UAS and SmallSat Weekly News

Contents

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

9Sep17

NJII and Maser Consulting Employ UAS for Inspections of Hurricane Harvey Aftermath in Houston

The New Jersey Innovation Institute (NJII) Defense and Homeland Security Innovation Lab is working with Maser Consulting P.A. in conducting Unmanned Aerial Vehicle (UAV) video inspections of cell towers in Houston, Texas in the aftermath of Hurricane Harvey.

Maintaining telecommunication infrastructure during and after hurricane Harvey is essential to the communications of emergency personnel and the peace of mind of people within the affected area. Unmanned Aerial System (UAS) crews perform initial site assessments to **determine accessibility** to cell towers so telecommunication companies can assign repair crews where the most impact can be made. They also perform data acquisition to **assess the condition of the cell tower** with up-to- date information to streamline repair activities.

 In damaged areas, UAS crews are committed to safety and can perform video inspection to assess, for example, whether or not the cell site is safely accessible by repair crews; if flooding would prevent them from reaching the towers; and the condition of ground-level generators that power the towers that may be submerged in floodwaters.
http://uasweekly.com/2017/09/08/new-jersey-innovation-institute-maser-consulting-employ-uas-video-inspections-hurricane-harvey-aftermath-houston/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

Ohio State Engineers set world speed record for UAV Jake Rahe: rahe.21@osu.edu

September 8, 2017

 *Ohio State's UAV team with their jet. Photo courtesy of Ohio State College of Engineering*

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

On Aug. 30, the UAV, built at Ohio State's Aerospace Research Center, autonomously flew a 28-mile course over Lake Erie sustaining an average speed of **147 mph** for 17 minutes.

The most prominent challenge was keeping the vehicle from colliding with its surroundings.

The record-setting UAV was specially equipped to complete the mission, Gregory said. It was fitted with a custom-built flight controller, long-range fuel tanks and redundant radio control links, which would act as a failsafe should satellite communication halt.
https://www.thelantern.com/2017/09/ohio-state-engineers-set-world-speed-record-for-uav/

10Sep17

Hurricanes Show Why Drones Are the Future of Disaster Relief

When it comes to assessing damage and spotting people in distress, drones may be hard to beat. *Sep.09.2017 Matthew Hutson*

A drone is flown during a property inspection following Hurricane Harvey in Houston on Sept. 6. Luke Sharrett / Bloomberg Via Getty Images

Drones can perform critical tasks as disasters unfold, including spotting people in need of urgent help. Drones can also deliver rescue ropes and life jackets in areas that are too dangerous for ground-based rescuers to venture into.

Drones are also providing help in the aftermath of disasters — for example, to assess damage to buildings, roads and bridges, and power lines. "This is one of the first big disasters where **we can show how valuable drones can be**," Brandon Stark, director of the University of California's Center of Excellence on Unmanned Aircraft System Safety, told Wired in reference to Hurricane Harvey.

A group led by Dr. Robin Murphy, a professor of computer science at Texas A&M University flew 119 UAV missions over Houston. In addition to spotting people in need of help and assessing flood damage, Murphy said her team's drones were used to monitor levees, predict further flooding, and help provide estimates of how long certain areas would be underwater.

Cost-effective recovery from major storm events depends on information needed to prioritize response activities. Drones can provide this information quickly and accurately.

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

https://www.nbcnews.com/mach/science/hurricanes-show-why-drones-are-future-disaster-relief-ncna799961

North Carolina College Offers 95-Hour Drone Academy

Montgomery Community College joins a growing list of universities offering drone piloting degrees.

MARCO MARGARITOFF SEPTEMBER 6, 2017


BOSTON GLOBE VIA GETTY IMAGES

This fall, Montgomery Community College in North Carolina will open the doors of a drone academy. Currently called the 'NC Public Safety Drone Academy', its purpose is teaching future drone operators local emergency services and safety measures. Director of Health and Public Safety at Montgomery Community College, Riley Beaman, says "**We partnered** with the state Division of Aviation, Department of Emergency Services, and several local and state municipalities to create the academy.

