UAS and SmallSat Weekly News

Contents

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

17Oct20

Georgia man arrested for shooting down utility company drone Doug Evans Coweta County FOX 5 Atlanta

COWETA COUNTY - A Coweta County man was arrested for shooting down a utility company's drone that was at work inspecting electrical towers. Edward Neil Pope has been charged with criminal damage to property in the second degree and reckless conduct.

While at work last week, inspecting recently painted electrical towers that support high voltage power lines, a drone crew with Georgia Transmission Corporation reported to the Coweta County Sheriff's Office that someone had shot one of the drones forcing the pilot to make an emergency landing. The company says the drone was damaged and the equipment costs $15,000.

Sheriff's deputies arrested a nearby resident Edward Neil Pope. The company says it had alerted Pope beforehand that the drone would be operating in the area. The company says the drone never strayed over Mr. Pope's property. The company filed a report with the FAA which licenses and regulates commercial drones in the U.S. https://www.fox5atlanta.com/news/georgia-man-arrested-for-shooting-down-utility-company-drone

XAG Recognized for Sustainability Innovation PRESS 2020-10-16

XAG received recognition for its sustainable farming solutions by Reuters Responsible Business Awards 2020, the world's leading Awards celebrating leadership in sustainable business. The company was named a winner of the Sustainability Innovation category with its unremitting efforts to scale up agricultural drones, robots, Internet-of-things, and artificial intelligence in rural areas of developing countries. As food insecurity is aggravated in the wake of COVID-19, these unmanned technologies have been leveraged to shape the future of smart farms by addressing rural ageing crisis and loss of biodiversity.

The 11th Reuters Responsible Business Awards were announced at a virtual ceremony on 8-9 October, recognizing those that truly have an impact on business, society and the environment. For the past 11 years winners of the Awards spanned the globe, covering both industry giants

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

and new tech forces, such as Unilever, IKEA, Intel, Mastercard, Coca-Cola, Goldman Sachs, UPS and etc, which developed innovative strategies pushing forward the boundary of corporate responsibility and sustainability.

Since the transition from drone maker to agtech innovator in 2013, XAG has managed to introduce over 50,000 unmanned farming devices across 42 countries and regions. A wide range of drone operations involving precision agriculture practices, from sowing seeds and spreading fertilizers to crop spraying and field monitoring, have been delivered to 8.72 million farmers on 40 million hectares of farmlands. https://www.uavexpertnews.com/2020/10/xag-recognised-for-sustainability-innovation/?utm_source=Master&utm_campaign=0d116fcebf-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-0d116fcebf-89168288

SkySkopes named the No. 1 US drone operator Josh Spires Oct. 16th 2020

Drone services provider SkySkopes has just been announced as the No. 1 US drone operator by market analyst Drone Industry Insights. The company was also named as being one of the best drone companies in the world.

Being based in North Dakota, SkyScopes has been able to benefit from the Northern Plains UAS Test Site specifically designed to test out various drone systems and create safety rules and regulations for use in the future. The company is headquartered in Grand Forks, with five other offices spread over the United States focusing on servicing energy clients.

The company performs optical gas imaging inspections to monitor and track gas emissions. LiDAR mapping and asset inspections are the other two major services the company offers, allowing customers to map assets and inspect them faster and at a cheaper rate than manned aircraft. https://dronedj.com/2020/10/16/skyskopes-named-the-no-1-us-drone-operator/

DJI named top commercial drone maker with 70% market share Josh Spires Oct. 16th 2020

Earlier this month, Drone Industry Insights released its drone industry report, revealing Chinese drone giant DJI to be the top commercial drone manufacturer. The company is closely followed by Chinese company Yuneec and France-headquartered Parrot Drones.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

In second place is Yuneec, which started by creating consumer-focused drones and then transitioned into the commercial market. Its H520 and Typhoon H are some of the best-selling drones in the world.

Finishing off the top three positions is French drone manufacturer Parrot Drones. Parrot started by making more consumer-level drones, with its mini-drones being some of the most popular. The company then transitioned into the commercial space with its Bebop drone and later the "Made in USA" ANAFI USA drone.

