



UAS and SmallSat Weekly News

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28Oct17

Drone rodeo showcases latest technology for SOCom [Howard Altman, Times Staff](#)

[Writer](#) October 27, 2017



There won't be any horses, cowboys or clowns at the ThunderDrone Rapid Prototyping Rodeo starting Nov. 1 at the new Sofwerx center on 2nd Avenue in Ybor City.

The rodeo will feature more than 20 different teams of drone innovators participating in more than **30 demonstrations of drone technology** in front of officials at U.S. Special Operations Command. The command, headquartered at MacDill Air Force Base, spends billions every year on commando goods and services and the rodeo is a chance for innovators to impress those with the checkbooks.

"It will bring together warfighters and industry to showcase live demonstrations and presentations of new, novel, and provocative drone capabilities," according to the rodeo announcement.

The rodeo is the capstone to the ThunderDrone Tech Expo held in September. And it comes at a time when the presidential budget request for SOCom drastically increases the amount of money allocated for drones, according to a recent study on the Pentagon's drone spending. <http://www.tampabay.com/news/military/macdill/howard-altman-drone-rodeo-showcases-latest-technology-for-socom/2342542>

White House Creates Pathway for Local Drone Regulation [DEE ANN DIVIS](#)



The White House announced Wednesday a pilot program for state and local governments to work with the private sector to develop ways local concerns can be incorporated into the regulation of unmanned aircraft systems (UAS).

"Input from state, local, tribal, and private-sector stakeholders will be necessary to craft an optimal strategy for the national management of UAS operations," President Donald Trump said in a statement. "A coordinated effort between the private sector and among these governments will provide certainty and stability to UAS owners and operators, maximize the benefits of UAS technologies for the public, and mitigate risks to public safety and security."



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The administration plans to **launch a program of public private partnerships in the next 90 days** to test and evaluate various models for incorporating state and local governments in the process of developing and enforcing federal regulations for drone operations. The focus will be on flights below 200 feet though that could be extended to 400 feet, thereby incorporating most, if not all, of the flights allowed under the current Part 107 rules. More details on the 3-year effort are to be released soon. <http://insideunmannedsystems.com/white-house-creates-pathway-local-drone-regulation/>

The flying drones that can scan packages night and day Tom Jackson Technology of Business reporter 27 October 2017



Flying drones and robots now patrol distribution warehouses - they've become workhorses of the e-commerce era online that retailers can't do without. It is driving down costs but it is also putting people out of work: what price progress?

It could be a scene from Blade Runner 2049; the flying drone hovers in the warehouse aisle, its spinning rotors filling the cavernous space with a buzzing whine. But this is no sci-fi film, it's a warehouse in the US - one of around 250,000 throughout the country, many gargantuan in size: retail giant Walmart's smallest warehouse, for example, is larger than 17 football fields put together.

"Every year companies lose billions of dollars due to misplaced items and faulty inventory records in their warehouses," says Fadel Adib, an assistant professor of media, arts and sciences at Massachusetts Institute of Technology.



"Today's inventory management requires workers to scan items manually, which is a very time consuming and error-prone process. It's impossible to keep track of all items in the warehouse."

Two drones can do the work of 100 humans over the same time period, according to supply chain specialist, Argon Consulting. This means they can do several tours of a warehouse - **even at night** - compare results, identify discrepancies, and build up a much more accurate picture much more quickly. Drone makers claim scanning accuracy of close to 100%.

<http://www.bbc.com/news/business-41737300>



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How The San Diego Zoo Is Using AI And Drones To Save Polar Bears

With Arctic sea ice disappearing, can advanced sensor technologies provide insights into an ecosystem on the brink?



Few things are more important to polar bears than ice, which provides the Arctic carnivores with food, migration routes, and places to bear their young. But over the last four decades, there has been less and less Arctic sea ice available, and the summer period of ice melt has grown longer, making survival more difficult for animals that currently number only about 25,000 around the world.

