UAS and SmallSat Weekly News

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2018 Commercial Drone Industry Predictions

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

2017 was the biggest year for commercial drones yet. We saw drones used in almost every industry from archaeology to agriculture. More than 66,000 remote pilots were certified by the FAA in the US alone. And major companies have started scaling operations.

What's next as our industry continues to grow and mature in 2018? How will drones continue to transform workflows and generate insights in new and innovative ways? Read on to get DroneDeploy's top 8 predictions for the commercial drone industry in 2018. Here is No. 8:

Consumerization of Drone Hardware Continues; Services Drive Industry Ahead

Consumerization isn't a new trend. You no longer need an engineering degree to get a drone in the air. Just look at DJI, its hardware is getting simpler—not more complicated—which is great for the industry.

Their latest drones are reliable, easy to use, and available at price points companies of all sizes can afford. The DJI model has been hard for others to compete with, causing smaller manufacturers to halt production or pivot to an enterprise software model. According to Skylogic Research, DJI has now amassed an impressive 72% of the global market share for drone hardware (up from 50% in 2016). DJI's growth will continue unless a more substantial, experienced hardware player enters the industry to compete, while other existing manufacturers remain to accommodate niche uses.

This likely means that fewer companies will get into hardware in 2018 as compared with previous years. We expect this will result in the majority of the industry's growth coming from software and other service providers over the next year. https://prismic-io.s3.amazonaws.com/dronedeploy-www%2F39ba38d1-055a-40a4-a463-ef4dc42079f1_dd_2018_industry_predictions_f.pdf

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Autonomous air tankers could soon join the fire-fighting fray DRONES Darren Quick

Air tankers are an important part of the fire-fighting arsenal, but their current reliance on human pilots severely limits their potential. With the goal of expanding aerial firefighting capabilities by removing the human pilot from the aircraft, Nevada-based Drone America and Georgia-based Thrush Aircraft have teamed up to develop the world's first autonomous air tanker.

To allow air tankers to operate tirelessly at all hours of the day or night, Drone America, which specializes in the design and manufacture of UAVs, and Thrush Aircraft, which manufactures a variety of fire-fighting aircraft, have formed a strategic alliance. This is likely to see Drone America drawing on aspects of its Ariel amphibious UAS (pictured below) and Thrush Aircraft supplying its water bombing delivery systems expertise and a large airframe like that used in its 510G aircraft.

The goal is to develop an aircraft with the ability to autonomously deliver around 800 gal (3,000 L) of water or fire retardant to the heart of a fire, while also providing real-time data to ground-based crews through long-duration surveillance flights over a fire. It's also anticipated that the use of infrared cameras, sensors and integrated communications equipment would allow accurate mapping of fire intensity, rate and direction of spread.
https://newatlas.com/autonomous-air-tanker-firefighting/53029/

Drones in a box - Making multicopters easier to use will increase the number in use The Economist, Science and technology Jan 20th 2018

Though regulations will have to change, too

SMALL multicopter drones—souped-up versions of those sold by the million as Christmas toys—have tremendous potential for use in industry and agriculture. Rather than erecting scaffolding or bringing in a mechanical platform to inspect things like roofs and chimneys, the job can be done instantly, and probably for less money, by sending up a

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drone-mounted camera. Drones can also fly along pipelines and power cables, checking for damage faster than a ground-based operation could manage. Similarly, they can survey fields for signs of pest or drought at a fraction of the cost of a manned flight.

Most existing drones do, however, need to be flown by an experienced operator. Indeed, the law often requires this. Drones also need technical support and maintenance. And the people operating them would be well advised to have an understanding of the legal and safety implications of what they are up to. Hence the appeal of the "drone-in-a-box". This is a term being applied to the offerings of several firms that aspire to sell the advantages of drones without the associated worries.

The box in question is a base station that houses the drone, recharges it and transfers the data it has collected to the customer. The drone may fly autonomously, according to a preprogrammed schedule, find its way automatically to a point it is ordered to visit, or be piloted remotely by an operative of the company that supplies the system, from a control centre anywhere on the planet.
https://www.economist.com/news/science-and-technology/21735013-though-regulations-will-have-change-too-making-multicopters-easier-use-will

Aircraft Drone Inspection Technology Lindsay Bjerregaard Jan 19, 2018

Jen Deglmann/AW&ST Avitas Systems

Airbus

Airbus has been developing its Aircam project over the past two years in the Airbus BizLab in Toulouse, France. Working in partnership with the Airbus quality department and the A330 program, the project combines an Intel drone with Airbus' software solution to provide quality experts with high-precision photos of aircraft in less than 15 minutes. Experts are able to analyze the photos and generate quality reports using Airbus' software suite, which Airbus says helps to improve traceability, prevention and reduction of damage. http://www.mro-network.com/emerging-technology/aircraft-drone-inspection-technology/gallery?slide=1

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Coast Guard to launch small drone competition Valerie Insinna

WASHINGTON — Last year, the Coast Guard netted its third largest drug bust of all time with the help of a small drone. Now, the service wants that kind of ISR capability for all of its national security cutters, and plans to jump-start a competition in the coming weeks.

