



UAS and SmallSat Weekly News

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Are Drones Ready to Take Off in Africa? The African Union Report Miriam

McNabbon: June 19, 2018



The African Union and the New Partnership for Africa's Development (NEPAD) have published [a drone report](#) outlining the potential and the challenges for the drone industry on the continent.

The most successful drone delivery programs in the world are currently deployed in Africa. Medical logistics and drone delivery company [Zipline](#) has implemented delivery of medical and blood supplies to remote clinics in Rwanda: they plan to expand the program to Tanzania. In Malawi, UNICEF has implemented the first successful [drone corridor](#) for the delivery of vaccination supplies to rural areas.

In addition to precision agriculture, the report says that land use planning processes, small cargo delivery, scientific research, and other areas could benefit from drones.

The regulatory framework is insufficient to deal with drones in most of the African countries: the report says that **only 26% of the countries currently have drone regulations** in place: some countries have placed a temporary ban on drones. <https://dronelife.com/2018/06/19/are-drones-ready-to-take-off-in-africa-the-african-union-report/>

The Pentagon Just Upped its Investment in this MIT Grads Startup to Increase Fight Endurance for Military Drones Miriam McNabbon: June 20, 2018



It may be the biggest development in engines in 85 years – and could have major impact on drone development. A revolutionary engine design first demonstrated on the back of a go-kart is now proving its case for powering military drones and other autonomous vehicles. The **LiquidPiston** design offers significant progress in expanding the range and endurance of UAV.

[LiquidPiston](#) and its [MIT grad CEO Alec Shkolnik](#) have spent more than a decade on a revolutionary design that inverts the rotary engine that Felix Wankel created in 1960. The result is a small, powerful, multi-fuel capable engine: one that LiquidPiston believes will help drone manufacturers increase flight endurance by more than 50%.



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The company has already **raised \$18 million, but DARPA has just added \$2.5 million** (bringing DARPA's total investment to \$6 million) to continue development of its 30kW X4 rotary diesel engine prototype. The engine design has major benefits to offer. "For the military, LiquidPiston's propulsion can also reduce UAV engine heat signature and minimizing vibration impact on intelligence, surveillance, and reconnaissance equipment."

LiquidPiston sees major advantages for the commercial market. Shkolnik recently attended Uber Elevate, and believes "LiquidPiston's engine could play a vital role as a hybrid, onboard generator to make vertical takeoffs more fuel efficient for UAV consumer travel as well," says the company. <https://dronelife.com/2018/06/20/the-pentagon-just-upped-its-investment-in-this-mit-grads-startup-to-increase-flight-endurance-for-military-drones/>

Ohio Researchers Deploying UAS to Monitor Traffic Betsy Lillian June 20, 2018



Unmanned aircraft systems (UAS) will **monitor** traffic and roadway conditions along the U.S. 33 Smart Mobility Corridor, a 35-mile stretch between Dublin and East Liberty in Ohio, in conjunction with the state's current fixed-location traffic camera system.

DriveOhio's UAS Center is investing **\$5.9 million for a three-year study**. Led by The Ohio State University College of Engineering, the research will include both air and ground vehicles and will complement DriveOhio's current initiatives in autonomous and connected vehicle testing.

Sensors and communication equipment will feed UAS detection and tracking data to the Ohio Department of Transportation's traffic management center. The unmanned traffic management (UTM) solution will enable ODOT to respond more rapidly and effectively to situations on the road, the partners expect. The UTM system also will ensure the drones controlled by DriveOhio's UAS center will not collide with each other or with manned aircraft. Passive radars will enable UAS detection and tracking without contributing to radio spectrum congestion.

"We're excited to develop an unmanned traffic management system for Ohio, which will enable safe flight of drones and personal air vehicles **beyond the line of sight** of the operator," says Jim Gregory, Ohio State professor and Aerospace Research Center director.



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With the UTM system in place, the corridor is expected to be able to support future UAS and autonomous operations such as package delivery and air taxi services, the researchers say.

Research partners include Ohio State's ElectroScience Laboratory, Cal Analytics, Gannett Fleming, AiRXOS (a GE Venture), SRC Inc., Transportation Research Center Inc., Woolpert, The Ohio State University Airport, and Midwest Air Traffic Control. https://unmanned-aerial.com/ohio-researchers-deploying-uas-to-monitor-traffic?utm_medium=email&utm_source=LNH+06-22-2018&utm_campaign=UAO+Latest+News+Headlines

Researchers Deploy Drone, LiDAR to Examine SoCal's San Andreas Fault Betsy Lillian

June 20, 2018



Using drone-based LiDAR technology, the Department of Geological Sciences at San Diego State University (SDSU) recently teamed up with Geodetics Inc., a sensing and navigation company, to research the San Andreas Fault in Southern California.

