



UAS and SmallSat Weekly News

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8Sep18

Lockheed Martin and Drone Racing League Launch Groundbreaking AI Innovation Challenge September 6, 2018 News



Lockheed Martin and [Drone Racing League](#) today announced an innovation competition, challenging teams to develop artificial intelligence technology that will **enable an autonomous drone to race a pilot-operated drone** – and win. Participating teams will compete in a series of challenges for their share of over **\$2 million** in prizes.

Lockheed Martin Chief Technology Officer Keoki Jackson announced the challenge at [TechCrunch Disrupt](#) San Francisco, kicking off a multi-year partnership with DRL, the global professional circuit for drone racing. The [AlphaPilot Innovation Challenge](#) will enlist university students, technologists, coders and drone enthusiasts to push the boundaries of AI, machine learning and fully autonomous flight.

The AlphaPilot challenge aims to **accelerate** the development and testing of fully autonomous drone technologies. AlphaPilot participants will design an artificial intelligence/machine learning framework, powered by the [NVIDIA Jetson](#) platform for AI at the edge, capable of flying a drone – without any pre-programming or human intervention – through challenging multi-dimensional race courses in DRL's new Artificial Intelligence Robotic Racing Circuit. http://uasweekly.com/2018/09/06/lockheed-martin-and-drone-racing-league-launch-groundbreaking-ai-innovation-challenge/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_06&utm_term=2018-09-06

EagleView and PrecisionHawk Combine Talents to Revolutionize Virtual Claims Inspection September 6, 2018 News



[PrecisionHawk Inc.](#) today announced a partnership with [EagleView](#), a provider of aerial imagery and data analytics to collect at-scale insurance claims imagery via drones. EagleView combines imagery from multiple sources, including drones, with a variety of data analytics and reports to enable adjusters to triage claims, virtually inspect properties from their desk, and close property and casualty claims faster than ever before.



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"EagleView OnSite provides insurance customers with all the tools necessary to settle claims **without ever going into the field**," said Rishi Daga, CEO of EagleView. "As drones transform the way the insurance industry operates, making inspections safer, easier and more cost effective, EagleView reinforces its commitment to drone technology to digitize manual workflows."

With more than 25,000 claims processed in the last 18 months, EagleView can help insurance carriers transform their property claim workflows and decrease cycle time by at least 40 percent to best serve their customers after a catastrophic natural disaster.

http://uasweekly.com/2018/09/06/eagleview-and-precisionhawk-combine-talents-to-revolutionize-virtual-claims-inspection/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_06&utm_term=2018-09-06

North Dakota golf club offers burger delivery by drone! September 7, 2018 Thomas Luna

On August 11, 2018, King's Walk Golf Course in North Dakota became **the first** U.S. golf course to deliver food via drone delivery. Golfers ordered beverages, snacks and burgers through an app, and then they were greeted with a drone that lowered their orders directly onto the fairway.

The golf course used a UAV from an Israeli-based drone delivery company called Flytrex. Flytrex is scheduled to make deliveries for six weeks as part of a trial run, but if the overall feedback is positive, then [drone deliveries](#) at King's Walk may become regular.



The delivery drone is flown 200 to 300 feet to avoid potential midair golf ball collisions, and customers have to pay a **\$3 fee** for each delivery.

The roughly 33-pound drone may be designed to deliver food up to 30 mph, but just like most drones, it makes a buzzing noise that can be a nuisance to some. Reactions from golfers so far have been mixed. "The young golfers think it's great. We've had people already call and ask — when's the drone flying?"



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Previously, golfers waited on beverage carts to drive by, or they had to travel back to the clubhouse to get refreshments. Running a drone delivery service on a golf course is also a **cheaper alternative to buying a beverage cart**. <https://www.wetalkuav.com/north-dakota-golf-club-offers-burger-delivery-by-drone/>

Can the Drone Racing League Take Flight? Ben Lindbergh Sep 7, 2018



Thursday marked the start of the Drone Racing League's third season, which will feature 18 racers competing in seven events in locations including the [BMW Welt](#) exhibition center and the University of Arizona's [Biosphere 2](#). By some measures, the league is already a success: DRL airs in more than **75 countries**, including in 10 episodes [on ESPN](#) in North and South America. Its first two seasons, a league spokesperson says, were watched by a total of more than **55 million viewers worldwide**, which gives it a visibility advantage over competitors like [MultiGP](#) and [DR1](#) that don't have the ESPN imprimatur.

