UAS and SmallSat Weekly News

Contents

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Leonardo Delivers More Falco UAVs To The Middle East Chris Pocock January 11, 2018

The Falco EVO was exhibited at the Dubai Airshow with Leonardo's own Gabbiano surveillance radar.

Leonardo has delivered the first Falco EVO system to one of two customers in the Middle East/Gulf for the larger version of the surveillance UAS. The Falco EVO first flew in 2012, and offers a 120-kg payload that can be flown for more than 22 hours, compared with 70 kg and 14 hours for the original Falco. The two customers for the Evo are probably Jordan and Saudi Arabia, both of which bought the earlier model.

The delivery was made last September but not announced until the Dubai Airshow in November, where Leonardo exhibited a Falco EVO equipped with the company's own Gabbiano lightweight multimode radar. Leonardo says that more than 50 Falco systems are currently in operation on three continents, having logged more than 10,000 flying hours. The launch customer was Pakistan, and Turkmenistan is believed to be the other customer in Central Asia. https://www.ainonline.com/aviation-news/defense/2018-01-11/leonardo-delivers-more-falco-uavs-middle-east

Air Force to bolster weather capabilities with small satellites and sensors Debra Werner — January 11, 2018

This artist's concept shows the new Weather System Follow-on – Microwave satellite Ball Aerospace is building for the U.S. Air Force under a contract awarded in November. It includes a passive microwave imaging radiometer instrument and energetic charged particle sensor supplied by the government.

AUSTIN, Texas — The U.S. Air Force's future weather satellite plans are beginning to take shape but are centered around enhancing information technology, cybersecurity and small satellites in the near term rather than a new generation of large, sophisticated spacecraft to replace the Defense Meteorological Satellite Program.

the Air Force is moving ahead with plans to buy satellites to fulfill its requirements for microwave, electro-optical and infrared observations. To bridge the gap created by the end

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of Defense Meteorological Satellite-19 operations, the Air Force plans to work with the Pentagon's Operationally Responsive Space Office to launch a small satellite with electro-optical and infrared imagers in 2021 or 2022 to characterize clouds. http://spacenews.com/air-force-to-bolster-weather-capabilities-with-small-satellites-and-sensors/

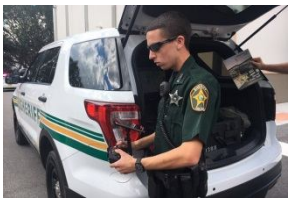
New York State Police launch drone program GCN Staff Jan 11, 2018

New York State Police will begin using drones to support law enforcement missions, including disaster response and traffic safety. The first four unmanned aerial systems will be put into service this month, with 14 more scheduled to deploy by April.

The drones are intended to give the State Police more flexibility and efficiency, reducing response times and making operations safer, more efficient and cost-effective. The State Police plan to use the drones to document and help reconstruct serious motor vehicle crashes, saving time and resulting in shorter road closures. Investigators will also use the drones to document and photograph crime scenes, officials said.

State Police drone operators will be certified by the Federal Aviation Administration and undergo 32 hours of hands-on training with the systems. The New York State Trooper Foundation, a non-profit organization formed in 1984 to support the State Police, is donating 16 of the drones systems. https://gcn.com/articles/2018/01/11/ny-state-police-drone.aspx

Polk Sheriff's Office expanding use of drones during emergencies Stephanie Claytor, January 12, 2018



A Polk County Sheriff's Office deputy operating a drone via remote control

LAKELAND -- The Polk County Sheriff's Office is expanding its usage of drones, or "aerial devices" as Sheriff Grady Judd prefers to call them, starting Jan. 29. It's part of the sheriff's office's launch of its new aerial response team, or ART for short. Initially, ten deputies on the day shift will be FAA certified and have the added responsibility of operating a drone during emergencies.

Judd said this team will make it easier to track down armed suspects and reduce the risk of deputies getting hurt. He hopes to expand it to the night shift if the launch is successful.

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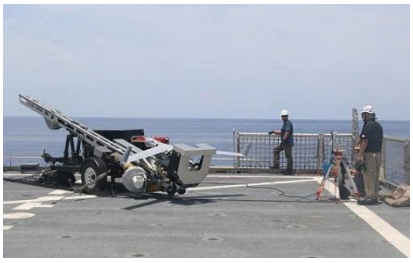
"It has to be an emergency. It has to be a missing or endangered person," said Judd, mentioning the drones will also be used to help locate active shooters and suspects on the run.

For the past ten years, the agency's SWAT team has used the drones.