The study scanned the fault with Geodetics' drone-based Geo-MMS LiDAR/camera mapping system that uses Velodyne LiDAR technology and an RGB camera to deliver 3D data.

The research is focusing on evaluating both past large slip events (earthquakes) and aseismic creep (also known as silent earthquakes), which are tremors that release their energy over weeks or months, rather than seconds. The researchers are looking to discover new fault zones and active fault traces, which are visible marks where a geological fault meets the ground surface. The research is also looking to detect fault slip that has resulted from past earthquakes.

"LiDAR mapping represents a very exciting technology for geology since it enables the generation of accurate **3D mapping**, even in the vertical component where classical photogrammetry techniques are lacking," says Dr. Allen Gontz, professor and chair of geological sciences at SDSU. "Our researchers at SDSU are planning to continuously monitor the fault to better characterize it and exploit the advantages of the current 3D mapping technique."

https://unmanned-aerial.com/researchers-deploy-drones-lidar-to-examine-socals-san-andreas-fault?utm_medium=email&utm_source=LNH+06-22-2018&utm_campaign=UAO+Latest+News+Headlines



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KSU Polytechnic Get FAA's First University Waiver to Fly UAS Beyond Line of Sight June 22, 2018 News

Kansas State University Polytechnic Campus has received a waiver from the Federal Aviation Administration to fly unmanned aircraft systems beyond the line of sight. It's **the first such waiver granted to a university by the FAA.**



The FAA certificate to Kansas State Polytechnic's Applied Aviation Research Center waives the rules regarding visual sight of aircraft operations by the pilot and visual observers. This allows Kansas State Polytechnic to conduct research and operations where pilots and observers can no longer see their aircraft.

"These operations and research will provide valuable insight into regulation and safety measures for UAS in the national airspace," said Travis Balthazor, Kansas State Polytechnic's UAS flight operations manager. "At the time of notification to us, the [FAA's website](#) showed only 20 waivers to this regulation, and only half are waived to allow small UAS operations where the remote pilot in command and the visual observers may not be able to see the aircraft." http://uasweekly.com/2018/06/22/ksu-polytechnic-get-faas-first-university-waiver-to-fly-uas-beyond-line-of-sight/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_22&utm_term=2018-06-22

25Jun18

U.S., European Air-Safety Agencies Follow Different Paths on Drone Regulation

Andy Pasztor June 22, 2018



WASHINGTON—Europe's commercial-drone industry likely faces slower growth and tighter initial safety [restrictions](#) than U.S. operators, based on comments by the head of the European Aviation Safety Agency.

In an interview Wednesday during a U.S.-European air-safety conference here, executive director Patrick Ky sketched out **a more conservative vision** for overseeing the burgeoning realm of unmanned aircraft than regulatory plans evolving on this side of the Atlantic.



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EASA's leader talked about principles rather than specific requirements, and his staff won't even have authority to regulate most commercial drones until early 2019. The agency's direction also could change if it shifts toward another approach, resembling the one Mr. Ky has laid out for conventional airplanes and helicopters, emphasizing industry cooperation, voluntary standards and avoidance of rigid, technically prescriptive rules.

Still, Mr. Ky's general description appears to differ markedly with the seemingly more flexible and user-friendly environment envisioned by leaders of the U.S. Federal Aviation Administration. The divergence is most evident when it comes to early package-delivery applications, which some FAA and U.S. industry officials have predicted could begin on a [limited scale](https://www.wsj.com/articles/u-s-european-air-safety-agencies-follow-different-paths-on-drone-regulation-1529701210) as early as the end of the year. <https://www.wsj.com/articles/u-s-european-air-safety-agencies-follow-different-paths-on-drone-regulation-1529701210>

'Going to mission!': Drones are flying themselves, but how far should Washington let them go? Michael Laris June 23



Tombo Jones, project manager for the Mid-Atlantic Aviation Partnership, launches a drone for a test flight at Virginia Tech.

BLACKSBURG, Va. — After making it through their list of everything that might possibly go wrong, the team from Virginia Tech sent a birdlike drone — shaped from black foam and packed with high-end communications and camera equipment — on an assignment designed to fail. They wanted to know **how far it could fly before it lost contact** with its human minders on the ground.

This test was for **State Farm**, which wants to send long-distance drones to assess disaster zones nationwide. But before the insurance giant can do that, it must make the case to the federal government that it can do the job safely.



The flight path for the drone is pre-programmed into a computer, to test how far the ground control station can communicate with the drone.

