**UAS and SmallSat Weekly News**

Contents





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**27Apr19**

## Singaporean Drone Company Will Take on Asia's Ring of Fire Jason Reagan April 24, 2019

Singaporean company Drone Solution Services has announced the launch of "24/7 Unmanned Search & Rescue Services" – to provide emergency services around the Ring of Fire – a 25,000-mile region encompassing the Asian side of the Pacific Ocean where numerous earthquakes and volcanic eruptions occur.

When fully deployed, the program – announced at the recent Unmanned Systems Asia 2019 Exposition – would provide first-response measures to disasters in less than one hour, including surveillance, mapping and broadcasting live situational awareness to a command center while autonomous assets race to the scene for more support.

The subscription-based service – a kind of 911 coverage – will be offered to governments and non-governmental organizations as well as multi-national corporations and military forces operating in the greater ASEAN + 2 Region.

Last month, DSS announced the launch of the Centre of Drone Excellence. It will be staffed with engineers from several drone-related disciplines including mechanical, electrical, mechatronics, AI, acoustics/sonar and robotics engineering. It will cover the local interests of international companies having advanced aerial, undersea and terrestrial based drone technologies and associated products; providing them with marketing, sales, technical presence and engineering support in greater Asia. https://dronelife.com/2019/04/24/singaporean-drone-company-will-take-on-asias-ring-of-fire/

## AeroVironment Announces Assembly Of First HAWK30 Solar HAPS April 25, 2019 News

AeroVironment, Inc. a global leader in Unmanned Aircraft Systems for both defense and commercial applications, today announced the achievement of a significant solar HAPS project milestone, the assembly of the first HAWK30 solar HAPS for its HAPSMobile joint venture with SoftBank Corp. HAPS stands for High-Altitude Pseudo-Satellite or High-Altitude Platform Station.



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The HAWK30 has a wingspan of 260 feet and is propelled by 10 electric motors powered by solar panels covering the surface of the wing, resulting in zero emissions. Flying at an altitude of approximately 65,000 feet above sea level and above the clouds, it is designed for continuous, extended missions of up to months without landing.

HAPSMobile recently increased the ceiling value of the Design Development Agreement with AeroVironment by $39 million, to a total of $126 million.
https://uasweekly.com/2019/04/25/aerovironment-announces-assembly-of-first-hawk30-solar-haps/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_04_26_2019&utm_term=2019-04-26

## Commercial UAV Expo Europe 2019 a 'huge success' following 72% attendance increase BUSINESS COMMERCIAL UAV EXPO EUROPE EVENTS HEADLINE NEWS ALEX DOUGLAS APRIL 24, 2019

The exhibition at RAI Amsterdam earlier this month played host to 50 organizations showcasing drones, systems and services. 65 countries were represented and over 100 publications, portals, analysts, associations, user groups and cooperating events supported the event.

Lisa Murray, group director at Diversified Communications which organized the event, commented: "We had an excellent response to this year's Commercial UAV Expo Europe. Attendees were thrilled by the opportunities to network, increase their knowledge, and compare and qualify best-in-class UAS. For their part, exhibitors noted the steep increase in attendance over the last edition as well as the quality and knowledge level of the delegates."
https://www.commercialdroneprofessional.com/%EF%BB%BFcommercial-uav-expo-europe-2019-dubbed-a-huge-success-following-72-attendance-increase/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-299901-Commercial+Drone+Professional+DNA+-+2019-04-27

## Ohio UAS Center, Air Force Research Laboratory to Test Groundbreaking Technology April 26, 2019

SPRINGFIELD, Ohio – Ohio Governor Mike DeWine, Lt. Governor Jon Husted, and Major General William Cooley, Commander of the Air Force Research Laboratory (AFRL) at Wright Patterson Air Force Base, announced today that the Ohio Unmanned Aircraft Systems Center and



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AFRL will begin testing groundbreaking aviation technology at the Springfield-Beckley Municipal Airport.

This month, the Federal Aviation Administration (FAA) confirmed that new technology developed in collaboration between AFRL and the State of Ohio - called SkyVision – safely, accurately, and effectively allows unmanned aircraft systems to detect and avoid other aircraft while in flight. Simply put, SkyVision can be described as an air traffic control system for drones.

The validation of this aviation technology led the FAA to grant AFRL a certificate of authorization to test defense-related drone technology without reliance on a visual observer or chase aircraft. This special waiver allows AFRL and the Ohio UAS Center to use SkyVision to test drones beyond the visual line of sight within a 225 square-mile parcel of unrestricted airspace near the Springfield-Beckley Municipal Airport.
https://daytonregion.com/ddc/blog/ohio-uas-center-air-force-research-laboratory-test-groundbreaking-aviation-technology

**29Apr19**

## Gatwick Airport in Fresh Drone Drama as Three Flights Diverted Harry McNabb April 28, 2019

In what seems to be becoming a regular event, Gatwick Airport diverted three flights to Stansted Airport following what is being described as a "possible drone sighting" at London's Gatwick Airport.

