



## UAS and SmallSat Weekly News

### Contents

- 2 Atmos Launches the Cobalt
- 2 New Zipline Partnership with Toyota Tsusho Will Provide National Drone Delivery Service
- 3 Sheriff drones can now deliver lifejackets during water rescues
- 3 Dronamics is the first to launch a cargo drone airline
- 4 Bees and drones are working together to find landmines
- 4 Dynamic Infrastructure Reveals Breakthrough of UAS Bridge Inspection Photos
- 5 Global Hawk Drone Is Far More Than Just a 21st Century 'Spy Plane'
- 6 Volansi collaborates with industry experts on airspace drone integration
- 6 New Search and Rescue Drone Finds Victims Via Their Cell Phone
- 7 Rescue crews locate missing McDowell County man by spotting heat signature
- 7 Drones for Mosquito Control: Engineering New Technologies for an Old Problem
- 8 This Michigan Court Ruling Could Have a Major Impact on Commercial Drone Operations
- 9 Defense-tech company Anduril buys Area-I, a manufacturer of tube-launched drones
- 9 NASA's Mars helicopter Ingenuity touches down on the Red Planet
- 10 Russia's Federal Nuclear Center "develops missile-based net capture C-UAS system"
- 10 US DoT Office of Inspector General "to audit FAA progress on implementing UTM"
- 11 Navy Aiming for Mostly Drone Fleet
- 11 SkyWall Patrol anti-drone solution nets more European police tenders
- 12 ABB launches world's fastest, most sensitive drone-based gas leak detection system
- 13 Genesis sends up 3,281 drones in record-breaking show
- 13 A gorgeous global drone voyage, courtesy of Timelab Pro
- 14 Mars Helicopter Ingenuity snaps 1st color photo on Red Planet
- 14 Valkyrie drone launches even smaller drone from inside payload bay
- 15 American Robotics and the Resurgence of U.S. Drone Companies
- 16 Eco-Sustainable Vertiport for Sporty 2-Passenger UAVs on the Drawing Boards in Italy
- 17 THE FAA'S REMOTE PILOT RECURRENT ONLINE TRAINING IS AVAILABLE NOW
- 17 Guardian Agriculture secures \$10.5 million in seed round
- 18 UPS agrees to buy electric vertical aircraft to speed up package delivery in small markets
- 19 The Port of Antwerp Is Working To Deploy Autonomous Drones to Improve Operations
- 20 Mars helicopter Ingenuity unlocks its rotor blades to prepare for 1st flight on Red Planet



## UAS and SmallSat Weekly News

3Apr21

### **Atmos Launches the Cobalt** April 1, 2021 News



[Atmos](#), the fast-growing Dutch drone manufacturer that develops high-end VTOL fixed-wing drones for surveying and mapping applications, launches the Cobalt Release with a completely renewed Marlyn and brand.

“Surveying is a constantly changing industry, and we believe it’s important as a manufacturer to always be innovating and pushing the status quo, while producing affordable platforms” said Sander Hulsman, CTO at Atmos. “Based on the feedback of our customers we were tasked with taking Marlyn to the next level, in a completely user-centered way.”

For over a year, Atmos’ engineers worked with users and resellers to bring changes to Marlyn that would massively improve the customer experience. Together with them, the team managed to produce the most accurate, and easy to use Marlyn ever made, with changes across the entirety of the product. [https://uasweekly.com/2021/04/01/atmos-launches-the-cobalt/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=atmos-launches-the-cobalt&utm\\_term=2021-04-01](https://uasweekly.com/2021/04/01/atmos-launches-the-cobalt/?utm_source=rss&utm_medium=rss&utm_campaign=atmos-launches-the-cobalt&utm_term=2021-04-01)

### **New Zipline Partnership with Toyota Tsusho Will Provide National Drone Delivery Service** Miriam McNabb March 31, 2021



A new strategic partnership between Toyota Tsusho and [Zipline](#) in Japan will enable nation-scale, on-demand drone delivery of critical medical supplies.

Toyota Tsusho Corporation is one of Japan’s general trading companies and a member of the Toyota Group. The partnership with Zipline in Japan will bring [medical drone delivery](#) to communities across Japan, even in the most remote areas of the country.