In other respects, though, the league is still going through growing pains as it figures out what drone racing, drone racers, and drones themselves will look like as the sport tries to transition out of its fledgling phase. And with each step the circuit takes toward the mainstream, Temkin has to work harder to fight off new challengers who are seeking to unseat him. "Eventually, we hope that drone racing becomes such a large sport that people are walking around in the streets with our jerseys on," he says. But by the time that happens, if it ever does, there's no telling which names will be on the back of the jerseys.

<https://www.theringer.com/sports/2018/9/7/17830692/drone-racing-league>

Stunning Short Film About a Visitor to an Uninhabited Planet Shot Entirely by a Drone in the Utah Desert [Lori Dorn](#) at September 7, 2018

"[The Visitor](#)" by Australian filmmaker and designer [Pete Majarich](#) is an absolutely stunning, [atmospheric short film](#) about a lone astronaut [exploring the vast expanse](#) of red-dusted land upon an uninhabited planet. This fantastic piece was shot entirely using the "active track" feature on a [DJI Mavic Air](#) drone, which captured from above the seemingly extra-terrestrial landscape of the southern Utah desert inside [Monument Valley](#).



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Armed with a camera drone, I travelled to Utah to capture the alienesque landscape of the desert on film. ...Like many people, I've always wanted to visit Mars. But, it's so far away. Last month I did the next best thing: I traveled to the deserts of Southern Utah. The landscapes there are otherworldly. Desolate. Stark. Abandoned. Millions of miles of dry, dusty red rock. You can truly get a sense of the millions of years of wind and water it's taken to form the terrain.

<https://laughingsquid.com/the-visitor/>

Bell And Teammates Selected For NASA UAS Demo In 2020 September 7, 2018

Military | News



Bell, a Textron Inc. company, has announced a cooperative agreement with NASA for an Unmanned Aircraft Systems flight demonstration in the National Airspace System, expected to be conducted in 2020.

Bell and its collaborative teammates Textron Systems, Xwing, and the University of Massachusetts Amherst's Center for Collaborative Adaptive Sensing of the Atmosphere, plan to demonstrate **end-to-end commercial mission operations** with Bell's Autonomous Pod Transport 70, which will include integrated command and control and detect-and-avoid technologies.

Collectively, they will explore requirements as they relate to commercial transport missions for medical, law enforcement and offshore missions. Bell will lead the design, development, production and systems integration, while Textron Systems will supply command and control operations, Xwing will provide detect and avoid technologies, and CASA will provide weather avoidance technology. http://uasweekly.com/2018/09/07/bell-and-teammates-selected-for-nasa-uas-demo-in-2020/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_07&utm_term=2018-09-08



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10Sep18

Only 5.8 percent of small drone licenses issued to women Bailey Schulz / Las Vegas

Review-Journal September 7, 2018



The drone industry is in the midst of a boom, with the Federal Aviation Administration expecting the total commercial hobbyist fleet to reach 422,000 by 2021 after only 108,000 in 2017. But there may be one demographic being left behind in the dust: women. According to data from the FAA, there were 102,769 remote pilot certificates issued for small drone operations as of Sept. 1. Of those, only 5,946 —

5.8 percent — were issued to women.

The 2018 InterDrone conference, held at the Rio Wednesday through Friday, addressed these discrepancies with a Women in Drones Luncheon on Thursday and a session titled “The Future is Female — Women in the Drone Industry.”

“I feel like there’s maybe an eighth of the women here than there are men,” said Janice Engलगau, social outreach specialist for Fruity Chutes, a drone parachute manufacturing company that had a booth at InterDrone. The lack of diversity “only really (impacts me) when I go to shows like this. I’ll sometimes feel like I won’t be taken as seriously as a male employee of my company.”

Baid said the lack of diversity may not be because of a hostile industry, but because of many women’s lack of confidence to enter male-dominated industries. According to the U.S. Department of Commerce’s Economics and Statistics Administration, women held just 24 percent of STEM jobs fields in 2015. <https://www.reviewjournal.com/business/only-5-8-percent-of-small-drone-licenses-issued-to-women/>

Trump continues with African drone mission expansion in the Sahara MILITARY

NEWS PEOPLE ALEX DOUGLAS SEPTEMBER 10, 2018



The New York Times has released a video documenting the growth, from January to September, of an American drone airbase in the Sahara Desert. Nigerian and American officials told the Post that the CIA had been flying drones on surveillance missions for several months from a corner of a small commercial airport in **Dirkou**, which new satellite imagery confirms.