Two EasyJet Flights – one arriving from Barcelona and one from Amsterdam – were sent to Stansted airport before taking off again and landing at Gatwick. A third flight, from British Airways originating from Heraklion airport in Crete, Greece was also diverted. The three flights all landed safely at Gatwick after their scheduled arrival.

A Gatwick spokesman said: "Gatwick investigated a report of an unconfirmed sighting of an object outside the airport's 5KM exclusion zone today but – following a full assessment – the airport has remained fully operational throughout."

Gatwick and Heathrow airports have purchased millions of pounds worth of military grade anti-drone equipment in response to the alleged sightings, thought to



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include a mix of scanners, jammers and radars. https://dronelife.com/2019/04/28/gatwick-airport-in-fresh-drone-drama-as-three-flights-are-diverted/

## Future of Spraying in Farm Fields Involves Drones APRIL 27, 2019 STAFF WRITER

IOWA -- An Iowa company is pioneering the next level of agricultural tech to use drones in farm fields. Rantizo wants to use drones for a host of agricultural spraying needs, and soon the company will be the first in Iowa to be able to. Founded last year, Rantizo has nearly gotten FAA approval for agriculture drones. Now the company is filing for patents on their products.

Hoping to eliminate yield loss to soil compaction and drift, drone spraying gives much more availability and access. Flying does not need to wait for the same conditions heavy machinery does to enter the field. Also, they hope to reduce pesticide use by only putting products where it needs to go, helping slow down weed resistances.

They are building a platform for spraying with the ability to automate the process and free up farmers' time. "In the long term, we want to have swarms of drones applying chemicals precisely when they're needed, where they're needed. So you'll actually reduce the amount of agrochemicals and apply them locally." https://whotv.com/2019/04/27/future-of-spraying-in-farm-fields-involves-drones/

## Pioneering Breakthrough: Unmanned Aircraft Delivers Organ for Successful Kidney Transplant in Maryland Office of Public Affairs April 26, 2019

*Groundbreaking Effort Could Help Expand Donor Access to Transplantation*

In a first-ever advancement in human medicine and aviation technology, a University of Maryland unmanned aircraft has delivered a donor kidney to surgeons at the University of Maryland Medical Center in Baltimore for successful transplantation into a patient with kidney failure. This demonstration illustrates the potential of unmanned aircraft systems for providing organ deliveries that, in many cases, could be faster, safer, and more widely available than traditional transport methods.

The momentous flight was a collaboration between transplant physicians and researchers at the University of Maryland School of Medicine in Baltimore; aviation and engineering experts at the University of Maryland; the University of Maryland Medical Center; and collaborators at the Living Legacy Foundation of Maryland.



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"This major advance in human medicine and transplantation exemplifies two key components of our mission:  innovation and collaboration," said **E. Albert Reece, MD, PhD, MBA**, Executive Vice President for Medical Affairs, UM Baltimore, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine. "Innovation is at the heart of our focus on accelerating the pace and scope of discovery, where research can rapidly transform medicine. At the same time, collaboration is the key to our success in providing discovery-based medicine – both in conducting research and in delivering the highest quality patient care."

The kidney recipient, a 44-year-old woman from Baltimore, who spent eight years on dialysis before undergoing the transplant procedure, said, "This whole thing is amazing. Years ago, this was not something that you would think about," she said.  She was discharged from UMMC on Tuesday. http://www.medschool.umaryland.edu/news/2019/Pioneering-Breakthrough-Unmanned-Aircraft-Delivers-Organ-for-Successful-Kidney-Transplant-in-Maryland.html

## Can Missouri regulate drones? It's up in the air

Kyra Haas Missouri News Network Apr 27, 2019

Forty-one states have enacted some form of drone legislation as of late 2018, according to the National Conference of State Legislatures. Missouri Senate Bill 194 seeks to regulate the use of drones in airspace above correctional facilities and mental health centers.

JEFFERSON CITY — Missouri Senate Bill 194 would make it a felony for drones to fly around or above correctional facilities or mental health centers. A potential amendment would create a similar restriction over large open-air sports stadiums. But the bill enters a legal gray area since the FAA has preemptive authority to regulate national airspace. The FAA already has some restrictions around certain corrections facilities, but if the state expands those, it might be overstepping.