It is a process the Department of Transportation hopes to accelerate as it seeks to dramatically expand how drones are used across the country. Virginia's was one of 10 pilot projects seeking permission for wide-ranging drone



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missions, such as crop and railroad monitoring, and food and medical deliveries.

https://www.washingtonpost.com/local/trafficandcommuting/going-to-mission-drones-are-flying-themselves-but-how-far-should-washington-let-them-go/2018/06/23/664c07dc-74a6-11e8-805c-4b67019fcfe4_story.html?utm_term=.a06400993b5a

Pentagon quietly bans Marines from using drones, citing cybersecurity concerns

Hollie McKay | Fox News



In a policy memo [issued](#) quietly in late May, the Department of Defense prohibited the U.S Marine Corps from continuing to purchase and use commercial off-the-shelf drones after cybersecurity vulnerabilities were exposed.

The Corps had already issued around 600 of the small “Instant Eye” quadcopters, with 200 more on the way, as part of its [“Quads for Squads”](#) program aimed at bringing greater situational awareness for troops on the ground.

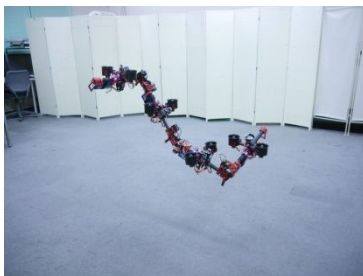
Commandant of the Marine Corps Gen. Robert Neller announced last year that the intention was to **equip every infantry unit with quadcopters** or similar technological devices to assist in the execution of missions.

The Marine Corps [stressed](#) that the aircraft would “greatly diminish the need to send Marines into possibly hostile areas without knowing key factors beforehand, such as the number of enemy troops or equipment.” However, the memo demanded an immediate grounding of the drones “until the DoD identifies and fields a solution to mitigate known cybersecurity risks.”

The Corps has since announced an intention to submit a waiver seeking an exemption.

<http://www.foxnews.com/us/2018/06/24/pentagon-quietly-bans-marines-from-using-drones-citing-cybersecurity-concerns.html>

Dragon drone transforms midair! June 23, 2018 Thomas Luna



Researchers from the University of Tokyo won a UAV award at the [2018 International Conference on Robotics and Automation](#) last month for their dual-rotor, multilink aerial robot that can transform into different shapes midair.

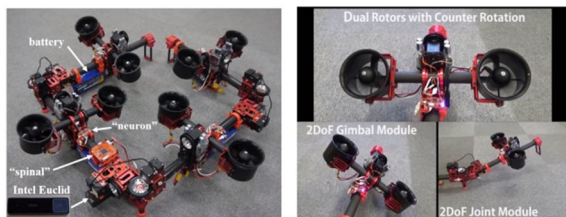
The prototype UAV is called DRAGON, which is short for “Dual-rotor embedded multilink Robot with the Ability of multi-deGree-of-freedom aerial transformation,” according to Jouhou System Kougaku Laboratory ([JSK Lab](#))



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from the University of Tokyo. The dragon drone is designed to be an autonomous UAV that can **adapt itself to fly through obstacles**.

Equipped with a smart sensor called [Intel Euclid](#), the dragon drone can automatically detect its surroundings. It is currently equipped with four modules, dual-rotor gimbal modules, joint modules, a battery that provides a three-minute flight and ducted, counter-rotating propellers. The dragon drone is expected to be operable with 12 modules to increase its ability to transform.



According to [IEE spectrum](#), JSK Lab member Fan SHI described the dragon drone as “a **breakthrough in hardware design** which, in a beautiful way, connects a manipulation arm with a ducted fan-driven aerial robot.

<https://www.wetalkuav.com/dragon-drone-transforms-midair/>

The dragon drone is like other [nature-inspired drones](#) because its flight characteristics are similar to a snake’s movements. Even though this UAV is still a prototype, it can potentially be used in disasters to squeeze through [hard-to-reach places](#). <https://www.wetalkuav.com/dragon-drone-transforms-midair/>

China takes surveillance to new heights with flock of robotic Doves, but do they come in peace? 24 June, 2018 Stephen Chen



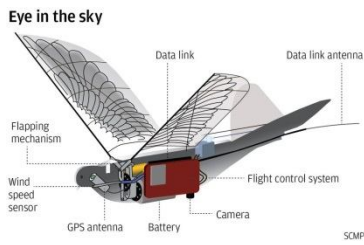
The idea might seem far fetched, but robotic birds are very much a reality, and China has been using them to surveil people across the country.

Sources told the *South China Morning Post* that more than **30 military and government agencies** have deployed the birdlike drones and related devices in at least five provinces in recent years.

