can be installed and taken down in a few minutes

<https://www.unmannedairspace.info/counter-uas-systems-and-policies/fortem-launches-portable-360-degree-drone-detection-capability-device/>

**Drones set to deliver popcorn to EE’s ‘flying cinema’** APPLICATION DRONES AT WORK HEADLINE NEWS UK by ALEX DOUGLAS on OCTOBER 3, 2018

Drones will soon be used to transport popcorn to cinema goers at EE’s new flying cinema.

The experience was first tried out by 20 students from Goodwood Flying School above a former RAF base in the South Downs.



According to the Metro, the screen will now tour UK areas recently added to the firm’s 4G network.

After being winched up by crane the screen dangles at 100ft in the air, as film fans sit back and watch a film.

Drones will then be used to fly up and **deliver popcorn** to the



## UAS and SmallSat Weekly News

guests. [http://www.commercialdroneprofessional.com/video-drones-set-to-deliver-popcorn-to-ees-flying-cinema/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-277519-Commercial+Drone+Professional+DNA+-+2018-10-03](http://www.commercialdroneprofessional.com/video-drones-set-to-deliver-popcorn-to-ees-flying-cinema/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-277519-Commercial+Drone+Professional+DNA+-+2018-10-03) October 3, 2018

### Astro Aerospace Completes Successful Flight Test Of Its "Elroy" eVTOL [News](#)



Astro Aerospace, the company creating autonomous, eVTOL aerial vehicles and drones is excited to share the success of their recent flight testing just North of Toronto.

After being granted a Special Flight Operations Certificate (SFOC), its aerial vehicle, "Elroy" took flight at Toronto

Markham Airport the week of September 17, 2018.

The flight testing culminated on Wednesday September 19, with a 4 minute and 30 second flight, reaching heights of over 60 feet and speeds of over 50 km/h. The avionics and flight control systems were put to task with a multitude of maneuvers, and the vehicle remained exceptionally stable, even under the effects of a couple of unexpected wind gusts. Due to a predefined wind speed limitation on the SFOC, Elroy was grounded for the remainder of the week. "We had a really good week." Phil Croft of Astro stated.

Elroy is Astro's two passenger, Electric Take Off and Landing short haul aerial vehicle that has the ability to travel up to 70km/hr for 25 minutes completely emission free, is ideal for urban commutes, and turns a two hour trip into 20 minutes. It's industry leading Touch Screen Control system, flight control algorithm and avionics software are just a few of the key components that attribute to Elroy's success. [http://uasweekly.com/2018/10/03/astro-aerospace-completes-successful-flight-test-of-its-elroy-evtol/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_10\\_03&utm\\_term=2018-10-03](http://uasweekly.com/2018/10/03/astro-aerospace-completes-successful-flight-test-of-its-elroy-evtol/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_10_03&utm_term=2018-10-03)

### Singapore's HES Unveils Plans for Regional Hydrogen-Electric Passenger Aircraft

October 3, 2018 News



After 12 years developing hydrogen propulsion systems for small unmanned aircraft, [HES Energy Systems](#) is today unveiling its

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)



## UAS and SmallSat Weekly News

plans for [Element One](#), the world's first regional hydrogen-electric passenger aircraft.

Designed as a zero-emissions aircraft, [Element One](#) merges hydrogen fuel cell technologies with a distributed electric aircraft propulsion design. The aircraft is designed to fly 4 passengers for 500 km to 5,000 km depending on whether hydrogen is stored in gaseous or liquid form. This performance is **several orders of magnitude better** than any **battery-electric** aircraft so far, opening new routes between small-scale airports.

Originally from Singapore, [HES](#) has been working with a number of fast-moving start-ups and SMEs in France over the past year and exploring various locations to execute its Element One vision. "It's now possible to break past the endurance limits of battery-electric flight using HES' ultra-light hydrogen energy storage in a distributed propulsion arrangement," says Taras Wankewycz, founder of HES.

Refueling Element One will take no more than 10 minutes using an automated nacelle swap system that applies [AGVs](#) and [automated warehouse operations](#) such as those used by [Amazon](#) and [Alibaba](#). HES is now in discussion with industrial-scale hydrogen producers to explore energy-efficient refueling systems using renewable solar or wind energy produced locally. [http://uasweekly.com/2018/10/03/singapores-hes-unveils-plans-for-regional-hydrogen-electric-passenger-aircraft/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=uasweekly\\_newsletter\\_2018\\_10\\_03&utm\\_term=2018-10-03](http://uasweekly.com/2018/10/03/singapores-hes-unveils-plans-for-regional-hydrogen-electric-passenger-aircraft/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_10_03&utm_term=2018-10-03)

**4Oct18**

### **FAA reauthorization would grant agency additional drone authority** TOM

RISE | OCTOBER 3, 2018



The FAA authorization bill that is headed for President Donald Trump's desk is **drawing mixed reactions** from the drone community because of language that gives the agency the power to set rules that permit federal authorities to "disrupt" or "destroy" any drones deemed a "credible threat," as the bill puts it.