When it comes to commercial drone hardware, Chinese companies are in the lead by a substantial margin, with US companies taking over the dual-use drone market. AeroVironment is the top of the list, with Boeing's Insitu and Israeli Aeronautics following closely behind. https://dronedj.com/2020/10/16/dji-named-top-commercial-drone-maker-with-70-market-share/#more-38292

UK Space Agency Backs Medical Drone Delivery Project Associated Press, Wire Service Content Oct. 17, 2020

LONDON (AP) — A MEDICAL drone delivery service founded by trainee doctors that aims to transport coronavirus samples, test kits and protective equipment between hospitals has won the backing of Britain's Space Agency. The start-up project can help free up healthcare staff, avoid courier waiting times and minimize the risk of virus transmission, authorities said Saturday.

Trainee doctors Hammad Jeilani and Christopher Law are trialing "dronepad" infrastructure so the miniature aircraft can take off from and land on hospitals, laboratories and warehouses. They are planning to scale up the trials and set up a nationwide network of secure air corridors to enable the drone delivery service to work safely across National Health Service sites. The hybrid drones can carry a maximum of 4.4 pounds and fly 60 miles.

The drone project is among others set to share $1.7 millionfrom the U.K. Space Agency and the European Space Agency to businesses developing space-based solutions for challenges created by Covid-19. https://www.usnews.com/news/technology/articles/2020-10-17/uk-space-agency-backs-medical-drone-delivery-project

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

18Oct20

Interior resumes buying nonemergency drones, if they're Pentagon-approved

Dave Nyczepir OCT 9, 2020 | FEDSCOOP

Interior Secretary David Bernhardt eased restrictions on such purchases now that the Pentagon's Defense Innovation Unit is offering secure, trusted drones, called Blue sUAS, to agencies. Bernhardt had temporarily grounded Interior's nonemergency drone fleet citing cybersecurity concerns, and a desire to buy U.S.-made sUAS, in Secretary's Order 3379 issued in January.

"Drones serve important functions to missions of the department," Bernhardt wrote, in a memo released Tuesday updating the order. "The Blue sUAS availability may help these emergency and nonemergency missions and training for such missions, which are consistent with the department's national security interests."

Emergency drone uses include responding to a state or national emergency, preventing and fighting wildfires, and search and rescue missions. Interior drones not on the Department of Defense's approved list remain limited to such uses. https://www.fedscoop.com/interior-drones-pentagon-approved/

Train, Fund and Lift Off Paul Peluso Sep 24th, 2020

The basics of what law enforcement agencies need to pilot a new drone program.

The start up of a drone program for the Baldwin County Alabama Sheriff's Office was approximately $2,500. With additional batteries, controllers, cameras and FLIR cameras, the agency has around $30,000 invested in the program now.

The first step of getting officers trained and certified to fly drones is to apply for a Certificate of Authorization through the Federal Aviation Administration or obtain a part 107 pilot's license. Lt. Daniel Steelman says that his agency's drone pilots attend 40 hours of advanced training before entering a field training mentorship program that allows them to shadow an experienced drone pilot for a period of time before being becoming a fully operable pilot.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

The agency now has three officers certified and three more who are undergoing training. The agency began with one drone unit and now it is up to five which include a DJI Matrice 200, DJI Inspire, DJI Mavic Pro 2, DJI Mavic Air and DJI Spark. The agency plans to add up to three more units by the end of the year. https://www.officer.com/command-hq/technology/security-surveillance/uav-uas/article/21148546/train-fund-and-lift-off-starting-a-new-law-enforcement-drone-program

Technology old and new is being pulled into the battle against California's fires

DAVID HELVARG OCTOBER 16, 2020

Because of their size and maneuverability, drones can access places that fixed-wing aircraft and helicopters can't, making them arguably the greatest innovation in firefighting this year.

At least 30 pilots guiding some two dozen drones are fighting wildfires in Oregon, California, Colorado, and elsewhere. That's twice as many as last year, when the federal Wildfire Management Technology Act was signed into law to allow more drones to be used to fight wildfires.

In August, Joe Suarez, a drone specialist with the National Park Service, was flying an M-600 drone over the Woodward Fire on the Point Reyes National Seashore. He was using the six-rotor aerial vehicle, equipped with thermal imaging, to map the fire, which covered 5,000 acres then. Human-piloted aircraft could not risk flying into the coastal fog and the smoke.

Simon Weibel, another longtime firefighter who now works for Drone Amplified, joined Suarez that day. He brought along a funnel-shaped attachment for the underside of a drone, a device that can release 450 ping-pong-ball-sized incendiary devices in less than four minutes.