“We believe the technology has good potential for large-scale use in the future ... it has some unique advantages to meet the demand for drones in the military and civilian sectors.” Another researcher involved in the Dove project said the aim was to develop a new generation of drones with biologically inspired engineering that could **evade human detection and even radar**.



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The machines in China’s current robot flock replicate about 90 per cent of the movements of a real dove, the person said, adding that they also produce very little noise, making them very hard to detect from the ground, and are so lifelike **that actual birds often fly alongside them.**

<http://www.scmp.com/news/china/society/article/2152027/china-takes-surveillance-new-heights-flock-robotic-doves-do-they>

Illicit drone flights surge along U.S.-Mexico border as smugglers hunt for soft spots Gina Harkins June 24, 2018



Smugglers are using video cameras and small drones to spot vulnerabilities along the U.S.-Mexico border, and the Department of Homeland Security is struggling to stop them.

Reports of unmanned aircraft flying along the southwestern border have spiked in recent months, with more than **three dozen sightings since October**, when the fiscal year began. That data point is on a course **to quadruple from the previous year**, according to U.S. Customs and Border Protection.

The growing use of off-the-shelf, hard-to-spot drones is a prime example of the relentless cat-and-mouse game between criminals and Border Patrol agents. When it comes to drones though, the true number flying along the border could be much higher than what’s been reported. Such aircraft present a tiny radar cross section. They also give off little to no reflection and tend to fly for short periods at very low altitudes, said Jennifer Gabris, a CBP spokeswoman. “These characteristics make them more difficult to detect using conventional sensor systems,” Gabris said. https://www.washingtonpost.com/world/national-security/illicit-drone-flights-surge-along-us-mexico-border-as-smugglers-hunt-for-soft-spots/2018/06/24/ea353d2a-70aa-11e8-bd50-b80389a4e569_story.html?utm_term=.7ee28d78213c

Naperville Park District to open a drone flying park in October Suzanne Baker Contact Reporter Naperville Sun



This fall drone enthusiasts will be able to operate their FAA-registered unmanned aircraft systems in a designated area of Brush Hill Park owned by the Naperville Park District.

A portion of Brush Hill Park is slated to become [Naperville](#)



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Park District's first drone field.

The district plans to install four corner posts marking a 300-by-175-foot section on the west end of the park for use by drone enthusiasts who have the proper certification to fly, Director of Parks Kevin Finnegan said. Opening day is scheduled for Oct. 1.

Finnegan said the space **includes a 50-foot buffer** to help keep drones from hovering near neighboring properties. Drone operators will be required to follow guidelines established by the [Federal Aviation Administration](#) because the agency designates a drone as a small unmanned aircraft system, or UAS. All UAS owners must be registered with the FAA, and only those 13 years and older and a U.S. citizen are permitted to register an unmanned aircraft.

The popularity of flying drones has been growing in recent years. "We receive calls from time-to-time asking where they can fly," Finnegan said.

<http://www.chicagotribune.com/suburbs/naperville-sun/news/ct-nvs-naperville-drone-park-st-0620-story.html>

DHS Seeks Commercial Tech for UAS Sensor Demo Nichols Martinon: June 25, 2018 Industry News, News



The [Department of Homeland Security's](#) science and technology directorate has announced plans to select commercially available sensors through the end of the year for potential use with unmanned aircraft systems.

S&T [said Friday](#) it will give selected vendors one week each to demonstrate technology as part of the *Robotic Aircraft Sensor Program*, the department [said Friday](#). Representatives from the [Immigration and Customs Enforcement](#), [Customs and Border Protection](#) and [U.S. Coast Guard](#) will provide feedback on demonstrations slated to take place at Camp Shelly in Mississippi.

The directorate looks to integrate sensors into drones that can support missions such as border patrol, search-and-rescue, reconnaissance and active shooter response. "Other goals are to give hands-on experience to components, and to **educate suppliers** on the needs of ICE, CBP and USCG so they can incorporate them into their products."

<http://blog.executivebiz.com/2018/06/dhs-seeks-commercial-tech-for-robotic-aircraft-sensor-demo/>



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Insitu secures interior contract award for UAV services BUSINESS NEWS EMMA CALDER JUNE 25, 2018



Insitu, a wholly-owned subsidiary of The Boeing Company, has inked a first-of-its kind contract from the US Department of the Interior (DOI) for an exclusive UAV partnership. The contract will **provide fire suppression services** within the contiguous 48 states and Alaska using its ScanEagle UAV platform.

