



## UAS and SmallSat Weekly News

### Contents

- 2 **New York Alliance Names FAA's Top Drone Advisor as CEO**
- 2 **Chinese Farmers Yield Ample Harvest with Crop-Dusting Drones**
- 3 **When solar-powered drones meet Arctic glaciers**
- 3 **Can Surveyors Do More with Less by Using Drones?**
- 4 **Air Force Drones Help California Firefighters Combat Wildfires**
- 5 **NRV to lure robots to town as autonomous industry booms**
- 5 **FAA Seeks to Ease Air-Traffic Controllers' Stress From Drones**
- 6 **The Drone Racing League Announces 2018 Allianz World Championship In Saudi Arabia**
- 6 **DRONE RACING IS TURNING INTO BIG BUSINESS**
- 7 **The Pentagon wants YOU to develop 'drone swarms' for the military**
- 8 **A U.S. drone advisory group has been meeting in secret for months. It hasn't gone well.**
- 8 **Terror from skies as Mexican cartel attaches bomb to drone**
- 9 **CNN Awarded First FAA Part 107 Waiver for Open-Air Operations Over People**
- 9 **Yamaha Motor Introduces New Multirotor Agricultural Spraying Drone**
- 10 **Delivery Drones Get Test Run in Las Vegas**
- 10 **Black & Veatch and Aeryon Labs Launch End-to-end Inspection Solution**
- 11 **Lincoln Airport part of drone registration pilot project**
- 12 **ABSTRACT AERIAL ART: DRONE PHOTOGRAPHY WITH A DIFFERENCE**
- 12 **HAZON Solutions Incorporates LATAS Technology Into Fleet Management Software**
- 13 **Drones fly underground at Lac Des Iles**
- 14 **DRONE PILOT PROGRAM TO HELP STATE, LOCAL GOVERNMENTS WEIGH IN ON UAS REGULATION**
- 14 **Parrot's new drones could save lives (and crops)**
- 15 **Spain's launch startups make a case for hosting a European spaceport**
- 16 **VANILLA AIRCRAFT'S VA001 UAS COMPLETES FIVE-DAY FLIGHT**
- 16 **Perching Spider Drone Shoots Webs to Stabilize Itself**



## UAS and SmallSat Weekly News

### **New York Alliance Names FAA's Top Drone Advisor as CEO** Bill Carey October 19, 2017



*Marke Gibson, right, is shown with NASA's Parimal Kopardekar at Syracuse UTM conference in 2016. (Photo: Bill Carey)*

The multistate organization developing a flight corridor for unmanned aircraft systems (UAS) in central New York has named the FAA's top UAS executive as its CEO. Former U.S. Air Force Maj. Gen. Marke "Hoot" Gibson will start his new job on November 13, the Northeast UAS Airspace Integration Research Alliance announced.

NUAIR Alliance is a not-for-profit corporation representing private, public and academic entities in New York, Massachusetts and Michigan. The alliance is based at Griffiss International Airport in Rome, New York, a former Air Force base [the FAA designated in December 2013 as one of six national UAS test-range bases](#), joining an existing site run by New Mexico State University.

In December 2015, under a revitalization initiative advanced by New York Gov. Andrew Cuomo (D), **the state awarded** the central New York region **\$500 million** in economic development funding, half of which it earmarked for infrastructure spending on UAS and "connected systems" over five years. Last year, Cuomo announced a \$30 million grant under the initiative to start development of a 50-mile, low-altitude UAS flight corridor between Rome and Syracuse, a project NUAIR Alliance is managing. <https://www.ainonline.com/aviation-news/business-aviation/2017-10-19/new-york-alliance-names-faas-top-drone-advisor-ceo>

### **Chinese Farmers Yield Ample Harvest with Crop-Dusting Drones** Jason

Reagan October 13, 2017



[Agricultural drones](#) can literally save the lives of diseased or parched crops thanks to new sensor arrays and more advanced software. In China, farmers are reaping new subsidies from the government to invest in crop-dusting drones.

Rice grower Wen Bohua originally bought a \$20,000 drone from Guangzhou-based drone manufacturer [Xaircraft](#) with the intent of spraying his 50-acre farm. After word spread of his amazing new aerial technique, Wen has now sprayed more than 1,600 acres in his home province of Hubei.