Without a drone or helicopter, Judd said the situation is much more dangerous for the deputies.
http://www.baynews9.com/content/news/baynews9/news/article.html/content/news/articles/bn9/2018/1/11/polk_sheriff_s_offic.html

Coast Guard Closer to Acquiring Long-Awaited Ship-Based Drone 1/11/2018 Connie Lee



Preparation to launch ScanEagle unmanned aerial vehicle while aboard the USNS Spearhead in 2015.

After more than a decade of waiting, the Coast Guard plans to release by the end of the month a request for proposals for a small unmanned aerial system to be launched off national security cutters, the service's director of acquisition programs and program executive officer said Jan 11. The Coast Guard hopes to release an eight-year contract and outfit eight NCSs with the UAS force package, Rear Adm. Mike Haycock said at the annual Surface Navy Association's National Symposium in Arlington, Virginia.

The Coast Guard announced last year that the ScanEagle prototypes manufactured by Insitu helped the sailors on the Stratton national security cutter complete nine of 11 drug seizures during the summer.

The Coast Guard is seeking a low-cost system to provide aerial surveillance and a tactical airborne intelligence, surveillance, and reconnaissance capability and the ability to remain airborne for at least 12 hours per day. http://www.nationaldefensemagazine.org/articles/2018/1/11/coast-guard-aims-to-release-rfp-for-new-drone-this-month

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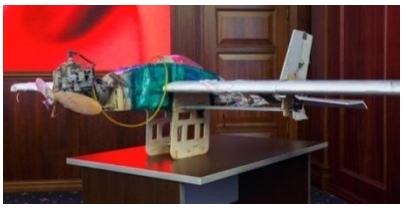
The US should be very worried about the drone attacks on Russia's bases in Syria

Daniel Brown Jan. 12, 2018



One of the drones Russia says attacked its military bases in Syria. Russian MoD

Russia said its military brought down three of the 13 drones that swarmed and attacked its Navy and air bases in Syria last week.

Russia's claim should worry the US because its military doesn't currently have the capability to electronically bring down swarming drones, according to Brett Velicovich, a leading expert in drones and author of "Drone Warrior." "What I think is the most concerning here quite frankly is that the Russians were able to electronically bring them down," Velicovich told Business Insider in an email. "Even the US Government doesn't have this all-encompassing capability yet."

"So either the Russians are completely lying about bringing multiple drones down at the same time or if true, then the US needs to figure out how they got the technology to do so despite us usually being on the forefront of this stuff and replicate it for our forces," he added. http://www.businessinsider.com/us-should-worry-about-russia-syria-base-drone-attacks-2018-1

A CLEVER RADIO TRICK CAN TELL IF A DRONE IS WATCHING YOU

ANDY GREENBERG SECURITY 01.12.18

Researchers at Ben Gurion University in Beer Sheva, Israel have built a proof-of-concept system for counter-surveillance against spy drones that demonstrates a clever way to determine whether a certain person or object is under aerial surveillance. They first generate a recognizable pattern on whatever subject—a window, say—someone might want to guard from potential surveillance. Then they remotely intercept a drone's radio signals to look for that pattern in the streaming video the drone sends back to its operator. If they spot it, they can determine that the drone is looking at their subject.

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The researchers' technique takes advantage of an efficiency feature streaming video has used for years, known as "delta frames." Instead of encoding video as a series of raw images, it's compressed into a series of changes from the previous image in the video. That means when a streaming video shows a still object, it transmits fewer bytes of data than when it shows one that moves or changes color. That compression feature can reveal key information about the content of the video to someone who's intercepting the streaming data, security researchers have shown in recent research, even when the data is encrypted.
https://www.wired.com/story/a-clever-radio-trick-can-tell-if-a-drone-is-watching-you/

Drone trends to watch in 2018: Big data, flying taxis, and home security YARIV BASH, FLYTREXAMIT REGEV, FLYTREX JANUARY 13, 2018

Image: Volocopter GmbH

Drones are going to see significant new capabilities in 2018. The use of multiple high-functioning cameras as well as upgraded Global Navigation Satellite System (GNSS) will enhance navigational acumen far beyond that of today's drone models. This, combined with ultra-fast charging and longer-lasting batteries, means the drones of 2018 will have far greater range and performance flexibility.

1. ***Drone-enabled big data*** In 2017, drones helped determine damage following several natural disasters. Kespry provides an aerial intelligence platform integrated with cloud storage to streamline insurance claims and help analysts better grasp the scope of a disaster. CyPhy specializes in high-endurance tethered drones that provide vital information and real-time footage to first responders. And Flyability has created Elios, an inspection drone designed to explore indoor and confined spaces to guide safety improvements to anything from bridges to mines.