The partnership is not a new one: Toyota Tsusho invested in Zipline in 2018 as part of the company’s NEXT Technology strategy intended to support innovation in mobility. In addition, Toyota Tsusho and Zipline have partnered in Ghana, where Zipline delivers medical products from Gokals-Laborex Limited, Toyota Tsusho Group’s pharmaceutical distributor, to hospitals across the country.



## UAS and SmallSat Weekly News

Zipline recently began [drone delivery of COVID-19 vaccines](#) across Ghana, following widescale implementation of medical drone delivery in Rwanda and [ground-breaking drone delivery projects in the U.S.](#) <https://dronelife.com/2021/03/31/zipline-in-japan-new-partnership-with-toyota-tshusho-will-provide-national-scale-drone-delivery-service/>

### **Sheriff drones can now deliver lifejackets during water rescues** 2021-04-01 Slavoljub Pantelic



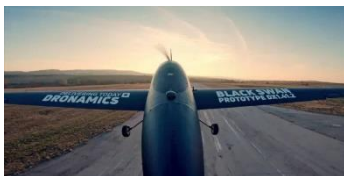
San Mateo County Sheriff's deputies have shown how they can use a [drone](#) to coach a surfer struggling at sea to safety.

The [drone](#) can now also carry and drop lifejackets to anyone in need, the sheriff's office said in an announcement on social media today.

The technology is particularly helpful these days. The number of water rescues along the coast doubled over the last two years in comparison with previous years, the sheriff's office said.

"During COVID-19, we saw an increase in people visiting the beaches, and we also saw an increase in the amount of times the Sheriff's Office and our partners at San Mateo County Harbor District and CAL FIRE CZU San Mateo-Santa Cruz Unit responded to water rescues." [https://www.uavexpertnews.com/2021/04/sheriff-drones-can-now-deliver-lifejackets-during-water-rescues/?utm\\_source=Master&utm\\_campaign=64c181ecfa-EMAIL\\_CAMPAIGN\\_2017\\_12\\_20\\_COPY\\_01&utm\\_medium=email&utm\\_term=0\\_35ad7bc94d-64c181ecfa-89168672](https://www.uavexpertnews.com/2021/04/sheriff-drones-can-now-deliver-lifejackets-during-water-rescues/?utm_source=Master&utm_campaign=64c181ecfa-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-64c181ecfa-89168672)

### **Dronamics is the first to launch a cargo drone airline** Josh Spires Apr. 2, 2021



Cargo drone manufacturer Dronamics has announced its Dronamics Airlines, working with companies in Ireland, Australia, and Canada. The [drone cargo deliveries](#) will allow for same-day deliveries using the company's proprietary cargo drone, the Black

Swan.

In 2018 the company released a video of the [Black Swan](#), a cargo drone capable of transporting up to 350 kg (770 lbs) at a distance of 2,500 km (1,550 miles). Dronamics boasted that the drone could deliver goods [faster and cheaper than any airplane](#) currently available on the market.



## UAS and SmallSat Weekly News

The companies in each of the countries will act as subsidiaries of Dronamics and lead local drone regulations. The exact locations in each of the countries are currently unknown, but it will see e-commerce, pharma, and spare parts delivered before the end of this year.

<https://dronedj.com/2021/04/02/dronamics-is-the-first-to-launch-a-cargo-drone-airline/#more-54167>

### Bees and drones are working together to find landmines Josh Spires Apr. 2, 2021



[Researchers from Croatia](#) have stepped up landmine locating by complementing bees with drones to make the job safer and much easier to do. The drones are used to track the bees and later locate the landmines' location, keeping humans out of danger.

A group of researchers from Croatia, Bosnia, and Herzegovina has a new way to track the bees using cameras attached to drones. The bees get to work, as usual, locating the landmines while the drones fly above them, capturing data.

Once the mine locating session is done for the day, the footage from the drones is taken back and run through an AI program that can track the bees and figure out where they are hovering, telling the researchers where the landmines are, who then notify the authorities to remove or detonate them safely.