Each of the one-inch spheres, called Dragon Eggs, contains potassium permanganate, and just before they are released, they are given a pin injection of anti-freeze. The reaction between the two chemicals ignites the spheres after they hit the ground. The eggs can set fires ahead of an advancing wildfire in hard-to-reach places, denying it fuel.
https://www.nationalgeographic.com/science/2020/10/fireball-dropping-drones-new-technology-helping-fight-fires/

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

19Oct20

SpaceX launches 14th batch of Starlink internet satellites in fast-growing fleet

WILLIAM HARWOOD OCTOBER 19, 2020 CBS NEWS

A SpaceX Falcon 9 rocket fired 60 more Starlink internet relay satellites into orbit Sunday from the Kennedy Space Center with another set awaiting launch Wednesday from the nearby Cape Canaveral Air Force Station.

With Sunday's flight, SpaceX has now launched 835 Starlinks in a rapidly-expanding global network that eventually will feature thousands of commercial broadband beacons delivering high-speed internet to any point on Earth. To reach that goal, the company plans to launch at least 120 new Starlinks every month.

Making its sixth flight, the first stage propelled the rocket out of the dense lower atmosphere and then fell away and headed for landing on an offshore droneship. Touchdown marked SpaceX's 62nd successful booster recovery since December 2015, its 42nd at sea.

Less than a minute after stage separation, the two halves of the rocket's nose cone fairing, both veterans of two earlier missions, fell away for parachute descents to capture netting aboard waiting recovery ships. Both were successfully recovered, although one appeared to break through its netting, possibly hitting the deck of its ship.

The second stage, meanwhile, pressed ahead to orbit, and after two firings of its vacuum-rated Merlin engine, all 60 Starlinks were released to fly on their own about an hour after liftoff.
https://www.cbsnews.com/news/spacex-launches-14th-batch-starlink-satellites/

US delivers fourth and final RQ-4 Global Hawk UAV to RoKAF Dae Young Kim 15 OCTOBER 2020

The first UAV was reported to have arrived at Sacheon Air Base in South Gyeongsang Province on 23 December 2019. A few months later, on 19 April, Harry Harris, the US ambassador to South Korea, released an image showing the second UAV alongside the first one in a hangar at an undisclosed location.

The RoKAF is believed to be operating the platforms from Sacheon Air Base as part of a recently established reconnaissance squadron.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

The latest developments come after the US Department of State approved in July 2019 a potential $950 million Foreign Military Sale of contractor logistics support and other services for the RoKAF's Global Hawk fleet.

The US Defense Security Cooperation Agency announced at the time that the proposed sale also included program management, minor modifications and upgrades, spare and repair/return parts, operational flight support, depot and organizational level maintenance, technical and logistics services and other related elements of logistics and program support. https://www.janes.com/defence-news/us-delivers-fourth-and-final-rq-4-global-hawk-uav-to-rokaf/

Autonomous Drone Flights Operated from Half a World Away: Emesent is Making History Miriam McNabb October 16, 2020

Australian data analytics and drone autonomy start-up Emesent is making history with remotely operated autonomous drone flights. The latest flight took place underground in a mine in Canada – but was operated from Australia. This flight took place August 28, 2020, at an Ultra-Deep Canadian Hard-Rock Mine.

The missions prove the capabilities of autonomy and remote operations. Mines are particularly appropriate for drone technology: they are the dark, dirty and dangerous environs perfect for robotic missions and are often in remote areas. In some cases, mines must be monitored for safety well after their production has ceased. The ability to monitor a mine from anywhere in the world is a compelling business application with tremendous value to the mining industry.

"It was incredible to see a drone being flown in our underground mine all the way from Australia. This shows that remote operation is possible, and in future we'll be able to operate the drone underground from anywhere we work – whether it be a distant location underground, from the engineering office on surface or remote offices offsite. Many of us assumed this would still be science fiction for a while, but we've been proven wrong by Emesent." https://dronelife.com/2020/10/16/autonomous-drone-flights-operated-from-half-a-world-away/

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

Owl Accompanies Firefighting Pilot Making Water Drops Russ Niles October 18, 2020

Helicopter pilots don't usually pick up hitchhikers, especially in flight, but a firefighting pilot in California had some unexpected company in the cabin last Monday. An owl flew through the open door of Dan Alpiner's UH-1 Huey as he dropped water on a section of the sprawling Creek Fire in central California. The bird perched on a seat back and made itself home for several minutes.

