UAS and SmallSat Weekly News

Contents

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

21Sep18

Drone racing pilots set to compete for prize worth over £75k DRONE RACING LEAGUE

EVENTS INTERNATIONAL NEWS ALEX DOUGLAS SEPTEMBER 20, 2018

The world's top drone racing pilots are set to go head to head once again this year as they compete for the top prize in the Drone Racing League. The DRL begins tomorrow evening in California with pilots from around the world competing in the first heat.

Eighteen pilots will compete in the season, but only 10 will go to the championship with each pilot flying on four of the regular season's six events. The winner of each event clinches a spot in the championship as the remaining slots are awarded to the pilot's with the most season points.

The DRL estimated that it has reached 50m global broadcast viewers over the past two years with a further 150m people viewing online. For the season conclusion later this year, the DRL hopes it will attract 3,000 fans to the arena in King Abdullah Economic City, Saudi Arabia to watch the championship finale. http://www.commercialdroneprofessional.com/drone-racing-pilots-set-to-compete-for-prize-worth-over-100k/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-275804-Commercial+Drone+Professional+DNA+-+2018-09-20

Aerial LiDAR and Photogrammetry: Which Makes Sense For Your Construction Project? September 17, 2018 Dustin Price

Aerial LiDAR (Light Detection and Ranging) uses a sensor to detect geographic features from above, creating a precise 3D map. Aerial LiDAR can cut through things like brush and vegetation. This is ideal for environments that have a significant amount of over-growth. However, it can cost significantly more than photogrammetry, and it produces images that are not *colored* on the RGB scale with very little distinction between mapped objects besides their physical texture.

Photogrammetry collects data from high-resolution cameras to create either a 2D or 3D survey. Although it cannot be used to get past brush or ground cover, it is affordable, *and* it can be easier to read.

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

Photogrammetry is best for imaging large, clear areas and environments that have been developed. It may also be best if the *colors* in a survey matter. Some projects have limited budgets, and it's a simple and fast way to get a reasonably accurate survey.

LiDAR and photogrammetry can be combined to create 3D models including both the dimensions of features *and* their textures. Although this is a costly solution, it may be best for complex projects.

https://www.expouav.com/news/latest/aerial-lidar-and-photogrammetry-construction-project/?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiTWpJeFlUZ3pPRE15TVRsbCIsInQiOiJ5bWw1TTZXQ2ZNT0p4VDRsM3g5QmV4SnhLcThWK2Q2RitzTUNOOFQwMmQrK2RSQTNUUWViaW1LcXM4cTFjWnl4bXBWT1Zrc0NrNnlVcVhXSXBGWkFYRjV4TkRlTEhFTE1VaWk2TlA0TmN6WmZEVnE3XC9kQjQzRmx0N1BDQWNhclkifQ%3D%3D

US military successfully tests brain implants that allow users to control drones with their minds

September 20, 2018 Feilidh Dwyer

The Daily Beast reports that the Defense Advanced Research Projects Agency (DARPA) has successfully tested brain implants that facilitate communication between a user's brain and a drone, allowing a pilot to control not one but *three* drones simultaneously using only their thoughts.

The test centered on a volunteer subject named Nathan Copeland. Copeland is partially paralyzed and had a 'bidirectional neural interface' implanted into his brain. Equipped with the implant, Copeland navigated a simulated drone laterally and vertically through obstacle courses. Copeland was also able to control three computer-simulated drones in formation simultaneously.

Because of the risky nature of putting implants in people's brains, DARPA searched for subjects who either already had electrodes in their brain or had reasons to undergo such a surgery. The trials were conducted in Pittsburgh between June of 2016 and January of 2017.

DARPA recently launched its Next-Generation Nonsurgical Neurotechnology (N3) program with the plan to build devices that perform the same role as the brain implant, but it will look more like the EEG cap that a pilot can take off at the

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

conclusion of a mission.

DARPA has been doing fascinating research pertaining to controlling machines using thoughts for years. In 2015, a quadriplegic woman volunteer, Jan Scheuermann, flew a simulated F-35 stealth fighter using only brain power. If technology continues down this track, it's not hard to imagine a future with people interfacing with all sorts of technology (vehicles, computers, cameras, messaging applications) using mind reading devices.
https://www.wetalkuav.com/brain-implant-allows-users-to-control-drones-with-their-mind/

Hoverfly to Unveil Its High-Tech Enterprise Level Drone System at GSX September 20, 2018 News

Hoverfly Technologies Inc., a tether-powered drone manufacturer, is debuting LIVESKY SENTRY to commercial security practitioners and end users attending the GSX conference in Las Vegas. The new model allows control of multiple tethered drones from a single operations center.