If Trump signs the bill, "there might be litigation over a number of things, including whether those powers granted to the FAA are valid," said attorney Thaddeus Lightfoot. FAA rules already bar people from flying drones near wildfires, airports or federal buildings, but the new bill takes this a step further by granting authority to the agency and the Justice and Homeland Security departments to choose whether to **destroy such a drone**. "It gives the executive branch





## UAS and SmallSat Weekly News

tremendous power in determining when to shoot down a drone, and Congress has provided **no criteria,**"

Other language in the bill gives the FAA the option to add a requirement for recreational operators to pass a quiz about aviation regulations and submit to a background check by the Transportation Security Administration. The bill ends the exemption for recreational operators that was contained in the FAA reauthorization bill in 2012. The bill does not change the requirements for everyone in the U.S. who owns a drone heavier than 250 grams to register online with the FAA for \$5 and include an identifying "tail number" sticker on the vehicle. It keeps the existing rules for drone flight, including not flying higher than 400 feet or within 5 miles of an airport. <https://aerospaceamerica.aiaa.org/faa-reauthorization-would-grant-agency-additional-drone-authority/>

### **Southern Co. Expands Drone Program by Teaming with Skyward** Betsy Lillian October 3, 2018



U.S. energy giant Southern Co. is expanding its drone program through a new partnership with Skyward, a Verizon company providing a drone operations management platform.

Southern has been employing unmanned aircraft systems (UAS) since 2015. Operating a self-dispatched model, the company maintains a fleet of **more than 50 aircraft and 60 remote pilots** in generation, distribution, transmission and storm damage assessment.

Skyward says its platform will significantly improve Southern's UAS asset management and situational awareness and will provide streamlined access to controlled airspace through the Federal Aviation Administration's LAANC initiative, for which [Skyward is a service provider](#).

Using Skyward, we are excited to unlock use cases for **flying beyond visual line of sight** and capturing the full potential of drone technology. We've already proven strong ROI using drones, and partnering with Skyward is the next step to furthering our leadership in the energy industry," adds Dean Barefield, Southern's UAS program manager. [https://unmanned-aerial.com/southern-co-expands-drone-program-by-teaming-with-skyward?utm\\_medium=email&utm\\_source=LNH+10-04-2018&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/southern-co-expands-drone-program-by-teaming-with-skyward?utm_medium=email&utm_source=LNH+10-04-2018&utm_campaign=UAO+Latest+News+Headlines)



## UAS and SmallSat Weekly News

### Travelers Invests in Kittyhawk Betsy Lillian October 3, 2018



Kittyhawk, a provider of enterprise drone operations software, has announced a strategic investment from The Travelers Cos. Inc.

The insurance company launched its drone program in 2016 and conducted a large-scale deployment after Hurricane Matthew. Today, Travelers has nearly **600** claims professionals who are federally **certified drone pilots**.

“Using drones to assess property damage enables us to adjust claims more quickly and efficiently, and improve safety for our employees and vendors,” states Nick Seminara, executive vice president of claim services at Travelers. “Kittyhawk helps us manage the vast amounts of information we gather on inspections so we can help our customers recover from disasters faster than ever before.”

Founded in 2015, Kittyhawk has received **\$9.5 million** in aggregate funding from Travelers, Bonfire Ventures, Boeing HorizonX Ventures, Freestyle Ventures and The Flying Object.

[https://unmanned-aerial.com/travelers-invests-in-kittyhawk?utm\\_medium=email&utm\\_source=LNH+10-04-2018&utm\\_campaign=UAO+Latest+News+Headlines](https://unmanned-aerial.com/travelers-invests-in-kittyhawk?utm_medium=email&utm_source=LNH+10-04-2018&utm_campaign=UAO+Latest+News+Headlines)

### 5Oct18

### GA-ASI's second MQ-9B SkyGuardian aircraft concludes maiden flight 4 OCTOBER 2018 NEWS



General Atomics Aeronautical Systems has successfully completed the maiden flight test of its second MQ-9B SkyGuardian remotely piloted aircraft, the YBC02, at the Laguna Army Airfield in Yuma Proving Grounds. It features lightning protection, an upgraded avionics and software suite and a de-icing system. The features have been added as part of the roadmap to become **the first RPA to be certified to fly in civil airspace**.

