UAS and SmallSat Weekly News

Contents

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Trump Administration relaxes policy on armed UAV exports 19 APRIL, 2018

FLIGHTGLOBAL.COM GARRETT REIM LOS ANGELES

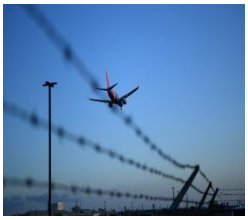
The new export rules allow US companies to sell and market armed military drones to US allies and partner under the direct commercial sales process, eliminating the need to go through the State Department via the foreign military sales system.

The change was billed by the State Department as a means to speed up the sale and delivery of US drones to foreign countries, many of which are also considering drones manufactured by Chinese and Russian companies.

"Providing our allies and partners with greater access to American arms will also reduce their reliance not just on Chinese knockoffs, but also on Russian systems, consistent with the Countering America's Adversaries Through Sanctions Act," says Peter Navarro, assistant to the president for trade and manufacturing policy. "For too long we have hamstrung ourselves and limited our ability to provide our allies and partners with the defensive capabilities they require, even when in the US interest."

23Apr18

How to get approved for drone flights within 5 miles of an airport April 22, 2018 Thomas Luna



Hobbyists

To get clearance to fly within five miles of an airport as a hobbyist, or someone who flies for fun, all you have to do is call the local airport and ask. Look up the airport's number on a search engine like Google, or you can go on a website called Know Before You Fly to get a list of relevant contact numbers based on your location. Once you get through to the control tower, just ask for permission to fly, and make sure to include your plan like flight time and altitude. You can also use Billy Kyle's recorded phone call as a reference.

Professionals with a commercial drone license

If you're looking to fly under your part 107 for business purposes, you'll have to submit an online waiver with the FAA. First click on Part 107 "Dashboard," then click "Create Part 107 Waiver/Authorization" and select the middle option that says "Airspace Authorization." After

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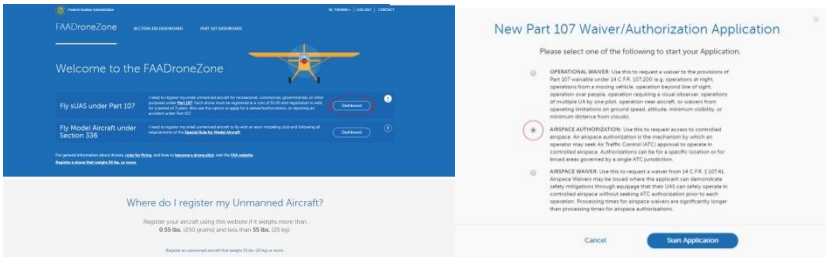
filling and submitting the form, wait until it gets approved. The turnaround time can take up to 90 days, according to Billy Kyle.



The approval process for a drone flight near an airport is somewhat backwards. People who spend the time and money to earn a commercial drone license should be prioritized to fly, but it seems like hobbyists can just make a call and get approved within minutes.

Since it can take longer for professional drone pilots to get flight approval near airports, the FAA recommends submitting a waiver 90 days in advance. If you're a hobbyist looking to fly near an airport, you might as well play it safe and contact the local control tower, especially since it only takes one quick phone call to get approved. https://www.wetalkuav.com/how-to-get-approved-to-fly-within-5-miles-of-an-airport/2/

LCSO using confiscated drug money to launch aviation program

Community Report
April 22, 2018

The Liberty County Sheriff's Office has joined the growing trend across the United States among both small and large law enforcement agencies in establishing an aviation unit and utilizing the new and growing technology of small Unmanned Aerial Vehicles for a multitude of assignments. The agency purchased a Phantom 4 Pro Plus small unmanned aircraft with funds secured through court-awarded confiscated drug money.