The software comes in three design configurations to meet most outdoor security requirements. SkyBox can be mounted on rooftops, in the back of pick-up trucks or unmounted using the tether kit as its landing nest. The SENTRY enterprise system can be programmed to simultaneously control multiple drones in any number of locations.
http://uasweekly.com/2018/09/20/hoverfly-to-unveil-its-high-tech-enterprise-level-drone-system-at-gsx/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_20&utm_term=2018-09-24

Drone Delivery Canada Brings Drone Logistics to Remote Towns Jason Reagan September 21, 2018

Drone Delivery Canada has built new UAV infrastructure in the towns of Moosonee and Moose Factory, Ontario as part of its Beyond Visual Line-of-Sight Pilot Project. Around 1,000 communities are classified as "remote" across Canada and are described as facing "infrastructure and logistics challenges that contribute to a high cost of living."

"Living in Canada's north comes with challenges. We are excited to see the benefits of DDC's drone delivery solution in our community as a means to help mitigate these challenges,

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

improve logistics, lower costs and bring employment to the region", commented Stan Kapashesit, Director of Economic Development Moose Cree First Nation.

DDC's Sparrow X1000 cargo drone and DDC's FLYTE management system will be utilized for these flights which are intended to include the transportation of medical supplies, food, automotive parts and general parcels. Transport Canada is seeking to develop its regulations while NAV Canada is actively supporting this effort. This ongoing set of trials is anticipated to last into the month of October. https://dronelife.com/2018/09/21/drone-delivery-canada-brings-drone-logistics-to-remote-towns/

Learn How to Fly a Drone in Controlled Airspace Free Course September 21, 2018 News

San Diego-based King Schools is offering a free course to help drone operators stay out of trouble in controlled airspace. "Using LAANC to Fly Drones in Controlled Airspace" helps operators through the task of getting approval to use airspace from the FAA Low Altitude Authorization and Notification Capability.

LAANC allows drone operators to request and quickly get permission to use controlled airspace near airports. "The FAA has made it possible, but navigating the system is not easy," said Barry Knuttila, King Schools CEO. "In this course, you will find simple, clear tips and information that can speed you on your way to getting the most from LAANC."

The course will teach you about which companies offer LAANC services and how to use their services. It also explains how to use the FAA's B4UFLY app, which was designed for drone operators. Other topics include UAS facility maps, FAA's DroneZone and airspace authorization and waivers. http://uasweekly.com/2018/09/21/learn-how-to-fly-a-drone-in-controlled-airspace-free-course/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_21&utm_term=2018-09-24

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

Drones help curb elephant poaching in Africa! September 19, 2018 Thomas Luna

Drones have been used to ward off elephants from destroying crops because of their bee-like buzzing noise, but they're also being used to help the same animals from being hunted for their ivory in Africa. Non-profit Mara Elephant Project (MEP) in Kenya started using drones to fight elephant poaching as far back as 2012.

Drones have been a huge contributing factor in capturing poachers. Tracking elephant movements are also easier thanks to drones, and the intelligence they have gathered has provided local authorities with evidence to make arrests. Since elephants are repelled by the buzzing noise of drones, they are also first deployed by rangers to ward elephants away from unwanted areas.

An African elephant is poached every 15 minutes, so they will be expected to go extinct by 2030 if nothing is done to prevent them from being butchered alive for their ivory. Currently, Ivory is being sold for around $3,000 per pound in China, so two imported tusks can fetch up to $200,000. In 2013 alone, an estimated 35,000 elephants were poached for their ivory

"What we find is that drones for mitigating human-elephant conflict are very useful. They are very easy to fly so rangers can fly them. When you're herding elephants it's paramount to make sure you're in control of the situation," said MEP CEO Marc Goss. Drone technology has provided organizations like MEP with the means to combat poaching with ease.
https://www.wetalkuav.com/drones-help-curb-elephant-poaching-in-africa/

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

22Sep18

Fly like a bird: Artificial intelligence to assist drones navigating air currents

September 22, 2018 Feilidh Dwyer

The Conversation reports that researchers based in California and Italy have sought to better understand the way soaring birds (such as albatross, hawks or eagles) find and navigate thermal updrafts to soar.