According to the Shenzhen UAV Industry Association, **unmanned aerial crop-dusting has skyrocketed from 500 just three years ago to around 8,000 by 2016**. Officials expect that



## UAS and SmallSat Weekly News

number to almost double by year's end. <https://dronelife.com/2017/10/13/chinese-farmers-yield-ample-harvest-crop-dusting-drones/>

### When solar-powered drones meet Arctic glaciers October 19, 2017 by Guillaume Jouvett



*AtlantikSolar takes off for a 13-hour flight. Credit: Sun2Ice / ETH Zurich*

Solar-powered flying platforms have yet to prove their real-world applicability outside of targeted demonstrations. Monitoring glaciers in polar regions is in pole position to become a primary application, as **the midnight sun offers ideal conditions for perpetual flights.**

What better place than the Arctic for testing the new generation of [solar-powered aircraft](#)? The Autonomous Systems Laboratory ASL has developed a pioneering solar-powered [unmanned aerial vehicle](#) (UAV), AtlantikSolar, capable of flying for multiple days. Glaciologists from ETH Zurich – who use UAVs to monitor glaciers in Greenland – need further endurance to deal with the immensity of the glacial landscape. Continuous daylight conditions in the Arctic Summer provide potentially ideal conditions for a solar-powered plane, which would drastically extend the flight time of surveying UAVs.

Theoretically yes, but does it work in practice? To answer this question, we – [autonomous systems](#) scientists and glaciologists – designed a collaborative project called "Sun2Ice" to fly AtlantikSolar far north under the midnight sun. Read more at: <https://phys.org/news/2017-10-solar-powered-drones-arctic-glaciers.html#jCp>

### Can Surveyors Do More with Less by Using Drones? Jeremiah Karpowicz October 19, 2017



Being able to “do more with less” is a concept that has always been top of mind for survey professionals, and it’s part of the reason so many are looking to work through the [logistics of aerial surveying with a drone](#). UAVs have made a real impact in terms of making a given task [cheaper, faster or safer](#) for surveyors, all of which mean they’re able to be that much more efficient. It’s a concept that could become incredibly important if the demand for this type of survey work increases in the near future. And there are [numerous indicators](#) that it will.

“[Grow your business without hiring](#)” is an article from the Aerotas team, and it lays out how this kind of efficiency can be achieved by using drone technology, and why it will soon be



## UAS and SmallSat Weekly News

essential to do so. The piece explains how drone technology can allow someone to **get 5x the amount of work done**, reduce the resources that are needed for a given project and attract an entirely new type of person for positions that do need to be staffed.

To find out why it's going to be so important for survey professionals in 2018, we connected with Daniel Katz, Co-founder at Aerotas. We discussed why he thinks there's going to be so much job opportunity next year, what impact the [Aerotas Mapping System](#) will have on anyone who needs to be that much more efficient, how young people interested in the profession should be approaching getting into it, and plenty more. See the interview at <https://www.expouav.com/news/latest/surveyors-using-drones/>

### **Air Force Drones Help California Firefighters Combat Wildfires** Air Force Tech. Sgt. Gregory Solman, 163rd Attack Wing

MARCH AIR RESERVE BASE, Calif., Oct. 19, 2017 — Remotely piloted aircraft are again in the air to help combat this year's California wildfires.



#### **New Mission Objectives**

Once airborne, the wing also responded on the fly to new mission objectives, Air Force Maj. Jason Flowers, chief of wing plans said. For example, analysts with the [Federal Emergency Management Agency](#) requested the geo-location of both fire-ravaged and unscathed structures, permitting damage assessments **crucial to properly funding the disaster recovery**.

Earlier, two Reapers, swapping every 12 hours, covered six different fires with electrical, optical and infrared sensors, and assiduously mapped the contours of the disaster areas. "Firefighters want to know the perimeter of the fire so they could compare how it's spread since the last time they checked and where it spreading," Flowers explained. Beyond that, he said, the FEMA mission recruited the Reapers' Synthetic Aperture Radar, a sensor not available in 2013. Flowers suggests that fighting the fires at home will help the wing fight future wars abroad, by increasing operators' expertise at employing SAR.

"The American people need to understand that **the Reaper is not just a hunter-killer**," Brancato said. "This is a very capable asset that really can help, whether it's disaster [relief] or search and rescue [missions]." <https://www.defense.gov/News/Article/Article/1348274/air-force-drones-help-california-firefighters-combat-wildfires/>



## UAS and SmallSat Weekly News

23Oct17

### NRV to lure robots to town as autonomous industry booms [Jacob Demmitt](#)

[jacob.demmitt@roanoke.com](mailto:jacob.demmitt@roanoke.com) 381-8621 Oct 21, 2017



*Last week's tour of the Smart Road was part of a growing effort by New River Valley economic development officials to target the autonomous systems industry.*

BLACKSBURG — A bus full of business types from across the drone and driverless vehicle industries swung by Virginia Tech's new drone cage last week, made its way across town and then onto the Smart Road research track. Tuesday's tour ended on a hill overlooking one of Tech's research facilities. The out-of-town visitors watched as an **autonomous quadcopter** took off, flew about a half-mile by itself, circled a simulated crash scene and then returned to its landing zone to upload footage.