"We had to gather the information that was needed to write rules and put together a policy that would address many issues. Once the policy was written, we had Liberty County District Attorney Logan Pickett review it to assure it met all local and state legal requirements. The policy was then given to the Policy and Review Committee of the sheriff's office to be certain the policy would meet all agency requirements, goals and objectives and to assure transparency of the UAV operations," Rader said.

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The Sheriff went on to say he wanted to make sure the policy would prohibit the violations of anyone's privacy rights and, in his opinion, that has been done. Now additional flight training of both pilots and observers will begin.

ECSU offers drone courses with a 4-year degree coming soon By Jeff Hampton

The Virginian-Pilot Apr 19, 2018

ECSU professor Kuldeep Rawat explains the many uses of drones in the university's lab.

A unmanned aircraft or drone is one of many in the ECSU lab that students study and practice with to learn how to be pilots.

ELIZABETH CITY, N.C. Professor Kuldeep Rawat entered an Elizabeth City State University lab where every table had a drone.

There was a spider-like black edition with rotors for legs, a streamline fixed wing unit that looked like it was from Star Wars and a simple craft made by students with the electronics exposed. Each had a purpose in the rapidly expanding field of unmanned aircraft, from bridge inspections to farm field management to storm damage surveys, said Rawat, director of the ECSU aviation science program. "We can train our students in all these areas," he said. "We want our graduates to be entrepreneurs."

ECSU began offering drone courses last fall as part of its four-year aviation degree. In 2019, the college plans to offer what would be the state's only four-year degree in unmanned aircraft systems.

Drones to combat wildlife poachers in Malawi April 23, 2018 Feilidh Dwyer

China's ambassador to Malawi has gifted the country two drones tasked with fighting poachers who are threatening the survival of the African nation's rapidly declining wildlife.

The Chinese ambassador was quoted in the Nyasa Times saying: "This is the technology that has helped us in the monitoring of our wildlife, this will help Malawi in dealing with poaching."

Drones have an inherent advantage over human rangers in monitoring wildlife in that they can cover a lot more ground in a shorter period of time. New software has been developed that

enables the drones to identify poachers from high in the sky and track the movements of groups of wildlife.

In other African nations battling poaching, the simple addition of drone patrols at nights that shine their lights at would-be poachers have caused many of them to give up and run away.

The main animals with populations considered under threat in Malawi are elephants, rhinos and lions. The problem has gotten so serious that Malawi have started importing animals from South Africa including 500 elephants and other 'big five' animals to maintain the country's tourism industry.

IAEA tests drone to fight disease-carrying mosquitos 19 April 2018

The International Atomic Energy Agency (IAEA) and the Food and Agriculture Organisation of the United Nations (FAO) have successfully tested releasing sterile mosquitos from drones as part of efforts to suppress the insect that spreads Zika and other diseases. The IAEA said today that testing of the new system had been carried out in Brazil last month.

The Sterile Insect Technique (SIT), a form of insect birth control, uses radiation to sterilize male mosquitos, which are then released to mate with wild females. As they do not produce any offspring, the insect population declines over time. SIT has been used for over 50 years to fight agricultural pests such as the Mediterranean fruit fly and has only recently been adapted for disease-transmitting mosquitos.

Jeremy Bouyer, medical entomologist at the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, said the use of drones is a breakthrough, and paves the way for large-scale and cost-efficient releases, also over densely populated areas. With the drone, 20 hectares can be treated in five minutes.

Weighing less than 10 kilograms, the drone can carry 50,000 sterile mosquitos per flight and, at EUR10,000 (USD12,370) per drone, reducing the cost of releasing mosquitos by half.

DeTect installs drone surveillance radar for BVLOS operations in Spain April 19, 2018Philip Butterworth-HayesUAS traffic management news

DeTect, Inc. (www.detect-inc.com) has announced that it has completed commissioning a HARRIER Ground Based Sense-and-Avoid (GBSAA) radar at the Rozas Aerodrome in Lugo, Spain. The system, supplied to Babcock Mission Critical Services España, will provide beyond visual

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line-of-sight (BVLOS) surveillance for drone and Unmanned Aircraft System (UAS) operations at project sites throughout Spain and Europe for wildfire assessment and firefighting support.