Albatross, the largest flying bird species in the world, are particularly adept at this. They manage to sometimes fly an incredible 10,000 miles (16,000 kilometers) in a single journey, using their massive three meter wing span to glide across wind currents in the sky or emanating from the movement of the sea's waves. Albatross have even been known to circumnavigate the globe in just 46 days!

The researchers used machine learning to train a glider with a 6 and a half foot wingspan to pick up on environmental cues and navigate atmospheric thermals autonomously. The glider's instruments could detect changes in wind and make micro adjustments to the bank and angle of the glider. Over many flights and a flight time totaling 16 hours, the autonomous glider grew steadily better at anticipating which turns and angles to take in response to wind conditions and therefore would remain in flight for longer. The researchers results were published the results of their study in the prestigious scientific journal Nature.

Eagles are another type of soaring bird which use thermal currents to stay in the air while expending little energy.

The implications of this research are numerous. If conventional aircraft were to be more efficient at using data from thousands of hours of flying, and using machine learning to better detect thermal updrafts, they could potentially use less energy (fuel) on long journeys which would mean a little less carbon being pumped into our precious atmosphere. Nature continues to show us the way!
https://www.wetalkuav.com/artificial-intelligence-to-assist-aircraft-navigating-air-currents/

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

24Sep18

Marines equip MRZR all-terrain vehicles with counter-UAV system September 23, 2018 Thomas Luna

The growth of the drone industry has made UAVs cheaper and easier to access, so to combat potential aerial threats, the Marines started to use a new counter-UAV system for their MRZR all-terrain vehicles. Light Marine Air Defense Integrated System, is designed to detect, identify, track and take down small UAVs using electronic attack, and it's already being deployed by the 13th Marine Expeditionary Unit.

According to Marine Corps Times, ISIS fighters in Iraq and Syria weaponized consumer quadcopters to drop hand grenades. To gain an upper hand against UAVs, the Marines equipped some of their all-terrain vehicles with LMADIS to easily pinpoint rogue drones while staying mobile.

Besides rogue drones, the Marines bought counter-UAV systems to prepare against drone swarms. Multiple UAVs that can communicate with each other to execute a set of commands is the future of drone light shows, but if flown in the wrong hands, drone swarms can be dangerous.

Screenshot from Stop Autonomous Weapons's video shows an attack drone swarm being deployed from the back a of van.

DJI, the largest consumer drone company, implemented safety features to prevent their drones from flying in restricted airspace, but their technology has a history of being hacked, modified and used in wars. https://www.wetalkuav.com/marines-equip-mrzr-all-terrain-vehicles-with-counter-uav-system/

The End of Special Rule 336: The Future of the Hobby Is Up in the Air Miriam McNabbon September 24, 2018

As the Government and Commercial Interests Push for New Regulations, Hobbyists Are Fighting Back.

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

The following is a guest post from John Saginario: FPV flyer, writer and host of the Wild Flyers podcast.

We're just days away from the Federal Aviation Administration's September 30th deadline for reauthorization, when the agency's authority officially expires. At the heart of the issue is the repeal of Special Rule 336, the provision of the FAA's reauthorization that lays out specific rules for hobbyist pilots. Acting FAA Administrator Dan Elwell has made it clear S336 has to go, and he's taking cues from commercial groups and defense officials, who want more stringent controls over model aircraft.

The proposal currently making its way through Congress replaces S336 with a new provision that would put hobbyists directly under the control of the FAA and limit hobby flying to under 400 feet. It would also require hobbyist pilots take an aeronautical knowledge and safety test, as well as register with their craft with the FAA. It also lays the groundwork for the possible future requirement of remote ID and tracking of consumer drones by mandating the FAA investigate these technologies and how to integrate them into the nationwide air traffic system. https://dronelife.com/2018/09/24/the-end-of-special-rule-336-the-future-of-the-hobby-up-in-the-air/

Eye-Tracking Glasses Are All You Need to Control This Drone Evan Ackerman 20 Sep 2018

Developing a system that's both easy to use and self-contained is quite a challenge, but roboticists from the University of Pennsylvania, U.S. Army Research Laboratory, and New York University are up to it—with just a pair of lightweight gaze-tracking glasses and a small computing unit, a small drone will fly wherever you look.