The Coast Guard intends to release a request for proposals within the next three to six weeks for small UAS services, with the award worth no more than $300 million, said Lt. Emma Lutton, a spokeswoman of the service.

Although requirements are not yet finalized, the service wants economically-priced air vehicles that can remain airborne for at least twelve hours a day, Lutton told Defense News.
The drone should also have the size, weight and power to operate an electro-optical/infrared sensor, aeronautical transponder, VHF/UHF communications relay and a non-visible infrared marker. The service also wants a UAS system capable of swapping out those payloads with others, including government-provided systems, in under a couple hours, she said.

The Coast Guard has already reaped the benefits of small drones through a couple of recent demonstrations, which have helped it refine its requirements and concept of operations.
Last year the service, operating a Boeing Insitu ScanEagle aboard the Legend-class cutter Stratton, netted 25 tons of cocaine with a street value of $2.1 billion, said Ron Tremain, the company's business development executive for civil and maritime industries and a former Coast Guard rescue swimmer.
https://www.defensenews.com/digital-show-dailies/surface-navy-association/2018/01/19/coast-guard-to-launch-small-drone-competition/

Maryland College Implements Online UAV Training from U.K. Partner Betsy Lillian

January 18, 2018

U.K.-based Consortiq LLC has partnered with Anne Arundel Community College (AACC) in Arnold, Md., to deliver unmanned aerial vehicle (UAV) training.
Consortiq will be teaching an online course, FAA Part 107 Exam Preparation, which starts Feb. 1 and runs through March 15.

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During the course, students will learn the capabilities and industry applications for small unmanned aircraft systems (UAS) and prepare for the Federal Aviation Administration's (FAA) Part 107 exam while pursuing the necessary knowledge to operate drones safely in commercial environments.

In addition, students will learn to use CQNet, Consortiq's UAS fleet management software. CQNet allows students to plan, record and maintain their drone mission; keep maintenance and checklists in one spot; and check weather, flight restrictions and current airspace details. Consortiq's notable clients include the Police Service of Northern Ireland and the Scottish Rugby Union. Last year, the company opened up a new office in Annapolis, Md. https://unmanned-aerial.com/maryland-college-implements-online-uav-training-u-k-partner

First drone rescue at sea Euronews 19/01/2018

Two simmers caught in a riptide in heavy seas off Australia's coast were rescued when a drone dropped a flotation device above them. Initially bemused by the drop, the pair of teens said that things could have been much worse if the action had not been so quick.

"It probably could've gone a lot worse if they'd had to take their time and come out on a board or something like that."
Monty Greenslade *Rescued swimmer*

Teens Monty Greenslade and Gabe Vidler were caught in a riptide in heavy seas north of Sydney when the coastguards became aware of their predicament.

A drone was scrambled within minutes and sent to just above the swimmers, where it dropped a rescue pod. The flotation device enabled the pair to get back to shore safely.

Although neither of them had believed they were in trouble, the swimmers later expressed their gratitude for the speed of the rescue. http://www.euronews.com/2018/01/19/first-drone-rescue-at-sea

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Startup Rocket Lab Puts Satellites in Orbit for First Time in Successful Test Flight

Andy Pasztor Updated Jan. 21, 2018

Rocket Lab, a space-transportation startup promising frequent, economical launches of small satellites on rockets featuring 3-D printed engine parts, successfully blasted its first payload into orbit from a remote New Zealand pad. Backers of the closely held U.S.-New Zealand company, which include Lockheed Martin Corp., see it promoting a revolution for researchers, entrepreneurs and fledgling commercial projects operating beyond the atmosphere. The 10-year-old company seeks to usher in an era of weekly—or ultimately even more frequent—launches of imaging, weather and other types of low-earth-orbit satellites weighing dozens of pounds to hundreds of pounds each. The projected price tag is about $5 million a launch.