DeTect's HARRIER GBSAA incorporates solid-state, Doppler radar technology and real-time web-based situational awareness displays to accommodate a diversity of user applications. "By incorporating multiple sensors, including radar, TAS and ADS-B receivers into the HARRIER system, DeTect is able to provide a cost-effective solution for BVLOS operations to UAS operators" said Edward Zakrajsek, General Manager of DeTect Global, Ltd., London. The HARRIER GBSAA supports a wide range of UAS operations including wildfire assessment, firefighting, oil and gas site inspections, aerial survey, and law enforcement extending operational ranges to 20 miles. Since 2003, DeTect has manufactured and commissioned over 280 advanced systems in the US, Canada, the UK, Europe, Africa and Asia.

Drone airspace simulations reveal complexities of integration in unsegregated operations April 18, 2018Philip Butterworth-HayesUAS traffic management news

Remotely piloted aircraft systems (RPAS) will one day be able to operate in controlled airspace alongside piloted aircraft – but it will take many hours of complex simulation exercises to ensure that when this happens there will be no loss of safety or airspace capacity. If an RPAS is inserted into unsegregated operations in airspace at a similar level to other aircraft, this often causes an immediate problem for controllers. Some RPAS will fly significantly slower than conventional airliners and there may be a latency in communication between the operator on the ground and the platform in the air – with the possibility of a data-link loss – and the RPAS may be impacted by weather issues such as strong winds, often far more significantly than other airspace users. If there is a very strong headwind some RPAS more or less come to a complete stop.

Kevin Harvey is Leader of Real-Time Simulations at the EUROCONTROL Brétigny Experimental Centre outside Paris. "In the past, when other agencies had wanted to look at simulating RPAS into controlled airspace they would take a platform like a Cessna 172 and estimate that an RPAS would have a similar performance to a general aviation aircraft," says Kevin Harvey. "But we realised that, long-term, this was not going to be good enough. So we began to gather data on RPAS performance and we've now developed four types of RPAS models, capable of flying at different levels and with different performance, such as Global Hawk, Reaper and two generic

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models. These are now contained within our aircraft performance base-of-aircraft-data (BADA) database, available to anybody who is planning airspace simulation research."

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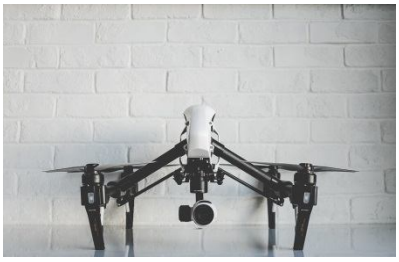
Indoor Drones Open Up New Business Opportunities

Kara Murphy April 23, 2018



The Federal Aviation Administration (FAA) enforces the regulations established for UAV usage. The same rules created to promote airspace safety on a national level do not apply inside buildings or other enclosed spaces. So how do remote pilots and their respective crews ensure the safety of and operation in the absence of rules?

Hangars are a safer option, as opposed to flying outside, for training new remote pilots, according to a Southern California-based drone service business owner.

Josh Friedman added drones to his decade-old business five years ago, and later, he flew the interior of a football-sized warehouse for a promotional video, showcasing its scale and inventory while also displaying workers who were performing their tasks.

"Generally, we are using drones inside large areas where it would be challenging or impossible to rig a dolly system," says Friedman, "for example, flying above the boxes in a warehouse, following a forklift or person."

Speaking to their general convenience, Friedman states, "We can shoot every motion imaginable by just flying the drone in different directions without wires, cables, tracks or additional gear on the ground."