So far, the bill has moved forward with bipartisan support, passing unanimously out of the Senate. It was voted out of the House Corrections and Public Institutions Committee and awaits floor debate. http://www.webstercountycitizen.com/news/state/article_b8390bce-ff46-54b2-bc54-3563248b95a7.html

## DJI opens eight UAS Training Centers as part of American program move

BUSINESS DJI MANUFACTURER TRAINING UNITED STATES ALEX DOUGLAS APRIL 29, 2019 As the commercial drone industry is expanding across the world and



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across the US, DJI is hoping it can help pilots quickly learn the fundamentals of flying commercially through online and on-site training. The North American UTC Program will start in the United States with eight training centers run by RMUS in Utah, Washington, California, Hawaii, Delaware, Ohio, Texas, and Illinois. They will begin with level one Commercial UAS Training, a new curriculum established by UTC which aims to provide a solid baseline for pilot skills and knowledge.

The course begins with a foundation-building on-line course and basic flight training with a Tello drone from Ryze Robotics. The course is completed with an on-site examination and training session at one of the eight training centers, with corresponding hands-on experience to become UTC certified. Starting in June, this course will be offered at all eight sites. https://www.commercialdroneprofessional.com/dji-opens-eight-uas-training-centres-as-part-of-american-program-move/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300049-Commercial+Drone+Professional+DNA+-+2019-04-29

## Terra Drone performs baseline modelling for settlement revival project

APPLICATION BUSINESS INTERNATIONAL NEWS ALEX DOUGLAS APRIL 29, 2019

Terra Drone Indonesia has taken part in the implementation of the Revitalizing Informal Settlements and their Environments (RISE) program**.** It has used drones to offer topographic mapping and building modeling to the project.

In February and March of this year, the mapping activity with the drone was completed in 11 selected locations in the city of Makassar, South Sulawesi.

Aerial photographs are needed to provide information about the existing conditions of buildings, sanitation systems, drainage, and other objects which are then made into plans for building facilities with natural-based solutions. The resulting data become a global reference system and can be processed for other purposes. https://www.commercialdroneprofessional.com/terra-drone-performs-baseline-modelling-for-settlement-revival-project%EF%BB%BF/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300049-Commercial+Drone+Professional+DNA+-+2019-04-29

## Brazilian aviation regulator approves senseFly drones for first BVLOS ops

APPLICATION BUSINESS INTERNATIONAL NEWS REGULATION ALEX DOUGLAS APRIL 29, 2019

Using the firm's proprietary drone technology, operations will be performed in collaboration with AL drones and geotech firm Santiago & Cintra. ANAC's



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decision means that the senseFly eBee Classic, eBee Classic RTK, eBee Plus and eBee SQ are now approved for use in future BVLOS missions carried out by Brazilian drone operators.

Pierre-Alain Marchand, regulatory compliance manager at senseFly, commented: "We're delighted that our drones offer the appropriate safety mechanisms and navigational performance needed for BVLOS and have played a part in helping to define frameworks and regulations that will support the growth of future BVLOS operations."

The authorization comes almost two years after the publication of regulation RBAC-E94 in 2017 which legislated the use of drones for civil applications in Brazil. It will enable drone operators to navigate and map larger and more remote areas, thus expanding the professional use of drones across a range of sectors. https://www.commercialdroneprofessional.com/brazilian-aviation-regulator-approves-sensefly-drones-for-first-bvlos-ops/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300049-Commercial+Drone+Professional+DNA+-+2019-04-29

## DJI AeroScope UTM system to support Reno downtown urban air mobility trials

April 27, 2019 Philip Butterworth-Hayes Urban air mobility

DJI has joined the program to test urban air mobility operations in the downtown area of Reno, Nevada. A key objective of the research will be to gauge public opinion on drone operations in the city.

Reno is hosting the top three most important Department of Transportation, Federal Aviation Administration and National Aeronautics and Space Administration drone tests in 2019, according to the Nevada Institute for Autonomous Systems. "The City of Reno will soon advance Urban Air Mobility like no other city in the U.S.".

"DJI, the world's largest drone manufacturer is donating two important pieces of equipment to the effort, allowing program managers to monitor activity in the Nevada airspace… The AeroScope remote identification system can monitor all DJI drones in a designated area, displaying their locations, their pilots' locations and their serial numbers on a map, helping improve airspace safety.

"Community awareness toward integration of drones to make people's lives easier is a top priority for Reno and through Reno's participation in the DOT's UAS Integration Pilot Program, NASA's UAS Traffic Management TCL 4, and the FAA's UTM Pilot Program.



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https://www.unmannedairspace.info/urban-air-mobility/dji-aeroscope-utm-system-to-support-reno-downtown-urban-air-mobility-trials/

## Internet connectivity projects unite as Alphabet spinout Loon grabs $125M from SoftBank's HAPSMobile Jon Russell@jonrussell 5 days ago

HAWK 30 drone

Two futuristic projects are coming together to help increase global internet access after **Loon,** the Google spinout that uses a collection of floating balloons to bring connectivity to remote areas, announced it has raised money from a SoftBank initiative.

