



UAS and SmallSat Weekly News

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Utility Drone To Start U.S. Testing MARY GRADY



A company in Wyoming has secured FAA approval to start flight tests with a large twin-engine drone, the Flyox Mark II, built by Singular Aircraft of Barcelona, Spain. The amphibious drone has a 35-foot wingspan and can carry up to **4,000 pounds of water** for dropping on forest fires.

According to Singular, it's **the world's largest amphibious drone**, and can be used for agricultural work, freight transport, border surveillance and rescue missions. Unmanned Aircraft International, headquartered in Casper, Wyoming, will conduct the flight tests.

The drone can be broken down to fit in a standard 40-foot cargo trailer, and then can be re-assembled in less than four hours, according to Singular. It burns 95-octane fuel and can fly day or night, and can take off or land on snow, water or hard surfaces. It has an internal GPS control system that enables it to take off, complete its mission and return for landing, **all autonomously**, with no human input. The Mark II has an endurance of up to **28 hours** aloft, according to the company's website, and **a range of 2,515 NM**.

<https://www.avweb.com/eletter/archives/101/3919-full.html?ET=avweb:e3919:2565185a:&st=email#230314>

Techstars to Help Air Force Find Counter-Drone Tech Platforms Jane

Edwardson: February 16, 2018 In: Industry News



The U.S. Air Force has teamed up with technology accelerator **Techstars** to look for startups with novel platforms that work against hostile unmanned aerial systems as part of the **AFWERX** program, Government Executive **reported Thursday**.

The **AFWERX program** aims to facilitate collaboration with the private sector and academic institutions to develop novel technology systems designed to help Air Force personnel maintain capability edge over future adversaries.

Xconomy **reported** that six of the 10 selected companies have technologies that focus on drones, including a radar technology designed to prevent drone collisions and a machine learning-based platform that works to conduct data collection and analysis on drone usage.

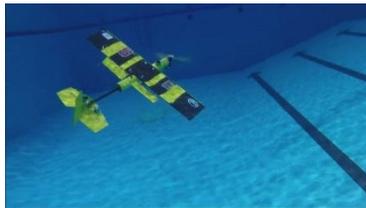


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Techstars said each company will receive a **\$20,000 investment** from its venture fund and **\$100,000 in convertible debt** financing as well as mentorship support, office space access and other resources in the next three months. <http://blog.executivebiz.com/2018/02/air-force-partners-with-techstars-to-find-counter-drone-tech-platforms/>

New 'Flying Submarine' Could Be a Great Way to Track Wildlife [Science News](#)

Jonathan Kesh 15 February 2018



A team at North Carolina State University (NCSU) has **put together an amphibious fixed-wing drone** that they've named the "EagleRay XAV" after two animals that are **vaguely drone-shaped**. And like both an eagle and a manta ray, the drone is capable of flying through the air and then seamlessly submerging

itself in water.

According to a study published by the team, the EagleRay uses little energy, has all the **stealth of a submersible** and the speed of an aircraft, and uses a passively flooding and draining wing and a single electric motor/propeller combination that works in both the sky and the sea. At about 55 inches (140 centimeters) long with a wingspan of 59 inches (150 centimeters) it's a step toward the fancy cars that science fiction is so fond of.



Being a quiet and versatile aircraft/submarine, it can easily track **groups of animals like dolphins** for scientific research, following them until they stop for whatever reason, and patiently biding its time underwater (without wasting much energy) until the animals get moving again.

<https://www.outerplaces.com/science/item/17815-flying-submarine-track-wildlife>

Texas Department of Public Safety launches new drone program Allie Morris, Austin Bureau February 15, 2018



A drone, the SkyRanger unmanned aerial system from Canada-based Aeryon Labs, flies through the air in this demonstration. One of these systems has been purchased by the Texas Department of Public Safety at a cost of \$48,000 as the agency resurrects its drone program.



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AUSTIN — Over the past few months, the Texas Department of Public Safety has quietly spent about \$70,000 to purchase 17 drones, known formally as unmanned aerial systems. The most expensive, an Aeryon SkyRanger equipped with a high-tech camera, cost \$48,000 and can fly for up to 50 minutes. The SkyRanger, equipped with specialized software and an extended battery life, will be used by the highway patrol for crash scene reconstruction.