There are an estimated 80,000 landmines in Bosnia and Herzegovina, and 30,000 in Croatia left over from previous wars. There has always been a goal for all the landmines to be cleared, but it isn't the easiest task to find them first. The drones have allowed the teams to speed up the process and make it safer for those involved. <https://dronedj.com/2021/04/02/bees-and-drones-are-working-together-to-find-landmines/#more-54157>

### Dynamic Infrastructure Reveals Breakthrough of UAS Bridge Inspection Photos

April 2, 2021 News



Automatic processing of drone photos according to AASHTO standards while finding and prioritizing relevant defects in just several hours is a technological breakthrough that immediately enables bridge engineers to dramatically increase the benefits and value of each drone inspection.

Dynamic Infrastructure's **image processing and AI platform** automatically analyzes drone photos collected during bridge inspections. The goal is



## UAS and SmallSat Weekly News

clear – providing inspection engineers a quick and accurate analysis of the captured drone visuals for approval and maintenance

recommendations. [https://uasweekly.com/2021/04/02/dynamic-infrastructure-reveals-technological-breakthrough-of-uas-photos-analysis-captured-while-inspecting-bridges/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=dynamic-infrastructure-reveals-technological-breakthrough-of-uas-photos-analysis-captured-while-inspecting-bridges&utm\\_term=2021-04-02](https://uasweekly.com/2021/04/02/dynamic-infrastructure-reveals-technological-breakthrough-of-uas-photos-analysis-captured-while-inspecting-bridges/?utm_source=rss&utm_medium=rss&utm_campaign=dynamic-infrastructure-reveals-technological-breakthrough-of-uas-photos-analysis-captured-while-inspecting-bridges&utm_term=2021-04-02)

**4Apr21**

**Global Hawk Drone Is Far More Than Just a 21st Century 'Spy Plane'** March 31, 2021 Kris Osborn



This unmanned spy plane can help to see what is going on, spot injured humans buried under rubble, and help direct communications.

There are a variety of interesting military technologies engineered for the [Global Hawk drone](#) which may have proven useful for [Haiti relief efforts](#) following the devastating earthquake in 2010; Electro-Optical/Infra-Red cameras could perform video imaging functions and beam back real-time feeds from disaster areas. Global Hawk does not have to accommodate pilot fatigue or schedule requirements and can stay airborne for more than **thirty-four hours**.

Global Hawk infrared cameras would have been able to [detect a heat signature](#) emitting from an otherwise undetectable human body lying beneath concrete and rubble. Such sensor precision could have enabled rescue workers with cranes and other rescue equipment to locate survivors. Infrared sensors were, in fact, [used in 2007](#) to help the California Department of Forestry and Fire Prevention provide firefighters with a more complete picture of the wildfires.

The drone also uses a [Synthetic Aperture Radar](#), a technology which sends a forward electromagnetic “ping” to the ground and then analyzes the return signal to produce an image of the ground below. This technology can prove particularly significant wherein rain, fog or clouds obscure views from an EO/IR camera. Radar signals travel through clouds. It also utilized Ground Moving Target Indicator to detect ground movement. While typically used to locate and track things like enemy armored vehicles, it seems feasible that it might be able to detect relief vehicles in key areas and function as an information relay “node” connecting otherwise



## UAS and SmallSat Weekly News

separated rescue command centers. <https://nationalinterest.org/blog/buzz/global-hawk-drone-far-more-just-21st-century-spy-plane-181586>

### **Volansi collaborates with industry experts on airspace drone integration**

HEADLINE NEWS JOE PESKETT APRIL 4, 2021



Volansi has partnered with three of the nine participants in the FAA BEYOND program to accelerate the integration of Unmanned Aircraft Systems into the National Airspace System.

Volansi is working with the North Carolina Department of Transportation, the North Dakota Department of Transportation and the University of Alaska Fairbanks for this effort.

In summer of 2020, Volansi announced a teaming agreement with NCDOT to execute middle-mile drone delivery projects. Not long after, the VOLY C10 began a project delivering temperature-controlled medicine and vaccines from Merck's manufacturing facility to patients at Vidant Healthplex-Wilson.

Volansi continues to work with NCDOT to gather data on drone delivery programs and how they could be incorporated long-term into the current transportation infrastructure and regulations.