**HAPSMobile,** a **SoftBank** project that is also focused on increasing global connectivity, is investing $125 million into Loon. The agreement includes an option for Loon to make a reciprocal $125 million investment in HAPSMobile, and it includes co-operation plans.

HAPSMobile is a one-year-old joint venture between SoftBank and U.S. company **AeroVironment** . The company has developed a solar-powered drone that's designed to deliver 5G connectivity in the same way **Facebook** has tried in the past. Where Facebook has stumbled, HAPSMobile has made promising progress. The company said that its HAWK 30 drone has completed its initial development and the first trials are set to begin this year.

Loon was one of the first projects to go after the idea of air-based connectivity with a launch in 2013. Though it is still a work in progress, it has certainly developed from an initial crazy idea conceived within Google. Loon played a role in connecting those affected by flooding in Peru in 2017, and it assisted those devastated by Hurricane Maria in Puerto Rico last year. Loon balloons have flown more than 30 million kms and provided internet access for "hundreds of thousands" of people across the world. https://techcrunch.com/2019/04/24/alphabet-spinout-loon-grabs-125m-from-softbank/



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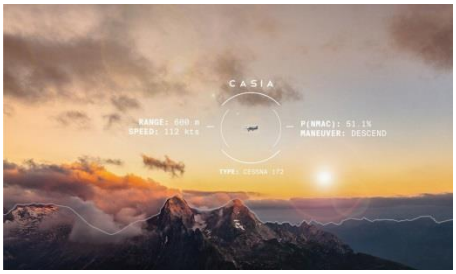
## Iris Automation announces Casia, the first turnkey collision-avoidance solution for the commercial drone industry Iris Automation Apr 26, 2019

SAN FRANCISCO, April 26, 2019 /PRNewswire/ -- Iris Automation, an artificial intelligence and safety avionics company, today announced the launch of Casia – the first commercially available computer vision detect-and-avoid solution to enable Beyond Visual Line of Sight operations for autonomous vehicles.




Casia detects other aircraft, uses machine learning to classify them, makes intelligent decisions about the threat they may pose to the vehicle, and triggers automated maneuvers to avoid collisions.

It is a combination of both hardware and software that's lightweight, low power and small in size. It comprises artificial intelligence algorithms and software packaged in a self-contained computer that works with a machine vision camera.

The technology has been extensively tested, with 7,000+ real-world test flights and mid-air collision scenarios – flying various manned aircraft against UAS – and over 40,000 encounters in simulation. Casia also ran a successful early adopter program with more than 30 participating beta customers from five countries.

The company will also offer customers regulatory support for Part 107 waiver writing and regulatory approval processes to secure the necessary permissions for UAS operations. Casia is available now. For more information, visit www.irisonboard.com/casia.
https://www.prnewswire.com/news-releases/iris-automation-announces-casia-the-first-turnkey-collision-avoidance-solution-for-the-commercial-drone-industry-300838873.html