What's new here is that the system is self-contained and doesn't rely on external sensors. User-relative control takes your position and orientation into account, so that the drone instead moves to *your* left when it receives a "go left" command. In order for this to work properly, the control system has to have a good idea of both the location and orientation of the drone, and the location and orientation of the controller (you), which is where in the past all of that external localization has been necessary. The trick, then, is being able to localize the drone relative to the user without having to invest in a motion-capture system, or even rely on GPS. https://spectrum.ieee.org/automaton/robotics/drones/eye-tracking-glasses-are-all-you-need-to-control-this-drone

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

Hokkaido newspaper successfully tests newspaper delivery by drone KYODO SEP 21, 2018

SAPPORO – A Hokkaido newspaper company tested delivery by drone on Friday to determine whether the unmanned aircraft can be relied on to bring news to the public in times of disaster.

Two weeks after a level 7 earthquake caused deadly landslides and a prefecture-wide blackout, a group of operators of the daily Hokkaido Shimbun's delivery shops successfully flew a drone carrying 10 copies of its newspaper 200 meters across a river in the city of Asahikawa under a hypothetical scenario in which a major quake damages a bridge and severs roads.

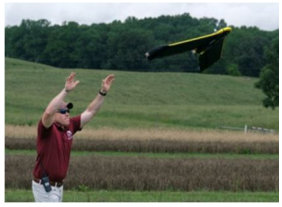
The magnitude 6.7 quake on Sept. 6 triggered landslides that engulfed homes and shattered roads, while the blackout cut off access to information via TV, computers and mobile devices.

"I'm glad we were able to deliver them successfully, as newspapers are an information infrastructure that is necessary when something drastic happens," Takuma Banno, 41-year-old head of the daily's distribution shop in Sapporo, said of the one-minute flight.
https://www.japantimes.co.jp/news/2018/09/21/national/hokkaido-daily-successfully-tests-newspaper-delivery-drone/#.W6mFnXtKh0w

25Sep18

State Farm Receives Waiver from FAA for Hurricane Florence Response

SEPTEMBER 21, 2018 AIR INSIDE UNMANNED SYSTEMS



State Farm recently received a waiver from the Federal Aviation Administration to operate unmanned aircraft systems over people and beyond visual line of sight to help evaluate hurricane damage and allocate resources in four states impacted by Hurricane Florence—marking the first time an insurance company has received such a waiver.

"State Farm needs to quickly assess damage after significant weather events," State Farm Senior Vice President Robert Yi said, according to a news release. "Drone technology provides us with the capability to quickly deploy over a catastrophe site and assess damage from the air. The data we obtain from drone flights can be used to help us determine the severity of damage. This also allows us to place our claims team on the ground and evaluate uninhabitable insured property."

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

The FAA waiver comes after months of research following a process pioneered by MAAP for identifying, evaluating and mitigating potential risks presented by drone operations. Through research collaboration with MAAP, State Farm determined flying the eBee fixed-wing drone from senseFly reduced the risk of damage to people and property. The ability to fly longer distances over densely populated areas, which is what this waiver allows, will make the insurer's work easier and the claims process faster. http://insideunmannedsystems.com/state-farm-receives-waiver-from-faa-for-hurricane-florence-response/

Fortem releases fresh security solution with its Portable SkyDome APPLICATION COUNTER-DRONE NEWS TECHNOLOGY UNITED STATES ALEX DOUGLAS SEPTEMBER 25, 2018

The new system aims to assist field, border, law and security officers by expanding situational awareness.

The SkyDome establishes a 360-degree view of a designated airspace and works with the Fortem DroneHunter to investigate potential threats or criminal activity.

Timothy Bean, CEO at Fortem Technologies, said: "Providing accurate, situational awareness and increasing officer safety with equipment that can be quickly set up and torn down at border, venues and events has always been a challenge."