The lesson plan consists of 95 hours of courses divided between the legal aspects of operating UAVs and hands-on maneuvering. 'Simulation Flight Time' will teach how to fly via simulation, while 'Real-World Flight Time' will require you to fly a UAV. 'Live Scenario-based Flight Objectives' will standardize the feeling of piloting a drone in tense situations. 'UAV Mobile Command focuses on proper communication between pilots and on-the-ground command.

MCC has **over forty drones available**, ranging from micro drones to quadcopters like the DJI Matrice 100 ("the quadcopter for developers") which is fitted with a thermal-imaging camera. http://www.thedrive.com/aerial/14107/north-carolina-college-offers-95-hour-drone-academy

Australia Will Start Flying Shark-spotting Drones Over Beaches


PETER PARKS/AFP/Getty Images September 07, 2017

Australian beaches will begin trialing drones that can identify sharks in the water and send alerts to those in the area. The drones use artificial intelligence to detect shark movements with **92 percent accuracy**, as compared to 30 percent accuracy with the naked eye on the ground, Reuters reported.

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

The drones are able to distinguish sharks from other ocean dwellers like stingrays, dolphins or human swimmers. The drones record live video which is sent back to a drone operator on the beach. If they detect a shark, the drones can emit a warning in multiple languages via megaphone.

And even when sharks are not around, the drones can still be lifesavers. The device can be launched within 10 seconds to deliver flotation devices to swimmers in a rescue mission.
http://www.travelandleisure.com/travel-tips/cool-gadgets/australia-shark-drones

Drone pilots are getting their own weather forecasts

Earth Networks is testing a very granular low-altitude weather service. **Steve Dent** **09.07.17**
in Robots

A company called Earth Networks is unveiling Sferic DroneFlight, "hyperlocal, low-altitude weather forecasting for drone operators. Earth Networks will deliver detailed regional forecasts from 10 to 400 feet of altitude (in 10 foot increments) at any location in the world. You'll see hourly forecasts for wind speed and direction up to six days ahead of time, making it easier to plan tricky missions. The system is powered by Global Weather Corporation, which has 10,000 weather sensors and 1,500 lightning sensors in 90 countries. https://www.engadget.com/2017/09/07/drone-pilots-are-getting-their-own-weather-forecasts/

11Sep17

CU Boulder team taps drone technology to help track lost hikers, study wildlife

***Ana Lewett, For the Camera,* 09/10/2017**


University of Colorado researchers have developed an advanced drone "swarming" technology that allows a single operator to control multiple unmanned aircraft for a variety of tasks, which could include searching for lost hikers or studying wildlife. (Courtesy Photo / Daily Camera)

A team of University of Colorado engineers has developed a new drone "swarming" technology, which allows a single operator to control multiple unmanned aircraft simultaneously. The CU team, in collaboration with the Korean Advanced Institute of Science and Technology, spent three weeks in August testing this new technology at the Pawnee National Grassland northeast of Greeley. The

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

project was granted the first-ever approval by the Federal Aviation Administration **to allow multiple aircraft to be manned by a single pilot.**

Controlling multiple aircraft simultaneously is no easy feat. Meshed networking allows the drones to respond to one another in the air and send signals down to the ground station. On the ground, good interface is necessary, in the form of displays for operators, to control their aircraft without any confusion. The autonomy of cooperative control refers to the way the drones interact with each other in the air, coordinating their movement so that they can perform safely and efficiently**.** http://www.dailycamera.com/cu-news/ci_31286472/cu-boulder-team-taps-drone-technology-help-track?source=rss

Boeing Insitu drones work to monitor hurricanes, Oregon wildfires September 8, 2017

A team from Boeing subsidiary Insitu prepares launch equipment for a ScanEagle drone in Sugar Land, Texas, during relief efforts following Hurricane Harvey on Sept. 3 in Sugar Land, Texas. The surveillance drones were dispatched to assess infrastructure damage. (Insitu.)