The upcoming test scheduled for the YBC02 RPA system includes testing of the flight envelope expansion, certified redundant control module, and certifiable ground control station (C-GCS), as well as flight controller updates.



## UAS and SmallSat Weekly News

The aircraft has been developed under a five-year, company-funded effort to meet the airworthiness type-certification requirements of various military and civil authorities. In December, GA-ASI's first MQ-9B SkyGuardian conducted a flight test to demonstrate the **automatic take-off and landing capability using satellite communication**. A trans-Atlantic flight from the US to the RAF Fairford base in the UK was carried out in July. <https://www.airforce-technology.com/news/ga-skyguardian-ybc02-maiden-flight/>

5Oct18

### GA-ASI's second MQ-9B SkyGuardian aircraft concludes maiden flight 4 OCTOBER 2018 NEWS



General Atomics Aeronautical Systems has successfully completed the maiden flight test of its second MQ-9B SkyGuardian remotely piloted aircraft, the YBC02, at the Laguna Army Airfield in Yuma Proving Grounds. It features lightning protection, an upgraded avionics and software suite and a de-icing system. The features have been added as part of the roadmap to become **the first RPA to be certified to fly in civil airspace**.

The upcoming test scheduled for the YBC02 RPA system includes testing of the flight envelope expansion, certified redundant control module, and certifiable ground control station (C-GCS), as well as flight controller updates.

The aircraft has been developed under a five-year, company-funded effort to meet the airworthiness type-certification requirements of various military and civil authorities. In December, GA-ASI's first MQ-9B SkyGuardian conducted a flight test to demonstrate the **automatic take-off and landing capability using satellite communication**. A trans-Atlantic flight from the US to the RAF Fairford base in the UK was carried out in July. <https://www.airforce-technology.com/news/ga-skyguardian-ybc02-maiden-flight/>

### Drone company completes medical supply transportation in BVLOS flight testing project DRONES AT WORK HEADLINE NEWS INTERNATIONAL ALEX DOUGLAS OCTOBER 5, 2018



As part of a beyond-visual-line-of-sight (BVLOS) project, Drone Delivery Canada operations were approved by Transport Canada and NAV Canada.

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)



## UAS and SmallSat Weekly News

The Sparrow X1000 cargo drone successfully delivered medical supplies, dry blood spots kits for HIV, Hepatitis C and general blood chemistry testing. Food, automotive parts and general parcels were also successfully transported. The Pilot Project flight operations were conducted in the day **and at night** on a set of approved flight paths.

Throughout the Pilot Project, DDC worked with Transport Canada and NAV CANADA to ensure safety while also demonstrating the efficiency and efficacy of its Sparrow drone as well as its proprietary FLYTE management system. Following the testing, DDC reported that no flight safety incidents occurred, and each mission was completed successfully.

[http://www.commercialdroneprofessional.com/drone-company-completes-medical-supply-transportation-in-bvlos-flight-testing-project/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-277847-Commercial+Drone+Professional+DNA+-+2018-10-05](http://www.commercialdroneprofessional.com/drone-company-completes-medical-supply-transportation-in-bvlos-flight-testing-project/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-277847-Commercial+Drone+Professional+DNA+-+2018-10-05)

### **Ainstein unveils new long range drone detection radar sensors** COUNTER-DRONE CRIME NEWS POLITICS UNITED STATES ALEX DOUGLAS OCTOBER 5, 2018



Ainstein has announced new long-range drone detection radar sensors. They are capable of detection more than 1,000 meters away to help protect high security facilities such as government buildings, airports and critical infrastructure.

Andrew Boushie, vice president of strategy and partnerships at Ainstein, said: "Customizable long-range radar systems are essential to keeping critical infrastructure safe from skyborne threats, which can range from UAVs conducting surveillance of a site to actual attacks. Whether accidental or malicious, unauthorized UAVs in proximity to critical infrastructure could have devastating impacts."

This news comes just a day after *Commercial Drone Professional* reported on the US Government's new rules which could authorize the take-down of malicious drones.

[http://www.commercialdroneprofessional.com/video-ainstein-unveils-new-long-range-drone-detection-radar-sensors/?utm\\_source=Email+Campaign&utm\\_medium=email&utm\\_campaign=45819-277847-Commercial+Drone+Professional+DNA+-+2018-10-05](http://www.commercialdroneprofessional.com/video-ainstein-unveils-new-long-range-drone-detection-radar-sensors/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-277847-Commercial+Drone+Professional+DNA+-+2018-10-05)