The other new drones will aid in search and rescue, disaster support, aerial observation and crime scene photography, among other uses. “The (drone) is an excellent tool to deploy when DPS aircraft are unavailable; if a mission is too dangerous for manned aircraft to be deployed; or when deemed more cost effective than conventional aircraft,” the release stated.

<https://www.expressnews.com/news/local/article/Texas-Department-of-Public-Safety-launches-new-12617706.php>

18Feb18

More Marine drones will soon fly on battlefields February 18, 2018 Thomas Luna



The [U.S.](#) Marine Corps announced plans to issue quadcopters to all squads last January, according to the [National Defense Magazine](#). Besides providing a bird’s-eye view, these marine drones are designed to help with mapping terrain data, which in turn can be used to create training simulators.



“We’re getting one for every single squad in the entire Marine Corps,” said Lt. Gen. Robert Walsh at the Association for Unmanned Vehicle Systems International event at National Harbor, Maryland.



800 additional sUAS systems were ordered by PMA-263, the Navy and Marine Corps Small Tactical Unmanned Aircraft Systems Program Office. InstantEye Robotics sold the Marines their Mk-2 GEN3-A0 drone, which is a highly agile quadcopter that can be [hand launched](#).



The [expendable drone](#) is InstantEye’s lowest priced model, and it secures data by directly sending it back to the pilot instead of having an on-board memory. The 1.2-pound drone was rated to [fly](#) up to 30 minutes at speeds up to 35 mph. It can travel up to about 1.2 miles away and withstand winds up to 30 mph. Only one pilot is required to



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fly the drone, and setup to flight takes 30 seconds or less. <https://www.wetalkuav.com/marine-drones/>

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New survey gives regulators deeper insight into drone operators and missions

February 14, 2018 Philip Butterworth-Hayes UAS traffic management news

The first worldwide survey of drone operations to help regulators, standards developers and air navigation service providers (ANSPs) understand through direct industry input the key drone market drivers – in terms of platforms in use to today along with their detailed mission profiles – has been published by Blyenburgh & Co, France (<https://rps-info.com/surveys/>).



“This survey gives a unique view of the industry today and a **clear order of importance** for government and industry agencies to prioritise their rule-making and UAS traffic management (UTM) development activities,” said Peter van Blyenburgh, CEO of Blyenburgh & Co and President of UVS International (www.uvs-international.org).

The survey identifies and classifies:

- Market sectors in which drone flight operations are currently taking place.
- Flight mission purposes [Visual Line of Sight (VLOS) & Beyond Visual Line of Sight (BVLOS)] that are currently taking place in compliance with applicable national rules or regulations.
- Market sectors in which Very Low Level (VLL) flight operations [below 500 feet Above Ground Level (AGL) & BVLOS] are anticipated to take place in the short term (1-2 years).
- Flight mission purposes of the Very Low Level (VLL) flight operations (below 500 feet AGL & BVLOS) that are anticipated to take place in the short term (1-2 years).

It also classes the market sectors and flight mission purposes in order of importance.

<http://www.unmannedairspace.info/uncategorized/new-survey-gives-regulators-deeper-insight-drone-operators-missions/>

Three cool ways drones can help save lives February 19, 2018 Feilidh Dwyer



Last year, DJI estimated that consumer drones were **saving, on average, one person's life every week**. With that in mind, we've compiled this list of several



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amazing projects where UAVs are helping keep people alive.

1. Netherlands: 'Ambulance drones' equipped with defibrillators and medicine rapidly respond to patients



This drone prototype was designed by a student at the Technical University in Delft, Netherlands and was intended to be part of a network of drones within cities in the EU, which could be dispatched during emergencies.

United States: Drones drop bombs to cause avalanches

In 2013, a group of mountaineers in Colorado created [Mountain Drones Inc](#), a company which designs drones that use algorithms to precisely drop explosive payloads onto mountain slopes. Their technology removes staff from harm's way and reduces the risk of avalanches injuring or killing people at ski resorts on mountainous roads or railways.

In California, some fire departments have begun deploy drones out to assess the severity of fires. Using a thermal imaging camera onboard the drones, the fire crew can determine what type of fire they are dealing with, where the hotspots are and, most importantly, if there are any people trapped inside the building.