This is what an experiment would look like if, for instance, the Virginia Department of Transportation wanted to find a way to use drones to monitor traffic backups after wrecks on Interstate 81, researchers explained.

The event was sponsored by the Ridge and Valley chapter of the Association for Unmanned Vehicle Systems International, or AUVSI. **It hosted more than 200 attendees** from across the country as well as keynote speakers from General Motors, NASA, the Federal Aviation Administration and Project Wing, formerly part of Google X.

[http://www.roanoke.com/business/news/blacksburg/nrv-to-lure-robots-to-town-as-autonomous-industry-booms/article\\_9a3bddd7-67a2-5aaa-a918-d37367900b6b.html](http://www.roanoke.com/business/news/blacksburg/nrv-to-lure-robots-to-town-as-autonomous-industry-booms/article_9a3bddd7-67a2-5aaa-a918-d37367900b6b.html)

### FAA Seeks to Ease Air-Traffic Controllers' Stress From Drones Andy Pasztor Oct. 20, 2017

#### Proposed system relies exclusively on computers to clear routine unmanned aircraft operations



*The FAA says last-minute calls for approval to fly drones near airports entail 'distractions for air traffic control management.'*

With roughly **250 monthly encounters** between drones and manned aircraft nationwide, automated procedures are being developed to reduce pressure on air-traffic controllers.



## UAS and SmallSat Weekly News

Industry experts and federal safety regulators have joined forces to launch a computerized system later this year. The goal is to more easily and quickly give the green light to drone operations slated for closer than 5 miles to U.S. airports. Commercial flights in such airspace currently require manual approvals from the FAA to proceed, which typically can take months and has been a longstanding source of industry frustration.

More than 14,000 individual authorization requests are now pending and the FAA projects that unless the process is changed, the total backlog could climb to more than 25,000 by March 2018. <https://www.wsj.com/articles/faa-seeks-to-ease-air-traffic-controllers-stress-from-drones-1508518670?mg=prod/accounts-wsj>

### The Drone Racing League Announces 2018 Allianz World Championship In Saudi Arabia [October 23, 2017](#)



The [Drone Racing League](#) (DRL), the world's premier drone racing circuit, and The General Sport Authority (GSA) of Saudi Arabia today announced the 2018 DRL Allianz World Championship will take place in Saudi Arabia next September. Supporting the GSA's broader commitment to sports and the development of drone racing in Saudi Arabia, the 2018 DRL Allianz World Championship will be the first professional drone race staged in the kingdom. Marking the 7<sup>th</sup> and final event of the 2018 DRL Season, the Allianz World Championship will push the eight most elite FPV (First Person View) pilots on the planet to race custom-built DRL drones in excess of 90 miles per hour through a complex, three dimensional racecourses, fighting to be crowned the World's Greatest Drone Pilot. The final race will be broadcast in 87 countries on the best sports programs on the globe including, ESPN, OSN, Sky Sports, ProSiebenSat.1, FOX Sports Asia, and Disney XD. [http://uasweekly.com/2017/10/23/drone-racing-league-announces-2018-allianz-world-championship-saudi-arabia/?utm\\_medium=push\\_notification&utm\\_source=rss&utm\\_campaign=rss\\_pushcrew](http://uasweekly.com/2017/10/23/drone-racing-league-announces-2018-allianz-world-championship-saudi-arabia/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew)

### DRONE RACING IS TURNING INTO BIG BUSINESS [Tim Levin](#) April 20, 2017



During the past few years, drone racing has quickly gone from a hobby to a lucrative profession. You can now find televised drone races on high-profile networks like ESPN and Sky Sports, while organizations like the Drone Racing League (DRL) have become highly respected.