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The report suggests how under the Obama Administration, drone operations within the CIA were somewhat scaled back and responsibility was handed over to the military. However this expansion, which shows how the Dirkou airport has grown significantly since February to include a new taxiway, walls and security posts, indicates how Trump wants to utilize the power of drones. The report goes on to suggest how another drone location expansion in Niger has also been planned. The bases are said to be part of the US strategy to combat terrorist organizations in Southern Libya. http://www.commercialdroneprofessional.com/trump-continues-with-african-drone-mission-expansion-in-the-sahara/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-274476-Commercial+Drone+Professional+DNA++2018-09-10

Agriculture tech provider secures £10.8m investment to accelerate AI and drone platforms AGRICULTURE BUSINESS INVESTMENT NEWS ALEX DOUGLAS SEPTEMBER 10, 2018



The company's sensors and AI technology help to rapidly detect nutrition, disease and plant status issues in applications ranging from corn and soybeans to vegetables, fruit, and nuts.

Sentera information integrates directly with most integrated data management platforms, including John Deere Operations Center and Climate FieldView. Eric Taipale, CEO at Sentera, said: "We've built a very powerful capability, but we've also been intensely focused on building a product that is easy to use and to incorporate into existing workflows. This investment allows us to ramp so we can take these digital products to scale more quickly, alongside the growers, advisors, and enterprise partners who've helped us to develop and refine our products."

Chicago-based S2G Ventures, New York-based Continental Grain Company, and Washington DC-based Middleland Capital, lead Sentera's new funding group.

Sentera has more than 1,000 **North American** reseller locations and additional customers, partners, and resellers around the world.

http://www.commercialdroneprofessional.com/agriculture-tech-provider-secures-10-8m-investment-to-accelerate-ai-and-drone-platforms/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-274476-Commercial+Drone+Professional+DNA++2018-09-10



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UNL-led, drone-based study aims to improve severe storm warnings Staff Sept. 7, 2018



A study spearheaded by the University of Nebraska-Lincoln will turn the American Midwest into a field laboratory for a massive analysis of tornadoes and severe storms.

The goal of the Targeted Observation by Radars and UAS of Supercells, or TORUS, study is to improve upon existing knowledge of supercell thunderstorms by analyzing the structures within the supercell that can lead to tornadoes. According to Adam Houston, associate professor of Earth and atmospheric sciences, the object is to **improve tornado warnings**.

The TORUS study, which will cost more than **\$2.5 million**, will be funded by a National Science Foundation grant of \$2.4 million across three years and support from the National Oceanic and Atmospheric Administration. Using cutting-edge technology and more than 50 bright minds from **four universities**, the TORUS study will be the largest drone-based study of its kind.

"We've only flown one drone in the past, now we're going to fly four," Houston said. "We can fly in more parts of the storm at the same time, get more data and answer a more extensive set of questions." http://www.dailynebraskan.com/news/campus/unl-led-drone-based-study-aims-to-improve-severe-storm/article_56733bd8-b23f-11e8-925b-0b828da883d8.html

FAA preps traffic management for drones Matt Leonard Sep 06, 2018



The Federal Aviation Administration expects to **complete** the nationwide deployment of Low Altitude Authorization and Notification Capability (**LAANC**) for unmanned aircraft systems **by the end of this month** and demonstrate a UAS traffic management system by next year, according to testimony from the administration during a Sept. 6 hearing about integrating drones into the national airspace.

LAANC is used to automate approvals for drone flights near airports. Drone operators use an app to submit flight information and have it checked against FAA preapproval zones and temporary flight restrictions. If approved, the system returns an authorization for flight **in near real time**. The system currently **covers 82 percent** of air traffic facilities in the country, according to the FAA.



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"Our plan for future UTM capabilities includes a number of components -- LAANC, remote identification and dynamic airspace management -- that will support the needs of industry, FAA, and our security partners," FAA Technical Center Director Shelley Yak said in her written testimony.

She described UTM as a "decentralized network, like a wireless network or the internet, for coordinating all types of aircraft efficiently, safely and scalably." This system will require a number of different communication links: from the operator to the drone, from the drone to other drones and from the drone to the UTM.

To ensure stable dynamic communications between the drone and the operator, Yak said the FAA is researching "frequency levels, the minimum operational performance requirements for that data link to allow us to integrate these aircraft into the system."

<https://gcn.com/articles/2018/09/06/drone-airspace-integration.aspx>

Als Will Race Drones Against Each Other, Then Try to Top Humanity David Grossman

Sep 6, 2018



The Drone Racing League has been publicly racing drones since 2016, hoping to take the sport mainstream. After some success with human pilots, the league is expanding into autonomous drone races in which the drones navigate through courses solely with AI and **no human pilot**. Teams will be invited to compete for a variety of prizes that will total over **\$2 million**.