Last fall, Volansi partnered with the Northern Plains UAS Test Site to support Vantis, North Dakota's statewide UAS network, which enables flights beyond visual line of sight. After a competitive selection process, the VOLY C10 was the only drone selected to integrate and test Vantis' technologies, such as Command and Control links or ground-based Detect and Avoid. Data captured from the successful test flights will be used to develop standard requirements that will apply to any aircraft flying on the network.

<https://www.commercialdroneprofessional.com/volansi-collaborates-with-industry-experts-on-airspace-drone-integration/>

### **New Search and Rescue Drone Finds Victims Via Their Cell Phone** RENEE KNIGHT

MARCH 28, 2021



The new Revector Detector Drone can locate missing people through their cell phones. The lightweight search and rescue UAS comes equipped with a cell phone base station. It can fly over areas that are

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA  
[robert.rea@axcel.us](mailto:robert.rea@axcel.us) | 757-309-5869 | [www.axcelinnovation.net](http://www.axcelinnovation.net)



## UAS and SmallSat Weekly News

difficult to reach after a natural disaster or accident to locate survivors who have their cell phones with them. The system mimics a base station, so cell phones connect to it, helping search-and-rescue teams quickly locate victims before sending rescuers in.

The drone, which can be as light as five kilograms, can monitor an area of 10 kilometers at high speed for **90 minutes**. It can identify a victim within a 20-meter area. Mountain rescue teams, police forces and the military can deploy this system for SAR missions.

<https://insideunmannedsystems.com/new-sar-drone-finds-victims-via-their-cell-phone/>

### Rescue crews locate missing McDowell County man by spotting heat signature

Kari Barrows March 28th 2021



MCDOWELL COUNTY, N.C. (WLOS) — A McDowell County man in his 70's has been located and given medical attention after rescue crews found him down steep terrain off US 221 North.

Broad River Fire & Rescue reports Robert Gouge, who was the subject of a silver alert issued Saturday evening, was located late Saturday night, with rescue efforts taking place overnight into Sunday.

The department says its Unmanned Aerial Systems team flew several missions using FLIR technology (thermal imaging, night vision) searching for Gouge before spotting a heat signature. McDowell County Emergency Management says he was located and rescued from steep terrain off US 221 North shortly before 1 a.m. Sunday.

Broad River says Gouge was not fully alert when he was located, possibly due to a medical condition, and he was treated by medics. <https://wpde.com/news/local/robert-gouge-rescue-crews-locate-missing-mcdowell-county-man-by-spotting-heat-signature>

### Drones for Mosquito Control: Engineering New Technologies for an Old

**Problem** Miriam McNabb April 02, 2021



Mosquitos are said to be the most dangerous animal in the world, killing millions through carrying diseases like malaria and the Zika virus. It's a serious problem, and one that Founder and CEO Bill Reynolds of Leading Edge Associates has addressed with serious technology. His company's



## UAS and SmallSat Weekly News

original product offering was MapVision, a geospatial data management system integrating mosquito inspection, surveillance, and treatment data with real-time GIS mapping.

Now, the company is making a major impact with their drone for mosquito control. The [PrecisionVision product line](#) is designed, engineered, and built in the U.S. – with features that address the needs of the mosquito control industry. It “uses global positioning systems and remote sensing units on the UAS to digitally inspect large areas, record and analyze data, and create polygons, flight paths, and treatment points. The UAS is then able to return to treat targeted areas with precision and accuracy – within 4 centimeters – all under the control of a trained and licensed UAS pilot. What once took a team of inspectors and specialty vehicles days to manage has been reduced to just **hours.**”

<https://dronelife.com/2021/04/02/drones-for-mosquito-control-engineering-new-technologies-for-an-old-problem/>

**5Apr21**

### **This Michigan Court Ruling Could Have a Major Impact on Commercial Drone Operations** Miriam McNabb April 03, 2021



“In a new decision, the Michigan Court of Appeals has held that when it comes to privacy and aerial surveillance, a landowner has a greatly enhanced expectation of privacy when unmanned aircraft are involved,” writes Mark McKinnon in JDSupra.