Smart drones will become more adept at navigating hazards on their own and communicating amongst themselves to negotiate safe flight paths, alter routes automatically in real-time according to current conditions, and even abort missions altogether if the data shows too much risk.

2. ***Unmanned flying taxis*** The concept first emerged with proof of concept prototypes from major players such as Ehang, whose eco-friendly AAVs aim to serving as autonomous personal transportation devices. The company has raised over $50 million in funding.

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Volocopter, a German company, is featuring a two-seated drone with 18 rotors. It received $30 million in funding from Daimler and was also chosen to lead Dubai's revolutionary aerial shuttle service, with testing already taking place.

3. ***Home surveillance via drone*** Home security cameras could soon become a thing of the past with the rise of autonomous, multi-sensor drones. These drones will self-activate upon detecting noise or suspicious movement and fly inside or around a property until the threat is found and thwarted. https://venturebeat.com/2018/01/13/drone-trends-to-watch-in-2018-big-data-flying-taxis-and-home-security/

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Bell Helicopter unveils plans for air taxis, but when will they be zipping around?

BILL HANNA Fort Worth Star-Telegram

Bell Helicopter's autonomous air taxi concept is displayed at CES International on Jan. 9 in Las Vegas.

If all goes according to plan, urban air taxis could be zipping across the Dallas-Fort Worth area within the next decade.

At last week's Consumer Electronics Show in Las Vegas, Bell Helicopter will roll out its air taxi cabin design. The mockup will include four seats. During the electronics show, attendees could take a simulator ride to get a sense of what the experience will be like. "It's designed initially to have a pilot, called a mission manager. Eventually, we'll move towards full autonomy" Snyder said.

In April, Uber announced it was working with manufacturers including Bell to provide on-demand air transportation. Uber said Dallas-Fort Worth would be a test market, with plans to launch a network by 2020. Hillwood Properties, the developer of AllianceTexas, is also a partner with Uber to develop vertical skyports, called vertiports, with plans to develop two to five ports within the year.

The first vertiports will be at Dallas/Fort Worth Airport and in Frisco, Hillwood said last year. Other vertiports could eventually be built at Victory Park in Dallas, near AT&T Stadium and Globe Life Park in Arlington, and at the old Tandy heliport on the Trinity River in downtown Fort Worth. http://digital.olivesoftware.com/olive/odn/VPInsideBusiness/

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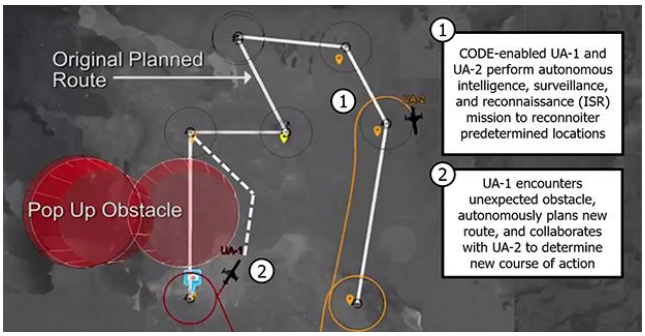
DARPA completes second phase of swarming demo 12 JANUARY, 2018

FLIGHTGLOBAL.COM LEIGH GIANGRECO
WASHINGTON DC



The Defense Advanced Research Projects Agency has completed the second phase of its collaborative control technology for unmanned air systems demonstration, the next step in an effort to orchestrate swarms of legacy UAS with the hand of a single human operator.

Lockheed Martin and Raytheon collaborated with six smaller companies on the phase 2 demonstration for Collaborative Operations in Denied Environment (CODE), flying RQ-23 Tigersharks modified with CODE hardware and open architecture software, according to an 8 January DARPA release. Phase 2 built on earlier work that developed algorithms to control the UAS in environments with limited communication and controlled the aircraft's flight direction, altitude, speed and sensors.

CODE fits in with DARPA's larger vision of swarming UAVs controlled by a single source. Last year, air force officials teased an "Ender's Game" concept that would control several UAVs with the wave of the hand. DARPA later solidified that idea with a broad agency announcement for its OFFensive Swarm-Enabled Tactics (OFFSET) programme, which called for techniques such as gaming leaderboards that would encourage users to frequently submit high quality swarm tactics that would be incorporated into software.
https://www.flightglobal.com/news/articles/darpa-completes-second-phase-of-swarming-demo-444863/

The Changing of the Guard: Thank you, Michael Huerta Miriam McNabbon: January 12, 2018

It's easy to list Huerta's accomplishments by simply listing the regulations that passed under his watch – most notably, the Part 107 regulations that opened the skies to commercial drone businesses. But his lasting legacy may be more important: the idea that regulators and industry can actually – sometimes, at least – be on the same team.