The system will assist in combatting wildfires using geospatial mapping and full motion video and Insitu will support manned aerial operations, including fire suppression, search and rescue, emergency management, and other operations as needed on a “call when needed” basis.

Equipped with Infrared and electro-optical cameras, sensors, and a mapping payload, ScanEagle will provide near real-time fire line maps and wide-area imagery to assist with fire suppression planning. The aircraft can operate in dense smoke and darkness when manned aircraft typically are grounded due to hazardous flying conditions for pilots.

<http://www.commercialdroneprofessional.com/insitu-secures-interior-contract-award-uav-services/>

Ohio State to create mini-UTM system for drone traffic monitoring June 22, 2018 Philip Butterworth-Hayes UAS traffic management news



The DriveOhio research program has announced its **33** Smart Mobility Corridor **participants** will study the use of drones to monitor traffic and roadway conditions from the air along the corridor. The **three-year study** is a partnership between DriveOhio’s UAS Center and The Ohio State University College of Engineering.

This research will include both air and ground vehicles and will complement ongoing work to test autonomous and connected vehicles along the Corridor, a **35-mile** stretch of U.S. 33 between Dublin and East Liberty. Unmanned aircraft will monitor traffic and incident response in conjunction with the state’s current fixed-location traffic camera system. The aircraft will interact with sensors and communication equipment along the corridor to feed data into the state’s Traffic Management Center. The project will also use sensors and communication devices to ensure the unmanned aircraft will not collide with each other or with manned aircraft that also use the lower altitude airspace.



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The project team includes Cal Analytics, Gannett Fleming, AiRXOS (a GE venture), Gryphon Sensors, Transportation Research Center, Inc., Woolpert, The Ohio State University Airport, and Midwest Air Traffic Control.

DriveOhio was created by Governor Kasich on January 18, 2018, within the Ohio Department of Transportation that **brings together** those responsible for building infrastructure with those developing the advanced mobility technologies needed to allow the state's transportation system to reach its full potential. <https://www.unmannedairspace.info/uncategorized/ohio-state-create-mini-utm-system-drone-traffic-monitoring/>

Flying taxis to be trialled in Ingolstadt as part of government-backed research

June 25, 2018 Philip Butterworth-Hayes UAS traffic management news



Flying taxis will be tested in Ingolstadt, Germany, as part of a project backed by the German government, Audi and Airbus. Hamburg is also working on incorporating drones as a mode of transport. Ingolstadt, which is also the home of Audi, will serve as a testing ground.

The representatives of the two companies, alongside Germany's Transport Minister, the government's commissioner for digitalization and Ingolstadt's mayor on 20 June signed a **declaration of intent** to develop flying taxis in the Bavarian city.

Audi and Airbus presented their flying car concept dubbed "Pop.Up Next" at the Geneva car show in March. The city of Ingolstadt said that it was "technologically open" about the project and had no set concept. <https://www.unmannedairspace.info/uncategorized/flying-taxis-trialled-ingolstadt-part-government-backed-research/>

26Jun18

Thailand Introduces Elbit's Hermes 450 UAS

Chen Chuanren and Chris Pocock - June 25,



2018. The Royal Thai Army (RTA) has introduced the Elbit Hermes 450 unmanned aerial system (UAS), becoming the second Southeast Asian country after Singapore to operate this drone. Elbit Systems says that the H450 has now performed "**40,000 successful combat missions**," but like other Israeli companies, it does not specify



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customers. Meanwhile, Thales UK is separately marketing for export the Watchkeeper UAS that it developed from the H450 for the British Army, in cooperation with Elbit.

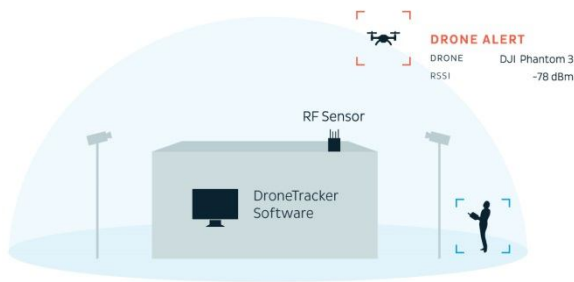
The Elbit sale to Thailand is worth **\$28 million** and consists of four H450 air vehicles and a ground-control station. The UAS will be used for a variety of roles including ISR, target designation, and aerial mapping.

The RTA and Royal Thai Air Force (RTAF) each have their own independent UAV programs, the latter flying four Israel Aeronautics Defence Systems Aerostar UAVs.