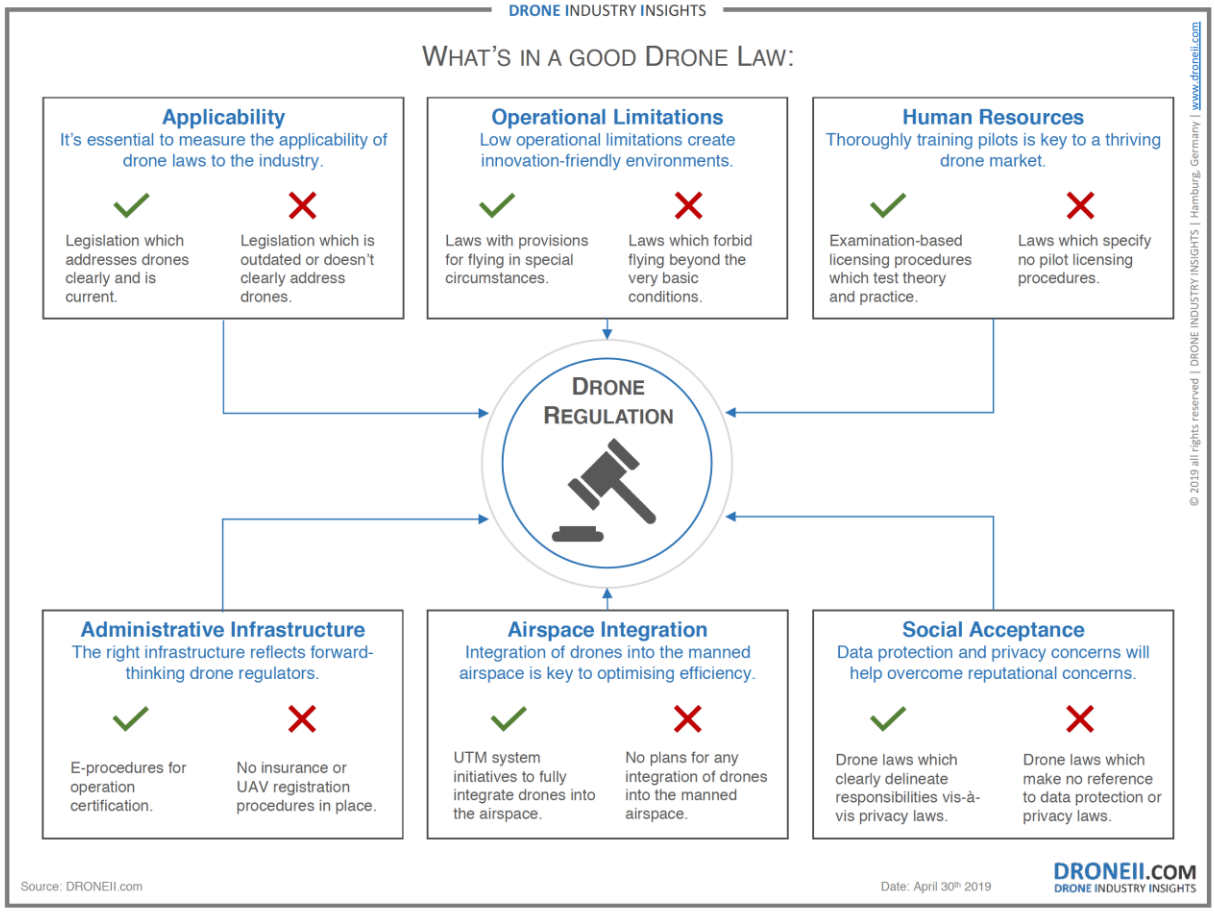
**30Apr19**

## Rules & Regulations: What Are the Key Elements of a Good Drone Law? 2019-04-24 Millie Radovic

Striking the balance between responsible and facilitating regulations is difficult, and various countries have taken very different approaches to drones. Continuous dialogue between regulators and drone industry stakeholders is crucial, and at Drone Industry Insights we've had the unique privilege of getting to know what both ends of the spectrum think. This qualitative understanding of the drone industry has helped us build a quantitative metric of a country's

preparedness for the current and future development of commercial drones – the Drone Readiness Index.

What goes into such an index? How do we determine whether a country is 'ready' for the current and continued development of commercial drones? There are six key factors that are crucial to a good drone law: applicability, human resources, administrative infrastructure, operational limitations, airspace integration, and social acceptance.




Want to see how your country ranks on the Drone Regulation Index? Get the Drone Market Report https://www.droneii.com/drone-regulation#1525106654181-a2b63cd6-e0c3



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## GE Aviation, Auterion partner on full stack platform for drone operators, manufacturers Natalie Gagliordi for Between the Lines April 29, 2019

The platform aims to serve as the foundation on which drone operators can scale beyond visual line of sight and meet future regulations.

GE Aviation and Auterion said they will build a full stack platform for drone manufacturers and operators looking to scale commercial drone operations. The partnership will bring together GE Avaiation's Aircraft System avionics platform and Auterion's Enterprise PX4 operating system, combining airborne autopilot and application computing hardware, flight management, safety management and integration.

GE Aviation is providing the avionics hardware, application computing, flight management and integration into airframes. Meanwhile, Auterion's operating system, which runs on-vehicle, in the cloud and in the ground station, provides core software infrastructure including flight peripherals and camera integrations, data networking, precision navigation and compliance with traffic management.

GE Aviation and Auterion tested the hardware and software platform over the last three weeks at Reno-Stead airport in Nevada. https://www.zdnet.com/article/ge-aviation-auterion-partner-on-full-stack-platform-for-drone-operators-manufacturers/

## Senators urge regulators to quickly approve drone identification rules David Shepardson APRIL 29, 2019

WASHINGTON (Reuters) - Two U.S. senators on Monday urged U.S. Transportation Secretary Elaine Chao to finalize a long-delayed rule that would require the remote identification of unmanned aircraft systems, or drones.

The U.S. Congress tasked the Federal Aviation Administration in 2016 with issuing regulations or guidance by July 2018 that could permit the public, the FAA, law enforcement, and others to remotely track and identify drones and their operators during flight. Senators Edward Markey, a Democrat, and John Thune, a Republican, said such a rule would help address a rising number of unauthorized drone flights.

“Remote identification will enhance safety, security, and privacy, and serve as a critical tool for law enforcement to respond to and address reports of illegal and unauthorized drone operations,” the senators said in a letter to Chao on Monday.