Police believe the Eagle Creek fire started Saturday when a 15-year-old boy from Vancouver threw a firework into the bone-dry gorge. The fire expanded to more than 33,000 acres and spread eastward along the Oregon side of the river.

Flying drones in disaster areas is tightly controlled, and Insitu is working with the Federal Aviation Administration, the Department of the Interior and the Oregon Department of Forestry to coordinate its efforts with firefighting services.

They carry high-resolution optical and infrared video cameras for day and night surveillance and **can stay aloft for up to 20 hours at a time**. Insitu partners with California company FireWhat to produce complex digital maps of the fire zone. http://www.seattletimes.com/business/boeing-aerospace/boeing-insitu-drones-work-to-monitor-hurricanes-oregon-wildfires/

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

U.N. aviation agency to call for global drone registry Allison Lampert

MONTREAL (Reuters) - The United Nations' aviation agency is backing the creation of a single global drone registry, as part of broader efforts to come up with common rules for flying and tracking unmanned aircraft. While the International Civil Aviation Organization cannot impose regulations on countries, ICAO has proposed formation of the registry during a Montreal symposium this month to make data accessible in real time, said Stephen Creamer, director of ICAO's air navigation bureau.

It's not yet clear who would operate such a database, although ICAO could possibly fill that role. The proposal, however, could face push back from users, after hobbyists successfully challenged the creation of a U.S. drone registry by the Federal Aviation Administration in court earlier this year. https://www.reuters.com/article/us-aviation-drones/u-n-aviation-agency-to-call-for-global-drone-registry-idUSKCN1BJ2CL

Harvey will be 'a landmark' in drone usage, FAA chief says in Las Vegas

L.E. BASKOW A drone's flight is demonstrated during the InterDrone Conference at the Rio on Wednesday, Sept. 6, 2017.

Mick Akers **Friday, Sept. 8, 2017** InterDrone Conference 2017

Launch slideshow »

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

FAA Administrator Michael Huerta, speaking at the InterDrone conference at the Rio on Wednesday, said drones are playing a transformative role in post-hurricane operations in the Houston area and the FAA had to give clearances quickly.

By the end of last week, Huerta said the FAA had issued more than 70 authorizations covering a wide range of activities by local, state and federal agencies. That number is expected to climb as the cleanup efforts continue. Huerta said drones were used to survey damage to roads, bridges, underpasses and water treatment plants that required immediate repair. Oil and energy companies used drones to spot damage to flooded infrastructure.

"Every drone that flew meant that a traditional aircraft was not putting an additional strain on an already fragile system," Huerta said. "I don't think it's an exaggeration to say that the hurricane response will be looked back upon as **a landmark in the evolution of drone usage in this country**." https://lasvegassun.com/news/2017/sep/08/harvey-will-be-a-landmark-in-drone-usage-faa-chief/

12Sep17

FlyPulse Partners with FlytBase to Power its Network of Lifedrone AED – Defibrillator Transport Drone

FlyPulse, a Sweden based company, is building the next-generation defibrillation technology, based on their specially-designed drones. LifeDrone AED is a transportation drone, equipped with an automated external defibrillator (AED) — a portable electronic device that automatically diagnoses the life threatening cardiac arrhythmias and is able to treat them through defibrillation, the application of electrical therapy.

"Our system can improve the survival rate for people with cardiac arrest, where it is difficult to arrive with an AED in time with ambulances or other transportation," explains Sebastian Wallman, Co-Founder and CEO of FlyPulse.

To reach their goal, FlyPulse needs to build and integrate a number of complex technologies. This includes the mechanical drone system, its payload, electronics, and the software to manage complete operations, with a high level of automation. Of course, they have to build a viable business model around this technology and make sure that the technology addresses the requirements of all key stakeholders. http://uasweekly.com/2017/09/11/flypulse-

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

partners-flytbase-power-network-lifedrone-aed-defibrillator-transport-drone/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

US Coast Guard searches for long-range UAV 11 SEPTEMBER, 2017, FLIGHTGLOBAL.COM, LEIGH GIANGRECO, WASHINGTON DC

Long-range and high-altitude unmanned air systems are back in the US Coast Guard's long-term acquisition interests, according to a newly-posted federal notice.