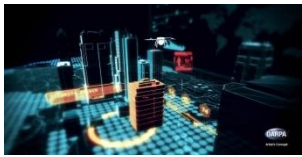


## UAS and SmallSat Weekly News

Some dedicated drone enthusiasts have (not unlike video game players) turned their hobbies into profitable full-time careers. Players in the DRL have [earned contracts of up to \\$100,000](#) while another pilot earned \$75,000. Not bad for a growing sport that's not even a decade old. The DRL held their first global race series in 2016 and got **more than 28 million viewers on ESPN**. <https://www.wetalkuav.com/drone-racing-business/>

**24Oct17**

**The Pentagon wants YOU to develop 'drone swarms' for the military** by TRISTAN GREENE — in INSIDER



The US Department of Defense (DOD) earlier this month [announced](#) its “drone sprints” project, aimed at advancing “drone swarm” technology. It’s calling on developers nationwide to come up with usable solutions to the challenge of deploying and controlling hundreds of unmanned air and ground vehicles in an urban combat environment.

The Defense Advanced Research Projects Agency (DARPA) — the government think-tank responsible for the program — released this [YouTube](#) video, which comes off as very “[Dharma Initiative](#).” In it, Dr. Timothy Chung, a DARPA program director, details the government’s plans to take drone warfare to the next level.

The Pentagon intends to shore-up its drone capabilities by expanding on five key strategic areas in order to implement drone swarms at scale:

1. Swarm Tactics
2. Swarm Autonomy
3. Human-swarm Teaming
4. Physical Experimentation
5. Virtual Environment

**DARPA will hold “swarm sprints” every six-months** in order to promote accelerated advancement in tactical drone deployment. According to Dr. Chung, this will help the DOD stay up to date as technology continues to develop at a rapid pace.

<https://thenextweb.com/insider/2017/10/23/the-pentagon-wants-you-to-develop-drone-swarms-for-the-military/>



## UAS and SmallSat Weekly News

### A U.S. drone advisory group has been meeting in secret for months. It hasn't gone well.



A government advisory group has been holding confidential meetings to shape U.S. policy on drones, deliberating privately about who should regulate a burgeoning industry that will affect everything from package delivery to personal privacy.

The federal group includes industry insiders with a financial stake in the outcome and is co-chaired by a lobbyist for DJI, a Chinese drone maker that dominates the U.S. market. In January, the Federal Aviation Administration asked the group to figure out what influence state and local governments should have over drones in their communities.

The closed proceedings are billed as a way to promote thoughtful and unguarded exchanges — and eventual consensus — among government, community and industry interests. Instead, the process has been riven by suspicion and dysfunction, according to internal documents and emails obtained by The Washington Post, and interviews with participants.

The group — formally known as Task Group 1 of the Drone Advisory Committee — is now teetering. Months of tensions came to a head recently when an FAA contractor that manages the group told members they had to sign a far-reaching confidentiality agreement to keep participating. [https://www.washingtonpost.com/local/trafficandcommuting/a-us-drone-advisory-group-has-been-meeting-in-secret-for-months-its-work-has-not-gone-well/2017/10/23/f53106e0-6c01-11e7-b9e2-2056e768a7e5\\_story.html](https://www.washingtonpost.com/local/trafficandcommuting/a-us-drone-advisory-group-has-been-meeting-in-secret-for-months-its-work-has-not-gone-well/2017/10/23/f53106e0-6c01-11e7-b9e2-2056e768a7e5_story.html)

**Terror from skies as Mexican cartel attaches bomb to drone** By Stephen Dinan - The Washington Times - Tuesday, October 24, 2017



Mexican police discovered four men carting a kamikaze drone equipped with an IED and a remote detonator last week, in what analysts say is an example of cartels figuring out how to weaponizing UAVs.

The disturbing development is a manifestation of something top American security chiefs warned Congress about earlier this year, when they said they feared terrorists would begin to use drones to attack targets within the U.S.





## UAS and SmallSat Weekly News

Drug cartels had already been turning to drones to smuggle their product into the U.S., and had begun using IEDs in their turf struggles — but now at least cartel appears to have put the two technologies together, according to Mexican reports analyzed by Small Wars Journal.

“A weaponized drone/unmanned aerial vehicle (UAV)/unmanned aerial system (UAS) with a remotely detonated IED allows for a precision strike to take place against an intended target,” Robert Bunker and John P. Sullivan, the authors of the new analysis, [wrote](#).

The drone-IED combination was found in central Mexico, by federal police who did a traffic stop on a stolen pickup truck with four men in it.