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The FAA said on Monday that "drone ID and remote tracking are priorities for the FAA and we are well underway developing proposed rules." The agency said last month it plans to publish a proposed rule by July 21, having previously vowed to unveil the proposal by May 1.
https://www.reuters.com/article/us-usa-drone-congress/senators-urge-regulators-to-quickly-approve-drone-identification-rules-idUSKCN1S522E

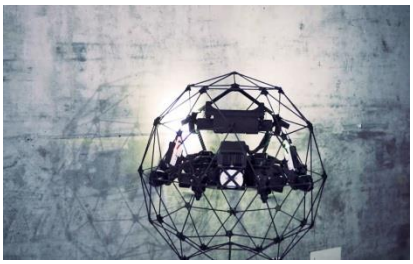
## Evolve Dynamics develops "first droppable tether" solution APPLICATION BUSINESS EXCLUSIVE HEADLINE NEWS NEW PRODUCTS ALEX DOUGLAS APRIL 30, 2019

The new system means a drone can fly in the air for up to 24 hours and, at any point, can drop the cable and chase a target for up to 30 minutes.

"From what we've seen that is currently out there, we will have the world's first droppable tether. We think it's a game changer to have a 30 x zoom and thermal camera up at 100 meters for up to 24 hours in any weather including strong winds and then be able to disengage the cable and follow the target for another 30-40 minutes without having to land. It's also a simple upgrade add-on to the existing aircraft, the Evolve Dynamics Sky Mantis, and does not require a separate aircraft system to operate on a tether."

The ground unit is also very compact and fits in a small day-pack size backpack. Power can be from a vehicle or a liquid fuel generator or AC mains power."
https://www.commercialdroneprofessional.com/%EF%BB%BFexclusive-evolve-dynamics-develops-worlds-first-droppable-tether-solution/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300189-Commercial+Drone+Professional+DNA+-+2019-04-30

## Flyability targets indoor inspections with Elios 2 APPLICATION BUSINESS INTERNATIONALNEW PRODUCTS NEWS ALEX DOUGLAS APRIL 30, 2019



Since the launch of the first Elios platform in 2016, Flyability has specialized in remote aerial inspection of confined areas. More than 550 Elios drones have been deployed at over 350 sites to inspect critical infrastructure for industries as diverse as power generation, mining, oil and gas, and chemical, even operating in radioactive areas of nuclear plants.

The company says it has aimed to reinvent collision-tolerance transforming a formerly passive mechanical protection design into active intelligence built into the flight controller and motors.



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It is complemented by 7 vision stability sensors pointing in all directions to provide GPS-free stabilization. It also features a lighting system which produces 10K Lumens for increased situational awareness in large spaces. https://www.commercialdroneprofessional.com/flyability-targets-indoor-inspections-with-elios-2%EF%BB%BF/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-300189-Commercial+Drone+Professional+DNA+-+2019-04-30

## Fuel Cell Solutions for Commercial UAVs Unveiled 29 Apr 2019 Mike Rees

Ballard Unmanned Systems has announced the launch of the FCair fuel cell product line, a long-duration power solution for commercial Unmanned Aerial Vehicles.

It includes a hydrogen fuel cell power system, hydrogen storage vessels, pressure regulators, refueling solutions and hydrogen gas supply. The product line supports commercial UAV manufacturers and operators in the delivery of fuel cell-powered UAV benefits, including: 3x the flight duration of batteries; 5x the reliability and a fraction of the noise of small internal combustion engines; and significantly reduced operational expenses. https://www.unmannedsystemstechnology.com/2019/04/fuel-cell-solutions-for-commercial-uavs-unveiled/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=52d80fd959-eBrief_2019_Apr_30&utm_medium=email&utm_term=0_6fc3c01e8d-52d80fd959-119747501

## Live from Commercial UAV Expo Europe 2019 April 29, 2019 Jeremiah Karpowicz

While the big news from Commercial UAV Expo Europe was centered on the next version of the event taking place as part of Amsterdam Drone Week, there were plenty of other insights, developments and happenings that came out of the event. Many talked about how they witnessed the growth of the drone market at the event, while others we more focused on the technology that was on display.

Nearly 70 countries were represented along with over 100 publications, portals, analysts, associations, user groups and cooperating events. This combination resulted in people from around the world coming together to share public service drone stories, interview experts like Darshan Divakaran of North Carolina Department of Transportation and Marc Kegelaers of Unifly along with a look at the top 7 trends in the drone industry.