<https://www.ainonline.com/aviation-news/defense/2018-06-25/thailand-introduces-elbits-hermes-450-uas#>

Team Dedrone Wins First Prize at ‘Game of Drones’ Competition JUNE 25, 2018

ThunderDrone Selects Dedrone Team as Top Airspace Security Solution



Dedrone announced that its team of Echodyne Corporation, Squarehead Technologies and Battelle, won first place at ThunderDrone’s “Game of Drones” outdoor demonstration at Nellis Air Force Base and AFWERX enclave, June 18-20.

Hosted by AFWERX, Team Dedrone bested five other teams in the last of three rapid prototyping events focusing on countering small, unmanned aerial drones. The team demonstrated the capabilities of a layered detection, tracking, classification and mitigation solution that defends protected airspace against aerial drone threats. Initially, **93 counter-drone technology companies formed teams** and were narrowed down through a series of three rapid prototyping events.

The Dedrone platform is designed to detect, classify and mitigate drone-based threats. The software gathers data from Dedrone’s RF sensors, Echodyne’s radar and Squarehead Discoverair acoustic sensor. Once DroneTracker makes a positive identification of a drone, Battelle’s non-kinetic defense system, DroneDefender™, is automatically triggered to defeat the drone and eliminate the threat. <https://www.dedrone.com/press/team-dedrone-wins-first-prize-at-game-of-drones-competition>



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Boeing HorizonX Ventures Invests in On-Demand Urban Aerial Delivery Startup

Matternet June 26, 2018 News



Boeing today announced its investment in [Matternet](#), a Menlo Park, Calif.-based startup pioneering safe, on-demand unmanned aerial vehicle (UAV) delivery operations in urban environments. Matternet's logistics platform – combined with Boeing's expertise in logistics, integration and manufacturing capabilities – will further enable reliable, efficient cargo air

transportation.

Matternet became **the world's first company** to receive authorization to launch UAV **operations over densely populated areas** in Switzerland in 2017. The company has achieved safe flights over densely populated areas and partnered with Swiss Post for on-demand deliveries of medical samples to hospitals.

In May 2018, Matternet was selected to participate in a joint U.S. Department of Transportation and Federal Aviation Administration program aimed at accelerating integration of unmanned aircraft into national airspace. As part of the program, Matternet will work with hospitals, universities and transportation agencies in California and North Carolina to facilitate on-demand delivery of medical supplies and samples.

Boeing HorizonX Ventures led the **\$16 million**, Series A investment in Matternet, with participation by Swiss Post, Sony Innovation Fund and Levitate Capital.

http://uasweekly.com/2018/06/26/boeing-horizonx-ventures-invests-in-on-demand-urban-aerial-delivery-startup-matternet/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_06_26&utm_term=2018-06-26

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KANSAS STATE POLYTECHNIC BECOMES FIRST UNIVERSITY TO RECEIVE WAIVER TO FLY UAS BLOS AUVSI NEWS JUN 25, 2018

The FAA certificate to Kansas State Polytechnic's Applied Aviation Research Center waives the rules regarding visual sight of aircraft operations by the pilot and visual observers, which will



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allow K-State Polytechnic to conduct research and operations where pilots and observers can no longer see their UAS.



“At the time of notification to us, the FAA's website showed only 20 waivers to this regulation, and only half are waived to allow small UAS operations where the remote pilot in command and the visual observers may not be able to see the aircraft.”

For Kurt Carraway, the Applied Aviation Research Center's UAS executive director, this waiver is important to K-State Polytechnic's research and partnership with the FAA in integrating UAS into the national airspace system. “In addition to our efforts affiliated with the Kansas Department of Transportation's Integration Pilot Program, we will offer flight operations training and consulting to **help others gain similar waivers**. This is consistent with the Kansas State University land-grant mission of transferring our knowledge to promote the greater good of the industry.” <http://www.auvsi.org/industry-news/kansas-state-polytechnic-becomes-first-university-receive-waiver-fly-uas-blos>

DHS program looks to heighten capabilities of drones with new sensors June 26, 2018 Dave Kovalski



The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is looking to equip drones with different sensors other than cameras that may be useful in search-and-rescue, surveillance, active shooter response, hostage situations, and other scenarios.

S&T has launched a program seeking commercially available sensors. The selected sensors will be demonstrated at Camp Shelby near Hattiesburg, Miss., as part of S&T's Robotic Aircraft Sensor Program (RASP).

“The main goal of the program is to identify new technology that will improve component operations,” Tim Bennett, project manager of RASP, said. “Other goals are to give hands-on experience to components, and to educate suppliers on the needs of CBP (Customs and Border Protection), ICE (Immigration and Customs Enforcement), and USCG (U.S. Coast Guard) so they can incorporate them into their products.”