To track the impact of changes to the Arctic ice, San Diego Zoo Global, the wildlife conservation group that operates the San Diego Zoo and Safari Park, is working with aerospace contractor Northrop Grumman Corp. to develop an autonomous hexacopter drone that will monitor ice formation and polar bear behavior **at a level of detail that's never been available before**. This November, the group will bring the drone—largely hacked together from modified off-the-shelf products in Northrop's internal makers' space, the FabLab—to the edge of the Arctic Circle to study ice and bears for 10 days in temperatures as low as 30 degrees below zero Fahrenheit. The technology will map sea ice and monitor wildlife at a scale not previously possible, in an environment that would break most high-resolution monitoring equipment, but which is crucial to the survival of Arctic polar bear populations.

There's a very real issue of habitat loss," says Nicholas Pilfold, a population sustainability scientist at San Diego Zoo Global, who will be part of the expedition. "We've lost 40% of summer sea ice coverage since satellite records began. The less sea ice that's available for the polar bears, the worse they do, the worse their survival, the worse their reproduction, the worse their body condition." <https://www.fastcompany.com/40486677/how-the-san-diego-zoo-is-using-ai-and-drones-to-save-polar-bears>

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Wall Street Journal Cartoon

Sheriff's Department says its drones are here to stay David Hernandez Contact Reporter



Sheriff's detectives David Chandroo, right, and Justin Crews, left, flew a drone through an obstacle course during training in Ramona in January. (John Gibbins / San Diego Union-Tribune)

When two bodies were found this week at a home in rural Descanso, the scene of an apparent murder-suicide, sheriff's deputies deployed an investigative tool that's becoming common for the department in homicide cases. They sent in a drone.

Over the past year, the San Diego County Sheriff's Department has used drones in more than 70 incidents, including homicide investigations, SWAT incidents and search-and-rescue missions.

"This technology is fantastic, and it's extremely useful," Williams said. "It's the quickest, easiest and most effective way to get video and still images without having to use a helicopter, which obviously can't get into places a drone can."

Last October, the Sheriff's Department became the first local law enforcement agency to launch a drone program — at a cost of \$125,000 — which **proved to be so successful** that they plan to continue using the devices. The department has budgeted \$165,000 for the program's second year. <http://www.sandiegouniontribune.com/news/public-safety/sd-me-sheriffs-drones-20171025-story.html>

SunPower is First to Receive Automated Access for UAS Flights in Controlled Airspace

SunPower Corp. announced today that it is the first company to receive approval from the U.S. Federal Aviation Agency (FAA) for automatic access to operate a drone in regulated airspace



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over controlled airports. The new access category, called Low Altitude Authorization Capability (LAANC), was released this month in a beta test at four airports including San Jose (SJC), Cincinnati International Airport (CVG), Reno (RNO), and Lincoln (LNK). SunPower received LAANC authorization through Skyward, an FAA-approved vendor.

“Leading through innovation, SunPower is proud to be **the first company granted the new LAANC access**, enabling us to aerielly evaluate a broader range of potential project sites for our customers more quickly and comprehensively,” said SunPower CEO and President Tom Werner. “As part of the SunPower Oasis Power Plant platform, drone flights enable us to efficiently generate solar power plant system layouts to optimize site use and reduce project cost.”

SunPower uses drones to survey potential solar power plant sites for customers. Information and images gathered by the drones is used to develop solar plant layouts to optimize site use. http://uasweekly.com/2017/10/30/sunpower-first-receive-automated-access-uas-flights-controlled-airspace/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

In Japan, drones expected to boost agriculture The Japan News October 30, 2017

A drone two meters in diameter flew over onion fields Wednesday and sprinkled water over them instead of pesticide. SkymatiX was demonstrating crop spraying for the media on Wednesday, using the drone on a farm in Koriyama, Fukushima Prefecture.

For a farmer using a backpack-style pesticide sprayer, it takes a whole day to spray one hectare of land. However, the drone can do the same task in about 10 minutes. Such drones cost 3 million yen to 3.5 million yen (about \$26,000 to \$30,000 each).

According to a Tokyo-based research company Seed Planning, Inc., the crop-spraying drone market is expected to grow from 1.2 billion yen in 2016 to 20 billion yen in 2022.