The drones offer fire departments significant savings when compared to a manned helicopter. <https://www.wetalkuav.com/top-five-times-ways-drones-saved-lives/>

Aeronyde chooses Serious Simulations for augmented reality UTM control system

February 15, 2018 Philip Butterworth-Hayes UAS traffic management news



Orlando-based Serious Simulations has been awarded a research and development contract with Melbourne-based Aeronyde Corporation to produce a **wireless augmented reality (AR) head mounted display** as part of key control technology for unmanned and robotic aerial vehicles.

Under this contract, Serious Simulations will use its current and soon-to-be-announced patented wireless video techniques for the custom design of a series of wireless augmented reality headsets.



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Aeronyde Corp, a privately funded start-up in the Unmanned Traffic Management (UTM) sector, intends to shift Command and Control models for UAS to AR-based devices. Aeronyde UAV fleet supervisors and end-users (emergency responders) will be immersed into an innovative human-machine interaction platform. Emergency responders and DoD personnel will have access to live video-stream for enhanced situational awareness, real-time autonomous asset management and on-the-go fleet voice-control, supplemented by Aeronyde remote fleet supervisors for precision maneuvering.

<http://www.unmannedairspace.info/uncategorized/aeronyde-chooses-serious-simulations-augmented-reality-utm-control-system/>

20Feb18

Airline groups call on US Congress to regulate drones *Feb 17, 2018* Bill Carey

In a letter released Feb. 13, the Air Line Pilots Association (ALPA), the National Air Traffic Controllers Association (NATCA) and trade group Airlines for America (A4A) asked Congress to amend Section 336 of the FAA Modernization and Reform Act of 2012, the last multiyear FAA reauthorization legislation. That section, called the Special Rule for Model Aircraft, prohibits FAA from regulating model aircraft, including small unmanned aircraft systems (UAS), that are flown for hobby or recreation.

"The restriction by Congress has limited the FAA's ability to fully regulate model and hobby UAS to the point that **safety of the national airspace is at risk**," said the letter, which was signed by ALPA president Tim Canoll, A4A CEO Nicholas Calio and NATCA president Paul Rinaldi.

In the letter, the airline groups cite a video, widely disseminated on the web earlier in February, that shows a Frontier Airlines Airbus A320 passing underneath an apparent drone while on approach to Las Vegas McCarran International Airport. FAA guidelines call for operating a drone no higher than 400 ft., and Section 336 specifies that an operator notify an airport operator or air traffic control in advance of flying within 5 mi. of an airport.

The Muncie, Indiana-based Academy of Model Aeronautics, which reports having 195,000 members, did not immediately respond when asked to comment on the airline industry letter.

<http://atwonline.com/safety/airline-groups-call-us-congress-regulate-drones>



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New Counter-UAS Drone Uses AI-Enabled Radar Technology 18 Feb 2018, Caroline Rees



[Fortem Technologies](#) has announced the release of DroneHunter, a military-tested unmanned aerial system (UAS) that provides perimeter intrusion detection and protection by autonomously patrolling an airspace and towing away any rogue drones from the sky. Using AI algorithms, the DroneHunter system provides detection, monitoring and capture of rogue drones over restricted airspace or no-fly zones. Once a rogue drone is detected and captured, DroneHunter can tether and return, or safely discard to a predefined safe zone.

Equipped with radar, DroneHunter includes an autonomous guidance system and an open command and control platform to detect, identify and tow away hostile drones within a secured geo-fenced perimeter. DroneHunter notifies authorized personnel of potential aerial threats in real time. The command center ground station provides monitoring and manual intervention override options to meet situational requirements.

http://www.unmannedsystemstechnology.com/2018/02/new-counter-uas-drone-uses-ai-enabled-radar-technology/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=048f95f61d-eBrief_2018_Feb_20&utm_medium=email&utm_term=0_6fc3c01e8d-048f95f61d-119747501

Why more delivery drones might be great news for the environment February 20, 2018 Feilidh Dwyer



A team of researchers from the United States have found that electric-powered drones are more energy efficient and produce less greenhouse gas emissions compared to other delivery methods such as diesel powered vans.

To test exactly how much energy an individual delivery drone uses, the scientists measured the energy consumed by quadcopter and octocopter-style drones while carrying different payloads.

The quadcopter drone tested was capable of delivering a 1.1 pound (0.5 kg) package and the octocopter could carry a 17.6 pound (8 kg) package. Each UAV had a range of about 2.5 miles (4 km) and both used lithium-ion batteries, the most common type currently in operation.