A request for information issued on 30 August by the USCG's Research and Development Center expresses interest in the most advanced UAS on the market, with a minimum endurance of 24h, "long range" and land-basing among the requirements.

The concept envisions operating pre-planned routes with the UAV in an offshore environment **beyond line of sight** from the ground control station. That capability would also require the manufacturer to create organic sensors for surveillance to detect and prosecute surface targets, according to the RFI. https://www.flightglobal.com/news/articles/us-coast-guard-searches-for-long-range-uav-440945/

Hurricanes Harvey and Irma Give Boost to Drone Industry

With hundreds of billions of dollars in damage to homes across Texas, Florida, Puerto Rico, and the U.S. Virgin Islands, storm damage assessment is becoming a bigger part of the business models behind drone companies ***Staff writer, Inc.@WillYakowicz***

Aerial footage depicting damage from Hurricane Harvey captured by EagleView Technologies. EagleView is one of many companies that sells images and data to insurance companies. CREDIT: Courtesy EagleView Technologies

Days after Hurricane Harvey's wind, rain, and flood waters overtook Houston, drone companies, authorized by the Federal Aviation Administration and contracted to conduct storm damage assessment with insurance and utility companies, started inspecting homes, electrical lines, and gas and oil refineries to document damage. Now, after Hurricane Irma brought destruction to Carribbean islands and the southeast U.S., drone companies are again filling a desperate need in flood-and-wind ravaged areas to help speed up repair, rescue, and recovery efforts.

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

It is estimated that hurricanes Harvey and Irma will cost the U.S. $290 billion and insurance companies are relying on drones to get ahead of the deluge of claims. Insurers, including All State, which contracted EagleView, are using drones in areas that are either inaccessible to cars or too dangerous for human passage. But, an All State spokesman says, drones are also being used to **cut down inspection time from one hour** with a human adjuster with a ladder and a camera **to 15 minutes** with a drone. https://www.inc.com/will-yakowicz/storm-damage-irma-harvey-drones.html

Scientists set record – for flying blood in a drone Ben Coxworth


The HQ-40 drone can take off and land vertically, but transitions to fixed-wing flight while cruising(Credit: Latitude Engineering)

A team of scientists from Johns Hopkins University have set a rather unique record – they've used a fixed-wing drone to fly medical samples farther than any drone has ever done before. The Latitude Engineering HQ-40 aircraft transported human blood samples across 161 miles (259 km) of Arizona desert.

A total of 84 samples were collected in pairs at the University of Arizona in Tucson, then driven 76 miles (122 km) to a remote airfield. One sample from each pair was then loaded into a temperature-controlled payload system in the drone, which took off and flew for three hours before landing back at the same airstrip.

The other samples from each pair, the ones that didn't go in the drone, were instead put in a car at the airfield with an active cooling system which kept them at a target temperature. While the flown samples had an average temperature of 24.8°C (76.6°F), the non-flown samples stayed at an average of 27.3°C (81.1°F). The exercise backed up previous research, which indicated that **drone flight doesn't adversely affect biological samples.** http://newatlas.com/drone-blood-flight-record/51316/

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

Chesapeake-based company's drone pilots fly more than 5,000 Harvey disaster relief missions in Houston area By Katherine Hafner The Virginian-Pilot Sep 11, 2017

Courtesy of DroneUp Pilot Team 2017

Chesapeake-based company that trains amateur drone pilots coordinated more than 5,000 disaster relief missions in the Houston area after Hurricane Harvey. DroneUp, an app that's the main interest of Chesapeake resident Tom Walker's company DART Ventures, allows certified drone pilots – many of them hobbyists – to sign up for training and be part of a "drone-assisted response team" to help when they receive alerts, such as for a missing child or missing elderly person.