Friedman emphasizes that each company should develop its own standards regarding risk management for flying indoors, and they should be included in a client's contract. He doesn't believe the federal government needs to be involved in any aspect of regulating indoor drone use, except to make carrying the proper insurance policy a requirement.

DroneDeploy Offers New Construction Solutions

Betsy Lillian April 23, 2018

Drone software company DroneDeploy has launched new construction solutions to meet the industry's growing demand for aerial site intelligence.

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Progress Photos allows customers to intuitively plan photo flights, automatically capture corner images, immediately create a visual timeline of a job site, and generate a replicable weekly progress report. The feature simplifies data collection workflows and consolidates data storage (including photos, maps and 3D models) in one easy-to-share platform, the company explains.

"Regular site progress reports offer context and add new dimensions to construction projects. However, it's difficult to create consistent site imagery over the course of a project," says Mike Winn, CEO of DroneDeploy. "Progress Photos solves this by creating a visual timeline of a project from start to finish. In doing so, it saves costs, keeps stakeholders informed and addresses safety risks."

In Support of NASA UTM, Partners Demo Remote ID Solution at UAS Test Site

Betsy Lillian April 20, 2018

uAvionix Corp. has successfully completed testing and a demonstration of its DroneAware remote identification solution for NASA's Technical Capability Level 3 unmanned aircraft systems traffic management system.

The tests were conducted in coordination with North Dakota's Northern Plains UAS Test Site, Simulyze and Rockwell Collins.

A transmitter was flown on a Pulse Aerospace Vapor 55 operated by Rockwell Collins. Transmissions were received and decoded by two separate types of ground-based receivers and transmitted to the Simulyze UAS Service Supplier platform where it was communicated to the NASA UTM backbone. The prototype system, weighing 10 grams, consisted of a combined transmitter unit and FYXNAV GPS module.

DroneAware is a subscription-free RF broadcast solution modified for the needs of security, law enforcement and media who wish to cooperatively identify drone operations. The system operates on non-ADS-B frequencies and lets the operator voluntarily provide operations information such as the UAS unique identifier, UAS location via GPS coordinates, UAS launch location, mission type and operator phone number. Personnel within receiving range of the broadcasts will be able to display the information on a mobile device.

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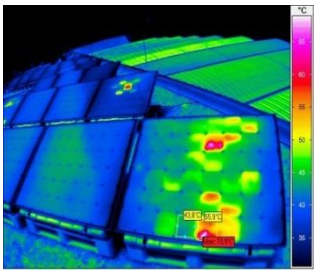
UAV Experts Launches Training for Aerial Thermal Imaging

Betsy Lillian April 19, 2018



UAV Experts, a drone equipment and training supplier and a division of Atlanta Hobby, is rolling out a new "Certified Aerial Thermographer Program."

Produced and taught through a partnership with Monroe Infrared, the program is designed to complement UAV Experts' current unmanned aerial vehicle flight training offerings.

The two-day program will instruct both companies and individuals on using infrared photography with UAVs. Monroe Infrared has been providing thermography certification training, supplying infrared cameras, and performing commercial and industrial infrared inspections since 1984.

Bill Fabian, Monroe's VP, says, "I have seen and heard from so many people and businesses that invest in infrared technology but just don't know how to properly use the equipment or understand how to interpret the image data for their clients. Our new partnership with UAV Experts puts the right people and skillsets together." More information can be found here.

Schiebel and Airbus Helicopters Demonstrate Manned-Unmanned Teaming

24 Apr 2018 Mike Rees

Schiebel has announced that its CAMCOPTER S-100 Unmanned Aerial System and Airbus Helicopters' manned H145 have successfully completed a series of Manned UnManned Teaming flights.

MUM-T leverages the strengths of both manned and unmanned systems by providing pilots of manned aircraft with the ability to take full advantage of the Intelligence, Surveillance and Reconnaissance capabilities of the UAS.