That price is a fraction of the cost for a dedicated launch on existing larger rockets. Small payloads typically share a ride with heavier ones on such boosters, but their schedules can be uncertain and often provide little flexibility for customers hitching a ride with the primary customer. In a release after the launch, Mr. Beck said, "reaching orbit on a second test flight is significant on its own, but successfully deploying customer payloads so early in a new rocket program is almost unprecedented." https://www.wsj.com/articles/startup-rocket-lab-puts-satellites-in-orbit-for-first-time-in-successful-test-flight-1516507208

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Small rockets are finally taking off, but will the market follow? *Jeff Foust January 22, 2018*

An Electron rocket lifts off from Rocket Lab's launch site in New Zealand on January 21 (January 20 US time), successfully placing three cubesats into orbit. (credit: Rocket Lab)

Carlos Niederstrasser of Orbital ATK provided an update on his tracking of the number of small launch vehicles. He said five small launch vehicles are operational today: Orbital ATK's own Pegasus and Minotaur I rockets, and three Chinese vehicles: Kaitouzhe-2, Kuaizhou-1A, and Long March 11. However, by his count, there are 35 small launch vehicles in active development worldwide. Of those 35, just over half, or 18, are US vehicles. Most of the rest come from three other countries: six from China, four from the UK, and three from Spain.

Some industry observers believe that surge in interest is linked to the growing development of smallsats that ultimately will desire dedicated launches. "There's a demand in the development of small satellites," said Tim Chen of NASA's Flight Opportunities Program, which is aiding technology development for some small launch vehicles. "The demand for small satellites has just skyrocketed, no pun intended." http://www.thespacereview.com/article/3415/1

Fort Collins police using drones in crash investigations CASSA NIEDRINGHAUS | Fort Collins Coloradoan January 20, 2018

FORT COLLINS, Colo. — In 2017, Fort Collins police launched drones to investigate serious and fatal crashes for the first time.
The program's first flight was in August, and police used the technology seven times during the course of crash investigations last year.

The drones help police snap photos faster and open roads sooner, according to members of Fort Collins police CRASH team, which responds to serious crashes.
With the use of drones, police continue to mark evidence with tents but can expedite the process by snapping overhead photos and then calculating measurements after the scene has reopened. Police will still spend several hours on scene examining evidence and taking close-up photographs, but the drone can help shave several hours off the process.

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"At the scene, all we're really doing with the drone is taking pictures. We can take those pictures and bring them back," said officer Drew Jurkofsky, a CRASH team member trained in scene reconstruction. "We'll still spend two to three hours taking the measurements, but we do that (at the police station) instead of in the roadway."
https://www.denverpost.com/news/colorado/

MotionPilot Haptic Drone Joystick, Lets You Feel Drone Movements

January 22, 2018 Julian Horsey

Drone pilots may be interested in a new haptic drone joystick developed by start-up MotionPilot, to enable drone pilots to fly drones using just one hand and feel the movement of their drone in a more intuitive way. The new range includes a haptic feedback technology that is capable of providing pilots with a sense of the drone's position as it moves through the air.

The drone control joystick offers pilots three modes to choose from, with each one corresponding to a different ability level, so even experienced users can enjoy a challenge, say its developers. When set to the beginner mode, the system will automatically control the drone's trajectory, making the flying experience as easy as possible and reducing the chance of any fatal crashes. For more skilled pilots the intermediate and advanced modes allow for increasing user control and freedom. All modes can be selected using the companion smartphone application, which can also be utilised to tweak the control system even further to your exact requirements. https://www.geeky-gadgets.com/motionpilot-haptic-drone-joystick-22-01-2018/

Drone photography is changing the way real estate is sold January 22, 2018 Audrey Zhang

The online listing is your first opportunity to showcase your home to potential buyers. With drones, you now have the ability to show potential buyers aspects of your home and neighborhood that was once reserved only for the very high-end market. Aerial photography no longer requires an expensive aircraft, for under $200 a decent drone can be purchased and used with very little instruction.

Studies show that using professional photography is instrumental in selling the home as quickly as possible and for the highest sales price. Drones have added an additional value to online listings.

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Online listings with drone photography or video receive significantly more views than those without. Buyers tend to linger on the site longer as well. Video options and drone shots increase attention and in doing so, the potential buyer has the opportunity to see aspects of the home never seen before.

The real estate industry has embraced drone photography/video whole heartedly, but there are more changes to come. While most municipalities still allow drone piloting by lay-people, hiring a professional is still the best choice. Careful attention to air traffic rules must also be observed. But all-in-all, drones are changing the way we market online homes for sale. https://www.wetalkuav.com/drones-are-changing-real-estate/2/

Leonardo To Lead European Unmanned Maritime Surveillance Project Chris Pocock January 22, 2018

A Leonardo Hero unmanned helicopter on display at the recent Dubai Airshow.