Nileworks Inc., a Tokyo-based venture company whose investors include Sumitomo Corp., emphasizes that its **drone can spray pesticide and fertilizer while photographing** and monitoring the growing conditions of rice plants in paddies with a camera. The company plans to test-market the drone in May 2018. <http://www.lmtonline.com/news/article/In-Japan-drones-expected-to-boost-agriculture-12316780.php>



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Devils Lake, N.D., lays out plans for drone park April Baumgarten Forum News Service Oct 28, 2017

DEVILS LAKE -- Devils Lake leaders want to attract more businesses to the area as it develops plans for an unmanned aircraft park.

City officials have worked with engineers to develop a concept for a UAS park near its airport. The Devils Lake Regional Airport, which sits just west of the city, was one of 50 airports across the country chosen by the Federal Aviation Administration to be **given automated authorization to fly unmanned aircraft, also known as drones, in controlled airspace.**

It gives businesses that are interested in using drones for their business a place to train their staff, Forward Devils Lake Executive Director Rachel Lindstrom said. In total, the city has about 34 acres dedicated to the park, she said. For now, potential tenants can choose from plots that are less than an acre and 4- to 5-acre lots. There are about 8 acres for the small plots and 25.8 acres for the larger spots, she said.

Lindstrom said she didn't foresee the Devils Lake drone park as a second Grand Sky, a drone park near Grand Forks that has been dubbed the first UAS technology park in the U.S. She viewed Grand Sky as a place for larger drone companies. The Devils Lake park would focus more on training and possibly testing equipment, she said. http://bismarcktribune.com/news/state-and-regional/devils-lake-n-d-lays-out-plans-for-drone-park/article_24fd715b-d3f2-5781-82df-f3860b6e019a.html

31Oct17

Sikorsky Plans Urban Air Taxi TOM RISEN | OCTOBER 30, 2017

Lockheed Martin subsidiary Sikorsky is designing an autonomous vertical takeoff and landing aircraft to fly against competition in the nascent market for **air taxis to ferry people from downtown to the suburbs.**

No longer mere science fiction, dozens of companies are designing and testing experimental versions of what could become a new generation of flying taxis. They are discussing possible regulations with the FAA, given that cities would need to coordinate safe takeoffs and landings for short-distance flights above traffic jams.



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In the 1980s Sikorsky's Cypher flew with a straightforward design of a sensor pod propped above a central fan for lift. Credit: Sikorsky

Chris Van Buiten, the vice president of Connecticut-based Sikorsky Innovations, was vague on the details about the project and set no timeline, but he was excited about its potential. The goal, he says, is to have autonomous software that makes movement from one rooftop to another feel as simple as pushing a button to travel on an elevator. "The autonomy problem is harder than the vehicle problem for us," he says of designing and proving the safety of artificial intelligence, or AI. "Early versions will have a human operator — not a pilot but an operator. But it will quickly go to fully autonomous operation. That's how you'll get to scale." <https://aerospaceamerica.aiaa.org/sikorsky-plans-urban-air-taxi/>

1Nov17

Third Annual Commercial UAV Expo Draws 2,000 Professionals for Newest Generation Drone Technology October 31, 2017

COMMERCIAL UAV EXPO AMERICAS The third edition of Commercial UAV Expo came to a close last Friday in Las Vegas, having attracted **2,000 professionals from 53 countries and every U.S. state**, representing a wide range of industries including process, power utilities; civil infrastructure; construction; mining and aggregates, surveying and mapping; precision agriculture; law enforcement, emergency response and search and rescue.

"Commercial UAV Expo succeeded in bringing out the top tier of the market for commercial drones," said Lisa Murry, Event Director. "This event is for the professional audience, which was abundantly clear by the level of attendee, the serious UAS solutions on the exhibit floor, the conference content, and the professional discourse among participants."

The event featured four keynotes, three plenaries, dozens of industry-specific presentations, offsite flying demonstrations, numerous networking events and more than 150 exhibitors packing 180 booths with best-in-class solutions for commercial end user/asset owners in top vertical markets. http://uasweekly.com/2017/10/31/third-annual-commercial-uav-expo-draws-2000-professionals-education-networking-newest-generation-drone-technology/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew



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Niles, Ind., Looks to Drones for Utility Inspections

The city council approved the purchase of the \$40,000 unmanned aerial vehicle after utility officials cited opportunities for savings and personnel safety. MARY BETH SPALDING, SOUTH BEND TRIBUNE / OCTOBER 30, 2017



(TNS) -- NILES, Ind. — The city's use of drones has taken off this year and is set to be propelled further with the purchase of a **\$40,000 commercial-grade device**.