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Speakers, attendees and members of the Expo team tweeted quotes and pictures throughout the event to give everyone who wasn't in Amsterdam a sense of the discussions, learning and updates that were explored. For more direct quotes, videos and pictures, check out the #expouaveu19 hashtag. https://www.expouav.com/news/latest/live-from-commercial-uav-expo-europe-2019/?mkt_tok=eyJpIjoiTnpBek9URTFZbUU0TnpFdyIsInQiOiJCRUpEVzhLZ2tnanBDWEhXQkNiNWxGNHh0Rm1RZW9PaTBMMWZUeE13VlBVYWlEa1YyYUJsaUFnWHhiM0gwTzExbzQ2QzV5QjRPMHhQQjdrdDNvaGw2bVI2bnJtZmhjcmluMWFHXC9jQzM0OG9XejJyYWY4SVRUbHhRVGdqdURJTVAifQ%3D%3D

## U.S. Army Partners with Defense Innovation Unit to Leverage Commercial Drone Companies for Short Range Reconnaissance Program April 29, 2019

REDSTONE ARSENAL, Alabama– The U.S. Army Program Executive Officer for Aviation's Project Manager, Unmanned Aircraft Systems, partnered with the Defense Innovation Unit and the Army's Maneuver Center of Excellence to identify and prototype new drone capabilities with commercial companies that specialize in on-demand, "eye in the sky" technologies.

The Short Range Reconnaissance program is intended to deliver an inexpensive, rucksack portable, vertical take-off and landing drone that provides the Soldier on the ground with a rapidly deployable scouting capability to gain situational awareness beyond the next terrain feature.

Soldiers on today's battlefield face an enemy that is able to purchase low-cost consumer drones, which provide capabilities previously limited to more expensive and uniquely military technologies. Advanced, commercially-developed small unmanned aircraft systems can dramatically reduce the time and cost of getting a flying vehicle in use. To provide these capabilities, the Army is using agile design to execute iterative development based on Soldier testing and immediate feedback to the commercial companies. michelle.h.miller5.ctr@mail.mil www.peoavn.army.mil

**1May19**

## FAA Acting Deputy Administrator Carl Burleson: "Our Job is to Find a Way Forward." Miriam McNabb May 01, 2019

Wednesday at AUVSI's Xponential conference in Chicago kicked off with another keynote address – this one carrying the theme of "The Power of Execution." In addition to David Albritton, President of General Motors Defence LLC; and Mike

Fields of insurance giant State Farm, the morning introduced Carl Burleson, the second highest ranking official at the FAA.

After thanking former FAA Administrator Michael Huerta for "setting the stage" for the work that the FAA is doing in the drone industry, Burleson pointed out that 1.4 million drones have been registered and more than 130,000 Part 107 certifications issued – which means, says Burleson, "There are nearly 4 times as many UAS than manned aircraft in the NAS."

This morning, he said that what the FAA really needs to move forward on integration is more data. "That's why the UAS IPP [Integration Pilot Program] was so important. This is allowing us… to develop regulations through practical applications and collecting data. We really see this as a win-win. Some of the IPP programs which have recently moved from proof of concept to continued operations are proving how small UAS are beneficial. The IPP is already paying dividends on this investment." https://dronelife.com/2019/05/01/faa-acting-deputy-administrator-carl-burleson-our-job-is-to-find-a-way-forward/

## Boeing Eyes MQ-25 Tanker Drone Prototype Flight Test Before Year's End Jane Edwards May 01, 2019I News, Technology

Boeing has moved a test prototype of the *MQ-25 Stingray* carrier-based aerial refueling drone from the firm's facility in St. Louis to a small regional airport in Illinois as the company prepares to begin flight testing later this year. Dave Bujold, program manager, said the prototype will serve as an early learning platform for the first U.S. Navy aircraft, which is expected to be operational in fiscal 2021.

"Every flight test mission we do allows us to pull faster data, better understanding, software development for the Navy aircraft. So when the Navy's first combat-built … aircraft will fly, we will have already been flying the same airframe, weight and class."

Boeing won a potential $804M contract in August 2018 to build four MQ-25 drones for the Navy. https://blog.executivebiz.com/2019/05/boeing-eyes-mq-25-tanker-drone-prototype-flight-test-before-years-end/



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## Meet Yale's Bat Drones MARC COOK

Our concept of drones is that they land—sometimes with grace, sometimes not—on a more or less flat surface when their mission is over. But researchers at Yale are working on a drone that can land and "perch" like a bat to save energy during portions of its mission.

Where some studies have tested drones that can partially land on a stable surface, allowing some of the electric motors to be switched off, this latest study equips drones with scissor-like landing gear that can grasp a pole or even a tree branch to allow the aircraft to hang like a bat. In this configuration, the propulsion motors can be turned off completely. With the drone presumably parked above the ground, it's closer to returning on station with a little more battery capacity in the tanks. http://flash.avweb.com/eletter/4324-full.html?ET=avweb:e4324:2565185a:&st=email#232724

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## senseFly, Raptor Maps Launch Drone Solution for Solar Inspections

Betsy Lillian May 1, 2019

senseFly has introduced its new Solar 360. Created in collaboration with software company Raptor Maps, the new offering enables the automatic assessment of solar plant performance at a sub-module level. The aircraft combines senseFly's drone and Duet T thermal mapping camera with Raptor Maps' software.