[http://www.washingtontimes.com/news/2017/oct/24/terror-skies-mexican-cartel-attaches-bomb-drone/?utm\\_source=onesignal&utm\\_campaign=pushnotify&utm\\_medium=push](http://www.washingtontimes.com/news/2017/oct/24/terror-skies-mexican-cartel-attaches-bomb-drone/?utm_source=onesignal&utm_campaign=pushnotify&utm_medium=push)

25Oct17

### CNN Awarded First FAA Part 107 Waiver for Open-Air Operations Over People 20

Oct 2017 | Caroline Rees



[CNN](#) has announced that it has received a **first-of-its-kind Part 107 waiver** from the Federal Aviation Administration (FAA) to fly a small unmanned aircraft system (UAS) over people. This approval represents an industry milestone, as this new waiver for the first time will enable

real-world UAS operations over people. The waiver allows CNN to fly the [Vantage Robotics](#) Snap UAS in a diverse range of environments, including operations over open-air crowds of people, up to an altitude of 150 feet above ground level (AGL).

“This waiver signifies a critical step forward not only for CNN’s UAS operations, but also the commercial UAS industry at large,” said David Vigilante, SVP of Legal for CNN. “We are truly grateful to the FAA for allowing CNN to demonstrate its continued commitment to safe UAS operations.” <http://www.unmannedsystemstechnology.com/2017/10/cnn-awarded-first-faa-part-107-waiver-open-air-operations-people/>

### Yamaha Motor Introduces New Multirotor Agricultural Spraying Drone 18 Oct

2017 | Caroline Rees



[Yamaha Motor](#) has announced the introduction of the YMR-01 – a prototype industrial multi-rotor unmanned aircraft scheduled for

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launch in 2018 – at the 4th Next Generation Agriculture Expo Tokyo. The YMR-01's design features coaxial rotors and a lightweight carbon body to enable continuous spraying of one hectare per flight, delivering a spraying quality comparable to Yamaha Motor's industrial-use unmanned helicopters.

The adoption of a layout in which two of the six rotor axes (one each on the left and right) have “vertical coaxial” rotors – for a total of eight rotors – **creates the ideal downward air currents**, and the placement of the spraying nozzles near the coaxial axes achieves consistent agrochemical application down to the roots of the crops.

<http://www.unmannedsystemstechnology.com/2017/10/yamaha-motor-introduces-new-multirotor-agricultural-spraying-drone/>

### **Delivery Drones Get Test Run in Las Vegas** MICK AKERS, LAS VEGAS SUN / OCTOBER 23, 2017

*The unmanned aerial vehicles – working in tandem with delivery trucks – could be ready for real world use as early as December.*



(TNS) -- Drones could be routinely dropping packages out of the air as early as this December, just in time for the busy holiday season, if one company that demonstrated its technology recently in Las Vegas has its way.

Rather than taking off from a distribution center, the drone, dubbed HorseFly, would be docked on a truck and used to deliver packages along the truck's route. Workhorse, an Ohio-based company, created the drone and an electric delivery truck that UPS uses.

The drone would take off, drop the package at its designated location and fly back to the truck continuing its route. The technological advance saves the driver time and fuel.

“If drivers cut out one mile of driving a day that would add up to **\$54 million in fuel savings for the year**,” said Mike Dektas, Workhorse spokesman.

<http://www.govtech.com/fs/automation/Delivery-Drones-Get-Test-Run-in-Las-Vegas.html>

### **Black & Veatch and Aeryon Labs Launch End-to-end Inspection Soutlution** October 25, 2017 Mapping and Surveying | News



Black & Veatch and Aeryon Labs announced today that they have launched an [end-to-end asset management inspection](#)

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[solution](#) leveraging drone technology for global energy clients. Aeryon's commercial unmanned aerial system (UAS) hardware, software and services enable the capture of critical infrastructure condition data that is integrated by Black & Veatch into a utility's existing enterprise [asset management](#) (EAM) systems. This streamlined solution speeds inspection times, reduces inspection costs and accelerates the integration of data into EAM systems.

Over the past year, Black & Veatch and Aeryon worked with utilities across North America to develop an efficient, comprehensive drone inspection solution addressing needs identified by the sector. Testing identified that utilities are particularly in need of a solution that rapidly delivers detailed condition reports by collecting, processing and analyzing high resolution photographic data that is then integrated with the utility's existing EAM systems.

[http://uasweekly.com/2017/10/25/black-veatch-aeryon-labs-launch-end-end-inspection-solution/?utm\\_medium=push\\_notification&utm\\_source=rss&utm\\_campaign=rss\\_pushcrew](http://uasweekly.com/2017/10/25/black-veatch-aeryon-labs-launch-end-end-inspection-solution/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew)

**Lincoln Airport part of drone registration pilot project** MATT OLBERDING Lincoln Journal Star Oct 24, 2017



LINCOLN (Nebraska) — The Lincoln Airport is one of the first in the country to test a new registration system for drone users.