The system can identify a drone causing potential threat, which activates DroneHunter to pursue and capture it and tow it away from populated and sensitive areas for safe disposal. The stand-alone system can be installed and taken down in minutes.
http://www.commercialdroneprofessional.com/fortem-releases-fresh-security-solution-with-its-portable-skydome/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-276242-Commercial+Drone+Professional+DNA+-+2018-09-25

Drone tested at high levels of radiation to increase nuclear safety DRONES AT WORK HEADLINE NEWS INTERNATIONAL TECHNOLOGY ALEX DOUGLAS SEPTEMBER 25, 2018

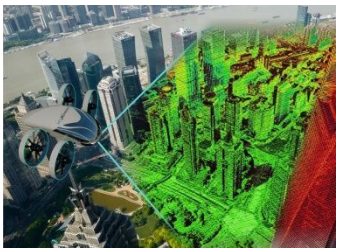
Elios is used to prevent sending humans to perform visual inspections in radioactive environments. Elios, a major US energy producer, saved half a million dollars in loss of production in a single flight. The producer sent the drone to check for a suspected leakage in the basement of a reactor while under operation without exposing its workers to radiation.

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

Elios has also been successfully deployed to inspect a tank in the primary cooling circuit of a nuclear plant in Europe.

Exelon PowerLabs coordinated the testing of the Elios at one of Exelon's nuclear sites, which regularly tests equipment for use in nuclear plants. The test conducted by Exelon PowerLabs consisted of incremental increases of radiation exposure to the Elios while in operation up to 800 R/H. http://www.commercialdroneprofessional.com/drone-tested-to-high-levels-of-radiation-to-increase-nuclear-safety/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-276242-Commercial+Drone+Professional+DNA+-+2018-09-25

Passenger VTOL UAS to Feature Solid State LiDAR Sensing 23 Sep 2018 Mike Rees



Quanergy Systems, Inc., a developer of solid state LiDAR sensors and smart sensing solutions, has announced that its S3 solid state LiDAR sensors will be exclusively used in the testing and market release versions of VRCO's e-VTOL (electric Vertical Take-Off and Landing) unmanned personal aircraft, the NeoXcraft XP2.

The aircraft, which VRCO and the University of Derby unveiled in late 2017 and intend to launch in 2020, is a two-passenger e-VTOL high-speed land, air, and water capable craft. The craft can scan and memorize take-off locations and store the data for use on the next approach to the same location. Quanergy's S3 solid state LiDAR sensor will be used for downward and forward scanning to enhance the craft's safety, providing the NeoXcraft with the ability to detect, sense, and avoid objects upon takeoff, approach and landing.

Quanergy's S3 is a compact automotive-grade solid state LiDAR sensor with a high level of performance and reliability. Unlike its mechanical counterparts, the S3 uses optical phased array technology. This technology enables electronic laser beam steering for real-time scanning and situational analysis without any moving parts. The use of this specialized technology will further enhance the safety of the NeoXcraft during take-off and particularly upon landing when high precision is required, as is the case when landing on a superyacht.
https://www.unmannedsystemstechnology.com/2018/09/new-autonomous-personal-aircraft-to-feature-solid-state-lidar-sensing/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=463b21f909-eBrief_2018_Sept_25&utm_medium=email&utm_term=0_6fc3c01e8d-463b21f909-111778317

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

FAA Reauthorization Explained: Part 1, the Repeal of Section 336 Miriam McNabbon: September 25, 2018

The new proposed FAA Reauthorization package has been made public. The current extension of funding for the FAA expires at the end of this month.

Part 1: The Repeal of Section 336.

The repeal of Section 336 would mean that the **FAA does have the right to regulate model aircraft**, including recreational drones.

Section 349 outlines the proposed rules for recreational operators:

1.) Aircraft must be flown strictly for recreation, and:
2.) Must be flown within a Community Based Organization's (CBO) safety guidelines;
3.) Must be flown within visual line of sight (VLOS);
4.) Must stay out of the way of manned aircraft;
5.) Must be flown in Class G airspace under 400 feet, or have authorization;
6.) Must be registered and marked;
7.) The operator must pass an Aeronautical Knowledge Test.

A significant change is the addition of an FAA or CBO administered Aeronautical Knowledge Test for recreational operators. The test would not necessarily be the same as the Part 107 and would be administered electronically: H. 304 calls for the test to be developed within 6 months of the enactment of the bill. The requirement that all aircraft be registered and marked is another significant change. https://dronelife.com/wp-content/uploads/2016/03/Screen-Shot-2016-03-16-at-8.49.58-AM.png

PSEG Long Island Deploys Drones to Further Improve System Reliability September 25, 2018 News

In order to further improve and advance Long Island's electric system, PSEG Long Island and ULC Robotics, based in Hauppauge, are deploying unmanned aerial vehicles to conduct the utility's inspections of power lines and other important equipment.