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When I heard Michael Huerta speak at last May's AUVSI Xponential conference, his fourth, I joined the crowd in a genuinely enthusiastic welcome. He thanked the Drone Advisory Committee, and mentioned some of the new opportunities for collaboration with different industry sectors that had been put in place. "…There is no question in my mind that the significant milestones we have achieved so far are because stakeholders from across government and industry have come together," he said.

Whether you love or loathe the FAA's drone policies, Huerta did his best to give as many voices as possible a chance to speak. He moved things forward. He showed up to hear what the industry thought. And he showed genuine enthusiasm for the new technologies and capabilities that drones demonstrate. Thank you, Michael Huerta.
https://dronelife.com/2018/01/12/changing-guard-thank-michael-huerta/

UAV LiDAR Technology Used for UK Forestry Research 15 Jan 2018 | Caroline Rees

Aberystwyth University has announced that it has invested in unmanned aerial vehicle (UAV) technology to expand their state-of-the-art forestry research.

The Earth Observation and Ecosystem Dynamics Group at Aberystwyth University in Wales worked with COPTRZ, a drone sales and consulting firm, to develop a unique LiDAR and spectral imaging solution. The new drone solution will be used to enhance the university's research by enabling the measurement of standing timber volumes, forest biomass and carbon content.

The Volantä UAV LiDAR system will "enable survey grade point clouds to be captured using a sub 20Kg drone linked to spectral imaging data," according to COPTRZ. "The data captured will then be used to monitor the successful transition of plantation forests to Continuous Cover Forestry, a forest management approach that seeks to increase the ecological diversity of British forests."

Osian Roberts, PhD Student at Aberystwyth University, explained: "Aberystwyth University owns several fixed-wing and multi-rotor UAVs, and we have now added a LiDAR unit that will enable the direct measurement of forest attributes such as tree height, stocking density and canopy cover." http://www.unmannedsystemstechnology.com/2018/01/uav-lidar-technology-used-uk-forestry-

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research/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=c8e8447ed6-eBrief_2018_Jan_16&utm_medium=email&utm_term=0_6fc3c01e8d-c8e8447ed6-111778317

Long-Range, Detect-and-Avoid Radar Released for UAVs 11 Jan 2018 | Caroline Rees

Fortem Technologies has announced the availability of TrueView R20,a compact, high-performance detect-and-avoid radar solution for unmanned aerial vehicles (UAVs).

Fortem's radar technology has been hardened over the past six years through rigorous testing with the US Department of Defense. TrueView extends this technology to detect potential air-to-air collisions and enables unmanned aircraft to safely navigate beyond-visual-line-of-sight (BVLOS) day or night and in clouds, fog, smog and other challenging weather conditions.

Using AI algorithms, TrueView provides accurate real-time situational intelligence and awareness for safe, autonomous, unmanned aircraft operations. Fortem TrueView R20 weighs 1.5 lbs. and features a low SWaP-C (size, weight, power and cost) profile.
http://www.unmannedsystemstechnology.com/2018/01/fortem-technologies-announces-new-long-range-detect-avoid-drone-solution/

Drone Delivery Canada Expands Testing Program to U.S. 15 Jan 2018 | Caroline Rees

Drone Delivery Canada has announced that the company is expanding its commercial testing program to the United States of America at the New York Griffiss International Airport UAS Test Site, located in Rome, New York.

The company anticipates that the US Pilot Program will then run through the balance of the year. This new initiative expands DDC's testing program to include geographies within the United States utilizing its Sparrow X1000 drone, which recently achieved Compliant UAV Status with Transport Canada. For testing, DDCs will utilize its own proprietary FLYTE management software that is designed to support semi-autonomous flight as well as BVLOS (beyond visual line of site) flights designed for commercial drone deliveries.
http://www.unmannedsystemstechnology.com/2018/01/drone-delivery-canada-expands-testing-program-u-s/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=c8e8447ed6-eBrief_2018_Jan_16&utm_medium=email&utm_term=0_6fc3c01e8d-c8e8447ed6-119747501

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Intel shows off 'flying car' at CES keynote (it's a drone) ALFRED NG JANUARY 8, 2018

At CES on Monday, Intel CEO Brian Krzanich showed off the Volocopter, an autonomous passenger drone, which he called "essentially a flying car." The Volocopter comes from a Germany-based company that launched in 2012, with its first flight in 2013.