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Perhaps unsurprisingly, the small drones used far less energy per mile than the delivery trucks that burned diesel fuel. When it came to the larger drone, the scientists concluded that it is currently better for the environment to deliver larger packages with electric vans or electric trucks. <https://www.wetalkuav.com/drones-delivering-packages-good-planet/>

Lost 6 Year Old Child Found in Stunning Demonstration of Korea’s First Commercial UTM Implementation Miriam McNabbon: February 20, 2018



In a stunning demonstration of the effectiveness of a commercialized UTM system, a 6 year old child wearing a red coat lost in a park 20 times the size of a football stadium was located in just 3 minutes.

The leading Japanese commercial drone service company has successfully brought a commercialized UTM system to South Korea for the first time. [Terra Drone Co., Ltd.](#), has partnered with LG U+, a South Korean cellular carrier owned by LG Corporation, on the project.

The new UTM system can identify the position of a drone flying beyond visual line of sight (BVLOS.) Operators can connect to the UTM system via PC, tablet or mobile device. Perhaps most importantly, the system allows the “world’s first real time viewing of FHD high quality images taken by drone through IPTV,” says the announcement.

<https://dronelife.com/2018/02/20/lost-child-found-in-stunning-demonstration-of-koreas-first-commercial-utm-implementation/>

Trump approves expanding domestic drones JOAN LOWY ASSOCIATED PRESS



WASHINGTON — President Donald Trump gave the go-ahead Wednesday, signing a directive intended to increase the number and complexity of drone flights. The presidential memo would allow exemptions from current safety rules so communities could move ahead with testing of drone operations.

States, communities and tribes selected to participate would devise their own trial programs in partnership with government and industry drone users. The administration anticipates approving at least five applications, but there is no limit on the number of communities that can join.



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The Federal Aviation Administration would review each program. The agency would grant waivers, if necessary, to rules that now restrict drone operations. Examples include prohibitions on flights over people, nighttime flights and flights beyond the line of sight of the drone operator.

Among the things that could be tested are package deliveries; the reliability and security of data links between pilot and aircraft; and technology to prevent collisions between drones and other aircraft and to detect and counter drones flying in restricted areas.

The trial program will collect data on drone operations to aid the government's effort to **develop a separate air traffic control system for low-flying unmanned aircraft**, Michael Kratsios of the White House Office of Science and Technology Policy said.

<https://www.centralmaine.com/2017/10/25/trump-approves-expanding-domestic-drones/>

Drone applications showcased in Augusta JESSICA LOWELL STAFF WRITER



AUGUSTA — During his presentation, which kicked off a daylong conference at the University of Maine at Augusta on the use of commercial drones for business, David Price rattled off some of the possibilities for using drones to gather information easily and quickly through remote sensing that otherwise might be too dangerous or time-consuming for anyone to do. The college has trained 125 pilots in a year.



Sara Burns, Central Maine Power Co., said her company was using drones as part of its assessment of power lines and poles across its service territory.

Price's presentation included a short video, captured by a drone, of a fire crew fighting a large building fire. The video showed in real time that the high water pressure of the hoses deployed on the building's front was knocking bricks onto the people who were fighting the fire from behind the building.

In Maine, the [state police](#) have used drones to capture images and aerial views of crashes, including at the 2017 [double-fatal motorcycle crash](#) during the Toy Run on Interstate 95.

A ski resort in western Massachusetts uses a drone with heat-sensing technology to guide its snow-making operation. Using drones for tasks such as inspecting bridges and wind turbines or measuring the amount of snow on rooftops makes those jobs far less risky.



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The conference, Drone Applications for Business: Navigating Your Airspace, debuted Saturday, drawing about 75 people from the curious to the expert from across New England and Washington, D.C. to hear about the regulatory landscape, insurance and liability considerations; and to take part in a range of workshops on using drones in agriculture, surveying, the utility industry and in emergency situations and as a method of helping those with disabilities explore the world.

Leclair said this business sector is in its infancy and the drone program at UMA is its fastest-growing program. "It's like the wild, wild West," he said.

<https://www.centralmaine.com/2018/02/17/drone-applications-showcased-in-augusta/>

V-CUBE ROBOTICS ANNOUNCES SOLAR POWER PLANT INSPECTION PACKAGE SERVICE UTILIZING UAS AUVSI NEWS FEB 15, 2018

V-cube Robotics, Inc., which is headquartered in Shibuya, Tokyo, has announced that it will begin offering a solar power plant inspection package service that uses UAS called 'SOLAR CHECK.'