UAS provide an aerial overview, operating above manned assets whilst the manned assets benefit from using local terrain. "Manned UnManned Teaming multiplies the capabilities of both systems", said Mark R. Henning, Program Manager at Airbus Helicopters. "Smaller UAS with vertical takeoff and landing capabilities can, for example, fly around obstacles as trees or buildings closer than a helicopter could. They are able to explore unknown territory and deliver information to the

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helicopter crew which is operating from a safe position and then step in with the helicopter's superior effects having received a clear picture from the UAS."

25Apr18

Voom expects Mexico City chopper taxi service app to take off Diego Oré APRIL 24, 2018

MEXICO CITY (Reuters) - Helicopter booking app Voom expects its new Mexico City operations to capitalize on some of the worst traffic in the world to eclipse the growth it has seen in Brazil, the company's chief executive said.

Voom, a subsidiary of France's Airbus, launched in March in the Mexican capital and after setting up last year in Sao Paulo, the second most populous city in the Americas behind the Mexican capital.

Helicopters can cross the 30 kilometers between the capital's airport and the Interlomas neighborhood, one of the fastest growing urban centers, in 12 minutes compared with more than three hours in a car during peak hours, she said.

The price for the shortest route, 2,500 Mexican pesos ($132), is steep, but the company is developing unmanned electric helicopters to allow for lower rates and higher profits, she said.

"In the future, with new types of electric vehicles, we could be part of the air transport system of Mexico City," said Subramanian. "We hope to create a new mode of transportation in Mexico."

Australian Defence Force Deploys DroneShield For Protection Of ASEAN April 23, 2018 Counter UAS | News

DroneShield Ltd has announced that its products were utilized by the Australian Defence Force for the protection of the ASEAN (Association of Southeast Asian Nations)-Australia Special Summit 2018 in Sydney.

Monitoring of drone activity at high profile events has become an important component of event management, similar to perimeter access control or participant credentialing. DroneGun was used by the Australian Defence Force at the event, on behalf of the New Wales Police South for the protection of the participants from potential drone threats.

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DJI launches a new emergency drone program in Europe MÁR MÁSSON MAACK —TECH

The European Emergency Number Association (EENA) and the Chinese drone manufacturer DJI just announced a new joint pilot project for using drones for emergency services in Europe. The project was announced at the EENA conference in Slovenia and will be the second partnership between EENA and DJI.

The goal of the project, which will take place in Ireland and Wales, is to understand exactly how drones can be used by emergency services and create legal and operational framework — and to set Europe-wide standards to help more countries adopt emergency drones.

The new project is a continuation of EENA's and DJI's joint venture in 2016 to 2017 where the first steps were taken to create drone usage guidelines for emergency services by working with early adopters and launching pilot programs around Europe. Phase II will focus on the next level of integration, testing, and validation of data. The drone itself is only a tool to provide better and faster data points. Important information needs to get into the right channels so decisions can be made either on scene or far removed at an incident command center.

The FAA has an exciting opportunity for the drone business community.

The FAA's new application period for UAS Service Suppliers to provide LAANC services is open! Potential UAS Service Suppliers must submit an application by May 16. The entire process will take five months. Specific application instructions are available in section five of the USS onboarding document (PDF).

LAANC offers industry the opportunity to work with the FAA as we develop a UAS traffic management system (UTM). A safe UTM system requires collaboration between the government and industry.

LAANC automates a previously manual system to obtain an airspace authorization under the Small UAS rule, Part 107. Companies approved to provide LAANC services and near real-time authorizations are "Approved UAS Service Suppliers (USS)."

Important information for applicants:

- Applicants should have a mature product at the time of application or have the

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capability to develop it before formal onboarding. Information about which data streams applicants must use is available in the USS Operating Rules (PDF).
- The LAANC capability is in a test phase. Prospective applicants should expect changes to the application process and requirements. To stay informed, sign up for LAANC-related updates.
- This is not a standard government acquisition. There is no Screening Information Request (SIR) or Request for Proposal (RFP) related to this effort.