Intel brought it to its stage at CES at the Park Theater at the Monte Carlo Hotel on Monday, with two seats open. It took off inside the keynote venue without a pilot flying it, while it was tethered down.

"Imagine pulling out your phone, opening up a transportation app and summoning your own personalized ride by air taxi," Krzanich said. "That sci-fi vision of the future is actually much closer than you might think." But don't expect to hop in a "flying car" just yet. A disclaimer popped up underneath the keynote stream, noting the Volocopter won't be available in the US until it receives authorization from the Federal Aviation Administration.

Volocopter's CEO Florian Reuter said the self-flying drone was "extremely simple to fly, quiet, and when running on its batteries, emission free." https://www.cnet.com/news/intel-shows-off-flying-car-at-ces-keynote-its-a-drone/

17Jan18

Farmers learn ways to check crops using drones KATIE NUSSBAUM Savannah Morning News

Joe Mari Maja, a research sensor engineer with Clemson University, talks about the DJI Inspire 2 drone during an agriculture educational session Thursday at the South East Regional Fruit & Vegetable Conference at the Savannah International Trade and Convention Center. The session presented farmers and growers with the basics on using drones to survey crops, animals or storm damage.

On Thursday, John Perry, president of the Coastal Plains chapter of the Association for Unmanned Vehicle Systems International, along with representatives from the Southern Risk Management Education Center at the University of Arkansas Division Of Agriculture, presented an all-day session on the use of drones in agriculture during the annual South East Regional Fruit & Vegetable Conference at the Savannah International Trade & Convention Center.

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The technology, known as precision agriculture, gives farmers a new way to inspect crops, look for damage, detect nitrogen levels and apply spray applications of fertilizer or pesticides more efficiently, Perry said. "There's a 2,000-acre pasture farm that we work with, and they had to see if their fences were still intact and they have something like 1,800 cows on the property, so it would be a real mess if they couldn't see that," Knaul said.

On another job after Irma, the survey revealed an orchard that had lost nearly 5,000 trees across about 100 acres. Another revealed acres of damaged corn, which wasn't visible from ground level. The service gave the farmer the knowledge to act and harvest the area before it was too late. http://www.blufftontoday.com/news/2018-01-14/farmers-learn-ways-check-crops-using-drones

New law means drinking and droning don't mix in NJ Doug Criss, CNN January 17, 2018

A bill banning people from operating unmanned aircraft devices while under the influence of alcohol or drugs was signed by Gov. Chris Christie on Monday, his last day in office, the Star-Ledger reports.

The bill defines "under the influence" as a blood-alcohol concentration of 0.08% or more -- the same threshold set by many states' drunk-driving laws. It also bans flying drones while under the influence of "a narcotic, hallucinogenic, or habit-producing drug."

Penalties for violating the new law include up to six months in prison and a $1,000 fine. The law also bans operating drones in or near jails or prisons, using them in a way that interferes with first responders or using them for hunting wildlife.

Seventeen states passed drone-related legislation in 2017, according to the National Conference of State Legislatures. http://www.cnn.com/2018/01/16/us/new-jersey-drones-drinking-trnd/index.html

SPACE DRONE™ Spacecraft To Provide New Lease Of Life To Aging Satellites January 17, 2018 *ITEdgeNews*

Effective Space Solutions Ltd, Effective Space, UK headquartered company pioneering last-mile logistics in space, has announced that it has signed over US$100 million multi-year contract with a major

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regional satellite operator. The agreement will see two Effective Space SPACE DRONE™ spacecraft launched in 2020, providing station-keeping and attitude-control capabilities to significantly extend the life of two communication satellites.

Effective Space's SPACE DRONE™ spacecraft weigh less than 400kg and are equipped with electric thrusters and a non-invasive universal docking system that allows for docking with almost all the 400+ communications satellites currently in orbit. The spacecraft are rideshare-launch compatible and capable of multiple missions during their design life span of up to 15 years. Once docked with their host satellites, the SPACE DRONE™ spacecraft will provide station-keeping and attitude-control capabilities that will extend the life of the satellites by several years.

Effective Space's initial focus for the SPACE DRONE™ spacecraft is on station-keeping and attitude-control, relocation, deorbiting, orbit and inclination correction and 'bringing into use' (BIU), however they could equally be deployed in the future for space active debris removal, the support of low or medium earth orbit constellations and in-space explorations, mining and manufacturing logistics. https://itedgenews.ng/2018/01/17/space-drone-spacecraft-provide-new-lease-life-aging-satellites/

18Jan18

Orbital ATK Demos Counter-Drone Tech at Maneuver Fires Integrated Experiment

Jane Edwardson: January 18, 2018 Industry News

Orbital ATK demonstrated its anti-unmanned aerial system defense system at the Maneuver Fires Integrated Experiment held at Fort Sill in Oklahoma in an effort to gather feedback and address short-range air defense capability gaps.