Drones are expected to function in both day and night settings, doing everything from border surveillance to tracking specific mobile conveyances, people, or other targets. S&T is looking for



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drone systems to do things like provide a 3-D map of a specified region, classify targets and their potential threats, or even identify injured operators and the nature of their injuries.

<https://homelandprepnews.com/stories/29147-dhs-program-looks-heighten-capabilities-drones-new-sensors/>

FAA prohibits drone flights over federal prisons, Coast Guard bases Bart Jansen, USA

TODAY June 27, 2018



WASHINGTON – Drones will be prohibited from flying over federal prisons and Coast Guard facilities under flight restrictions the Federal Aviation Administration announced Tuesday.

[Prison officials have long worried](#) about people flying remote-controlled aircraft over prison yards to drop drugs, weapons or other contraband to inmates. Security officials have also been concerned about the potential for terrorists to use drones to attack federal facilities.

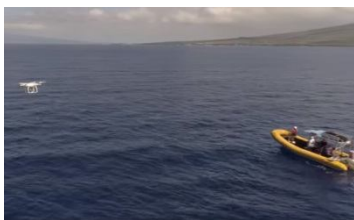
Most of the FAA flight restrictions took effect June 20 over 18 prisons and 10 Coast Guard facilities. Another prison near Clinton, Ill., will be added July 7. Those locations join military bases, 10 Department of the Interior facilities and seven Department of Energy facilities where FAA earlier banned drone flights.

Drone incidents at prisons included an [escape in July 2017 from a South Carolina prison](#), where the inmate chopped his way through a fence using wire cutters that prison officials suspect were dropped by a drone. The inmate was captured 1,200 miles away in Texas.

<https://www.usatoday.com/story/news/2018/06/26/faa-bans-drone-flights-over-prisons-coast-guard-bases/733734002/>

DJI flies the flag for drone-enhanced marine conservation APPLICATION TECHNOLOGY

VIDEO EMMA CALDER on JUNE 27, 2018



DJI has released a video demonstrating how UAVs can aid the rescue of entangled whales.

The company believes the technology offers a different perspective to assess the conditions of the whales and necessary equipment to intervene from above and that drones **reduce the risk** for people by limiting the number of approaches to the animals.



UAS and SmallSat Weekly News

Ed Lyman, Large Whale Entanglement response coordinator at NOAA, and Matt Pickett, president at Ocean Unmanned, offer insight into the benefits of using drones for marine conservation.

DJI's video can be viewed here: http://www.commercialdroneprofessional.com/dji-flies-the-flag-for-drone-enhanced-marine-conservation/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-266231-Commercial+Drone+Professional+DNA+-+2018-06-27

Germany becomes the last big Western power to buy killer robots Jun 23rd 2018 | BERLIN



TO THE relief of commanders and the dismay of pacifists, Germany's armed forces have crossed a threshold. On June 13th a Bundestag committee voted to approve the spending of nearly €1bn (\$1.1bn) to lease from Israel five drones which can be equipped with deadly weapons. Hitherto Germany has been the only big Western country not to buy "killer robots".

The machines are described as "weaponisable" but not "weaponised". A new decision will be needed to endow them with destructive power. However, critics and supporters feel their eventual use in combat is almost certain. In the words of Ulrike Franke, a German expert on unmanned aircraft, "It would be absurd to pay for the use of these expensive drones and then not to arm them."

In a few years, Germany may no longer have to turn to foreign suppliers for remote-controlled air power. It is the prime mover in the so-called **Eurodrone project**, working with France, Italy and Spain to construct a pilotless plane and boost the continent's aerospace skills. German governments can tell a squeamish electorate that the new machine's missile-firing feature is being included only in deference to more belligerent partners; **they will retain the option of ordering a version that simply looks rather than shoots**. Few people will believe that, but it may be a politically necessary fiction. <https://www.economist.com/europe/2018/06/23/germany-becomes-the-last-big-western-power-to-buy-killer-robots>



UAS and SmallSat Weekly News

28Jun18

UAV industry growth forecasts are “wrong”, warns market expert HEADLINE NEWS

EMMA CALDER on JUNE 28, 2018



Drone Major Group’s chief executive, Robert Garbett, has claimed that financial predictions about the growth of the UAV industry fail to paint the full picture.