The UAS, which are equipped with infrared thermography cameras, autonomously fly around a facility, imaging the solar panels. These images are then **analyzed using artificial intelligence**, which, according to VStar, dramatically improves the efficiency of inspection, making it possible to discover discrepancies and report on the results of an inspection in a short amount of time.

The saved panel images are uploaded into the cloud, and using deep learning, they are automatically analyzed to find discrepancies such as hotspots. A report on the results of the inspection is created by the service, and it shows the abnormal panels and where the discrepancy occurred.

The company used this technology in the development of an algorithm tailored to detect discrepancies in solar panels. It then developed a framework that "improves detection accuracy using an AI algorithm that gets smarter the more it runs," and that includes several deep networks, in addition to existing image processing. <http://www.auvsi.org/industry-news/v-cube-robotics-announces-solar-power-plant-inspection-package-service-utilizing-uas>



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21Feb18

The Autonomous Selfie Drone Is Here. Is Society Ready for It? FARHAD MANJOO FEB. 13, 2018

In 2014, with funding from the venture firm Andreessen Horowitz, Skydio began working on what would become the R1. The company has since raised \$70 million from Andreessen and several other investors, including Institutional Venture Partners, Playground Global [and the basketball player Kevin Durant](#).



Skydio's basic goal was **a drone that requires no pilot**. When you launch the R1 using a smartphone app, you have your subject stand in front of the drone, then tap that person on the screen — now it's locked on. You can also select one of several "cinematic modes," which specify the direction from which the drone will try to record its subject. (It can even predict your path and stay ahead of you to shoot a selfie from the front.)

After takeoff, it's hands off. The drone operates independently. In the eight-minute flight I saw — through a wooded trail sparsely populated with runners and dogs — the R1 followed its target with eerie determination, avoiding every obstacle as naturally as an experienced human pilot might, and never requiring help. It lost its subject — me — only once, but I had to really work to make that happen.

Time for some caveats: Skydio's technology is far from perfect. It doesn't work well in inclement weather or at night. It also requires a very high-powered processor, which gobbles up battery life; the R1 gets 16 minutes per flight, compared with around 20 for competing drones (but it will ship with two batteries, allowing for another flight after a quick swap out). https://www.nytimes.com/interactive/2018/02/13/technology/skydio-autonomous-drones.html?rref=collection%2Fsectioncollection%2Ftechnology&action=click&contentCollection=technology®ion=stream&module=stream_unit&version=latest&contentPlacement=27&pgtype=sectionfront

Nigerian Air Force inducts first indigenous UAV to support ISR 20 FEBRUARY 2018 NEWS



The Nigerian Air Force (NAF) has inducted the first indigenous operational unmanned aerial vehicle (UAV) in a bid to upgrade its intelligence, surveillance and reconnaissance (ISR) capabilities.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
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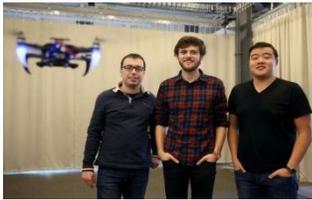
Nigeria President Muhammadu Buhari said: "Indeed, this outstanding accomplishment holds promise of **both military and economic benefits** to the nation.

According to the NAF, the UAV can be used by the air force for carrying out policing operations, disaster management, convoy protection, maritime patrol, pipeline and power line monitoring, mapping and border patrol, in addition to wildlife protection, weather forecast, and telecast.

The drone is also capable of carrying out search-and-rescue operations, coastal monitoring, and patrol of the country's Exclusive Economic Zone.

Designed to conduct operations during both day and night, Tsaigumi has an operational **endurance of more than ten hours**, a service ceiling of 15,000ft, and a mission radius of 100km. <https://www.airforce-technology.com/news/nigerian-air-force-inducts-first-indigenous-uav-support-isr/>

Penn drones navigate on their own, could save people from peril 21 Feb 2018 tom avril



In a University of Pennsylvania lab, engineers now have produced "swarms" of drones that can navigate on their own.

The devices perceive their surroundings by means of onboard cameras and "inertial measurement units" – the same technology used in smartphones to tell when the screen is tilted this way or that.

The computer brain mounted on each drone also came from a smartphone – made by Qualcomm, which funded the research along with the Pentagon and the National Science Foundation.