The company said Wednesday the AUDS platform worked to help soldiers detect, track and target hostile UAS during the demonstration.

AUDS has electronic and kinetic components that include the *XM914 30mm Bushmaster Chain Gun* mounted on the *Stryker* armored vehicle. http://blog.executivebiz.com/2018/01/orbital-atk-demos-counter-drone-tech-at-maneuver-fires-integrated-experiment/

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Oklahoma officials warn against drones near air force base Associated Press January 17

ENID, Okla. — Officials at a northern Oklahoma air force base are asking the public to keep recreational drones away from aircraft after a near collision on a training flight. Lt. Col. Eric Schmidt works at Vance Air Force Base. He told the Enid News & Eagle that an aircraft on a Jan. 9 training flight came within about 50 feet of a drone flying at an altitude of approximately 1,000 feet. The drone had a light on, but wasn't immediately spotted, Schmidt said.

People who fly drones recreationally often don't realize how dangerous a drone can be to an aircraft, Schmidt said. A drone colliding with an aircraft could structurally damage the aircraft and put the lives of crew and people on the ground in danger, he said. "There's somebody out there who has a toy, and it could cause us harm," Schmidt said. "It could have killed those guys." https://www.washingtonpost.com/national/oklahoma-officials-warn-against-drones-near-air-force-base/2018/01/17/39e937a0-fbc5-11e7-9b5d-bbf0da31214d_story.html?utm_term=.fb6d36c91a8f

Sky Taxis: How To Make Them A Reality TOM RISEN | JANUARY 2018

Inspired by consumer drones and Uber's 2016 announcement that it aims to transport passengers in self-piloting aircraft, a cast of competing startups and established players are in discussion with NASA and the FAA about how to shepherd this proposed new class of aircraft into service. Hurdles abound, from social acceptance to safety certifications.

Aurora is developing its electric vertical takeoff and landing aircraft in a partnership with Uber. Here the unmanned subscale version makes its first test flight, in April.

AirSpaceX, a 10-person air mobility company near Detroit, has a tilt-wing propeller aircraft called MOBi, that must vie against at least 12 other designs in the nascent market.

One is Vahana, a tandem tilt-wing full-scale demonstrator made by Airbus' Silicon Valley arm, A3.

The Vahana test aircraft in Airbus' A3 facility in Santa Clara, Calif.

Then there is the eight-propeller aircraft conceived by Uber's partner, Aurora Flight Sciences, now a Boeing subsidiary.

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John Hansman, a professor of aeronautics and astronautics at the Massachusetts Institute of Technology, predicts that during the span of years it will take the FAA to approve these aircraft, consumers will gradually adjust to the idea of self-flying taxis, because they will see publicity about the results of safety tests.

Hansman's team at MIT is doing research for NASA on operational barriers for urban air mobility, including how to update air traffic control so fleets of air taxis can safely fly over the same city at once. https://aerospaceamerica.aiaa.org/features/sky-taxis-how-to-make-them-a-reality/

Another Tool for Fighting Fires: Autonomous Air Tankers Miriam McNabbon: January 16, 2018

Firefighters may soon get another tool in the drone arsenal, as Thrush Aircraft and Drone America form an alliance to begin development of the world's first autonomous air tanker.

Thrush Aircraft manufactures small manned planes; Drone America designs and manufactures commercial drones. "The new tanker is expected to blend Thrush's large airframe and airborne delivery system expertise with Drone America's "Ariel" amphibious platform – resulting in an aircraft capable of delivering some 800 gallons of water or fire retardant, autonomously," says a press release. "The aircraft will also have the ability to conduct long-duration tactical surveillance flights over a fire to give firefighters, operations managers, and public safety coordinators on the ground real-time understanding of conditions and fire behavior."

Autonomous tankers have a unique advantage over manned aircraft – they can fly at night. "Currently, only manned air tankers are used in airborne firefighting operations, and they are restricted from fighting fires during night hours," says the announcement. "However, it is during this "dark window" that autonomous tankers can take special advantage of the cooler night temperatures and reduced fire activity to support tactical ground operations, without risking the lives of pilots." https://dronelife.com/2018/01/16/another-tool-fighting-fires-autonomous-air-tankers/

2018 Already Busy for Police Drones Jason Reagan January 15, 2018

From the green hills of Northern Ireland to the sunny shores of Trinidad, police drones are on patrol – saving lives, pursuing bad guys and protecting borders.