The Artificial Intelligence Robotic Racing circuit, as the DRL is calling it, will begin in 2019 and consist of four AI vs. AI races during its first season. At the end of each season, the DRL will stage a **man vs. machine finale** where the winner of the league's human-based system will go against the best AI.

DRL CEO Nicholas Horbaczewski says to [VentureBeat](#): "The AIRR Circuit will be the premier, global autonomous drone racing circuit. It will challenge teams of the most talented AI engineers and researchers from around the world to design an AI framework that's capable of racing a drone — without any pre-programming or human intervention. By having AI and humans compete on the same track and comparing their times, we'll also be able to measure the gap in performance between man and machine, and see how quickly it closes."



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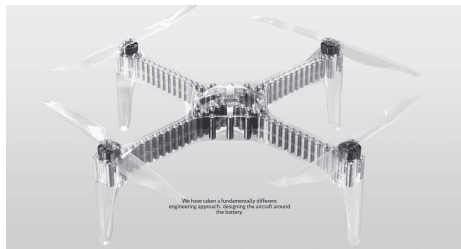
Cash bonuses will offer a strong incentive. The winning team of the AIRR Circuit will receive \$1 million, and for the first drone from an autonomous team to beat a DRL human racer, a special **\$250,000** prize.

One of the DRL's sponsors is the U.S Air Force, so it's no surprise the company has partnered with the military and defense contractors again on this endeavor. Lockheed Martin, one of the worldwide leaders in [drone technology](#) and a chief supplier of [military-grade drones](#) for the Department of Defense, is backing the AIRR.

<https://www.popularmechanics.com/technology/robots/a23007861/ais-race-drones-drc-lockheed/>

Impossible Aerospace Raises \$9.4 Million Series A Funding, Unveils The US-1

UAS September 10, 2018 News



Impossible Aerospace, a company poised to upend the status quo of aviation with long-range electric aircraft, today announced its takeoff from stealth mode to a viable product. On the heels of a \$9.4 million Series A, Impossible Aerospace has unveiled the US-1, an electric commercial-grade drone with a flight time of up to **two hours**. The battery life of the US-1 outperforms the approximate 25-minute single-charge flight time of other drones available today and brings it to parity with gasoline-fueled systems.

The US-1 is **the first aircraft designed with a "battery-first approach,"** which the company says is necessary to enable electric aircraft to compete with conventionally fueled incumbents. It is the product of years of development by a team of world-class engineers, including motor and battery experts from Tesla, SpaceX and other leading companies. The company has begun selling its first units, equipped with optical and thermal sensors, to firefighters, police departments, and search and rescue teams across the U.S.

"The US-1 is the first aircraft designed from the ground up to be electric, using existing battery cells without compromise" said Spencer Gore, CEO of Impossible Aerospace. "It's not so much an aircraft as it is a flying battery, leveraging an energy source that doubles as its primary structure."

The \$9.4 million Series A funding, led by Bessemer Venture Partners, brings the total amount raised by Impossible Aerospace to over **\$11 million**. <http://uasweekly.com/2018/09/10/impossible-aerospace-raises-9-4-million-series-a-funding-unveils-the-us-1->



UAS and SmallSat Weekly News

uas/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_10&utm_term=2018-09-10

11Sep18

China is the world leader in drones. US drone makers want to change that Matt McFarland @mattmcfarland September 10, 2018

Two American startups think they may have created the innovations that will give them a foothold to compete with Chinese powerhouse [DJI](#), which has faced data security questions.

Impossible Aerospace, a Silicon Valley-based startup founded by Tesla ([TSLA](#)) and SpaceX veterans, announced Monday it's selling a drone with two hours of flight time to fire departments, police departments and search and rescue teams. Another startup, Skydio now makes a drone that autonomously follows its users and avoids obstacles in its path, a feat competitors haven't matched.

Although it's been an uphill battle for American drone companies, Impossible Aerospace CEO Spencer Gore isn't worried. Gore, who previously worked as a battery engineer at Tesla, saw firsthand the benefits of a company manufacturing a product alongside its engineers. He said the proximity makes employees more accountable to each other and boosts innovation.