Using a laptop computer, Weinstein issued a series of general commands to the drones – form a straight line, a diamond, a diagonal – then let the electronic hive mind figure out the rest.

Collectively, they determined which among them would occupy a given spot in each formation, using an algorithm to find the most efficient route from where the devices had been hovering immediately before.

And unlike drones that rely on satellite signals, **the Penn drones can navigate indoors**. Given a known starting point, a drone maintains a running fix on its position based on how the camera's view of the ground below changes from one split-second to the next.

In addition to navigating on their own, the drones are interchangeable, able to adapt and take on new responsibilities in case any members break down during a mission.



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The drones could be produced for about US\$1,000 apiece. So far, the Penn team has demonstrated swarms with up to 12 drones, and Loianno said there is no reason they cannot do 100. — *The Philadelphia Inquirer/Tribune News Service*
<https://www.thestar.com.my/tech/tech-news/2018/02/21/penn-drones-navigate-on-their-own-could-save-people-from-peril/#ZjlwDcGOHgwoE8GX.99>

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Interior Department's Drone Army Fights Fires and Monitors Wildlife Jim Carlton

Feb. 21, 2018 jim.carlton@wsj.com



The Interior Department, which is responsible for management of most federal lands and natural resources, said it used a fleet of 312 drones on 4,976 flights in the fiscal year that ended last September, compared with just 750 missions in fiscal year 2016 when it streamlined the process for the drone program. Interior officials said they are on track to exceed a planned 50% increase in drone flights this fiscal year, with 2,200 since Oct. 1.

The Interior Department released its drone-flight data Wednesday, the first time it has disclosed details about its drone program. The devices have been used by the Interior Department on missions including mapping archaeological sites, wildlife studies and inspection of remote infrastructure.

"We are seeing as a rule of thumb they're taking one seventh of the time and one tenth of the cost" compared with manned aircraft performing similar missions, Mr. Bathrick said.

The agency has used drones in Alaska to monitor threatened wildlife and assist in animal counts, he said.

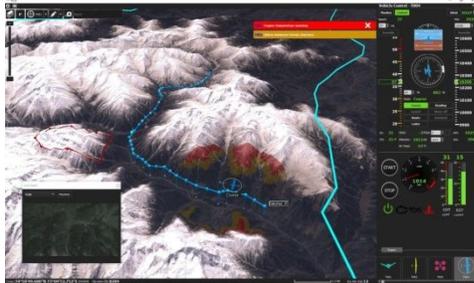
One area of great promise is drones' role in helping fight wildfires. Over the last year, drones were deployed on 707 missions on 71 wildfires, including in California, Oregon and Alaska.

This year, the Interior Department plans to expand the capabilities of the firefighting drones to replicate some of the work of the manned aircraft—dropping buckets of water and setting backfires. Unlike manned aircraft, they can fly at night and in heavy smoke. Field trials of the firefighting capabilities are set to begin this spring. www.wsj.com/articles/interior-departments-drone-army-fights-fires-and-monitors-wildlife-1519236000?mod=searchresults&page=1&pos=3



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Lockheed Martin to Launch Versatile Drone-Control Program Nick Zazulia | February 21, 2018



Lockheed Martin's new VCSi software, which it will unveil at the Unmanned Systems Exhibition and Conference in Abu Dhabi, enables operators to **simultaneously control dozens of UAS** of diverse size and function, according to the company.

Designed around the NATO standardization agreement STANAG 4586, Lockheed Martin said that the software is flexible enough to integrate anything from boats to pseudo-satellites. Its interface features 3-D visualization of vehicles and airspace to help with understanding and control, and content modules can be added to allow customizability. The software will be commercially available, Lockheed Martin said, with no export restrictions. <http://www.aviationtoday.com/2018/02/21/lockheed-martin-launch-versatile-drone-control-program/>

City of Reno, Flirtey announce drone delivery coalition NNBW Staff February 21, 2018

The City of Reno and Reno-based Flirtey have formed a partnership to fast-track drone delivery of automated external defibrillators (AEDs) wherever needed. The coalition has an application to the Integration Pilot Program (IPP). If selected for the program, the City of Reno's coalition will demonstrate the live saving potential of AED drone delivery.

The City of Reno with support from Reno Police Department and Reno Fire Department has partnered with Flirtey, Regional Emergency Medical Services Authority (REMSA), The City of Sparks, Washoe County, AirMap, an area tribal government, commercial partners including start-ups and other not-for-profit organizations.