Alpiner was afraid the owl would panic and fly around the cockpit, but it never moved from its perch. "It's an unexplainable and magical miracle for it to stay with you for several water drops, then leave just as it arrived—safe and unannounced," he said. Sky Aviation said in a statement that it was an unprecedented experience. "It's odd to have an owl enter an aircraft. It's unheard of to have it enter while the helo is in flight." https://www.avweb.com/aviation-news/owl-accompanies-firefighting-pilot-making-water-drops/?MailingID=472

Former RAF and Navy helicopter pilots fly Test and Trace sample drones NEWS

UK SAM LEWIS OCTOBER 19, 2020

Flyby Technology, a York-based drone training and services company, has been aiding the government's Test and Trace system, with many of its drone pilots transporting coronavirus test samples by drone. Flyby's pilots are former RAF, Royal Navy and combat helicopter pilots, recognized as the top drone trainers in the UK.

Flyby Technology is part of the British Drone Consortium which is flying live Covid samples to laboratories from hospitals and tests sites in support of NHS Test and Trace.

Parker said: "It's a privilege for the British Drone Consortium to be called upon in the NHS' hour of need. The drones are supplementing current logistics, keeping the testing machines operating to capacity." The drones will also carry test kits and personal protection equipment between hospitals and will mean delivery can be quick, reducing pressure on NHS staff, avoiding unnecessary physical contact and minimizing the risk of secondary transmission of Covid-19. https://www.commercialdroneprofessional.com/former-raf-and-navy-helicopter-pilots-fly-test-and-trace-sample-drones/

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

20Oct20

Leonardo validates manned-unmanned teaming solution with Wildcat helicopter Dominic Perry 20 October 2020

Leonardo Helicopters will over the next 12 months work with the UK Ministry of Defence to develop a roadmap for the teaming of manned and unmanned aircraft.

The company has been contracted by the MoD to perform an "advanced teaming study", which will "help them work out their next steps". This will be carried out over the next year.

Conducted across two days on the MoD's Salisbury Plain training area in Wiltshire, the September effort integrated a Fregata fixed-wing UAV, supplied by Callen-Lenz Associates, and its payload, with the Wildcat. This achieved level of interoperability 4 which means the helicopter's crew could control the flightpath of the UAV and direct its camera.

Run as part of the Army Warfighting Experiment 19, the evaluation saw the helicopter's crew deploy the UAV to locate troops and armored vehicles in several areas of interest which included open ground, woodland and an urban environment. In each case, the UAV went, looked and found the enemy without overburdening the pilots.
https://www.flightglobal.com/helicopters/leonardo-validates-manned-unmanned-teaming-solution-with-wildcat-helicopter/140689.article

Skydio Takes on the Asia Pacific Market with New Office in Japan Miriam McNabb October 19, 2020

Skydio's first expansion overseas is testament to the stunning growth the company has experienced over the last year. Skydio has made a mark with its autonomous flight technology, and by establishing its place as a leading U.S.-based drone manufacturer. Skydio X2D is one of five drone solutions on the Department of Defense "Blue sUAS" list. The company received record-breaking funding this year; and announcements of new partnerships and contracts keep coming. Skydio Japan is "the first step of a broader international expansion strategy following Skydio's recent $100M Series C funding round," says a company press release.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

Tom Moss, Skydio's first investor and first Chief Operating Officer, will serve as CEO of Skydio Japan. Moss has held several high profile positions in high tech, including as General Manager of Android for the Japan and Asia Pacific Market at Google.
https://dronelife.com/2020/10/19/skydio-takes-on-the-asia-pacific-market-with-new-office-in-japan/

PHARMACEUTICAL GIANT MERCK COULD DELIVER REFRIGERATED VACCINES VIA DRONE October 20, 2020 Sally French News

While there's no coronavirus vaccine yet, pharmaceutical giant Merck wants to be ready when the time comes. That's all due to recent Merck drone delivery tests to study how drones can deliver cold chain medicines.

The drones, which are vertical take-off and landing being operated by Volansi, are flying from a Merck manufacturing facility in Wilson, North Carolina to the Vidant Healthplex-Wilson health clinic.

The drones flying the cold chain medicines are Volansi's VOLY C10, an all-electric drone capable of carrying 10-pounds of cargo to locations up to 50 miles away. Among the drone's features are a "soft touch" automated release system which allows the drone to deliver fragile cargo like vaccines. Other features include temperature trackers and shipping confirmation. Volansi's drones are made in the U.S., with design, manufacturing, and testing done in northern California and Arizona.