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

In addition to inspections of difficult-to-access infrastructure, PSEG Long Island is preparing to integrate the use of drones into its storm and emergency response efforts, which require accurate surveys of post-storm equipment damage for crews to be properly assigned.

This enhanced aerial data is going to help us further harden our system before major storms and assist with emergency response after storms. With more than 9,000 miles of overhead wires, this will allow us to better utilize our resources and more rapidly restore customers' power." http://uasweekly.com/2018/09/25/pseg-long-island-deploys-drones-to-further-improve-system-reliability/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_25&utm_term=2018-09-25

Local company lands first-ever drone deal at Balloon Fiesta STEPHANIE GUZMAN | ALBUQUERQUE BUSINESS FIRST Collin Krabbe

For the first time, this year's Albuquerque International Balloon Fiesta will see a new kind of aircraft.

A local media company, Colibri Media House, will livestream and produce a promotional video for Balloon Fiesta using high-definition video cameras mounted to a drone.

Colibri President and Chief Pilot Jesse Sansom said "Just the word 'drone' has negative connotations, but drones offer a platform for capturing video that's a new perspective."

To combat those perceptions, Colibri started hosting gatherings at the Anderson Abruzzo Albuquerque International Balloon Museum to educate people about the uses of drones and show that they are safe if operated properly. Last year's program was called Drone Discovery Days, and this year, the company says it is holding races on the third Sunday of every month.

The commercial drone market is expected to be worth about $13 billion in 2025, a near 2,000 percent increase since 2015, according to market research firm Statista. https://www.bizjournals.com/albuquerque/news/2018/09/25/local-company-lands-first-ever-drone-deal-at.html?surround=etf

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

26Sep18

Proposed bill could grant Homeland Security power to identify, monitor, intercept and destroy UAVs deemed as threats! September 25, 2018 Thomas Luna

Last-minute additions to a 1205-page bill to Congress called H.R. 302 could grant the Department of Homeland Security and the Department of Justice the authority to shoot down, intercept and confiscate any UAV perceived as a threat. With increased concern for potential drone attacks, the proposed bill is supposed to help law enforcement regulate illegal drone flights, and it's supposed to pave the way for future drone operations like night flights and flights over people, but it's also being viewed by oppositions of the bill as a pass for too much power, according to Bloomberg.

NBC reported that some officers are already equipped with counter-UAV technology to take down drones that are operating illegally, but those same officers "could be at risk of criminal liability for simply doing their jobs to protect the public."

The proposed bill would grant the authorities with the legal right to use counter-UAV technology without repercussion.

Besides being able to detect, identify, monitor and track UAVs without operator consent, authorities could also use reasonable force to disable, damage or destroy UAVs. Disrupting control of a UAV and warning a drone operator through passive or active means are also included in the proposed bill.

Unreasonable search and seizure! The Electronic Frontier Foundation (EFF) is one of the oppositional groups who have written articles regarding what the Department of Homeland Security and Department of Justice have been pushing to Congress, and they believe that the bill would allow "warrantless drone take-downs." All drones could potentially be wiretapped and destroyed, so journalist, hobbyists, businesses and all private drone operators should be concerned because the new laws could conflict what the First and Fourth Amendment protect.
https://www.wetalkuav.com/proposed-bill-could-grant-homeland-security-power-to-identify-monitor-intercept-and-destroy-uavs-deemed-as-threats/

Surveillance drones used to spot tax cheats

DRONES AT WORK EUROPE HEADLINE NEWS SURVEILLANCE ALEX DOUGLAS SEPTEMBER 26, 2018

Tax authorities in Greece have used drones to catch people avoiding tax for the first time.

The Santorini authorities say they have started to use drones to spot violations in which tourists would get boat tours of the island's volcanic crater without receiving a receipt.

Greece's Independent Authority for Public Revenue said that last week, a one-day operation looked at nine tour boats, finding a number of violations. According to the Associated Press, a follow-up found violations for the activity over one day totaled over £20,000.

The news agency followed up the findings with a request for more information, but an authority official refused to comment. http://www.commercialdroneprofessional.com/surveillance-drones-used-to-spot-tax-cheats/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-276320-Commercial+Drone+Professional+DNA+-+2018-09-26

Airobotics expands its data-driven automated drone solution into the US

BUSINESS DRONES AT WORK NEWS UNITED STATES ALEX DOUGLAS SEPTEMBER 26, 2018

Airobotics will open its US headquarters in Scottsdale, Arizona as part of its expansion into the US.