After seeing Harvey's destruction of Texas communities, the app's leaders said, they decided to help by recruiting local drone pilots who could help capture photos and video in areas most people couldn't reach, said Jim Harenchar, DroneUp's chief marketing officer**. Following approval from the Federal Aviation Administration, the team introduced the platform in Texas a little more than a week ago. The idea was to recruit local pilots who could download the app and be alerted to disaster-related assignments from law enforcement or citizens. More than 400 pilots signed up, a quarter of them in Houston, Harenchar said. Some were from out of state.**

"They packed up their drones and their suitcase and off they went to try to be of help," Harenchar said. https://pilotonline.com/news/local/chesapeake-based-company-s-drone-pilots-fly-more-than-harvey/article_0ce4952f-fa3c-5417-912b-f643280fbe08.html?spMailingID=11896359&spUserID=NjM0NzcxNjYwNTkS1&spJobID=1240933900&spReportId=MTI0MDkzMzkwMAS2#utm_source=pilotonline.com&utm_campaign=%2Fnewsletters%2Finside-business%2Ftuesday%2F&utm_medium=email&utm_content=headline&sp

New Airbus Venture Fuses Satellite and Drone Data *Mark Huber, Sept 11, 2017*

Airbus has established a new U.S.-based division designed to fuse satellite and drone data into custom-tailored, client-specific packages with easy-to-use interpretation tools. "Airbus Aerial" set up shop earlier this year in Atlanta. The new venture is led by Jesse Kallman, a UAS industry expert with 12 years of experience at Georgia Tech, federal policy at FAA, commercial UAS at Airware and advocacy with groups such as AUVSI (Association for Unmanned Vehicle Systems International).

Currently, the company is small, employing 15 people in the U.S. and a handful in Europe, but it borrows extensively from Airbus's larger satellite division, which builds, launches and monitors

satellites. "**We are bringing in commercial drone [data] and fusing it with satellite data**," said Kallman. "Say you're a large insurance company and you want to understand what happens after a large tornado or hurricane. You can work with Airbus Aerial to bring together satellite and drone data all in one cloud-based location so it is easier to run the information, easier to run the analysis on top of it. The ability to interface the layers and the ease of ordering [the data] is what's new. We're trying to make it much simpler so that new types of businesses that haven't traditionally used this technology can use it and have developed proprietary software and interfaces to do so." Airbus Aerial doesn't build its own drones and it doesn't fly them. Rather, it subcontracts this part of the service to the provider with the hardware best suited to the job. http://www.ainonline.com/aviation-news/business-aviation/2017-09-11/new-airbus-venture-fuses-satellite-and-drone-data

Perkins: Data, Not Rockets, Is How "You Make Money From Space."

BBC News (UK) (9/12) reports that Oxford University Innovation head Matt Perkins said that rockets "aren't the way you make money from space," arguing that profits are made "in the downstream end – **by using all this information coming from space**. As this becomes cheaper that's going to open up commercial opportunities – with data being used in ways that people haven't yet thought of." The vast volume of data "means that AI systems being used to automatically analyse it are having to catch up," and the industry also will have to resolve issues around public versus private access to data collected, as well as the question of orbital debris, which will pose a risk to the ever-increasing numbers of smaller, low-cost satellites. Planet Labs' Will Marshall said, "We as technologists have to be the best stewards we can of that data," and the challenge of space debris is "not going to be an easy" one.

GE Startup Avitas Deploys AI for Drone Inspections

Sep 7, 2017Graham Warwick | Aerospace Daily & Defense Report

A General Electric startup is taking artificial intelligence (AI) into the field to automate and optimize the inspection of industrial assets by drones and robots. Avitas Systems, launched by GE in June, has partnered with computing specialist Nvidia Corp. to develop AI for robotic inspection and data analytics.

Replacing time-based manual inspections of assets such as transmission towers and flare stacks with **automated checks** based on **assessing the risk of defects developing** is expected to save customers time and money as well as be safer, says Alex Tepper, co-founder of Avitas Systems. The company uses drones, crawler robots and autonomous undersea vehicles to automate inspections.