Gilles Labossière, CEO of senseFly, says Raptor Maps' software "takes the guesswork out of solar farm inspection and speeds up this process from days to hours." Nikhil Vadhavkar, CEO of Raptor Maps, notes that its software has already been used for the inspection of 25 million solar panels on six continents in an effort to "increase power production and reduce risk and maintenance cost."

According to the partners, users can inspect solar installations of up to 150 MW in a single day enhancing operational efficiency by up to 300 times versus ground inspections with a handheld thermographic sensor. The drone captures both radiometric thermal and visual RGB imagery. The software then generates a detailed inspection report to identify, classify and localize anomalies automatically. https://unmanned-aerial.com/sensefly-raptor-maps-launch-drone-solution-for-

solar-inspections?utm_medium=email&utm_source=LNH+05-02-2019&utm_campaign=UAO+Latest+News+Headlines

## One Year Later, Will the FAA's Drone IPP Pave the Way for New Regulation? Nick Zazulia May 1, 2019

*The IPP panel at AUVSI Xponential in Chicago*

It has been a year since the FAA launched its nation-wide UAS Integration Pilot Program with 10 teams around the country. What does its progress mean for the broader scope of rulemaking around unmanned aircraft?

"If we don't have something that is repeatable and scalable outside of the original ten, it's not a success," said Nicholas Flom, executive director for the Northern Plains UAS Test Site. While the initial operations being workable is a necessary step, the program was always meant to be a testbed for procedures and rules that could be expanded to the rest of the country. Northern Plains in Grand Forks, North Dakota is a partner with the state Department of Transportation and companies such as Airbus Americas, Echodyne, Harris and Collins Aerospace.

Kansas is working with companies including AirMap, Fortem, Harris, Microsoft, Garmin and uAvionix as well as local universities to tackle precision agriculture and long-line linear infrastructure inspection, which includes the need for beyond-visual-line-of-sight flight. North Carolina's trial comprises the transport or delivery of packages, food or medical blood work by drone — both BVLOS and over people. The city of San Diego's Department of Homeland Security is a lead participant in California, where use cases include border patrol and supporting the police department.

"Eventually, we will see performance standards, we will have something that can be met, established, a tool created that can help get the approval that is needed... We're all contributing to that. That's our give-back to the federal agencies." There are about 18 months remaining in the IPP, and the time is coming to figure out what that looks like; to make sure that the participants are thinking about repeatability and not just experimenting for its own sake. https://www.aviationtoday.com/2019/05/01/one-year-later-will-faas-drone-ipp-pave-way-new-regulation/



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## FAA Predicts Future UAS Growth Betsy Lillian May 1, 2019

In its latest aerospace forecast, the Federal Aviation Administration highlights what it calls the "phenomenal growth" of the small unmanned aircraft systems industry.

According to the agency's aerospace forecast report for fiscal years 2019-2039, there were more than 277,000 non-model unmanned aircraft registered with the FAA at the end of 2018, representing a bigger growth rate than the agency had anticipated. With a forecast of 158,900 made by the FAA a year prior, it fell short by a whopping 80%.

If this pace of growth continues, the agency predicts that last year's forecast of 452,000 in 2022 could actually be surpassed later this year or in early 2020. Looking ahead to five years, the FAA predicts that the U.S.' non-model sUAS fleet will total more than 835,000 in 2023.
https://unmanned-aerial.com/faa-predicts-future-uas-growth?utm_medium=email&utm_source=LNH+05-02-2019&utm_campaign=UAO+Latest+News+Headlines

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## This is Cool: Echodyne Demonstrates Augmented Reality for Airspace Awareness

Miriam McNabb May 02, 2019


This is one of the coolest things we got to experience at this year's AUVSI Xponential: finding a drone in the sky through Hololens augmented reality glasses.

Imagine that you've secured an area of airspace around your drone operation. The Echodyne system has identified a drone in the airspace. Now, you need to find it in the sky – and learn all there is to know about the aircraft, identifying it as friend or foe. With architecture displayed by Echodyne, you just turn your head. Wearing the Hololens augmented reality headset, you follow the arrows in your field of vision until you find the drone in the sky – then twitch your fingers and see all of the data the system holds on that aircraft. It's a stunning demonstration of the possibilities of data visualization. https://dronelife.com/2019/05/02/echodyne-demonstrates-augmented-reality-for-airspace-awareness/



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