Skydio makes its drone in Redwood City, Calif. The Skydio R1 autonomously follows its subjects and shoots video

Impossible Aerospace's drone starts at \$7,500. Skydio's R1 goes for \$1,999.

https://money.cnn.com/2018/09/10/technology/drones-american-made/index.html?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+rss%2Fmoney_latest+%28CNNMoney%3A+Latest+News%29



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Bankers see a growing industry shift to smallsats Jeff Foust — September 10, 2018



Jim Murray of PJT Partners (left) and Dominic Ashcroft of Goldman Sachs discuss a growing industry shift to smallsats during a panel sessions at World Satellite Business Week Sept. 10.

PARIS — Investment bankers increasingly believe that the satellite industry is fundamentally shifting from large geostationary spacecraft to constellations of low Earth orbit smallsats, forcing existing companies to respond while **creating opportunities for investors**.

Manufacturers of large GEO satellites “have started to realize that the pipeline for new orders has started to dry,” said Vaibhav Lohiya, director of technology, media and telecommunications investment banking at Deutsche Bank. “They’re realizing that smaller satellites is where the world is moving.”

Much of that interest in smallsats is driven by projections of tens of thousands of small satellites proposed for launch in the next decade for LEO communications constellations. Many of those satellites, though, will likely remain on paper. “I think in the final analysis a fraction of those satellites will actually see the light of day,” said Jim Murray of PJT Partners. However, “I do think we’re going to see a shift” to smallsats, he added.

Another factor driving that change is growing **government interest** in smallsats, particularly constellations that could be more flexible and more robust to potential attacks than large spacecraft. <https://spacenews.com/bankers-see-a-growing-industry-shift-to-smallsats/>

Taiwan to Develop Coastal Patrol Drone Fleet 04 Sep 2018 Mike Rees



The government of Taiwan has announced that its new defense budget draft includes plans to deploy combat-ready drones to protect its coastline.

The fleet of future drones will mostly be domestically-produced. They will include Tengyun long-range craft developed by the Chungshan Institute of Science and

Technology, as well as anti-radiation missile drones being developed as part of Project Jiansiang, according to the ministry.



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The Tengyun drones have four weapon mounts compatible with the US-made AGM-114 Hellfire air-to-surface missiles. Such weapons are primarily used for precision strikes at targets within a range of 0.5 to eight kilometers. The new ARM drones can destroy an adversary's radar systems or the platforms on which they are installed. It is believed that the Tengyun drones will be modeled after the General Atomics MQ-1 Predator, a remotely piloted aircraft (RPA) once favored by the US Air Force and the CIA.

Taiwan's defense ministry said the indigenous drones would be part of the army's goal to ensure the annihilation of enemy deployments on Taiwan's beaches. Precision-strike weaponry including drones fitted with air-to-surface missiles is key to defending beachheads and winning littoral, or coastal, battles and anti-landing operations.

https://www.unmannedsystemstechnology.com/2018/09/taiwan-to-develop-coastal-patrol-drone-fleet/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=b7ffd89ed5-eBrief_2018_Sept_11&utm_medium=email&utm_term=0_6fc3c01e8d-b7ffd89ed5-119747501

Menlo Park Fire District Uses Drones to Fight Fires and Document Damaged Properties

September 10, 2018 João Antunes



After destroying more than 1,000 homes, causing 3 firefighter fatalities, and burning through more than 220,000 acres, the Carr Fire is considered the 6th most destructive fire in California's history. California's Menlo Park Fire District helped combat the fire not only with Strike Teams and Fire Units but also with drones.

On August 3rd, 11 days after the Carr Fire started, the [Menlo Park Fire District](#) partnered with [Alameda County Sheriff's Department](#), a law enforcement agency, to use drones for aerial damage assessments, mapping and documentation of affected areas.

By flying between 150 to 200 feet in elevation, the drone teams were able to capture high-resolution photography and video imagery to create zoom-in, zoom-out, 360-degree, stitched together [aerial mosaics](#) of the damaged and destroyed areas. This provided homeowners with the "ability to send that information to their insurance company or have it be used for reference by the State or Federal Government (FEMA) for claims by residents or the City and County themselves," Menlo Park Fire Chief [Harold Schapelhouman](#) told Commercial UAV News.



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The Fire District decided to adopt drone technology as “these are relatively inexpensive aerial platforms that currently provide several options to improve and enhance situational awareness, decision making, effectiveness and emergency responder safety.”