The European Defence Agency (EDA) has chosen Leonardo to lead the OCEAN 2020 project to integrate unmanned platforms for maritime surveillance and interdiction. Leonardo will manage no fewer than 42 partners from 15 European countries, including aerospace/defense companies, research centers, and ministries of defense. The work will lead to an operational demonstration in the Mediterranean Sea in 2019 that will involve Leonardo's Hero and Solo unmanned helicopters, and various naval vessels and systems.

According to Leonardo, OCEAN2020 is the first example of a cross-European military research program. The project will see unmanned platforms of different types (fixed-wing, rotary-wing, surface and underwater) integrated with naval units' command and control centers, allowing for data exchange via satellite, with command and control centers on land. The joint and cooperative use of both manned and unmanned vehicles will also be demonstrated as part of the project. https://www.ainonline.com/aviation-news/defense/2018-01-22/leonardo-lead-european-unmanned-maritime-surveillance-project

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Drones take off in agriculture industry

Andrew Weaver pilots a drone to test the herd's sensitivity to the device.

Could the newest farmhand be a drone?

Research in the College of Agriculture and Life Sciences is bringing drone technology to agriculture, one of the major industries with excellent potential for growth. Specifically, drone technology is being tested with sheep at Virginia Tech. "We are looking at ways drones can be used on small farms," said Dan Swafford, project associate for Virginia Cooperative Extension. "Farms could use drones as a 'check-on' tool to ensure that sheep are where they are supposed to be."

Drones can help farmers gain quick access to see if an animal is in need or injured, to examine if a ewe has delivered a new lamb, or more generally to check the status of the farm. Agriculture is one of the industries where drones will make a big impact in the coming years. A report from PricewaterhouseCoopers found that the potential market for agricultural drones is $32.4 billion because high-tech systems with the ability to monitor crops or livestock can reduce human errors and save time and money. https://vtnews.vt.edu/articles/2018/01/cals-sheepdrone.html

The Drone Industry in 2018: A Forecast for Key Regulatory Developments

Sean T. Pribyl -January 22, 2018

Here are three noteworthy legislative developments to watch in 2018.

Reauthorization of the FAA is required by March 31, 2018. This is a perfect vehicle for new drone legislation. Sec. 2163 provides penalties for the unsafe operation of unmanned aircraft in close proximity to airports or those that interfere with an aircraft carrying one or more occupants.

Rep. Bill Shuster, R-Pa., chairman of the House Transportation and Infrastructure Committee, sponsored the 21st Century AIRR Act (H.R.2997). This bill directs a study on roles of governments relating to the low-altitude operation of small UAS, as well as a study to be undertaken on financing unmanned aircraft services.

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Sen. Mark Warner, D-Va., sponsored a bill that aims to further the development of UAS technology. The Safe DRONE Act of 2017 (S.1410) includes wide-ranging mandates on drone-related matters such as traffic management, training and communications for UAS. It also includes provisions on an interagency working group on enhanced safety and security for small UAS with the secretary of defense, the attorney general and the director of the Federal Bureau of Investigation. https://unmanned-aerial.com/drone-industry-2018-forecast-key-regulatory-developments?utm_medium=email&utm_source=LNH+01-23-2018&utm_campaign=UAO+Latest+News+Headlines

Danbury, Conn., Firefighters Green-Lit to Fly New UAV at Night Betsy Lillian - January 22, 2018

Thanks to Federal Aviation Administration (FAA) approval, the Danbury Fire Department in Connecticut is now able to put its recently acquired drone in the air at night.

According to a Facebook post from the Danbury Fire Department, the first responders recently purchased a DJI Matrice 210 unmanned aerial vehicle, along with both FLIR infrared and 4K cameras. Under its Part 107 rulemaking for commercial UAV operations, the FAA has issued a waiver to the Danbury Fire Department to conduct flights at night, thus putting the FLIR thermal camera to good use. A local report from News12 Connecticut says the $20,000 technology was purchased thanks to an anonymous donor. Located near Danbury Municipal Airport, the department has also secured approval from airport authorities.
https://unmanned-aerial.com/danbury-conn-firefighters-green-lit-fly-new-uav-night?utm_medium=email&utm_source=LNH+01-23-2018&utm_campaign=UAO+Latest+News+Headlines

AirSpaceX Unveils Prototype Electric VTOL Unmanned Aircraft 17 Jan 2018 Caroline Rees

Airspace Experience Technologies (AirSpaceX), a subsidiary of Detroit Aircraft Corp, has revealed a sub-scale model of its autonomous, electric VTOL unmanned aircraft, "MOBi-ONE," at the North American International Auto Show in Detroit. MOBi-ONE is designed to autonomously takeoff like a helicopter, fly like a plane, and transport passengers or cargo between urban centers, suburbs, and airports within 60 miles. MOBi-ONE will fly at a top speed of 250 MPH leveraging existing Electric Vehicle (EV) architecture and autonomous technologies.