Application instructions are available in Section 5 of the USS Onboarding document (PDF).

Bihrle Applied Research Inc. Announces Ardenna, a New Venture Focused on Computer Vision and Machine Learning Solutions April 24, 2018 Mapping and Surveying | News

Bihrle Applied Research announced today that it is spinning-off its computer vision and machine learning capabilities in a new venture called Ardenna (www.ardenna.com), which will offer solutions for the automated detection, classification and reporting of anomalies found during the inspection of critical infrastructure. While Ardenna will continue to offer the RailVision™solution developed by Bihrle for BNSF, it will expand its intelligent automation solutions for critical infrastructure inspections into the Energy Sector, including power line, pipeline, solar and wind turbine.

Ardenna solves the problem of having more images than humans can review by automating the detection, classification and reporting of anomalies, therefore providing the critical information needed by O&M organizations in near-real time.

26Apr18

Drones delivering blood in emergencies: The future of health care? CBS NEWS April 25, 2018

Palo Alto, California, hopes to become the first U.S. city to use unmanned aircraft to deliver blood from a blood bank to a hospital. The Federal Aviation Administration is reviewing the city's proposal, along with about 150 others.

At the Stanford Blood Center in Silicon Valley, Dr. Tho Pham's team collects about 200 pints of blood each day. Most of that supply is stored at the hospital, reports CBS News correspondent Mireya Villarreal. "You can't plan for emergencies and that's where time becomes even more

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crucial," Pham said. "It depends on the time of day, courier availability, traffic conditions, anywhere from 30 to 60 minutes," Pham said. With a drone, he said, "Ten minutes or less."

"It's a huge difference, and it can make a difference in a lot of people's lives," he added.

The blood would be placed in a secure box and automatically loaded into the drone before taking off on a pre-programmed route.

At the hospital, doctors use a QR code on their phone to unlock and grab the package.

"There's no telling what can happen," Palo Alto resident Katie Talbot said. She lives near their proposed route and is concerned. "I think they know that they would run into a lot of resistance from the neighborhood if they tried to fly over them with a load of blood." Matternet said the route will be over open space and said success here could ease some of the public's concerns.

Federal grant fuels anticipated ADOT drone usage Apr 25th, 2018 · Apache Junction Independent

The Arizona Department of Transportation is adding drones to help its engineering staff safely and more efficiently inspect hard-to-reach areas on some bridges and perform surveying work along state highways.

Through a federal innovative technology grant, ADOT has eight new aerial drones that will be part of the agency's mission to enhance safety and efficiency while shortening highway project delivery time, according to a press release.

The drones provide ADOT with an important tool for maintaining safe bridges. "State highway bridge inspections will still be done by our inspectors, but as an example, a drone can help our teams safely get video or photos of places that are difficult to see," said David Eberhart, ADOT state bridge engineer. The drones will go into service later this year, after selected ADOT employees go through training in order to be certified as drone pilots, officials there say.

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Airbus Ventures Backs Drone Tech Company Uavia Betsy Lillian April 25, 2018

French drone monitoring technology company Uavia has closed its first round of financing, totaling $2.5 million, which came from Airbus Ventures, Sofimac Innovation, Bpifrance, and a pool of entrepreneurs and business stakeholders who were shareholders in the company.

Uavia's patented cloud control technology enables real-time remote supervision of autonomous robots and drone fleets deployed on sensitive industrial sites.

Uavia Robotics Platform allows users to connect their drones and robots to the cloud though any mobile-IP network available. The platform allows for multiple users across the world to control heterogeneous fleets of drones and robots while having data processed, analyzed and shared in real time.