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Estonia - Last week, the Estonian Police and Border Guard Board demonstrated nine recently purchased ELIX-XL quadcopters from Estonian drone company ELI Airborne Solutions deployed to protect the Baltic nation's eastern border. The $600,000 drone squadron will also be used for search and rescue.

Northern Ireland - Northern Ireland police launched drones last week to search for a 31-year-old missing man. Beatbox performer Michael Cullen was last seen Jan. 9 in the Cave Hill region near Belfast. His disappearance was described as "highly out of character." The Police Service of Northern Ireland's Air Support Unit is sweeping the area north of Belfast.

Trinidad - Last week, officers in Trinidad tracked down two suspects who reportedly fired shots before fleeing the scene in a stolen car. Thanks to the eye in the sky, police successfully detained two men, recovering a Lugar semi-automatic pistol and more than 180 grams of marijuana.

Isle of Man - Police are seeking a drone facility to "provide a 24-hour call-out to assist with road traffic collisions, area searches and crime scene investigations," according to news reports.
https://dronelife.com/2018/01/15/2018-already-busy-police-drones/

Disrupt or Be Disrupted at Commercial UAV Europe Jeremiah Karpowicz January 18, 2018

As the only pan-European event for professionals responsible for RPAS integration and operation within their enterprise, Commercial UAV Europe is set to showcase key insights around what it means to utilize drone technology to make entire processes faster, cheaper or safer. Taking place in Amsterdam on April 10-12, the event will pull together experts from across the world.

Keynotes for the 2018 event have been announced, one of which will be delivered by Kay Wackwitz from Drone Industry Insights: Data security, mobility concepts and the combination of both are a few of the areas I plan to detail. Much of that is related to what kinds of devices are going to be operating in the airspace, and that's part of the reason the potential of 3rd dimension travel so inspiring. New concepts around flying cars and aerial taxis are popping up on a weekly basis.

There are also some bigger trends that I want to touch on with larger companies grabbing the best pieces of a given organization or technology before it's too late. That's something you can

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see with developments like Terrafugia being acquired by Volvo-owner Geely, and Aurora Flight Sciences being acquired by Boeing.

All of it is really about making sure air travel is safe no matter what you're flying. It's a big challenge, and the increasing connectivity and degree of automation does not necessarily help, since that kind of automation could potentially mean we have that many more weak links in the ecosystem. There's huge potential with them though, and it's the reason I sincerely hope and believe these technologies will have a big and positive impact on the unmanned systems market in 2018. https://www.expouav.com/news/latest/disrupt-disrupted-commercial-uav-europe/?utm_source=informz&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter

Ballard Announces New Improvements in Hydrogen Fuel Cell Technology for Drones Juan Plaza January 15, 2018

On December 22nd Ballard Power Systems (NASDAQ: BLDP; TSX: BLDP) announced that the company has developed a next generation high performance fuel cell propulsion system to power unmanned aerial vehicles.

We've been particularly interested in any new developments in hydrogen fuel cell technology given the potential for higher flying time as an alternative to the restrictive current flying time of 25 minutes or less found on most commercially available multi-copters.

Commercial operators today are restricted not by technology but by the regulations that prevent longer flights and BVLOS. The demand for power technologies that would allow longer flights and faster return on investment on aerial platforms will grow dramatically over the next few years as BVLOS missions become commonplace and Ballard is positioning itself to be a leader in the space.

Power technologies such as hydrogen fuel cells are contributing to keep our unmanned aircraft longer in the air but ultimately it would be technologies such as detect-and-avoid, proximity sensors and many others that would allow the FAA to open the flood gates of unrestricted UAV operations in controlled airspace. https://www.expouav.com/news/latest/ballard-improvements-hydrogen-fuel-cell-technology-drones/?utm_source=informz&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter

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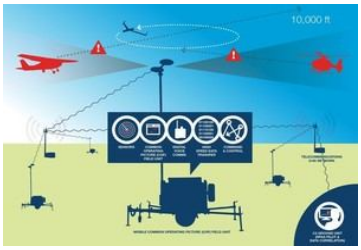
Insitu provides UAS pilots with improved situational awareness Patrick C. Miller | January 17, 2018



Boeing subsidiary Insitu successfully demonstrated its ground-based airspace situational awareness system for unmanned aircraft during a test flown at the Mississippi State University Raspet Flight Center.