The original case was an action by a town (Long Lake) against a homeowner who had too much junk in his yard. The town proved their case by attaching drone images, documenting the increase of junk over several years. The defendant cried foul, saying that taking drone images of his property was the same as “illegal search” and violated his Fourth Amendment (unreasonable search or seizure) rights.

The essence of the argument is that while homeowners have no reasonable expectation of privacy against manned aircraft flights, drones are different – essentially, because they fly lower and have better cameras. While the first court found that the defendant had no “reasonable expectation of privacy related to aerial photography,” the Michigan Court of Appeals disagreed, ruling that drone surveillance “of this nature intrudes into persons’ reasonable expectations of privacy . . . .”





## UAS and SmallSat Weekly News

When it comes to aerial searches, the Supreme Court has ruled that there is no reasonable expectation of privacy from a manned aircraft at 1,000 feet or from a helicopter at 400 feet. **Drones**, however, able to fly at lower altitudes, **are different – at least in Michigan**. <https://dronelife.com/2021/04/03/this-michigan-court-ruling-could-have-a-major-impact-on-commercial-drone-operations/>

### **Defense-tech company Anduril buys Area-I, a manufacturer of tube-launched drones** Aaron Gregg April 3, 2021



Anduril, the rare West Coast tech company that sees the U.S. military as its go-to customer, has acquired Area-I, an Atlanta-based tech start-up specializing in small tube-launched drones that can be used to scout ahead of helicopters or military transport planes.

The acquisition is part of Anduril's plan to become a leading supplier of defense technology, a vision that has attracted a total of **\$400 million** in venture funding, much of it from Peter Thiel's Founders Fund, at **a valuation of close to \$2 billion**. Terms of the deal were not disclosed.

The company's drones are in use by the Army, Air Force, Navy, NASA and U.S. Special Operations Command. They are designed to fly and carry out their missions **autonomously**. <https://www.washingtonpost.com/business/2021/04/03/anduril-small-drones/>

### **NASA's Mars helicopter Ingenuity touches down on the Red Planet** Tariq Malik



NASA's [Mars helicopter Ingenuity](#) touched down on the surface of the Red Planet after being dropped by its mother ship, the [Perseverance rover](#), the space agency announced late Saturday (April 4). The helicopter's **first flight** is just over a week away.

Weighing in at just 4 lbs., Ingenuity is a tiny, solar-powered helicopter that relies on a rechargeable battery to keep its systems warm during the harsh Martian night. Until today, Ingenuity has been feeding off the rover's nuclear-powered system to stay warm. "This heater keeps the interior at about 45 degrees F through the bitter cold of the Martian night, where temperatures can drop to as low as -130 F.



## UAS and SmallSat Weekly News

Ingenuity is expected to make its first flight on April 11, with the data from that test reaching Earth on April 12. The \$85 million drone is the **first** helicopter ever sent to another world and is designed to test technologies for future flying vehicles on other planets.

<https://www.space.com/mars-helicopter-ingenuity-touches-down-martian-surface>

### **Russia’s Federal Nuclear Center “develops missile-based net capture C-UAS system”** April 5, 2021 Philip Butterworth-Hayes Counter-UAS systems and policies



*Russia Beyond* reports that the Russian Federal Nuclear Center has developed a counter-drone net capture system which will be presented to the public in mid 2021 during the Army-2021 military exhibition in Moscow. According to the news report:

“The system consists of a missile with laser guidance. This navigation system brings a container with a trap net inside to a drone. The moment AI recognizes an unmanned aerial vehicle, it opens the net and catches the “enemy alive”, ensuring that the owner of the drone loses the signal. The creators note that the existing traps are effective for catching **high-speed UAVs** capable of performing complex maneuvers.

“The system works as follows – a missile flies in the air scanning the territory below. Once it detects an enemy aerial target, it dives down opening the net. Scientists plan to increase missiles’ capabilities, its initial speed and load capability in the coming months prior to its debut. According to creators, this **technology is unique and has no analogues on the market**, as companies mostly concentrate on blinding drones with means of radio-electronic warfare or via creating anti-drone guns.” <https://www.unmannedairspace.info/latest-news-and-information/russias-federal-nuclear-center-develops-missile-based-net-capture-c-uas-system/>

### **US DoT Office of Inspector General “to audit FAA progress on implementing UTM”** April 5, 2021 Philip Butterworth-Hayes Emerging regulations, UAS traffic management news



Ranking Members of the House Committee on Transportation and Infrastructure and its Subcommittee on Aviation has that US Department of Transportation Office of Inspector General: “assess FAA’s efforts to develop and implement UAS Traffic Management (UTM), including the pilot program and any collaborations or interactions FAA has had with other Government agencies, including NASA and the Department of Defense,” according to an OIG release.