Merck hasn't said specifically what vaccines it plans to deliver via drone, but the company is participating in its own COVID-19 vaccine research through a buyout of the biotech Themis and a partnership with nonprofit research group IAVI.
http://www.thedronegirl.com/2020/10/20/merck-drone-delivery-cold/

Purdue University UAS to deploy Simlat UAS Traffic Management simulation

October 19, 2020 News

Purdue University UAS Program has recently purchased and deployed a POLARIS system – Simlat's simulation for UAS Traffic Management along with Simlat's C-Star UAS Simulator.

POLARIS provides simulated UAS traffic at scale, including the behavior of "rogue" or malfunctioning UAS while also generating the clutter made by thousands of automated flights.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

The simulation is based on C-STAR which provides the training environment for building the skills required for modern UAS operation. It supports basic to advanced training from routine operations such as takeoff and landing, through advanced piloting skills like safe recovery in emergency, and up to mission training in various applications like First Responders, Wind farm inspections and more.

"This technology will provide students a safe environment to learn and explore UAS air traffic operations, develop and test various emergency scenarios and experience future UAS applications through virtual reality."
https://uasweekly.com/2020/10/19/purdue-university-uas-to-deploy-simlat-uas-traffic-management-utm-simulation/?utm_source=rss&utm_medium=rss&utm_campaign=purdue-university-uas-to-deploy-simlat-uas-traffic-management-utm-simulation&utm_term=2020-10-20

GA-ASI Kicks Off SeaGuardian Validation Flights in Japan October 19, 2020

Military News

General Atomics Aeronautical Systems, Inc. a global leader in Remotely Piloted Aircraft Systems, kicked off a series of validation flights on Oct. 15 for Japan Coast Guard in Hachinohe, Aomori Prefecture, Japan. GA-ASI is working with Asia Air Survey in Japan to conduct the flights.

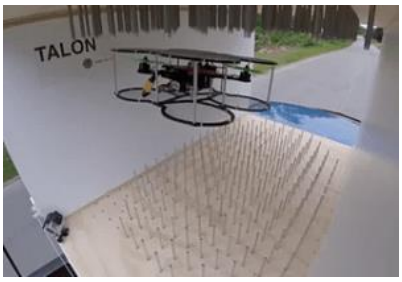
"We appreciate Asia Air Survey's support in demonstrating how the SeaGuardian® can provide affordable, long-endurance airborne surveillance of Japan's maritime domain," said Linden Blue, CEO, GA-ASI. "The system's ability to correlate multiple sensor feeds and identify vessel anomalies provides effective, persistent maritime situational awareness."

The flights will validate wide-area maritime surveillance capabilities for carrying out Japan Coast Guard's missions, from search and rescue to maritime law enforcement. These flights follow successful "legacy" MQ-9 maritime patrol demonstrations in the Korea Strait in 2018 and the Aegean Sea in 2019. The Hachinohe operation features the MQ-9B configuration, capable of all-weather operations in civil national and international airspace.
https://uasweekly.com/2020/10/19/ga-asi-kicks-off-seaguardian-validation-flights-in-japan/?utm_source=rss&utm_medium=rss&utm_campaign=ga-asi-kicks-off-seaguardian-validation-flights-in-japan&utm_term=2020-10-20

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

21Oct20

Target Arm, BIB Tech Launch Drone Food Delivery Plan Jason Reagan October 20, 2020



A drone service startup is teaming up with a delivery tech company to develop a safer way to deliver food via UAS. Connecticut-based Target Arm last week announced a strategic partnership with BIB Technologies to "jointly developing autonomous electric delivery vehicles with drones while moving up to highway speeds," according to a joint press release. BIB Truck is an enterprise platform that delivers name brand fresh food services on demand.

Under the agreement, Target Arm's Tular hardware will provide drone launch and recovery from static and moving electric trucks for BIB to serve a variety of food service businesses.

"Ultimately, the end customers will be able to order and receive fresh food prepared by their name-brand provider in vastly reduced times, and even at large events in the future as technology advances. BIB Technologies' vision is to use our platform to quickly help the food services model for restaurants that take in high fees, and the dark kitchen sectors, and make it mobile as a grab and go COVID-friendly contactless option," BIB CEO Deloss Pickett said.
https://dronelife.com/2020/10/20/target-arm-bib-tech-launch-drone-food-delivery-plan/

Bell APT 70 Completes Successful Demo with NASA INSIDE UNMANNED SYSTEMS OCTOBER 12, 2020

The Bell Autonomous Pod Transport 70 successfully executed a beyond visual line of sight mission in an urban environment during a joint flight demonstration with NASA.