Lincoln, along with Cincinnati, Ohio, Reno, Nevada, and San Jose, California, is part of a pilot test project of the Low Altitude Authorization and Notification Capability data exchange.

The program, a partnership between the Federal Aviation Administration and private industry, is aimed at **getting drone users faster approval to operate in areas of controlled airspace.**

Currently, both private and commercial drone users must submit paperwork to the FAA to get permission to operate in controlled areas, a process that currently takes up to three months.

With the new system, drone operators could theoretically get approval -- or denial -- in as little as a few seconds with a couple of clicks on their phone or computer.

The FAA has provided airspace maps that show the maximum altitude around airports where it may authorize operations by private drone operators. Through third-party applications, a drone operator can request approval to operate in an area, and the FAA can provide a nearly instant "yes" or "no" while also notifying the local air traffic control tower.

[http://columbustelegram.com/news/state-and-regional/lincoln-airport-part-of-drone-registration-pilot-project/article\\_b5bb84a3-f916-52d2-8d33-54101b7e6cf9.html](http://columbustelegram.com/news/state-and-regional/lincoln-airport-part-of-drone-registration-pilot-project/article_b5bb84a3-f916-52d2-8d33-54101b7e6cf9.html)

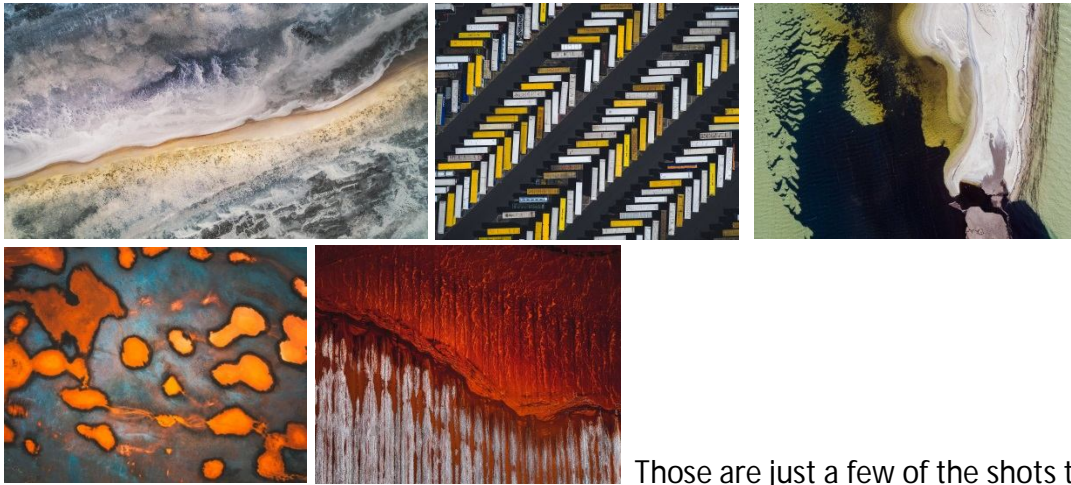


## UAS and SmallSat Weekly News

### **ABSTRACT AERIAL ART: DRONE PHOTOGRAPHY WITH A DIFFERENCE** Malek

Murison October 25, 2017

One of the things we like about aerial photography is that anyone can do it. All you need is a drone, a bit of creativity and an interesting subject. Sure, some are better than others. Some are more creative. We've seen plenty of epic videos made with drones that highlight landscapes well and inspire awe, but not all of them fit into the 'art' category. The same can't be said about the work of Abstract Aerial Art. Take a look at this...



Those are just a few of the shots that Abstract Aerial Art exhibits on its [website](#). These direct, bird's eye images are all of real places. If they look weird or not even real, that's just a result of the perspective. Apart from slight color and contrast enhancements, the photographs are not manipulated in any way.

So what's the response been like to this original form of aerial photography? "We have had a really encouraging reaction to what we are doing and our audience has continued to grow on [Instagram](#), which is our main social media channel to showcase our work.