According to AV Magazine, a trade publication for the audio and visual sector, Garbett commented on the industry’s financial growth at the Drone World Congress in Shenzhen, China on June 23. He said: “Less than a month ago, accountancy firm PwC, forecast that the drone industry in the UK alone would be worth £42 billion by 2030, but they were wrong. And two years ago, Goldman Sachs said the world’s drone industry would be worth \$100 billion by 2020, they were wrong, **it will be much, much more.**”

“The opportunities are far greater than this, since such projections focus only on the air industry. We must define the entire drone industry as covering surface, underwater, air and space. Many members of the public simply do not realise **the full spectrum of this amazing revolutionary industry.**” This includes autonomous vehicles, pilotless aircraft, satellites, space craft, underwater ROVs, marine surface vehicles and **most excitingly of all, hybrid systems** which are increasingly breaking down environmental barriers by operating seamlessly between land, sea and air or simultaneously in all three.”

The most recent drone report from PwC claims that drone technology has the potential to increase UK GDP by £42 billion (or 2%) by 2030.

<http://www.commercialdroneprofessional.com/uav-industry-growth-forecasts-are-wrong-warns-market-expert/>

DroneDeploy hopes to ‘bring drones to every job site’ with £19m funding

BUSINESS HEADLINE NEWS EMMA CALDER JUNE 28, 2018



DroneDeploy, a San Francisco-based drone mapping platform provider, has locked in a bumper investment in order to target growth.

The company has secured a **\$25m** (£19m) investment, which it plans to use to take its platform to the ‘next level’ and break into new industries.



UAS and SmallSat Weekly News

"With this new funding round, we have the opportunity to work with more customers who will bring our drone data platform to new industries, and transform workflows on every job site," said Mike Winn, CEO at DroneDeploy.

Over the last four years, DroneDeploy has built one of the largest drone datasets in the world, consisting of more than **100 million aerial images** collected in 180 countries across 400,000 job sites.

The funding round was led by the Invenergy Future Fund, a venture capital firm focused on investing in early-stage companies that make energy and industrial operations more affordable, reliable, and secure. The round is also backed by AirTree, one of the largest venture capital firms in Australia. The consistent theme we heard from customers was that DroneDeploy's product and applications help achieve significant ROI and **reduce risk on the job site.**"

<http://www.commercialdroneprofessional.com/dronedeploy-hopes-to-bring-drones-to-every-job-site-with-19m-funding/>

Drones Are Big Help to Property Manager in 'Vertical City' of New York Betsy

Lillian June 27, 2018



Matthew Adam Properties Inc., a residential property manager in New York City, has been successfully using unmanned aircraft systems (UAS) to supplement its services.

According to the Manhattan-based company, the drone assists the superintendent and building manager in viewing the side of buildings for issues difficult to see with the naked eye from street level. This includes inspecting exterior conditions, monitoring contractors' work and examining other building installations.

"New York is a vertical city, and certain aspects of managing and taking care of a property are difficult," Ira Meister, president and founder of Matthew Adam Properties, explains. "The drone is a natural adjunct to our work and has enabled us to better see the work of contractors and identify problems on the facade that are difficult to see with the naked eye or even binoculars."

Recently, the firm used the UAS to inspect the underside of an extended cornice on a high-rise co-op. "We saved the co-op a significant expenditure, greatly reduced the time it took to inspect the area, and cut down on inconvenience for residents and pedestrians," Meister says. "Without the drone, we would have had to erect scaffolding. What could have taken weeks was



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done in minutes." https://unmanned-aerial.com/drones-are-big-help-to-property-manager-in-vertical-city-of-new-york?utm_medium=email&utm_source=LNH+06-28-2018&utm_campaign=UAO+Latest+News+Headlines

29Jun18

DJI Mavic pulls out kid's loose tooth! June 27, 2018 Thomas Luna

When it comes to kids losing teeth, parents have used all kinds of methods to pull their child's loose tooth out. A classic example is opening a door while a string is tied to a kid's tooth, but now videos on YouTube show parents shifting towards a more modern method: tooth extraction by drone..



In this video by [Rhett Davis](#), a DJI Mavic and dental floss were used to pull a little girl's tooth out. Davis hovered the quadcopter and flew up with floss tied to the kid's tooth, and he even captured bird's-eye footage of the tooth extraction.

This video was uploaded by [April Johnston](#) on June 2018, and the description says dental floss and a toy drone called Holy Stone HS110D were used to remove the kid's tooth. Instead of hovering and flying away, this drone started on the ground. The Holy Stone quadcopter lifted off while the kid sat cross-legged, and once the tooth was removed, the kid was gifted \$5.

According to Colgate, it's dangerous to just yank a kid's loose tooth out. Apparently, knocking a kid's tooth loose increases the risks of infections and [may even damage permanent tooth](#).

https://www.wetalkuav.com/dji-mavic-pulls-kids-loose-tooth/?utm_source=WeTalkUAV&utm_campaign=d06e34cd7c-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_1d410cb84d-d06e34cd7c-83642867