The new tiny aircraft — about 10 pounds with four motors and 17-inch propellers — will be used to inspect wires, poles, substations and all aspects of the city's electric utility system. Thermal and zoom imaging will help detect equipment defects that then can be fixed before they become a problem.

Costs associated with just a couple of power outages could equal the cost of the drone itself, some city officials said. Plus, there could be other savings, as well as improved worker safety, they said.

The new drone, which will be purchased from Mishigami Group in Holland, Mich., would feature two cameras, a thermal camera on one side and a zoom camera with 180x magnification on the other. Images from the two then can be superimposed.

The technology should allow the electric utility to more easily perform its own inspection scans of seven substations and all parts of the system. Dunlap estimated the drone could result in about **\$26,000 in savings per year**. Using the device also means more often keeping personnel on the ground and at a distance from "hot spots," increasing worker safety, he said.

<http://www.govtech.com/fs/infrastructure/Niles-Ind-Looks-to-Drones-for-Utility-Inspections.html>

Unauthorized drones are buzzing a Washington, D.C. military base twice a day, study finds [Lora Kolodny](#) | [@lorakolodny](#)



Unauthorized drones are flying an average of twice a day above critical military infrastructure just 4 miles from the White House, according to new study from drone-detection start-up [Dedrone](#) and the Department of Defense. To conduct [their study](#), Dedrone and personnel from Joint Base Myer-Henderson Hall installed drone detection systems on the roof of the National Defense University at Fort



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McNair. The systems picked up on **52 unwanted drone flights over 26 days** during the late summer and early fall. At Fort Myer, another base in D.C., Dedrone's systems detected **43 unauthorized flights over 30 days** in September, perpetrated by pilots of DJI and Parrot drones. <https://www.cnbc.com/2017/10/31/dedrone-unauthorized-drones-buzzing-joint-base-myer-henderson-hall.html>

AirMap Provides Automated Drone Authorization for Controlled Airspace 30 Oct 2017 | Caroline Rees



[AirMap](#) has announced that commercial drone operators can now request automated authorization to fly in controlled airspace near select U.S. airports using the AirMap iOS and Android applications. These automated authorizations are the result of collaboration with the FAA's Low Altitude Authorization and Notification Capability

(LAANC) initiative.

Automated authorization is currently available at four initial sites: Cincinnati/Northern Kentucky International Airport (CVG), Lincoln Airport (LNK), Reno-Tahoe International Airport (RNO), and San Jose International Airport (SJC). More FAA facilities are expected to offer LAANC authorization in the near future, with a larger nationwide beta initiative expected in 2018.

Before LAANC, waivers to fly in controlled airspace could only be obtained through a lengthy application process that can take up to 90 days. Automated authorization near participating airports can now take only seconds with AirMap.

A Part 107 operator can view LAANC-enabled airspace and apply for authorization. AirMap submits the request to the FAA for approval, and **in seconds, notifies the operator via text and in the app's flight briefing that the request has been approved.**

The launch of the LAANC prototype is **the culmination of a year of collaborative development** with the FAA and other LAANC project partners.

<http://www.unmannedsystemstechnology.com/2017/10/airmap-provides-automated-drone-authorization-controlled-airspace/>

Lifesaver drones will soon be auto-detecting sharks and shouting at swimmers from above

Loz Blain



Shark Spotter drones will carry loudspeakers, to tell swimmers and surfers to get the hell outta there when a shark is detected (Credit: Little Rippers)

Drone technology seems to be exploding in two different directions: camera drones for aerial videography, and drones with AI deep learning capabilities for a wide range of different commercial and industrial purposes. One application we didn't see coming is this, the Shark Spotter, a new initiative being tested by the Ripper Group out of New South Wales, Australia. In conjunction with local surf life-saving services, the Ripper Group has been using a range of fairly serious-grade UAVs to assist with lifeguard duties.