When a 9-1-1 communication center receives a cardiac arrest call, in addition to dispatching an ambulance, a drone carrying an AED will also be sent to the scene. Initial estimates show that **deploying AEDs via drones can increase the national cardiac arrest survival rate from just 10 percent today, to approximately 40 percent**. When deployed nationwide, this service has the potential to save more than 100,000 lives per year. <https://www.nnbw.com/news/reno-flirtey-announce-drone-delivery-coalition/>



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Florida Start-Up Launches Foldable Hybrid Drone With Hours of Flight Time Betsy Lillian February 21, 2018



Harris Aerial, a start-up at the University of Central Florida Business Incubation Program, is [launching](#) a new hybrid drone that uses both gasoline and electricity.

According to the company, the Carrier H4 Hybrid can fly uninterrupted for more than **two hours while carrying a payload weighing nearly 10 pounds**; without a payload, the drone can fly for nearly **five hours**. The aircraft can be configured to carry a variety of payloads, such as HD cameras, thermal imaging cameras, hyperspectral cameras, and LiDAR.

The Carrier H4 Hybrid is suited for a wide range of industrial uses, such as search and rescue, disaster response, and surveying. Furthermore, the unmanned aircraft is easy to transport because of its ability to fold to under half its size, says Harris Aerial. https://unmanned-aerial.com/florida-start-launches-foldable-hybrid-drone-hours-flight-time?utm_medium=email&utm_source=LNH+02-22-2018&utm_campaign=UAO+Latest+News+Headlines

Drones Help Crack Down on Polluters Miriam McNabbon: February 21, 2018



Smog is a major health problem in Poland, killing tens of thousands of Poles each year. Now the Polish government is cracking down on polluters, using [Scentroid Flying Labs](#) to detect law-breakers.

Law enforcement in Katowice is using a drone to monitor and analyze ambient air, detecting pollutants like ammonia, hydrogen chloride, and formaldehyde.

Drones scan large areas of the city to determine “the likely use of use of unauthorized fuel.” Based on this information, dispatchers decide which properties warrant a full indoor inspection, often leading to prosecution of violations.

“All you need to do is to fly the drone up to the stack height, and you will have full information including all sensors reading, humidity, temperature and GPS position,” says Scentroid. The drone can also provide continuous monitoring of PM 1, 2.5 and 10 using a laser scattered particulate counter. <https://dronelife.com/2018/02/21/scentroid-flying-labs-help-law-enforcement-crack-down-on/>



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New Study Puts Agricultural Drones Market at Over \$1 Billion by 2024 Miriam

McNabbon: February 19, 2018



A new research study puts the [Agricultural Drones Market](#) at over \$1 billion by 2024. The new report by Global Market Insights, Inc. estimates that “global shipments will exceed 200 thousand units by 2024.”

The report attempts a measurement by narrow category: both by product (hardware [fixed wing, multi rotor, nano, hybrid], and software [data management, imaging, data analytics]), and by application (field mapping, variable rate application, crop scouting).

A few key takeaways from the report include the sectors top winners by company and region. AeroVironment, DJI, and leading mapping platform DroneDeploy are the three top companies in the industry, while the U.S. holds 30% of the market:

[AeroVironment](#), [DJI](#), [DroneDeploy](#), [GoPro](#), [PrecisionHawk](#), and [Trimble Navigation](#) are some of the major companies operating in the agricultural drones market... Corporate investors such as Monsanto, Syngenta, and Mitsui, backed emerging start-ups for improving harvesting, crop spraying, and irrigation. In February 2016, US reported investments in UAVs and robotics with volumes up to USD 389 million in 2015 and approximately 40 companies raising the funds. DJI, a well-established player in China raised USD 75 million during its first drone launched especially for the agricultural space...U.S. agricultural drones market size was over 30% of the global revenue in 2016. <https://dronelife.com/2018/02/19/new-study-puts-agricultural-drones-market-1-billion-2024/>

Verizon and DEDrone Write the Book on Preventing Drone Disasters During Emergency Response Miriam McNabbon: February 16, 2018



Drone security firm [Dedrone](#) and network giant Verizon's [OCR \(Operation Convergent Response\) team](#) have written the book – well, [the whitepaper](#), anyway – on preventing drone disasters during emergency response. In this whitepaper, researchers focus on a mission-critical application: making sure emergency responders can get off the ground.