Bell was selected to participate in NASA's Systems Integration and Operationalization activity in 2018 which includes multiple flight demonstrations that focus on different types of UAS and their flight environments. During this demonstration, the UAS transitioned in and out of Class B airspace to represent future commercial flights. Results from the test will be used to evaluate and demonstrate detect and avoid and command and control technologies for use in future certified operations in controlled and uncontrolled airspace. Data

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

collected will be used to support future standards development and FAA certification guidelines.

The APT 70 was launched from Bell's Floyd Carlson field in Fort Worth, Texas, to fly a preprogrammed 10-mile circuit path along Trinity River. The UAS took off vertically and then rotated to quietly fly on its wings. It flew at an altitude of 500 feet above ground level, traveling a route that included road crossing and transitioning out of Class B airspace. Communication between the drone and the ground station was maintained through a redundant datalink. A prototype airborne detect and avoid system and visual observer provided the remote pilot with air traffic awareness and recommended flight maneuvers.
https://insideunmannedsystems.com/bell-apt-70-completes-successful-demo-with-nasa/

Flight Safety Foundation, UN World Food Program & Red Cross boost humanitarian drones INTERNATIONAL NEWS SAM LEWIS OCTOBER 21, 2020

The Flight Safety Foundation hopes to facilitate and promote the safe use of unmanned aircraft systems to support humanitarian operations, with more partner organizations set to join in the near future. The news was announced today in conjunction with the Foundation's virtual 73rd annual International Air Safety Summit.

The partnership's other aims will include: providing a global platform for dialogue and information sharing on safety issues that may develop; facilitate sharing best practices; advance drone training and licensing standards; and develop protocols for drone integration into the airspace.

Foundation president and CEO Dr. Hassan Shahidi said, "Once a COVID-19 vaccine is developed, this rapidly evolving technology may prove essential for delivering vaccine to vulnerable communities in remote areas." https://www.commercialdroneprofessional.com/flight-safety-foundation-un-world-food-programme-and-red-cross-to-boost-humanitarian-drone-use/

Autonomous last-mile delivery market to see significant growth in near future

RESEARCH SAM LEWIS OCTOBER 21, 2020

According to new market research from US-based Grand View Research, autonomous last-mile delivery vehicles will make reaching delivery recipients in difficult-to-reach locations a simpler process.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

This can include the transport of medical and necessary supplies to people living in remote locations, humanitarian mission and the use of autonomous cargo drones and ground vehicles in warehouses and other work sites.

GVR reports that the market will reach $84.9 million by 2027 with a compound annual growth rate of 32.4%. https://www.commercialdroneprofessional.com/autonomous-last-mile-delivery-market-to-see-significant-growth-in-near-future/

Airbus, IAI to track migrants coming into Europe with drones Josh Spires Oct. 21st 2020

Aviation giant Airbus and two Israeli companies have been tasked with tracking down migrants trying to enter Europe via the Mediterranean with drones. The companies will be paid €100 million or about $118 million. Europe is also working with Israeli company Elbit Systems for €50 million to provide the same services.

The drone flights are scheduled to begin next year after the drone systems have been tested on the Greek island of Crete. Joining Airbus, Israeli company Israel Aerospace Industries will help in getting the drones in the air and operating them. The drones flying above the Mediterranean Sea will be based in Greece, Italy, or Malta and will be ready at a moment's notice.

The IAI Heron drone has a wingspan of 54 feet 6 inches and a capacity of 551 pounds. The drone uses a Rotax 914 four-cylinder engine producing 115 horsepower. Heron has a maximum speed of 129 miles per hour and can stay in the air for up to 52 hours at a time. IAI has since shown off its Super Heron drone, which includes a 200 horsepower diesel engine that improves the climb rate and performance. https://dronedj.com/2020/10/21/airbus-iai-to-track-migrants-coming-into-europe-with-drones/

New end-to-end drone workflow with Esri and Heliguy NEW PRODUCTS NEWS UK SAM LEWIS OCTOBER 22, 2020

Heliguy and Esri have partnered to bring a new end-to-end drone aerial surveying workflow solution for architecture, engineering and construction businesses. The partnership combines Heliguy's drone

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

services – like supply and training – and Esri's flight planning, data capture and processing software.

The aim, Heliguy said, is to provide a comprehensive and integrated solution to enable drone programs to scale and maximize data collection and insights.

Heliguy offers drone industry consultancy, hardware supply, pilot training, in-house repairs and R&D. Esri offers flight planning, data capture, data processing and GIS software. The new workflow service offered by the new partnership will combine these solutions.