The Israeli start-up will use the new base to run operations for North, South and Central America. The company has offices in Australia as well as additional operations in Chile and New Caledonia.

The Scottsdale office is intended to become the company's global headquarters as Airobotics continues to scale. BHP, a world leader in mining, is Airobotics' first customer in the US.

Ran Krauss, CEO and co-founder at Airobotics, said: "When deciding where to launch our first US office, Arizona was the top choice for us as it has a strong mining industry, great weather conditions for drone testing, and potential partners we're excited to work with."

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

Airobotics has recently been honored by The Wall Street Journal as one of its Top 25 Tech Companies to Watch in 2018 and as one of the world's 'Most Innovative Companies' by Fast Company.

The Israeli-based company plans to grow the Scottsdale team to 80 employees by the end of 2019, focusing on recruiting local technology, operations and sales talent.
http://www.commercialdroneprofessional.com/airobotics-expands-its-data-driven-automated-drone-solution-into-the-us/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-276320-Commercial+Drone+Professional+DNA+-+2018-09-26

27Sep18

Study shows drones help search and rescue teams find victims faster! September 26, 2018 Thomas Luna

A July 2018 study conducted by DJI, EENA and Black Channel concluded using drones for search and rescue (SAR) missions is faster than standard practice. SAR teams in Ireland and Wales conducted 50 trials. The teams were divided into two: one with drones and one without. Both teams had to find simulated victims, and the trials concluded that no-drone teams using standard search practice found targets in 85% of the trials, while the drone-enabled teams found targets in only 77% of the trials. Even though the no-drone teams found their targets at a higher rate, the drone-enabled teams found their targets an average of 191 seconds faster.

The trials revealed the areas where drone technology could be improved. Red targets were the easiest to spot, and since most of the drones were equipped with wide-angle lenses, height and distance perception were less accurate compared to in-person.

"Searchers in the study said finding a victim with a drone was harder than they expected, which shows why it is vital for the SAR community to develop best standards for how to use drones," said Alfonso Zamarro, EENA Drones Activities Manager. "What patterns should drones fly? What altitude provides the best coverage? What sensors are best for spotting missing people? Which areas are best searched by ground forces and which by drones?
https://www.wetalkuav.com/study-shows-drones-help-search-and-rescue-teams-find-victims-faster/

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

Airborne Works Introduces Drone Donation Program for Public Safety Departments September 26, 2018 News

Airborne Works founded and introduced a drone donation program whereby public safety departments nationwide may apply to receive UAV equipment at no cost. There is no limit to the type of equipment or cost a department may request. Requests may be made through www.nps-ddp.org.

Airborne Works is looking to partner with drone manufacturers and repair facilities as well as individual drone owners who are willing to donate equipment, services or financial support to the program. Donated equipment must meet basic minimum hardware requirements and will be thoroughly tested and repaired by Airborne Works before being given to a public safety department.

The availability of UAV / UAS technology can often mean the difference between life and death, measured in seconds and minutes in emergency situations. With the high cost of this technology, many public safety departments across the country cannot afford to purchase the equipment and therefore go without. Airborne Works hopes to alleviate this challenge and help to put "eyes in the sky for every department in need." http://uasweekly.com/2018/09/26/airborne-works-introduces-drone-donation-program-for-public-safety-departments/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_09_26&utm_term=2018-09-27

Drone Helps Michigan DEQ Search for Water Contamination Betsy Lillian September 24, 2018

The Michigan Department of Environmental Quality is using unmanned aircraft systems technology to search for possible locations of per- and polyfluoroalkyl substance (PFAS) contamination.

Last week, the DEQ flew a drone over Lake Margrethe to locate springs that could be carrying PFAS contamination from past firefighting activities at the nearby Camp Grayling military base. The DEQ used a DJI M210 drone fitted with both FLIR and standard cameras just offshore at an altitude of 50 to 100 feet above the lake. If cold springs entering the warmer lake are present, they will be visible with the FLIR camera. The agency explains that the entry of cold springs does not confirm the presence of PFAS

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

contamination, but discovering the flow of groundwater from the base into surface waters will allow the DEQ to better target sampling efforts. Identifying the flow of groundwater into a surface water body may also assist in effective placement of treatment, if needed.