Up to this point, the Little Ripper drones have spent a lot of their time on surveillance duties, looking for people in distress, either in the surf or on the beach. They've also been used to drop off emergency supplies like inflatable lifesavers, anchors, whistles and [electromagnetic shark repellent devices](#).

Sharks are often very visible from directly above, so the Ripper Group is developing **systems and algorithms** that will give airborne drones the ability to constantly and automatically scan for sharks around surf beaches. Once a shark is spotted, the drones have built-in loudspeakers that lifeguards can use to tell surfers and swimmers to get the hell outta there, and there's also the option of dropping shark repellent kits and other aids, as well as immediately being able to see where a shark strike occurs and get assistance to a bitten swimmer as soon as possible.

<https://newatlas.com/shark-spotter-drone-little-rippers/52006/>

DJI's new drone is unbelievably quiet

Ben Popper Nov 1, 2017

With a small tweak to its rotors, DJI lowered the volume



A loud machine making an angry buzzing sound a few feet from your head is something many humans have an instinctively negative reaction to.

DJI, the world's most popular brand of consumer drones, is trying to do something about that. Its [Mavic Pro Platinum](#), released back in August of this year, comes with a set of redesigned rotor blades that the company claims



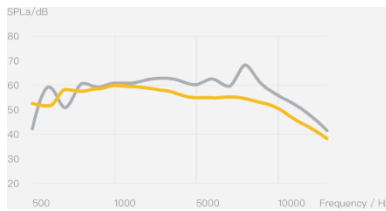
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make the unit **60 percent quieter** than the previous model. It tweaked the design of the blades by adding what's known as a "[raked wingtip](#)." The blades curve through the middle and angle back and up at the tip. To optimize for the new design, DJI also added electronic speed controllers that spin them at a different rate.



When you launch indoors and hover the drone a few feet from you, the sound is more like a loud desk fan. You wouldn't miss it, but it no longer sounds like an angry, oversized bee.

Once you get the drone in the air, the difference is even more striking. At a height of about 30 feet, you can still hear the whine of the original Mavic Pro loud and clear. At that same distance, the sound of the reengineered Mavic Pro Platinum almost completely fades away.



As someone who flies drones often, this is a welcome improvement.. Cutting back on the sound is a big piece of making the experience pleasant for everyone.

<https://www.theverge.com/2017/11/1/16573820/dji-mavic-pro-platinum-drone-sound-noise>

Drone delivers food to Japan town hit by nuclear disaster 1 November 2017



The town of Odaka in Fukushima was devastated by a 2011 earthquake and tsunami. Residents were allowed to return to the Minamisoma area last year but obtaining supplies can be difficult.

Convenience store chain Lawson has worked with e-commerce firm Rakuten and this week launched a drone service in the Odaka district of the city of Minamisoma, which has a large population of older people.

"The town is starting to regain its former liveliness as its residents continue to return home," Lawson spokesperson Ken Mochimaru told the BBC. "However, improving the shopping environment for daily necessities, food, and other products represents a high-priority challenge," he said.

The drone service is designed to help. Shoppers can order hot food like fried chicken and household items, which are sent from a nearby Lawson store to a mobile food van that operates at a community centre in the area. The companies are trialling the service for the next six months.



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Operators said the drone food delivery service was **the first of its kind in Japan**. The drone can carry up to 2kg of goods.

<http://www.bbc.com/news/business-41827634>

2Nov17

Drones Can Save Lives—If the Government Lets Them [Joe Rinzel](#) October 30, 2017

Many Americans think of drones as futuristic delivery devices for online shoppers that can drop packages from mid-air onto neighborhood doorsteps. But drones' potential doesn't stop there. Recent advances in the technology are proving that drones can deliver potentially life-saving support to communities in need. Recently a team of researchers from Johns Hopkins University successfully [transported](#) blood samples across the Arizona desert sky via an unmanned aerial aircraft.

But for this technology to one day benefit Americans, policymakers will need to develop drone regulations that provide innovators with certainty about how drones can be deployed.