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

Avitas Systems is using Nvidia's DGX computing systems to run the AI algorithms it is developing for use in planning the inspection paths and processing the images collected, as well as for the data analytics involved in automatically detecting defects such as corrosion, hot or cold spots or microfractures.

GE startup Avitas Systems is using drones and robots to automate asset inspection in the oil and gas and other industries. Credit: GE Oil & Gas
http://aviationweek.com/technology/ge-startup-avitas-deploys-ai-drone-inspections?NL=AW-05&Issue=AW-05_20170912_AW-05_888&sfvc4enews=42&cl=article_7_4&utm_rid=CPEN1000003332045&utm_campaign=11666&utm_medium=email&elq2=f2bb0f9158c74e21a9eb585d8daea494

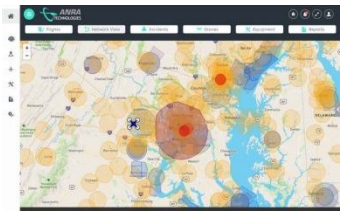
Atlas Dynamics Introduces Carbon Fiber Fixed-Wing Drone 10 Sep 2017 | Caroline Rees

Atlas Dynamics has announced its new fixed wing UAV, the Atlas Blue-J, which will be displayed at InterDrone 2017.

The Blue-J features a 3.5-meter wing span, **four to six hours of flight time** and a 150-kilometer operational range. Ideally suited for large-scale security and inspection missions, the fixed wing UAV can be operated in autonomous and semi-autonomous modes, including takeoff and landing. Made fully of carbon fiber, the Atlas Blue-J is lightweight (11kg) and can carry up to a nine-kilogram payload. http://www.unmannedsystemstechnology.com/2017/09/atlas-dynamics-announces-new-fixed-wing-drone-5-hour-flight-time/

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

DroneOSS 2.0 Platform Features Cloud Based BVLOS C2 Capabilities 09 Sep 2017 | Author: Caroline Rees



ANRA Technologies, a provider of off-the-shelf commercial drone platforms and services, has announced the release of version 2.0 of its DroneOSS platform.

The DroneOSS platform is currently being used in multiple countries around the globe. It is designed to provide enterprises and service providers an open off the shelf, drone-agnostic field proven solution which includes real time flight planning, automated missions, airspace management, command and control, compliance, fleet management and multiple data analytic packages. The latest release of the platform features drone-agnostic **cloud-based BVLOS C2 capabilities**. It also offers integration into multiple leading data analytics engines as well as enhanced workspace for integration into existing enterprise systems.
http://www.unmannedsystemstechnology.com/2017/09/droneoss-2-0-platform-features-cloud-based-bvlos-c2-capabilities/

Icaros and Agrowing Launch Agricultural Drone Multispectral Mapping Solution

07 Sep 2017 | Author: Caroline Rees

Icaros, a provider of aerial imaging software, and Agrowing, a supplier of multispectral sensors and analytics software, have announced an integrated drone product that bundles Icaros' OneButton software into Agrowing's solution stack, automating the entire workflow from image capture through generation of fully indexed orthomosaic maps for agriculture. The combined features enable Agrowing users to process imagery into **high-fidelity fully indexed orthomosaic maps** for agriculture – which are crucial for precision analytics.
http://www.unmannedsystemstechnology.com/2017/09/icaros-agrowing-launch-agricultural-drone-multispectral-mapping-solution/

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

14Sep17

UMD Opens Outdoor Flight Laboratory to Advance Autonomy, Robotics

Today the University of Maryland (UMD) A. James Clark School of Engineering opens **the only university outdoor flight laboratory for testing unmanned aircraft systems (UAS) in the D.C.-Maryland-Virginia region.** Located minutes from the main College Park campus in the UMD Discovery District, the netted Fearless Flight Facility (F3) will serve as a catalyst for innovation in the areas of flight control, sensing, autonomy, collaboration, and counter-UAS.