## UAS and SmallSat Weekly News

“Accordingly, our audit objectives are to assess FAA’s (1) progress with UTM development and implementation, including results of its UTM pilot program; and (2) collaboration with other Government agencies regarding UTM,” continues the statement.

<https://www.unmannedairspace.info/latest-news-and-information/us-dot-office-of-inspector-general-to-audit-faa-progress-on-implementing-utm/>

### **Navy Aiming for Mostly Drone Fleet** Russ Niles April 4, 2021



The Navy says the forthcoming replacement for the F/A-18 will likely be a manned aircraft, but it might be in the minority as part of the overall fleet. Rear Adm. Gregory Harris, who’s in charge of steering the Next Generation Air Dominance Program, told a Navy League breakfast last week that the new carrier-borne fighter will be one of several new platforms acquired as part of the program. “We truly see NGAD as more than just a single aircraft. We believe that as manned-unmanned teaming comes online, we will integrate those aspects,” he said.

That could mean that up to **60 percent of the fleet will be unmanned**. They might be aircraft that accompany the manned aircraft or they might be surveillance and control platforms. Harris said the in-house term for such aircraft is “Little Buddy.” The Navy is already trying out the MQ-25 refueling drone, and that will help guide the future mix of aircraft operations. “A lot of that’s going to be dependent on the success we see with the MQ-25 Stingray, on our ability to truly learn how to operate around the aircraft carrier and safely execute both on the flight deck and airborne,” Harris said. [https://www.avweb.com/aviation-news/navy-aiming-for-mostly-drone-fleet/?MailingID=575&utm\\_source=ActiveCampaign&utm\\_medium=email&utm\\_content=United+Hiring%2C+Vaccine+Travel+App&utm\\_campaign=United+Hiring%2C+Vaccine+Travel+App-MONDAY%2C+April+5%2C+2021](https://www.avweb.com/aviation-news/navy-aiming-for-mostly-drone-fleet/?MailingID=575&utm_source=ActiveCampaign&utm_medium=email&utm_content=United+Hiring%2C+Vaccine+Travel+App&utm_campaign=United+Hiring%2C+Vaccine+Travel+App-MONDAY%2C+April+5%2C+2021)

### **SkyWall Patrol anti-drone solution nets more European police tenders** HEADLINE NEWS JOE PESKETT APRIL 5, 2021



The SkyWall Patrol anti-drone net was operated in a live urban environment in a series of tests as part of the showcase. These tests were conducted at the end of 2019 as part of the Internal Security Fund – Police project SKYFALL, an EU-funded program.

The system was then selected as part of a formal evaluation, due to SkyWall Patrol’s range and performance, while providing a low collateral damage and **physical** defeat of the target drones.



## UAS and SmallSat Weekly News

Law enforcement and military authorities around the world already use SkyWall Patrol at high-profile events to protect key people or assets, and at critical infrastructure such as nuclear sites and international airports.

SkyWall Patrol gives a mobile operator the ability to physically capture a drone in a net, used in conjunction with electronic countermeasures for a layered defense, or **in environments where electronic attack cannot be deployed**. The system can be networked through command-and-control systems to enhance situational awareness and give a tactical advantage to mission commanders. <https://www.commercialdroneprofessional.com/skywall-patrol-anti-drone-solution-nets-more-european-police-tenders/>

### **ABB launches world's fastest, most sensitive drone-based gas leak detection system** April 5, 2021 News



Pipelines often cross **inaccessible terrain** to supply industrial and domestic gas. Operators of these networks must ensure the safety, integrity and reliability of their pipelines, but accurate detection of odorless and invisible gas leaks can be challenging and expensive. The ABB Ability™ Mobile Gas Leak Detection System, HoverGuard™, finds leaks faster and more reliably than ever before.