Last year, the Federal Aviation Administration (FAA), which maintains exclusive authority to regulate U.S. airspace, released new guidelines for the non-recreational use of drones. The guidelines prohibit flights after daylight, establish height and speed restrictions, and mandate that in-flight drones remain within the visual line of sight of their remote pilots.

In other countries, however, drones are set to transform the way urgent care and supplies are delivered to remote communities whose residents do not have easy access to a hospital. This month, Switzerland will implement an autonomous medical delivery network, which will feature launching and landing pads across the country

In Rwanda, drones are already providing new possibilities for health care facilities, which are now better equipped to [deliver life-saving services to their patients](#). It used to take three or four hours for some doctors in the country to procure blood for transfusions during surgery and childbirths. Now, with delivery drones in operation, plastic sachets of blood arrive in 15 minutes.

These are the kinds of innovative medical solutions that we can and should look forward to in the U.S.; after all, so much of this technology is being developed right here at home. But unless policymakers begin rethinking regulations that can encourage more research and investment in



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transformative drone technology, their benefits will remain largely grounded for patients and communities who need them. <http://fortune.com/2017/10/30/drones-delivery-faa-emergency/>

Two drone companies partner for safer skies Briana Adhikusuma

briana.adhikusuma@insidebiz.com Oct 30, 2017



Virginia Beach-based HAZON Solutions and Raleigh-based PrecisionHawk are working together to help create safer skies for drone pilots.

HAZON develops small unmanned systems, training, safety and testing programs, and PrecisionHawk provides commercial drone technologies..

Ed Hines, vice president of business development and marketing at HAZON, said the company was interested in an alliance because of PrecisionHawk’s Low Altitude Traffic and Airspace Safety platform – a technology that connects drones, three-dimensional ground data and live manned aircraft data into one system that tells drone pilots where and when it’s safe to fly.

The LATAS platform also gives pilots the ability to request, track and verify all flight operations from one location and report flight paths to aviation authorities. “It’s kind of like **a tracking system that alerts the user in real time whether or not there’s any drone vehicles in the air,**” said Shawn Wilson, a PrecisionHawk business development team member. And you have the ability to import three-dimensional models of the area and show the current topography of the area. It alerts (the user) if there will be any obstructions in the area or any upcoming area.”

https://pilotonline.com/inside-business/news/entrepreneurs-innovation/two-drone-companies-partner-for-safer-skies/article_af960d29-26bb-564e-8973-e85256d940a2.html?spMailingID=12267332&spUserID=NjM0NzcxNjYwNTkS1&spJobID=1280070674&spReportId=MTI4MDA3MDY3NAS2#utm_source=pilotonline.com&utm_campaign=%2Fnewsletters%2Fin-side-business%2Fthursday%2F&utm_medium=email

DJI Demonstrates Aeroscope: Drone License Plate Technology Malek

Murisonon: October 25, 2017

DJI has demonstrated its Aeroscope technology at an event in Washington D.C.



Aeroscope has been dubbed an “electronic license plate for drones”. It gives authorities **a reliable way to identify and monitor airborne drones.** The system works by using the existing communications radio transmission between a drone and its remote controller. Drones in sensitive areas can



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transmit their location, altitude, speed, direction, takeoff location, operator location, and an identifier such as a registration or serial number, to any AeroScope receiver within radio range. Authorities will be empowered to track rogue drones and enforce regulations more easily.

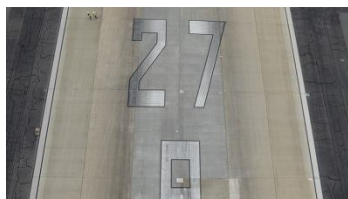
“There are more than twice as many drones as traditional aircraft in America today, and we believe technology and education are the best tools to maintain and improve their admirable safety record as the number of drones continues to grow,” said [Brendan Schulman](#), DJI VP of policy and legal affairs. DJI’s new solutions provides authorities with a way to identify drones in sensitive locations, and provides drone pilots a way to show they understand how to fly safely.” <https://dronelife.com/2017/10/25/dji-aeroscope-drone-license-plate/>

Drones To The Rescue JOE STUMPE | NOVEMBER 2017

AIRLINE INDUSTRY EMBRACES DRONES AS COST-SAVER

“Three years ago, it was ‘No, stay away, don’t invade the airspace” with drones, says Jordan Cicoria of Aerium Analytics, which has been flying a drone to scare birds away from the Edmonton International Airport in Alberta, Canada. “But you’re having a lot more people start to embrace it.”