Craig Evenden at Esri commented: "Heliguy's vast experience and training capabilities, coupled with Esri's cloud-based software, are a perfect match for the AEC industry's new requirements." https://www.commercialdroneprofessional.com/new-end-to-end-drone-workflow-for-aec-businesses-with-esri-and-heliguy/

American Marines to guide Air Force bombers with drones Josh Spires Oct. 22nd 2020

American Marines are training to guide Air Force bombers with drones in preparation for a possible war in the Pacific Ocean. The American troops trained in northern Australia at various military test ranges to simulate islands hundreds of miles apart.

Back in August, US Marines flew Boeing Insitu Blackjack drones as a part of the Loobye exercise. The exercise is "focused on a small naval expeditionary force's ability to rapidly deploy, integrate with foreign partners, coordinate airstrikes and call for close air support on targets within contested environments."

The bombing simulation consisted of RQ-21 Blackjack drones flying above the strike zone before and after the strike to get better intel on enemies in the area, the exact spot to drop the bombs and if anyone survived. The bombers used were the US B-1 and B-2s that flew from Guam and Diego Garcia to simulate long-distance bombing runs.

"We were able to watch the live feed [and] determined yes, that's the target. There was no controller on the ground."

The bomb strikes were coordinated by a joint US and Australian team from the ground and Australian Tiger helicopters. https://dronedj.com/2020/10/22/american-marines-to-guide-air-force-bombers-with-drones/

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

Fotokite partners with Desautel Group to aid firefighters Josh Spires Oct. 22nd 2020

Tethered drone maker Fotokite has partnered with French Desautel Group to aid firefighters on the front line with a set of eyes in the sky. The Fotokite drone will be directly integrated into future fire trucks with the ability to add it to current ones as well.

The newly integrated drone system will allow firefighters to get a view of the fire from above in full color and use thermal imaging to get a better understanding of it. The Fotokite will also allow firefighters to see if there is anyone stuck in the building as well as possible entry points or dangerous areas.

All of the Desautel Group's Gimaex FireTrucks have the option to be equipped with the tethered drone from the factory, either on top of the fire truck or in one of the tray compartments on the side. Since the drone is on a tether, a drone pilot's license isn't required, which means any firefighter with some basic training can deploy the drone. That breaks down the two major barriers when it comes to implementing drone technology: time and cost.

As the drone is built-in to the fire truck, it also means set up time is faster than standard drones that need to be set up, calibrated, and piloted. The Fotokite can be deployed much faster, as it can launch at the press of a button, with the height adjustable with a slider on a mobile app.
https://dronedj.com/2020/10/22/fotokite-desautel-to-aid-firefighters/#more-38734

3,051 drones create spectacular record-breaking light show in China October 21, 2020 News

At 3:45:39 am on September 20 2020, 3,051 Unmanned Aerial Vehicles took to the skies to break the record for the most UAVs airborne simultaneously. The dazzling, record-breaking light show was achieved by Shenzhen Damoda Intelligent Control Technology Co., Ltd. in Zhuhai, Guangdong, China. During this official challenge, the design team presented achievements of Chinese space science and technology in the night sky, such as the Tiangong-1, Beidou satellite system and China's space station.

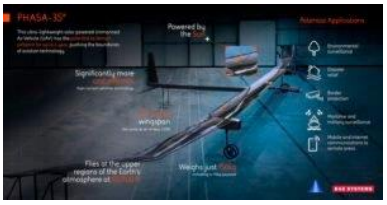
Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

In the early morning, over three thousand drones took off in a grid-like formation. Then, the formation began to change from a grid into the shape of the earth. Around the globe, the Beidou navigation system then appeared. It is a global system independently developed by China.

Then a patchwork of drones, cleverly combined with lights and intricately patterned, presented the Chinese Space Station. At the end, to express the desire of all mankind for the exploration of the universe, the formation revealed a giant Mars rover. This particular rover was launched in late July but has yet to land on the Red Planet. It symbolizes China's commitment to completing the Mars landing goal.

After the official audit, the final figure of UAVs came in at 3,051 and the adjudicator declared the new record holder. See the show at: https://uasweekly.com/2020/10/21/3051-drones-create-spectacular-record-breaking-light-show-in-china/?utm_source=rss&utm_medium=rss&utm_campaign=3051-drones-create-spectacular-record-breaking-light-show-in-china&utm_term=2020-10-22

British Team Completes 72 Hour Drone Flight Test Jason Reagan October 21, 2020



A drone with a 150-foot wingspan just completed a 72-hour endurance trial near the English town of Farnborough. A solar-electric, fixed-wing drone, the PHASA-35 completed trials earlier this month in a simulated environment designed to model harsh stratospheric conditions.