The system has the ability to detect nearby aircraft flying within and beyond a drone operator's line of sight. Remotely detecting and tracking other airspace users, the system immediately sends air traffic information back to a ground-control station—assisting operators in safely operating unmanned aircraft systems (UAS) over extended ranges.

Insitu designed, developed and tested the airspace situational awareness system in Australia under a program sponsored by the Queensland Government. The system is designed as an optional layer of safety to enable beyond visual line of sight (BVLOS) capability over a broad area for commercial UAS operations. The system incorporates radio over internet protocol (ROIP) to expand communications with air traffic control and local traffic in the operations area.
http://www.uasmagazine.com/articles/1806/insitu-provides-uas-pilots-with-improved-situational-awareness

19Jan18

Corrections official talks about drone delivery to inmates The Associated Press January 18, 2018

The Georgia Department of Corrections commissioner says he doesn't want drone delivery to become one of the many ways prisoners get things they're not supposed to have. The Telegraph of Macon reported Tuesday that Georgia Department of Corrections Commissioner Gregory Dozier told lawmakers that he will be asking them to support a bill that stipulates that it's illegal for a drone to cross a prison's airspace.

Dozens of reports of drones sighted by corrections officers describe prisons put on lockdown while officers count inmates and scour grounds for any drop-offs. Most of the reports list no contraband found in connection with drone sightings. However, some do report officers finding phones, or what appeared to be marijuana or tobacco.
http://www.miamiherald.com/news/politics-government/national-politics/article195286129.html

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Iris Automation raises $8 million to help autonomous flying machines avoid collisions PAUL SAWERS@PSAWERS JANUARY 19, 2018

Iris Automation, a San Francisco-based startup that's building collision avoidance systems for industrial drones and other autonomous flying machines, has closed an $8 million Series A round of funding led by Bessemer Venture Partners, with participation from Bee Partners.

Iris Automation is setting out to build a "situational awareness" platform that can guide drones and other forms of autonomous air transport safely from A to B.

The company's core customer base is likely to be hardware makers who are not prepared to dedicate the resources necessary to build their own collision avoidance software systems in-house.

"Iris Automation's approach to sensing is unlike anything ever attempted in the autonomous vehicle space," said Iris Automation CEO Alexander Harmsen. "Our team of experts in computer vision, machine learning, and traditional aviation have built a product that will provide the level of safety necessary for pushing the boundaries of what is possible with drones, at a size factor and price point unheard of in the world of aviation." https://venturebeat.com/2018/01/19/iris-automation-raises-8-million-to-help-autonomous-flying-machines-avoid-collisions/

The World's First Passenger Drone Is Straight From The Fifth Element James Swinbanks Jan 19, 2018

The idea of passenger drones makes my skin crawl a little bit. But then again, I'm not a fan of flying or heights, so maybe I should just keep my feet planted on the ground. That wasn't so much of a problem for these folks from the Chinese city of Guangzhou though, who lifted off in the world's first passenger drone last Christmas to deliver some holiday goodness to kids.

It's called the Ehang 184 and is named as such because it can carry one person, has eight propellers and four arms. In this video, they go through a number of drone's features which uses a Microsoft Surface Pad, which can be removed, that shows the main control screen with a bunch of different readouts and display modes along with a map of the surrounding area.

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We're then introduced to a few of the folks behind the Ehang 184's design and construction, which is 100% green and uses only electricity stored in a rechargeable underside battery, providing a flight time of around 20 minutes.

Soon after it's time for takeoff and we're treated to the vehicle in-flight, before it lands not too far away to deliver presents to the local kids. Awww. https://www.gizmodo.com.au/2018/01/the-worlds-first-passenger-drone-is-straight-from-the-fifth-element/

2018 Commercial Drone Industry Predictions

DroneDeploy weighs in on the future of drones in 2018 and beyond

Drone Data and Analysis Enters Real-time—Driving Further Industry Adoption Fast is better than slow. And gathering insights in real-time is where the industry is going. No longer will it take hours, or even a day, to access valuable industry insights.

Advancements in edge computing made possible by the latest mobile and drone hardware have made real-time drone data analysis a reality. In 2017, we saw the introduction of this technology. 2018 will usher in an era of instant insights that will make it possible to understand what's happening on the ground in real time and help organizations make immediate decisions as the drone flies. Not only will real-time drone data have major implications for industries like agriculture and construction, but it will also help drive adoption in new areas like search and rescue, emergency services, and more. https://prismic-io.s3.amazonaws.com/dronedeploy-www%2F39ba38d1-055a-40a4-a463-ef4dc42079f1_dd_2018_industry_predictions_f.pdf