It detects, quantifies and maps leaks up to 100 meters from natural gas distribution and transmission pipelines, gathering lines, storage facilities, and other potential sources quickly, safely and reliably. It automatically generates digital reports that summarize results and can be shared in minutes after a survey.

The cloud-connected, multi-gas solution is also the **first** Unmanned Aerial Vehicle system to quantify the three most important greenhouse gases **methane, carbon dioxide and water vapor** continuously while flying. Each gas affects the environment differently and is present in different amounts. The fast response and precision of the analyzer allows scientists and researchers to quantify greenhouse gas fluxes.

Patented laser absorption spectroscopy detects methane with a sensitivity more than **1,000 times higher and over 10 times faster** than conventional leak detection tools. This sensitivity and speed allows HoverGuard to detect leaks while flying at altitudes of 40 meters and at speeds greater than 88 km/h. It can cover 10-15 times more land area per minute by operating on low-cost commercial UAVs capable of carrying a payload of 3 kg.

<https://uasweekly.com/2021/04/05/abb-launches-worlds-fastest-most-sensitive-drone-based-gas-leak->



## UAS and SmallSat Weekly News

[detection-system/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=abb-launches-worlds-fastest-most-sensitive-drone-based-gas-leak-detection-system&utm\\_term=2021-04-05](https://www.axcelinnovation.net/detection-system/?utm_source=rss&utm_medium=rss&utm_campaign=abb-launches-worlds-fastest-most-sensitive-drone-based-gas-leak-detection-system&utm_term=2021-04-05)

### Genesis sends up 3,281 drones in record-breaking show Josh Spires Apr. 5, 2021



The company's entry into China saw it hold a brand night on April 2 at Shanghai's International Cruise Terminal, with the drone show following shortly after titled "Genesis of Genesis."

[The drone show](#) started with a black hole effect, then moving on to a hand. While showing the hand we get our first glimpse at using an FPV drone flying through the drone show to capture a unique view. We then get to see a double-helix, the Genesis logo, looking amazing with all 3,281 drones.

The drones then created the front grille found on the company's latest cars, and then the drones created the outline of the Genesis G80 and GV80, both of which are being introduced in China. The video then cuts to words saying "Hello, China" in English and Chinese, finishing off the show. <https://dronedj.com/2021/04/05/genesis-sends-up-3281-drones-in-record-breaking-drone-show/#more-54276>

### A gorgeous global drone voyage, courtesy of Timelab Pro Scott Simmie Apr. 5, 2021



We're going to take you on a tour, with **some of the best drone video production we have ever seen.**

As the number of pilots grows and people hone their skills, we're starting to see more very good videos compared with the old days. But there are still some standouts that are truly off the charts when it comes to content, skill, editing, and the visceral and artistic impact of the final product.

So settle back while we check out some of the latest from the geniuses at Russia's [Timelab Pro](#). We don't know the people at Timelab Pro. Recently, however, DJI has promoted an absolutely gorgeous film shot in Istanbul using the [Inspire 2](#).

But there are very few production companies that can produce this kind of next-level content. So here's the first stamp on your passport – Istanbul: See the video...



## UAS and SmallSat Weekly News

<https://dronedj.com/2021/04/05/a-gorgeous-global-drone-voyage-courtesy-of-timelab-pro/#more-54425>

6Apr21

### Mars Helicopter Ingenuity snaps 1st color photo on Red Planet Mike Wall 6Apr21



*This low-resolution view of the floor of Mars' Jezero Crater and a portion of two wheels of NASA's Perseverance Mars rover was captured by the agency's Ingenuity Mars helicopter on April 3, 2021. It's the **first color photo** taken by Ingenuity on the Martian surface.*

NASA's little [Mars helicopter](#) has opened its eyes on the Red Planet. The 4-lb. chopper, known as Ingenuity, snapped its first color photograph on Saturday (April 3), shortly after being lowered to the Martian dirt by the [Perseverance rover](#).

The tableau shows "the floor of Mars' Jezero Crater and a portion of two wheels of NASA's Perseverance Mars rover," agency officials [wrote in a description on Monday](#) (April 5), when the photo was released.