Since 2014, the department has used drones during hazardous material incidents, grass, timber and structure fires, along with missions above the San Francisco Bay or flooded areas and direct support of water rescues or recoveries. <https://www.expouav.com/news/latest/menlo-park-fire-district-drones-fight-fires/>

12Sep18

Self-Deploying Drone Pilots may Hinder Hurricane Response Efforts September 11, 2018 News



Last year’s hurricane season was a benchmark year for the role of drones in emergency management. Harvey, Irma, and Maria all had varying characteristics that served well to showcase the benefits that unmanned aircraft systems can provide for response and recovery operations. However, the well-documented -- and publicized -- success of those efforts is now likely to **create a new problem**; well-intentioned remote pilots who self-deploy to disaster scenes hoping to help save the day.

Most of us have been raised on that iconic vision of the Lone Ranger galloping into trouble on his white horse “Silver.” Superman, Wonder Woman — the storyline is always the same; a single person with special capabilities and a keen sense of compassion coming in to rescue the helpless.

While many good Samaritan remote pilots believe they can make a positive difference in a disaster, the fact is that most drone operators do not possess the fundamental training, skills, and experience to be truly effective. UAS disaster operations are a learned skill that must be developed and exercised to become effective during what is likely to become an extremely chaotic sequence of events. The FAA Part 107 remote pilot certification is only the starting point for those drone operators who want to become proficient at disaster response. http://uasweekly.com/2018/09/11/self-deploying-drone-pilots-may-hinder-hurricane-response-efforts/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_11&utm_term=2018-09-11



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Drones help with scientific research throwing 'dragon eggs' on active Volcanoes

BUSINESS INNOVATION RESEARCH TECHNOLOGY ALEX DOUGLAS SEPTEMBER 12, 2018



The so-called eggs are actually sensors which monitor real-time volcanic activity and record things like temperature, humidity, vibrations, and toxic gases. They have been designed to be light enough to be carried by drone, have low energy consumption to last a long period of time and also to withstand extreme hot temperature.

The eggs are placed, by drone, on the side of a volcano and 'hatch' when they detect movement caused by volcanic eruption. Dr Yannick Verbelen, a Research Associate in the School of Physics, told the metro: "It is the first time an autonomous system using zero-power listening technology has been deployed in this kind of hostile environment. We are pushing the limits of the sensor driven low-power monitoring in this application, but that's what research is all about."

The eggs contain wireless transmitters which have the power capability to send information up to 10km away. http://www.commercialdroneprofessional.com/drones-help-with-scientific-research-throwing-dragon-eggs-on-active-volcanoes/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-274723-Commercial+Drone+Professional+DNA++2018-09-12

Microdrones Continues Global Growth into Australia 10 Sep 2018 Mike Rees



[Microdrones](#) announced that it has expanded its global footprint to support Australia, New Zealand and Papua New Guinea. This comes as part of an overall global growth initiative after Microdrones recently added a new facility in Siegen, Germany and opened a new office in Toulouse, France.

Professionals in Australia have been deploying Microdrones solutions for geomatics, construction, mining and inspection for more than a decade. Sales Manager Darren Wilkinson commented: "When we say that Microdrones systems are **fully-integrated**, that's not a buzzword. The UAV, the sensors, software, hardware, workflow, training and support are all part of the package. Projects are planned and flown quickly. Data is collected and efficiently processed for visualization in popular geomatics software."

https://www.unmannedsystemstechnology.com/2018/09/microdrones-continues-global-growth-into-australia/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=b7ffd89ed5-eBrief_2018_Sept_11&utm_medium=email&utm_term=0_6fc3c01e8d-b7ffd89ed5-111778317



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13Sep18

Gov. Signs Belmont Lawmaker's Bill Outlawing Drones Above Prison California News

Wire Services, News Partner | Sep 11, 2018



SAN MATEO COUNTY, CA — Gov. Jerry Brown signed a bill Monday outlawing drone flights over state prisons, jails, and juvenile facilities. State Sen. Jerry Hill, D-San Mateo, introduced Senate Bill 1355 earlier this year after several state prisons reported drugs and other contraband that were smuggled into the facilities via drones.

"SB 1355 updates current law to make clear that using drones to smuggle contraband into correctional facilities is also unlawful," Hill said. The bill will go into effect in January, making any infractions punishable by a \$500 fine. Employees of the prisons who are authorized to operate drones as part of their job will be exempt from the restrictions of the bill.

<https://patch.com/california/belmont-ca/gov-signs-belmont-lawmakers-bill-outlawing-drones-above-prison>

"Live" shapeshifting canopy uses drones to keep guests in the shade [Nick Lavars](#)

September 12th, 2018



A new system from the University of Stuttgart explores how flying robots can give rise to a novel form of intelligent architecture, through an adaptive canopy that changes its configuration as the sun moves through the sky.