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Disasters create a cascading problem for responders. In addition to attracting rogue drones – even if some are well-meaning – disasters hit communications networks, making counter-drone measures difficult to implement. As the whitepaper explains:

- Significant resources are invested to protect communications infrastructure, but have limitations against powerful physical stress.
- Drones are being used for disaster response in unprecedented numbers.
- Hobby drone pilots are ignoring the calls from federal regulators to stay out of restricted airspace, causing delays in recovery efforts.
- Rogue drones are adding pressure to enterprises and organizations for protection of their physical and cyber infrastructure against drone threats while exposed to extreme security vulnerabilities.

The result, say researchers, is a need for proactive drone detection to be implemented as part of an emergency response team: and to work in critical situations, software solutions must partner with reliable connectivity providers. “Hobby pilots may not understand the risks they pose when they fly in dangerous conditions and may be flying without FAA authorization, prompting law enforcement and federal agencies to rely on proactive drone detection during disasters.”

“Air traffic and connectivity systems for small drones at low altitudes is necessary for keeping skies clear for disaster recovery efforts, to identify rogue or nuisance pilots, and to continue to protect sensitive infrastructure from airspace threats. <https://dronelife.com/2018/02/16/verizon-dedrone-write-book-preventing-drone-disasters-emergency-response/>

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Foundation Urges ICAO, Governments to Accelerate Regulation, Oversight of Recreational Drones FSF Communications Staff | February 21, 2018

ALEXANDRIA, Virginia — Flight Safety Foundation today urged world governments to step up their regulation and enforcement of recreational drones.

[In a letter](#) to International Civil Aviation Organization (ICAO) Secretary General Fang Liu, Foundation President and CEO Jon Beatty said, “Based on a number of recent incidents, we are increasingly concerned that uncertificated, untrained recreational drone operators are flying small UAS near airports and manned aircraft. ... The proliferation and operation of small drones



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by people without aviation experience is becoming one of the most significant hazards to manned aviation. This poses **unacceptable risks to aviation safety.**"

Among the **recent drone incidents** cited by Beatty were the Feb. 14 crash of a Robinson R22 in Charleston, South Carolina, U.S., as an instructor and student pilot reportedly were maneuvering to avoid a drone; the October 2017 flight of a drone within 5 ft (2 m) of a commercial aircraft landing at London Heathrow Airport; the October collision between a drone and small commercial aircraft during final descent to Jean Lesage International Airport in Quebec; and the September 2017 collision of a recreational drone and a U.S. Army Black Hawk helicopter near Staten Island, New York.

Although some civil aviation authorities – including the European Aviation Safety Agency and those in Australia, Canada, France, Japan, Singapore and the U.K. – **currently regulate all drone operations**, others, including the U.S. Federal Aviation Administration, due to legislative restrictions, have had to limit "hobbyist" regulation to registration. "The days of governments taking a 'hands off' approach to recreational drones should be over," Beatty said.

<https://flightsafety.org/fsf-urges-recreational-drone-regulation/>

European Regulator Proposes Hack Protection, Geo-Awareness for Drones REUTERS FEB. 22, 2018

FRANKFURT — Europe's aviation safety authority has proposed anti-hacking measures and geo-awareness technology for small drones to avoid collisions with aircraft or people, taking an important step toward Europe-wide regulation. With demand booming, both for hobby and commercial use, European regulators have been looking for ways to ensure drones can be safely operated, while allowing the industry to grow.

The reworked proposal published by the European Aviation Safety Agency (EASA) on Thursday, which will be the basis for the European Commission to adopt concrete rules later in the year, includes requirements for drones to be remotely identifiable and to recognize when they stray into banned areas.

To take into account that the risks of flying drones over a city center are very different from flying over the open sea, for instance, it said that only smaller drones weighing less than 900 grams (2 lb) may be flown over people, while bigger ones must either maintain a safe distance or stay far away.



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It also now proposed that small drones, such as those used for aerial photography, be equipped with geo-awareness, meaning a function that warns the operator when the craft enters a restricted air space, such as an airport.

Drones weighing more than 900 grammes should be equipped with technology to prevent hackers from gaining control of the crafts.

EASA also said that drones and their operators, as well as where they took off, should be remotely identifiable, based on unique serial numbers and registration data.

<https://www.nytimes.com/reuters/2018/02/22/technology/22reuters-europe-drones.html>