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"Our goal is to deploy 2,500 aircraft at the nation's 50 largest cities by 2026, targeting existing infrastructure at first," said JP Yorro, Chief Commercial Officer at AirSpaceX. "The MOBi development program will be capital intensive, but air Mobility as a Service could generate billions for the economy. We are considering a broad array of financing options, including potential fractional ownership interest and profit sharing models." http://www.unmannedsystemstechnology.com/2018/01/airspacex-unveils-prototype-electric-vtol-unmanned-aircraft/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=dad9e0561b-eBrief_2018_Jan_23&utm_medium=email&utm_term=0_6fc3c01e8d-dad9e0561b-111778317

DJI UNVEILS SMARTPHONE-SIZED MAVIC AIR UAS AUVSI NEWS JAN 23, 2018

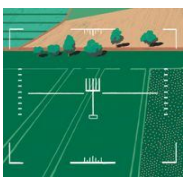
On Tuesday, Jan. 23, at an event in New York, DJI unveiled its latest product, Mavic Air, which the company describes as an "ultra-portable, foldable camera drone that delivers higher performance, more intelligent features and greater creative possibilities than any other consumer drone."

Mavic Air weighs less than a pound, making it the most portable UAS that DJI has ever developed. With folding arms and propellers that sit flush against its slender aerodynamic frame, Mavic Air is so compact that its footprint is nearly the size of a modern smartphone when folded, although it's considerably thicker.

Despite its stature, Mavic Air can fly stably in windy conditions of up to 22 mph, and at high elevations of up to 16,404 feet above sea level, making it useful in a variety of situations and environments. The UAS also has a maximum flight time of up to 21 minutes.

To further reduce vibration and provide steadier shots, Mavic Air's recessed three-axis mechanical gimbal is suspended from dampeners. The UAS captures high-quality photos and videos thanks to a camera that houses a 1/2.3" CMOS sensor and the equivalent of a 24mm F2.8 lens (on a 35mm full frame sensor). http://www.auvsi.org/industry-news/dji-unveils-smartphone-sized-mavic-air-uas

In rural England, a fleet of drones monitors and harvests crops EMMA BRYCE



In Newport, Shropshire, there lies a one-hectare field of barley that farms itself. Instead of humans, a fleet of automated machines plant, monitor and harvest

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the crop. It's an experiment run by Hands Free Hectare, a team of researchers and agricultural professionals from Harper Adams University.

Hands Free Hectare is part of the growing trend of precision farming, wherein automated machines perform human tasks more efficiently - collecting reams of data on soil, crop disease and climate impacts that can be used to pinpoint problems, tailor farming methods and boost production. The opportunity is significant: according to researchandmarkets.com, the market for precision-agriculture devices and services is predicted to grow in 2018 to $4 billion (£3.12bn) - and it's being driven forward by the ubiquitous, versatile and accessible drone.

In the Shropshire field, drones survey the plot, gathering image data and collecting and sampling grain directly from plants, enabling farmers to remotely judge when it's time for harvest.

One growing application is to use drones for multispectral imaging on farmland, using sensors to detect wavelengths of light that humans cannot see. This can reveal the early spread of disease in plants, invasion by pests or nutrient deficiencies in soil. That helps farmers to focus the application of pesticides and fertilisers - saving time and money and reducing environmental impacts. http://www.wired.co.uk/article/future-of-farming-and-agriculture-drones

24Jan18

New York State Police Add UAVs To Their Arsenal

The Middletown (NY) Times Herald-Record (1/23) reports that the New York State Police have bought 18 UAVs and plan to use them to help take pictures of crime scenes and crashes, and to assist in search and disaster responses. Two of the UAVs were bought with agency money, and the rest were purchased using money donated by the New York State Trooper Foundation.

More than 1 million drones registered JANUARY 23, 2018 BY GENERAL AVIATION NEWS

Work continues on ways to safely integrate unmanned aircraft systems (UAS) into the National Airspace System, as the U.S. Department of Transportation revealed earlier this month that more than 1 million drones have been registered with the FAA.