[https://www.wetalkuav.com/abstract-aerial-art-drone-photography/?utm\\_medium=organic&utm\\_source=google&utm\\_campaign=onesignal&utm\\_content=onesignal](https://www.wetalkuav.com/abstract-aerial-art-drone-photography/?utm_medium=organic&utm_source=google&utm_campaign=onesignal&utm_content=onesignal)

### **HAZON Solutions Incorporates LATAS Technology Into Fleet Management**

**Software** PRESS RELEASE OCT 25, 2017

HAZON, PrecisionHawk partnership increases safety for commercial drone operators



**Virginia Beach, VA, October 25, 2017 (Newswire.com)** - HAZON Solutions ("HAZON"), the national leader in drone inspection services, and

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



## UAS and SmallSat Weekly News

PrecisionHawk, a provider of advanced commercial drone technologies, **announced a partnership** today to integrate their technologies to provide better drone safety for commercial drone operations. Starting in early November PrecisionHawk's Low Altitude Traffic and Airspace Safety ("LATAS") platform will be accessible within the HAZON drone fleet management software, HAZON Drone Management System ("DMS").

LATAS is the only platform to link drones, 3D ground data and live manned aircraft data from global aviation authorities into a single system that tells commercial or hobbyist drone operators when and where it's safe to fly. <https://www.newswire.com/news/hazon-solutions-incorporates-latas-technology-into-fleet-management-20018190>

### **Drones fly underground at Lac Des Iles** By Jeff Walters, CBC News Posted: Oct 23, 2017

Miners underground at the Lac Des Iles mine, north of Thunder Bay, Ont., have a new set of eyes, that goes places employees sometimes can't access. The set of virtual eyes is a drone, outfitted with its own **carbon-fibre specialty cage**.

The cage is fixed to the drone using a bearing that allows the cage to shift without jostling the drone. It means the drone, if it hits a wall of rock, or gets pushed around, is safe, and can warn employees of dangers underground, while workers remain at a safe distance.

"They were actually flying in zones of the mine that are usually inaccessible for humans," said Marc Gandillon, the marketing manager for [Flyability](#).

The Swiss company originally developed the drone after the 2011 tsunami in Japan, to aid in search and rescue efforts.



Matt MacKinnon and Jason Carignan are the two founders of Unmanned Aerial Services (UAS Inc.). They are seen underground at the Lac Des Iles Mine north of Thunder Bay, Ont. (Supplied)

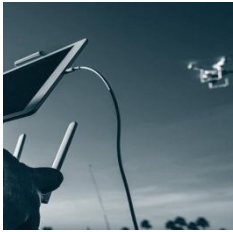
"The risk that you're taking by entering those zones is very high," said Gandillon, and the hope is to reduce risk for employees underground. <http://www.cbc.ca/news/canada/thunder-bay/thunder-bay-lac-des-iles-drones-1.4364636>



## UAS and SmallSat Weekly News

26Oct17

### DRONE PILOT PROGRAM TO HELP STATE, LOCAL GOVERNMENTS WEIGH IN ON UAS REGULATION AUVSI NEWS OCT 25, 2017



On Oct. 25, President Trump directed U.S. Secretary of Transportation Elaine L. Chao to launch **the Innovative Drone Integration Pilot Program**, an initiative which will “safely test and validate advanced operations” for UAS in partnership with state and local governments in select jurisdictions.

The move is seen as a way to give state and local governments some say in regulating UAS use, while not pre-empting the authority of the Federal

The program will look to address some of the key challenges associated with integrating UAS into the national airspace, while reducing risks to public safety and security. It is designed to provide those that are accepted into the program — local governments and communities, UAS owners and operators — with regulatory certainty and stability.

Several operational concepts will be evaluated through the program, such as flights over people, flights beyond the pilot’s line of sight, and operations at night, to name a few. To develop pilot proposals, prospective local government participants are encouraged to partner with the private sector.

The Department of Transportation will evaluate all of the applications, and then invite at least five partnerships. More details about how applications will be evaluated and how the program will work will be available in the coming days when the Department publishes a Federal Register Notice. <http://www.auvsi.org/industry-news/drone-pilot-program-help-state-local-governments-weigh-uas-regulation>

**Parrot's new drones could save lives (and crops)** by Heather Kelly [@heatherkelly](#) October 25, 2017

Parrot announced a pair of new mid-range professional drones on Tuesday. The two devices have very specific jobs and are meant **to fill in a need between consumer drones and pricy commercial offerings.**

The \$1,500 Parrot Bebop-Pro Thermal is for construction, inspection, and public safety workers. In addition to search and rescue, its two cameras can be used to see where heat is escaping from a roof, or what areas are still too hot after a fire.