Today, the conversation is still about keeping airspace safe for planes that carry people. But it’s also shifting to the ways in which drones can help the aviation industry lower costs, become more efficient and — yes — safer. In the case of runway maintenance, for instance, the drone’s high-resolution camera picks up things the human eye might miss and makes it easier for engineers to spot structural changes over time.



The longest runway at the world's busiest airport, 27R at Hartsfield-Jackson Atlanta International Airport, is seen in an image shot by a drone. Notice the human operators in the upper left corner. Most new uses of drones in aviation are still in their experimental stages, with Canada and European countries ahead of the United States in that regard. Duguay’s two drone flights at Atlanta’s airport are still being evaluated for their benefits, while the Edmonton flights are a five-day-a-week part of the wildlife control program.

In Europe, two companies are touting drones for the inspection of commercial airliners. Today, speeding up inspections would reduce aircraft downtime and reduce expensive man-hours spent towing aircraft into hangars and pulling out scaffolding and cherry pickers to reach the



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upper parts of the plane. Drones can be programmed to fly around and photograph planes **in about a fifth or less of the time it now takes.**

A quadcopter with a half-meter wing span, RAPID has electro-optical sensors that detect damage from lightning strikes, hailstones and other hazards, while a lidar sensor helps guide it. Maintenance workers automatically deploy RAPID, although they can assume manual control. "The big win," Goudie says, is that skilled employees can spend more time analyzing data collected by the drones, instead of manually conducting the inspections themselves.

<https://aerospaceamerica.aiaa.org/features/drones-to-the-rescue/>

3Nov17

Transportation Dept launches drone program for package deliveries **MELANIE ZANONA** - 11/02/17



The Department of Transportation officially launched a pilot program on Thursday that will allow states to test new types of drone operations, including package deliveries.

President Trump directed the Federal Aviation Administration (FAA) last month to create a pilot program to allow state and local governments to propose expanded drone operations that can include flights over people, nighttime operations and flying beyond the visual line of sight — all of which are currently prohibited.

The effort is intended to accelerate the integration of unmanned aircraft into the national airspace. Under the three-year program, **localities are being encouraged to partner with the private sector** to propose a wide range of drone operations, such as allowing package deliveries, and the FAA will determine whether to accept them into the pilot program on a case-by-case basis.

After the notice is published in the federal register, applicants will have 20 days to file a notice of intent to the FAA and 57 days to complete their proposals. The agency will have 180 days to enter into an agreement with applicants. The agency will accept **a minimum of five communities** for the program. <http://thehill.com/policy/transportation/358473-transportation-department-launches-drone-program-to-allow-package>



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Latest Falcon UAV AgEagle drone, RX48, checks crop health DARON JACKS, The Weekly Times, November 2, 2017 9:00am



The AgEagle RX48 drone can map 100ha in 30 minutes.

FALCON UAV has released its latest AgEagle drone, the RX48, for collecting images to determine crop health.

By setting a flight plan, users can map a paddock for inspection and the drone will then fly in a racetrack or lawnmower pattern over the field while photographing it.

The camera scans crops and takes images that are then converted to maps, via a normalised difference vegetation index that shows hot spots to help pinpoint crops under stress. Because plants absorb and reflect radiation, in the near infra-red spectrum, there is a specific numeric value for the relative health of a plant, so NDVI will locate problem areas.

Falcon UAV chief executive Phil Lyons said the drone was popular with agronomists and farmers seeking a faster and cost-efficient method to check and improve a crop's health.

The 2kg drone is hand launched by holding the wings of the RX48 out in front of the user. Giving it a shake will make it automatically start and a small thrust forward will see it take off in seconds. It will also land itself safely in a field or crop, cushioned by long grass or a crop.

<http://www.weeklytimesnow.com.au/machine/latest-falcon-uav-ageagle-drone-rx48-checks-crop-health/news-story/38f865487229899b66ae34d71ff1d31b>