That figure includes 878,000 recreational operators, who are each assigned a single identification number for all UAS they fly, as well as 122,000 individually-registered drones flown by public and commercial entities, including many members of the National Business Aviation Association, according to association officials.

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"Without question, UAS are here to stay, and their numbers will only increase in coming years," said Heidi Williams, NBAA's director of air traffic services and infrastructure. "That makes it imperative for all stakeholders to work together to ensure the safety of UAS operations. The registration requirement is an important step toward educating first-time drone operators of their responsibilities in that process." https://generalaviationnews.com/2018/01/23/more-than-1-million-drones-registered/

Swarm Drones: Could They Shape Future Of Naval Warfare? – Analysis January 24, 2018 Vijay Sakhuja

Drones operating in swarms are the new threat to militaries. In a recent case, Russian radars stationed around Latakia, Syria detected a swarm of 10 fixed-wing drones strapped with small rockets descend over the Hmeimim air base. Concurrently, another group of three drones were detected heading for Russian Naval CSS point near the city of Tartus. The Russian Pantsir-S anti-aircraft system – known by the NATO codename, SA-22 Greyhound – and rapid firing auto-cannons shot down seven of these drones, and the balance were successfully swatted and crash landed by using electronic warfare assets. The efficacy and successes of unmanned aerial vehicles (UAVs) for firepower and in intelligence, surveillance and reconnaissance (ISR) missions have been demonstrated in a number of conflicts in Afghanistan, Iraq, Syria, and more recently, in Yemen.

Their effectiveness is further augmented when they are operated in swarms. The concept of 'swarm drones' is inspired by bees or locusts which fly long distances in indefinite groups, unlimited in size and number, and apparently without colliding. 'Swarm drones' are programmed to follow very simple commands that do not require advanced computers and sensors, and therefore their collective numbers could be of the order of hundreds and potentially thousands, which can conjure a lethal force on the battlefield. https://www.eurasiareview.com/24012018-swarm-drones-could-they-shape-future-of-naval-warfare-analysis/

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Intel mini drones set world record again at CES 2018 January 24, 2018 Audrey Zhang

Massive swarms of drones could be coming to a concert venue near you if Intel drones' technology takes off like the company hopes.

Drone technology is changing a wide range of industries, from photography to fire-fighting, there are seemingly no limits to what drones can do. And, as Intel just proved during an unmanned aerial show, the sky's the limit as to how many drones one computer can control at once.

So many, in fact, it broke a world record – 110 Intel Shooting Star Mini Drones controlled by one pilot with one computer put on an amazing show for attendees at the 2018 Consumer Electronics Show. One of those in attendance was the Guinness Book of World Records who certified the event as the largest, simultaneous unmanned aerial vehicle show ever.

The drone is designed to fly safely indoors where GPS may or may not be available. Additionally, the device has over 4 billion unique color combinations for aerial displays that are aided by an Intel Indoor Location System for navigating inside a closed space. Think complicated light patterns in the air for a general idea of the capabilities of this system. https://www.wetalkuav.com/intel-drones-set-world-record/

Turfgrass Remote Sensing Company Secures BVLOS Approval Betsy Lillian January 23, 2018

GreenSight Agronomics, a drone services and agricultural intelligence provider, has secured a Part 107 waiver from the Federal Aviation Administration to operate its drone system beyond the visual line of sight (BVLOS).

According to the company, the waiver allows GreenSight to control its drone systems remotely from its Boston-based command center. The company offers turfgrass remote sensing, providing daily monitoring services at agrochemical company test sites, golf

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courses and farms. Though this waiver still requires a local visual observer, it is an important step toward unattended operations, says GreenSight.

GreenSight, founded in 2015 by former defense contractor executives and engineers, is developing an agricultural intelligence platform combining autonomy, custom sensors and machine learning-based data analytics technology. The system delivers actionable alerts on soil moisture, pest stress and nutrient deficiency to land managers.

GreenSight says it outlined the risks and mitigation associated with the operations and was granted the waiver on Dec. 15th, 2017. The company, which claims to have been the ninth company to obtain a BVLOS waiver from the FAA, plans to use the approval to begin testing BVLOS operations at a customer site. https://unmanned-aerial.com/turfgrass-remote-sensing-company-secures-bvlos-approval?utm_medium=email&utm_source=LNH+01-25-2018&utm_campaign=UAO+Latest+News+Headlines

Martek Aviation Inks UAS Inspection Deal for Nearly 700 Wind Turbines Betsy Lillian January 24, 2018

Following successful wind turbine blade inspections at the 317 MW Sheringham Shoal offshore wind farm, U.K.-based Martek Aviation has been awarded a two-year framework contract with SSE PLC to inspect 683 wind turbines across 47 sites by using unmanned aircraft systems (UAS).