Dubbed the Cyber Physical Macro Materials project, the architectural system consists of a self-supporting roof structure with a canopy made up of tech-packed panels. Onboard the lightweight carbon fiber frame is a shading element, sensors, communications modules and sets of magnets around the edges to latch onto adjoining panels.

These smart panels connect with autonomous drones equipped with grippers over a communications network, **enabling the aircraft to assemble them** in ways that **respond to the environment**. So an algorithm can enable the drones to respond to the changing orientation of the Sun and rearrange the panels to maintain a shaded area of the same size and shape throughout the day. Another algorithm can enable it to detect occupants beneath it, adding, removing and shifting panels to keep growing crowds cool.



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Generally speaking, autonomous drones can't legally be left to buzz around public spaces packed with humans. But with drones able to fly more quietly for longer times with greater recharging options and with less risk of crashing into stuff, there may come a time where they do zip about discreetly optimizing our surroundings. The project is about reimagining established approaches to the built environment in light of flying robots that can give us a helping hand. <https://newatlas.com/live-shapeshifting-canopy-drones-stuttgart/56291/>

Xcel Energy Kicks off Drone Inspections Beyond Line of Sight Betsy Lillian September 12, 2018



Xcel Energy, a U.S. utility serving eight Western and Midwestern states, is operating drones beyond the visual line of sight during ongoing inspections of transmission lines near Denver.

Xcel Energy joined local, state and federal officials in celebrating the **milestone flights** and watching a drone as it inspected electric power lines near Ft. St. Vrain Generating Station in Platteville, Colo.

Using command-and-control technology, remote pilots operated a 35-pound drone equipped with two cameras. The aircraft collected data on the condition of power lines and transmission towers along a **50-mile** route.

The Federal Aviation Administration (FAA) granted Xcel Energy special permission to conduct the BVLOS flights under a waiver, [announced earlier this year](https://unmanned-aerial.com/xcel-energy-kicks-off-drone-inspections-beyond-line-of-sight?utm_medium=email&utm_source=LNH+09-13-2018&utm_campaign=UAO+Latest+News+Headlines). The waiver allows the company to commercially operate a drone without visual observers or a chase aircraft. The authority to fly a drone BVLOS **greatly enhances the efficiency and cost-effectiveness** of using the technology, the utility notes. https://unmanned-aerial.com/xcel-energy-kicks-off-drone-inspections-beyond-line-of-sight?utm_medium=email&utm_source=LNH+09-13-2018&utm_campaign=UAO+Latest+News+Headlines

Imperial College London develops drone tech to deter bird flocks away from designated airspace INNOVATION NEWS ZOE MONK SEPTEMBER 13, 2018



Researchers from Imperial College London have teamed up with California Institute of Technology in the US to create a **'herding' algorithm** to be used by drones to steer birds away from airports.



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The team tested the **robotic autonomous** drone by successfully shepherding an entire flock of birds out of a designated airspace in South Korea. David Hyunchul Shim, a professor at Korea Advanced Institute of Science and Technology (KAIST), says: "It is quite interesting, and even awe-inspiring, to monitor how birds react to threats and collectively behave against threatening objects through the flock."

"We made careful observations of flock dynamics and interactions between flocks and the pursuer. This allowed us to create **a new herding algorithm for ideal flight paths** for incoming drones to **move the flock away from a protected airspace**. "This algorithm will help improve safety for the aviation industry. In addition, this will also help control avian influenza that plagues farms nationwide every year." http://www.commercialdroneprofessional.com/imperial-college-london-develops-drone-tech-to-deter-bird-flocks-away-from-designated-airspace/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-274964-Commercial+Drone+Professional+DNA++2018-09-13

Drones for Good: CyPhy Works Takes on Hurricanes with the PARC Miriam

McNabbon September 13, 2018lr



With the U.S. bracing for another major hurricane as Florence bears down on the Carolinas, the drone industry is getting ready to help. Drones have emerged as a significant tool for **disaster response**, and drone manufacturer [CyPhy Works](#) has stepped forward with [PARC](#): the Persistent Aerial Reconnaissance and Communications platform.

PARC is a unique solution for a wide variety of business and security needs. It's a **tethered** drone, providing secure communications and flight endurance of days. It is highly portable: using a generator on the ground, the system can be launched from anywhere. The tether means that operators can focus on the data and the mission, rather than flying. And it's rugged – the kind of rugged that meets U.S. military requirements and can function in the high winds just after a hurricane.