"To the best of our knowledge, this the first time anyone has ever used a FLIR-equipped drone in the hunt for potential PFAS contamination," notes Carol Isaacs, director of the Michigan PFAS Action Response Team. https://unmanned-aerial.com/drone-helps-michigan-deq-search-for-water-contamination?utm_medium=email&utm_source=LNH+09-27-2018&utm_campaign=UAO+Latest+News+Headlines

Small drone market to drive industry worth to £30bn by 2025 BUSINESS HEADLINE NEWS INTERNATIONAL INVESTMENT ALEX DOUGLAS SEPTEMBER 25, 2018

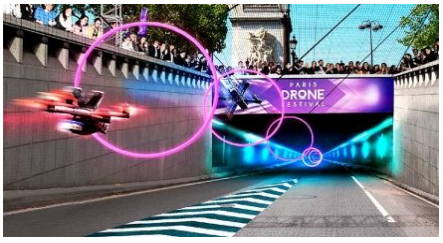
The small drone market is set to grow, and could be worth £30.6bn by 2025 according to new market research.

With the current market being valued at £10.2bn, the figures suggest that within seven years the industry would have grown by £20.4bn. If correct, the research, carried out by MarketsandMarkets, has indicated a compound annual growth rate (CAGR) of 17.04%.

The civil & commercial application segment of the small drones market is projected to grow at the highest CAGR during the forecast period. Asia Pacific is projected to be the fastest-growing market for small drones between now and 2025. sThe research outlined Northrop Grumman, Boeing, DJI, Parrot, Lockheed Martin, Textron, AeroVironment and Israel Aerospace Industries as the current key players in the market. http://www.commercialdroneprofessional.com/small-drone-market-growth-to-drive-industry-worth-to-over-30bn-by-2025/

28Sep18

A look at drone racing in 2018: it's getting huge September 26, 2018 Feilidh Dwyer



In the fall of 2014 the first official FPV (first person view) drone race was held at Apollo XI RC Field in Los Angeles, California. Four years have since passed and this high-tech sport has positively flourished. In April, the Drone Champions League (DCL), one of the world's largest professional racing organizations, held an event along the the famous Champs-Élsees in Paris which was watched by 150,000 fans. A rival organization,

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

the Drone Racing League, will this year host races in the US, France, Germany and Saudi Arabia which are broadcast in more than 90 countries on channels such as ESPN and Sky Sports. The winner, to be decided by the final event in November will take away at least $100,000.

The 2016 and 2017 Drone Racing League Champion from the USA Jordan 'Jet' Temkin.

Racing drones are built for speed and streamlined for aerodynamic performance. Racing drones go so hard, they generally don't stay airborne longer than 5 minutes.

An example of an FPV drone track.

There's enough money in the game now that some competitors are able to make drone racing their full-time profession.

This month, the Drone Racing League launched a competition in which teams of university students and other drone enthusiasts use autonomous drones to compete in races against professional drone pilots. The first team to beat a professional pilot with an AI drone will win $250,000.

The DRL X achieved Guiness World Record speed record of 164 mph in 2017. It weighs 1.7 pounds.

The attraction of the sport is easy to see and similar to other types of racing: high speeds, crashes increasingly complex tracks and more dimensions to work with than ground-based racing.
https://www.wetalkuav.com/a-look-at-drone-racing-in-2018-its-getting-huge/

Airbus conducts MUT test flights using Do-DT25 target drones NEWS 27 SEPTEMBER 2018

Airbus has successfully carried out manned-unmanned teaming test flight campaigns for future air combat systems. The campaigns were conducted using five Airbus-built Do-DT25 target drones that demonstrated the ability to control unmanned systems from a manned aircraft.

Flight tests were carried out in a test zone of Germany's Baltic Sea area. They involved the drones being controlled by a mission group commander who was airborne in a manned

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

command and control aircraft. The flights served multiple purposes, including validating elements such as connectivity, human-machine interface, and the concept of teaming intelligence through mission group management.

A major element that supported the successful test flights was the advanced flight control and flight management system for unmanned air vehicles. Developed by Airbus, the system combines fully automatic guidance, navigation and control with intelligent swarming capabilities.https://www.airforce-technology.com/news/airbus-mut-test-flights-dt25/

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