## UAS and SmallSat Weekly News



The company is also releasing a drone for farmers with mid-sized crops. Small enough to fit in a carry-on suitcase, the \$5,000 Bluegrass drone uses a front-facing camera and built-in sensor for precision agriculture. It can fly for 25 minutes on one charge, covering 30 hectares of land. The drone feeds footage back to a companion app and can tell a farmer if a crop is healthy. It can even be used to keep an eye on livestock.

Parrot ([PAOTF](#)) is a 23-year-old French technology company that has shifted almost entirely to drones in recent years. It's also investing heavily in innovation -- of its 700 employees, more than half are working in research and development, according to the company.

<http://money.cnn.com/2017/10/25/technology/parrot-bebop-pro-thermal-search-rescue-agriculture/index.html>

**Spain's launch startups make a case for hosting a European spaceport** Tereza Pultarova — October 25, 2017



Spanish rocket startup PLD Space said in January that **it has raised the money** it needs to continue development of its Arion 1 reusable suborbital launch vehicle. Credit: PLD Space

BREMEN, Germany — With three companies developing dedicated small-satellite launchers, Spain is establishing itself as Europe's NewSpace rocket hub. Although none of the three have launched their first rocket, that's not stopping them from making the case that Spain should build a spaceport. Europe launches its Ariane 5, Vega and Europeanized Soyuz rockets from the Guiana Space Centre in French Guiana, a French overseas department on South America's northeastern coast.

Spain's launch startups appear to be on track to have at least one working small sat launcher ready in the early 2020s and, as Torres said, Spain's sunny weather suits not only sun-bathing but also launching rockets. <http://spacenews.com/spains-launch-startups-make-a-case-for-hosting-a-european-spaceport/>



## UAS and SmallSat Weekly News

### **VANILLA AIRCRAFT'S VA001 UAS COMPLETES FIVE-DAY FLIGHT** AUVSI NEWS OCT 25, 2017



Vanilla Aircraft's VA001 UAS recently completed a historic flight, as it flew for a little over five days for **a total of 121.4 hours**.

After taking off on October 18 from the **NASA Wallops Flight Facility**, the UAS began its long endurance test flight, and landed safely **5.1 days later**, with three days of fuel remaining on board.

Vanilla Aircraft says that the flight is the "longest flight for an ultra-long endurance unmanned aircraft system that has the capability of carrying a payload of significant size weight and power that can meet or exceed military and commercial requirements."

Powered by an efficient propulsion system, and configured with a pusher prop configuration, the aircraft is capable of carrying payloads up to 50 pounds and 1.1 cubic feet volume. It can also supply up to 800 watts to the payload bay.

For the military, the aircraft's payload bay can support a variety of payloads like Electro-Optical and Infrared imagers, a Synthetic Aperture Radar, and SIGINT systems, while commercially, the UAS can be used for mapping, emergency 4G cellular networks and airborne internet distribution. <http://www.auvsi.org/industry-news/vanilla-aircrafts-va001-uas-completes-five-day-flight>

### **27Oct17**

### **Perching Spider Drone Shoots Webs to Stabilize Itself** Malek Murisonon: October 22, 2017

Drone technology, both the flying and the ground-based kind, is advancing quickly. Industry-specific UAVs are already being put to work in some of the darkest and most dangerous places in the world. But from underground mines to nuclear cleanups, similar challenges are present to engineers and developers. The most notable is flight time: the ability to stay in the air for long enough to be useful – something that's especially important in places too dangerous for humans to go, where drone's offer the best way to gather data.

That's where the **ability to perch** comes in. Added capabilities that allow drones to 'perch' in a single location without expending too much energy **can make all the difference**. At Imperial College London, researchers have been working on a unique way to keep a drone in the air. This





## UAS and SmallSat Weekly News

is SpiderMAV, a spider-inspired drone that essentially builds its own web to remain stable in mid-air.

The development is being undertaken at Imperial College London's [Aerial Robotics Labs](#). As you can see in the video below, the drone, a modified DJI Matrice 100, is able to shoot out a synthetic material that attaches to nearby walls.

The drone can be fitted with two different modules, one for perching or one for stabilization. The perching module uses a magnetic anchor launcher and a spooling system packed with polystyrene thread. Once SpiderMAV has found a magnetic surface it wants to perch beneath, the launcher uses compressed gas to fire the anchor, which trails the thread behind it. SpiderMAV is able to reel in the thread to keep it taut, and can then slow or shut off its motors to save power while hanging from the ceiling. <https://dronelife.com/2017/10/22/perching-spider-drone-stabilize/>