The contract, starting next month, covers wind projects in the U.K. and Ireland from a variety of manufacturers. The work will be conducted using a specially designed octocopter package for offshore wind turbine inspections. This includes custom software designed for data collection and analysis of the wind turbine blades.

According to the company, a typical turbine inspection team could inspect three to four turbines per day and process one turbine's data per day. In comparison, using drones, Martek says it can inspect a minimum of 10 turbines per day and report data on up to 25 per day. https://unmanned-aerial.com/martek-aviation-inks-uas-inspection-deal-nearly-700-wind-turbines?utm_medium=email&utm_source=LNH+01-25-2018&utm_campaign=UAO+Latest+News+Headlines

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New Market Forecast Predicts that UK, Dubai, Singapore and Others Will Beat the U.S. to UTM Miriam McNabbon: January 22, 2018

NASA has been working with commercial technology partners for years to develop a working UTM system. The program has been successfully tested and is inching forward. But a new drone study – "The Market for UAV Traffic Management Services" published by Unmanned Airspace (www.unmannedairspace.info) – predicts that the UK, Singapore, Dubai and others will beat the U.S. to implementing a UTM system.

"The UK is around two years ahead of the European Union's UTM strategic U-Space plan and has already developed the core components of such a network," says Philip Butterworth-Hayes, one of the authors of the report. "But Japan and South Korea are close behind the UK. Dubai and Singapore will be the first countries to develop urban commercial drone transport systems, including passenger taxi services."

"The first operational UTM services, such as drone registration, geo-fencing, and electronic identification measures, will be launched in 2019 and we expect UTM operators will receive around USD 32 million in the first year from commercial drone operator fees and investment from governments and research agencies to provide these services," says Philip Butterworth-Hayes.

Interestingly, the report also concludes that the industry, rather than government, is likely to end up paying for a UTM system. "With many UTM models based on the principle that the user pays – rather than the taxpayer – it is the commercial drone community that will find itself having to finance the UTM system," says the study. " The development of algorithms to calculate the risk of a flight and generate insurance coverage per operator, per flight, could also be used to generate UTM service charges based on the length and complexity of the flight." . https://dronelife.com/2018/01/22/new-market-forecast-predicts-uk-dubai-singapore-others-will-beat-u-s-utm/

Investors fund Iris Automation drone collision-avoidance development January 18, 2018Philip Butterworth-HayesUAS traffic management news

Iris Automation, a provider of collision avoidance for commercial drones, has announced a USD8 million Series A financing round to fund a new generation of situational awareness for long-range drone operations and urban air taxis.

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Iris Automation combines sensor fusion with artificial intelligence and synthetic vision systems.

Bessemer Venture Partners led the round and Bee Partners participated, with Bessemer's David Cowan (LinkedIn, Twitch) joining the company's Board of Directors, according to the company.

"The Iris Automation system consists of a sophisticated embedded computing platform combined with a high-resolution, vision-based sensing package allowing for the detection of moving objects such as Cessna airplanes at ranges of 1500ft (or 500m). Once detected, proprietary machine learning algorithms are able to identify intruders before a sophisticated logic core autonomously maneuvers drones or other flying robots safely away from collision trajectories. The system weighs less than 300g and has the footprint of a credit card," says the company. http://www.unmannedairspace.info/uncategorized/investors-fund-iris-automation-drone-collision-avoidance-development/

French drone council outlines UTM priorities – urban parcel deliveries are not among them

January 17, 2018Philip Butterworth-HayesUAS traffic management news

France's civil aviation authority the Directorate General for Civil Aviation is hoping to authorise its first long-range drone operations by the end of the year, according to Patrick Gandil, Director General of the DGAC, speaking at the RPAS 2018 Civil Operators and Operations Forum in Paris. The DGAC is also targeting 1 January 2019 for the introduction of e-identification measures.

The council believes it is unlikely that fleets of package delivery drones will be delivering parcels to city centre residents in the near future. Instead, the council believes large bulk-delivery drones with payloads of up to one tonne will be used to carry parcels to local distribution centres, for ground-based traditional delivery methods to be used for the last mile.

The DGAC is working with Paris/Charles de Gaulle on new radars which will be able to detect drones at distance, but the agency is more concerned about the ability of drones to detect para-gliders in low level operations.