"The University of Maryland continues to make incredible strides in autonomy and robotics. Facilities like this one provide the real-world testing conditions that enable innovative breakthroughs," said Clark School Dean and Farvardin Professor of Aerospace Engineering Darryll Pines. "F3 allows us to pursue an aggressive UAS research agenda that would not be possible without the protection of a netted enclosure."

Student and faculty researchers who were confined to testing vehicles in a lab or not at all will now have room to iterate on the fly. The 100-foot wide, 300-foot long, and 50-foot high facility also serves as a critical nexus between the Clark School of Engineering's College Park labs and the UAS Test Site in Maryland's St. Mary's County.

"With F3, we can conduct cohesive, comprehensive research and education programs in concept and development, testing and evaluation, and life-cycle testing," said Norman M. Wereley, Department of Aerospace Engineering professor and chair.

The airspace over the greater D.C. area is the most restricted in the country, with all UAS flights within a 15-mile radius of Ronald Reagan Washington National Airport prohibited without authorization from the federal government. Because F3 is considered indoors, these and other restrictions on outdoor flights do not apply. http://uasweekly.com/2017/09/13/umd-opens-outdoor-flight-laboratory-advance-autonomy-robotics/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

Airbus Providing Drone Services to Survey Areas Afflicted With Hurricane Flooding **Woodrow Bellamy III** | September 13, 2017

Photo, courtesy of Airbus Aerial.

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

Airbus Aerial, is already providing **a fusion of drones, manned aircraft and satellite surveillance data** to support two of the most powerful hurricanes to impact the U.S. and surrounding regions in recent history. *Avionics* recently caught up with Airbus Aerial President Jesse Kallman to discuss its latest activities including support for Hurricane Harvey and Irma.

Launched in May, Airbus Aerial is the new commercial drone services division of Airbus, one of several of its Silicon Valley-focused divisions. According to Kallman, the response it's providing to the two Hurricanes is one of the first occurrences in aviation where drones, manned aircraft and satellite data are being combined to give a clearer overall image of specific locations before and after an incident. The company is providing what it calls “first-of-its-kind” imaging to insurers processing claims in Texas **for free** in order to provide assistance for survivors of Harvey effectively and quickly, and adequately prepare for Irma. http://www.aviationtoday.com/2017/09/13/airbus-providing-drones-survey-areas-afflicted-hurricane-flooding/

Commissioners pass ordinance banning drones from Cook County property

Michael Tercha / Chicago Tribune

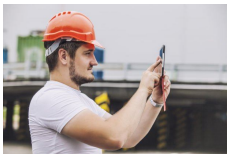
Madeline Buckley and Hal Dardick Contact Reporters

Operators cannot fly drones over Stroger Hospital, Cook County Jail and other county properties under an ordinance approved by the Cook County Board Wednesday amid security concerns. The ordinance bans drones and other "unmanned aerial systems" on any land or buildings leased or owned by the county, unless authorized.

Drone use has “exponentially increased,” the ordinance notes, creating concerns they could be used to smuggle drugs, guns and other contraband into jails and prisons. The ordinance also aims to head off privacy and security problems that could stem from drones taking clandestine video or photographs. Those who violate the ordinance could face a **$2,500 fine** and confiscation of the drone. http://www.chicagotribune.com/news/local/breaking/ct-ordinance-ban-drones-cook-county-20170913-story.html

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

The ROI of Drone Data for the Enterprise DRONELIFE Newson: September 07, 2017


Builder man working with a tablet in a protective helmet. Construction, safety, performance. Sponsored post by Rosalie Bartlett, Marketing Manager, Kespry —

The aggregates industry typically measured stockpile volumes on foot which was a difficult and time consuming job. Aggregates customers estimate their labor costs for the task are reduced by 84%.