A collaborative effort by **BAE Systems**, Prismatic and the UK's Defence Science and Technology Laboratory, the trials attempted to demonstrate PHASA-35's effectiveness as "a fully integrated system together with DSTL's communications sensor payload; a radio frequency sensing software-defined radio that provides a real-time and secure data link."

Classified as a high-altitude, long-endurance, drone, PHASA-35 completed its maiden voyage in February, less than two years from initial design. A BAE spokesperson said the drone has "the potential to maintain flight for up to a year at a time, in the stratosphere, providing military and commercial customers with capabilities not currently available from existing air and space programs."

Future applications could include the delivery of communications networks, including 5G, as well as support to disaster relief and border protection. https://dronelife.com/2020/10/21/british-team-completes-72-hour-drone-flight-test/

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

23Oct20

DOJ Reports Multiple Drone Violations During Public Events Jason Reagan October 21, 2020

The justice department last week issued a report detailing FBI counter drone missions at key special events in what officials called an attempt to draw attention to rogue drone pilots.

The report breaks down the events into "National Special Security Events, Special Events Assessment Rating events and select mass gatherings throughout the country over the past fiscal year."

"As events return during and after this global pandemic, we will be out in force where needed, collaborating with our partners from the Federal Aviation Administration and the Department of Homeland Security, to protect the public from unsafe, careless or malicious drone operators," said Deputy Attorney General Jeffrey A. Rosen

From Oct. 1, 2019, to Sept. 30, 2020, the FBI launched counter drone missions at national sporting events such as Super Bowl LIV in Miami, the 2019 World Series and the 2020 Rose Bowl Game, as well as at other major events like Washington, D.C.'s "A Capitol Fourth" and New York City's New Year's celebration. The FBI detected more than 200 drones "unlawfully flying in national security airspace restricted by the [FAA] at such events." The FBI confiscated around a dozen drones at restricted events. https://dronelife.com/2020/10/21/doj-reports-multiple-drone-violations-during-public-events/

NASA's STEReO: Air Traffic Management for Emergency Response Miriam McNabb October 22, 2020

Enter NASA, whose Ames Research Center in California's Silicon Valley is leading the way, with the development of the Scalable Traffic Management for Emergency Response Operations, or STEReO project. The two-year project aims to develop a system where drones, some flying autonomously, can automatically report important data — such as the UAV's identity, spatial location, mission and flight path – to the disaster management team.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

STEReO is an outgrowth of NASA's multi-year Unmanned Aircraft System Traffic Management (UTM) project to develop a next-generation air traffic management system, to accommodate the increasing number of drones sharing the skies with manned planes and helicopters.

The project developers plan to conduct two demonstrations of the emergency response traffic management system. The first, a live flight demonstration, which will show the use of the system in the battle against wildfires, will be conducted next spring, likely in conjunction with a previously scheduled event sponsored by a STEReO partner such as Cal Fire or the US Forest Service. The second demonstration, to be held next summer or in the early fall, will be a simulation conducted at the Ames Research facility, duplicating the conditions for the response to the aftermath of a hurricane striking an urban or suburban area.
https://dronelife.com/2020/10/22/nasas-stereo-air-traffic-management-for-emergency-response/

Tasmanian government splurges on drone tech to fight crime Josh Spires Oct. 22nd 2020

Tasmanian police in Australia are getting the latest drone tech to fight crime in the state, thanks to the government's AUD$400,000, (US$283,640) drone program. Earlier this week, a range of drones were added to the fleet as the start of a four-year state government commitment to drone technology. Police can now cover the whole of Tasmania with drones, thanks to the 20 trained drone pilots on the force, with five more to be trained in the near future.

There was recently a burglary where the drones were able to identify and find the vehicles on a large farming property, which led to finding stolen firearms. The drones are also useful for police when a car refuses to stop or drives off. The drone can be quickly deployed and follow the suspect giving police on the ground an accurate location.

When it comes to crash scenes, a drone can quickly be sent up, take photos, and create a 3D model of the scene, all within a fraction of the time it would take officers on the ground to do. It allows the road to open back up quicker and reduce the amount of traffic.
https://dronedj.com/2020/10/22/tasmanian-government-splurges-on-drone-tech-to-fight-crime/

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com