The council is coordinating its work with the wider U-Space programme of the European Union. "The one thing we are not doing is developing a UTM system just for France," said Carine Donzel. http://www.unmannedairspace.info/uncategorized/french-drone-council-outlines-utm-priorities-urban-parcel-drone-deliveries-not-among/

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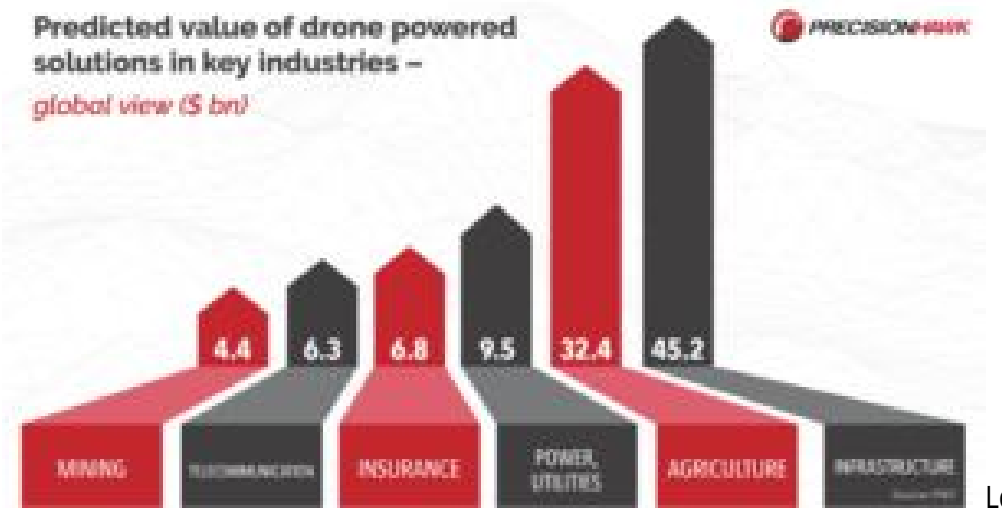
PrecisionHawk Secures $75 Million: What That Means for the Rest of the Drone Industry Miriam McNabbon: January 24, 2018



Leading enterprise drone solution company PrecisionHawk has just secured a $75 million round of funding. It's a win that has major significance for the company and the entire drone industry.

This latest round is funded by a diverse group of venture and strategic investors. CEO Michael Chasen says that all of the company's previous investors came back, and new investors were added – including one of PrecisionHawk's clients. "This investment brings PrecisionHawk's total funding to more than $100 million since being founded in 2010, making it the world's most well-capitalized commercial drone company," says the company press release. That means that this round of funding – big by any standard – is triple the size of previous investment.

With this round, the drone industry has traveled the road from Angel investors to smaller VC funded rounds to major capital injections – like this one – by groups including Comcast Ventures, Verizon Ventures, Intel Capital and DuPont.
https://dronelife.com/2018/01/24/precisionhawk-just-secured-75-million-what-that-means-for-the-rest-of-the-drone-industry/

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Advanced drone algorithm guides drones through city streets like a car January 26, 2018 Audrey Zhang

Research conducted by a team from the University of Zurich and the National Centre of Competence in Research Robotics in Switzerland created a

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way for drones to navigate open spaces autonomously using an algorithm, causing the drones to behave like cars in traffic.

The name for the algorithm, DroNet, is an abbreviation for Drone Network. DroNet uses a deep neural network in guiding the drone and its name references this underlying technology.

The algorithm enables the drone to differentiate between moving objects and those that are standing still. Using these indications the drone can independently navigate while avoiding unnecessary collisions.

The difference between drones using DroNet and traditional drones is that traditional drones utilize a global positioning system (GPS) for navigation, a system that can become harried and start to fray at low altitudes. So long as your drone is above a city's buildings, GPS works great, but the minute your drone dips into the city streets, GPS can become a bit of a hazard for consumers and pedestrians.

DroNet incorporates the behavior of bicycles and cars into its algorithm to power the drone's behavior. To get this behavioral data, Scaramuzza and his team collected data from realtime bicycles and vehicles as they navigated city streets to inform the algorithm's development.

The DroNet algorithm could see use in a variety of consumer-facing and industrial fields, such as food delivery or emergency services. The algorithm will need to undergo further refinement before it can be deployed in a commercial setting but Scaramuzza and his team are confident they are on the right track. A recent missive detailing the project was outlined in the journal IEEE Robotics and Automation Letters. https://www.wetalkuav.com/advanced-dronet-algorithm/2/

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