PARC is already well known as a protective tool at major [events like the Boston Marathon](#) and [July 4th celebrations](#). But through a variety of partnerships with government, communications partners, and the Red Cross, CyPhy Works is also putting PARC to use to serve communities after **major weather events**. <https://dronelife.com/2018/09/13/drones-for-good-cyphy-works-takes-on-hurricanes-with-the-parc/>

Rocket Lab CEO on the Smallsat Race to Space Adrienne Harebottle | August 24, 2018



Rocket Lab Founder and CEO Peter Beck with an Electron rocket

It's hard luck for the hitchhiker who always seems to be on the road with too few vehicles, and who hardly ever lands a ride to the right place. This has been the fate for many smallsats. The large rockets to piggyback on have usually been aimed at different orbits, and don't launch frequently enough to adequately enable companies with plans for significant constellations.

One of the companies helping to change the fate of this new market is **Rocket Lab**, who has made some big news this year. In January, the California-based start-up successfully launched its flagship Electron rocket to orbit and deployed its first commercial payloads, making it the **only fully private, dedicated smallsat launch vehicle to reach orbit so far**. The company signed a contract this month with **Circle Aerospace** to provide the Dubai-headquartered company with 10 dedicated Electron launches, the first of which is to lift off in the fourth quarter of 2019.

Circle Aerospace, a new launch brokerage and satellite development company, seeks to boost the smallsat market and promote commercial space for the United Arab Emirates and the five other Arab member nations of the Gulf Cooperation Council. Considering Circle Aerospace's intentions for commercial space, it's not surprising that it chose Rocket Lab as the sole launch provider as well as the primary provider of mission services for Circle Aerospace's clients. Similarly, Rocket Lab is committed to fostering unrivalled access to space. In fact, it is Rocket Lab's mission to open access to space to improve life on Earth, explained the company's Chief Executive Officer (CEO) Peter Beck. <https://www.satellitetoday.com/launch/2018/08/24/rocket-lab-ceo-on-the-smallsat-race-to-space/>



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Drones for good: A UAV swarm that can 'sniff' toxic gasses in disaster zones

September 13, 2018 Feilidh Dwyer



A research team at Rice University in Houston, Texas, is developing a swarm of drones that will use AI to detect toxic gasses. The Smithsonianmag.com reports that the research team was recently bolstered by a \$1.5 million National Science Foundation grant and plans to use their drone swarm to detect gas leaks following a natural disaster.

This technology would be useful following hurricane season when many gas pipes are ruptured. In 2017, when Texas was hit by Hurricane Harvey, some first responders ventured out to warn people in the area about steering clear of a nearby gas leak from a chemical plant near Houston. The rescuers themselves were unfortunately stricken when they inadvertently walked into the proximity of the gas leak. If the drone swarm were deployed in such a scenario, they could identify how large the affected zone which humans should avoid is.



Each of the four drones that make up the swarm would be fitted with laser sensors that weigh 3.3 lbs. capable of detecting the presence and concentration of gasses. The team from Rice University is using drones that communicate with each other autonomously and use obstacle avoidance software to navigate their way around fallen trees and powerlines. The drones use their laser sensors to identify the spectral signature of a particular gas and then map the boundaries where the gas has reached.

The team has also created a mobile app that could use their drone sensors to give real-time air quality warnings to residents' phones. <https://www.wetalkuav.com/drones-that-detect-toxic-gasses/>

A 'super cell tower' in the stratosphere: AeroVironment and SoftBank's 5G vision

Elizabeth Gurdus @lizzygurdus

Drone maker AeroVironment, Inc. is making its way into what many see as the next frontier in connectivity: [5G](#).



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In a [joint venture](#) with tech-forward Japanese conglomerate SoftBank Corp., AeroVironment plans to "pursue the business of 5G and IoT" — the internet of things — "globally," AeroVironment President and CEO Wahid Nawabi told CNBC on Thursday.

The project plans "to develop and demonstrate a stratospheric airplane that is powered 100 percent by solar power, energy," Nawabi told "[Mad Money](#)" host [Jim Cramer](#) in an exclusive interview. Then, "it's going to fly on the edge of the atmosphere to bring fifth-generation internet connectivity to the entire world."

The venture, announced in January, is called HAPSMobile. HAPS stands for high-altitude pseudo-satellites, a type of unmanned aerial system that is used for commercial operations. The project is estimated to have a "net maximum value" of up to **\$65,011,481**, according to AeroVironment. <https://www.cnbc.com/2018/09/13/aerovironment-and-softbanks-5g-vision-cell-tower-in-the-stratosphere.html>