"Over three days, I drove 850 miles. I flew 23 missions over 718 acres. I captured data for 212 stockpiles. With my previous method, I could measure an average stockpile in about 45 minutes. With Kespry, I averaged 7.9 minutes per stockpile. That's including the time it took me to drive 850 miles. We completed 173 hours of work in 28 hours. That's an 84 percent reduction in labor costs for this single inventory measurement cycle. That's **over a month's worth of work [completed] in three days."** – Kyle Huffman, Source Manager, Atlas Sand and Rock.
https://dronelife.com/2017/09/07/53005/

Drone Guarder, Inc. Announces the Development of Life Saving Drone Guarder Rescue GlobeNewswire, September 14, 2017

LONDON, Sept. 14, 2017 (GLOBE NEWSWIRE) -- Drone Guarder, Inc. (OTCQB:DRNG) is proud to announce the completion of the development program for its Drone Guarder Rescue. DG Rescue is based on the company's core patent pending technology, which utilizes the AI Brain of the company's operating system to deliver a Search and Rescue solution to the end user. DG Rescue has an autonomous dynamic, self-scanning and searching artificial intelligence with the ability to identify people in any emergency. DG Rescue is capable of locating individuals stranded in floods, at sea or on land and is expected to be a key component of rescue efforts in any natural disaster environment.

A user operates DG Rescue by initiating the flight and, when in the air, the drone will scan the local area for persons in distress by autonomously grid scanning the zone while utilizing its thermal heat seeking imaging, infra-red and daytime cameras. When individuals are located the drone is expected to store the GPS coordinates and drop off essential lifesaving rescue supplies. During the

entire rescue, DG Rescue will stream live video of the flight recording the physical location of the survivor in both day and night time conditions. The company is also developing **linked multi drone reconnaissance squadrons** consisting of 5 to 10 drones searching and scanning a large area using real-time position messages between the drones. http://www.nasdaq.com/press-release/drone-guarder-inc-announces-the-development-of-life-saving-drone-guarder-rescue-20170914-00566

FlightWave and Intelligent Energy Announce Jupiter: a Hydrogen Drone for Industrial Use Miriam McNabbon: September 13, 2017

Last week's InterDroneconference saw a lot of new and innovative products announced. One of the most interesting was the result of a partnership between CA-based FlightWave Aerospace Systems, Inc. and UK-based Intelligent Energy: the hydrogen-powered Jupiter-H2. The Jupiter is not the first hydrogen powered commercial drone we've seen, but it's vastly smaller than other offerings, making it appropriate for a wide variety of applications; and it uses a common 3 liter tank for fuel. The tank provides almost **2 hours of flight time**.

The Jupiter-H2 combines its 2 hour flight endurance with lifting capabilities – up to about **3 pounds** of payload. The guarded blades, light weight, narrow profile of 70 cm and quiet operation make it ideal for indoor applications. The drone's maneuverability means it can navigate a narrow warehouse aisle next to an automatic forklift.

"We view the Jupiter-H2 as a game-changing vehicle," said Cronin. "It's particularly well suited to use cases requiring both long flight time and stable manoeuvrability in narrow indoor or outdoor spaces — for example, in a very large but cramped warehouse."
https://dronelife.com/2017/09/13/flightwave-intelligent-energy-announce-jupiter-hydrogen-drone-industrial-use/

15Sep17

Skyfront Sets World Record For Drones With 4 Hour And 34 Minute Flight

Skyfront has announced that its flagship drone has just set a world record for endurance. The Skyfront Tailwind UAV flew for 4 hours and 34 minutes, **10 times longer** than typical battery-powered drones. Please see link for video.

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

"This is a huge milestone for the commercial drone industry," said Skyfront CEO Troy Mestler, Ph.D. "Within a couple of weeks, we expect our UAV to fly for a full 5 hours, and further out we expect it to travel for over 100 miles. The Tailwind allows businesses to monitor, map and inspect large, remote assets like powerlines and large farms. Drone operators can now perform their jobs in a single flight, without having to constantly launch, land and swap batteries, significantly reducing operating costs." http://uasweekly.com/2017/09/14/skyfront-sets-world-record-drones-4-hour-34-minute-flight/

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