UAV Propulsion Tech Bringing HES Hydrogen Solutions to U.S. Drone Market Betsy Lillian April 25, 2018

Singapore company HES Energy Systems Pte. Ltd. has appointed UAV Propulsion Tech its authorized representative for the U.S. Based in Tampa, Fla., UAV Propulsion Tech is a company that markets global unmanned aerial vehicle technology in the U.S. market.

HES develops electric-UAV battery alternatives based on ultra-light hydrogen fuel cell systems capable of storing three to four times more energy than weight-equivalent lithium batteries, the company claims. Its systems can increase the flight endurance of electric unmanned aircraft by several orders of magnitude.

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UL developing standards to make drone batteries safer Patrick C. Miller April 25, 2018



Safety problems with the lithium ion batteries that power many drones occur when cells in the battery overheat and catch fire, leading to a condition known as thermal runaway.

The UL label on electrical products that certifies their safety will soon be coming to the lithium ion batteries that power most commercial and recreational drones. With sales of commercial unmanned aircraft systems (UAS) expected to exceed $12 billion by 2021, concerns remain about lithium batteries overheating, causing fires and potentially exploding.

"We see UL 3030 as being a positive, proactive way to reinforce the safety of drones because we see them as a critical part of the future," said Ken Boyce, director of principal engineers for UL's energy and power technologies business. "We want them to be safe."

Today, UL has 12,000 employees, serves customers in more than 100 counties and has nearly 200 facilities around the world. Boyce said it performs 100,000 engineering evaluations every year and about 22 billion products are shipped annually with the UL mark on them.

Delair Announces New UX11 UAV Solution Globally Available April 26, 2018 News

Delair today announced the global availability of its Delair UX11 fixed-wing UAV, an innovative hardware-software platform that provides highly accurate images for survey-grade mapping, with on-board processing capabilities and real-time, long-range control. The platform's centimeter-level precision along with its efficient operational characteristics makes it a cost-effective solution for large area surveying and mapping.

The newest drone model passed its final testing phases and is now available from Delair Authorized Distributors in more than 70 countries. It is an ideal solution for precise and safe mapping in a number of industries such as surveying, construction, oil & gas, utilities, mining, agriculture and transportation. It delivers integrated features for before, during and after flight operations, including an embedded global shutter camera, intuitive analytics and data reporting

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tools, post processed kinematic capabilities, and both 2.4 GHz wireless and 3G/4G cellular connectivity. The drone's operational performance (allowing flights of up to 59 minutes covering over 500 acres at 400 feet), lowers the total cost of ownership compared to other surveying and mapping options.

DJI Mavic Pro Parachute Launcher Makes Flying Over People and Property Safer!

April 26, 2018 News

It's easy to use, it's lightweight, it's everything you've been asking for… the new DJI Mavic Pro Parachute Launcher is here and it's ready to save your drone, people, and property below in case of a crash.

- Lightweight high-efficiency annular parachute provides a gentle landing.
- Automatic Trigger System (ATS) failsafe automatically detects a drone failure and ejects parachute quickly.
- Independent power source allows deployment in event of drone power failure.
- Very light system mounts around the center of the Mavic.

The centrepiece of the parachute system is the Fruity Chutes Iris Ultra Light chute weighing just 0.96oz. The parachute has a nominal rating of 2.5 lbs @ 15 feet per second descent rate after deployment providing a nice gentle landing.

The parachute system is entirely self-contained, and not reliant on the Mavic Pro power so it works even if the copter's battery has a complete failure. The automatic trigger system (ATS) can detect if the drone suddenly falls, rolls, or flips. Detection of a fall typically takes just 0.75 seconds, or about 16 feet of free fall. By the time the pilot notices a problem, the parachute will already be ejected.

Aurora Announces X-Plane Technology To Transition to Commercial Applications April 26, 2018 News

Developed for DARPA's Vertical Takeoff and Landing Experimental Plane program, the XV-24 subscale vehicle demonstrator delivered a number of key aviation milestones:

- Distributed electric propulsion ducted fans

An innovative These milestones advanced the concept of distributed electric propulsion.

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"When DARPA launched the idea of distributed electric propulsion in 2013, it was a novel concept. Today, it is widely accepted as the catalyst to a sophisticated electric air transportation ecosystem," said Aurora Founder and CEO John Langford. "We now have an unprecedented opportunity to take this groundbreaking capability to completely new markets."

- wing- and tilt-canard-based propulsion for vertical takeoff and landing
- High efficiency in both
- synchronous electric-drive system
- Both tilt-wing- and tilt-canard-based propulsion for vertical takeoff and landing
- High efficiency in both hover and high-speed forward flight

These milestones advanced the concept of distributed electric propulsion.

"When DARPA launched the idea of distributed electric propulsion in 2013, it was a novel concept. Today, it is widely accepted as the catalyst to a sophisticated electric air transportation ecosystem," said Aurora Founder and CEO John Langford. "We now have an unprecedented opportunity to take this groundbreaking capability to completely new markets."

Arctic UAV Adopts Kongsberg Geospatial IRIS Airspace Awareness Application

April 26, 2018 News

Kongsberg Geospatial, an Ottawa-based services provider of UAS in the Canadian Arctic, announced today that their IRIS UAS situational awareness application has been adopted by Arctic UAV to enhance their BVLOS operations.

The Kongsberg Geospatial IRIS display technology enables multiple drones to be monitored simultaneously by a single operator and provides real-time calculation of aircraft separation and communications line-of-sight to enable BVLOS operations. IRIS will provide the flight range with real-time 2D and 3D visualization of airborne track and weather data, as well as geo-fencing capabilities.

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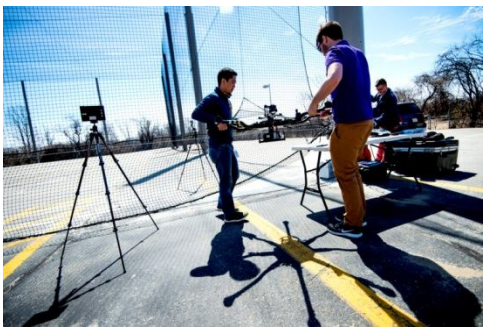
ENEMY HACKERS POSE A SERIOUS THREAT TO MILITARY DRONES. NORTHEASTERN HAS NEW FACILITY TO TEST WAYS TO STOP THEM

Allie Nicodemo
April 25, 2018

On Tuesday, Northeastern's brand-new flight facility for unmanned autonomous systems was put to use for the first time with the launch of an octocopter drone. Because the netted enclosure at the George J. Kostas Research Institute for Homeland Security in Burlington, Massachusetts is considered equivalent to an indoor flight facility, researchers will be able to test drones safely without being limited by Federal Aviation Administration restrictions.



The drone cage—which stands more than five stories tall and is 150 feet wide by 200 feet long—is large enough for two research groups to fly different drones simultaneously. .

Researchers will be able to use the chamber to simulate hostile environments the military might face, Kling said. For example, a drone flying into enemy territory might be attacked by way of wireless interference. At the new facility, researchers will be able to deliberately attack their own drones, safely and accurately simulating enemy threats. Then, they can develop countermeasures to defend against those attacks.

There will also be a netted corridor connecting the indoor and outdoor areas when the site is fully complete. This will allow drones to navigate from one environment to the other, so researchers can test different flight control and sensor mechanisms, Kling said.

On Tuesday, Aurora Flight Sciences, a company based in Cambridge, Massachusetts, launched its octocopter drone for the first flight at the new outdoor facility.

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"Netted cages of this size are very hard to come by—particularly in this area—and places to fly prototypes in general are really hard to come by," said Andrew Musto, a project manager at Defense Innovation Unit Experimental. "All of the capabilities combined make it a very appealing location." "It's bringing together government, commercial industry and academia to work on solving really tough problems."

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