The car-sized Perseverance landed inside the 28-mile-wide Jezero on Feb. 18 with Ingenuity firmly attached to its belly. The rover [deployed Ingenuity on Saturday](#) and has since moved a short distance away, allowing the Martian sunlight to reach the solar-powered rotorcraft.

Over the next few days, Perseverance will drive still farther away, to a place called Van Zyl Overlook, which provides a good view of the airfield that mission team members have chosen for Ingenuity. If all goes according to plan, Ingenuity will lift off as soon as Sunday (April 11), conducting the **first-ever** powered flight in the skies of a world beyond Earth.

<https://www.space.com/mars-helicopter-ingenuity-first-color-photo>

### Valkyrie drone launches even smaller drone from inside payload bay Valerie

Insinna 5Apr21



WASHINGTON — The [Kratos XQ-58A Valkyrie](#) drone successfully launched an even smaller unmanned aircraft from inside its internal weapons bay on March 26, the U.S. Air Force announced Monday.



## UAS and SmallSat Weekly News

During the Valkyrie's sixth flight test at Yuma Proving Ground in Arizona, it opened its payload bay doors during flight for the **first time** and released an ALTIUS-600, a [small, tube-launched autonomous drone](#) made by Area-I, a Georgia-based company that designs unmanned aerial systems.

The Air Force is experimenting with using the Valkyrie as [a communications node for the F-35 and F-22](#) fighter jets, as well as assessing it as a potential [Skyborg system](#) that would be equipped with artificial intelligence and be able to fly autonomously alongside tactical aircraft.

ALTIUS-600 can be launched for a variety of missions, including electronic warfare, signals intelligence, counter-UAS, and intelligence, surveillance, and reconnaissance, and it can be outfitted to produce kinetic effects. It can weigh up to 27 pounds — including a 6-pound payload stored in its nose — and has an endurance of about **four hours**, according to Area-I. <https://www.defensenews.com/air/2021/04/05/the-valkyrie-drone-launches-an-even-smaller-drone-from-inside-its-payload-bay/>

**7April21**

### **American Robotics and the Resurgence of U.S. Drone Companies** Miriam

McNabb April 06, 2021



In the last few years, US drone companies have gained significant ground. Among those companies is American Robotics, which in January 2021 became the **first company** to be approved by the FAA **to operate automated drones without any human beings on-site**. DRONELIFE discussed the resurgence of US drone companies and new developments in autonomous flight with [American Robotics](#) CEO Reese Mozer.

“First, it’s important to segment consumer, commercial, and military drones into three very separate categories when talking about functionality and price,” says Mozer. “Ultimately, although products within all three are referred to as “drones”, they are very different when it comes to technology scope, size, and use case.

“Where we’re seeing the **most growth** these days is the **commercial** category, which has historically lagged behind the other two due to a number of factors, including regulations and the heightened requirement of autonomy.”

Part of the reason for the rise of US drone companies and the commercial drone sector is that innovations are enabling ground-breaking waivers from the FAA and new, expanded



## UAS and SmallSat Weekly News

commercial operations. American Robotics' recent win with the FAA to fly without visual observers on site represents a significant change in the value proposition for many commercial and industrial applications. <https://dronelife.com/2021/04/06/american-robotics-and-the-resurgence-of-u-s-drone-companies-dronelife-exclusive/>

### **Eco-Sustainable Vertiport for Sporty 2-Passenger UAVs on the Drawing Boards in Italy** INSIDE UNMANNED SYSTEMS APRIL 5, 2021



EHang Holdings Limited, a Chinese provider of autonomous aerial vehicles, has partnered with Italian architecture firm Giancarlo Zema Design Group on a project to build an eco-sustainable vertiport in Italy. The vertiport will use green design and construction materials, and can generate energy to recharge the EH216 passenger-grade AAVs.



*EHang EH216 test flight in February 2021*

EHang recently successfully completed the **first trial flights** of its two-passenger EH216 over the South China Sea. The approximately 10-mile flights from Hengqin New District arrived at Dong Ao Island, a popular tourist destination.

Vertiports will play a significant role in the urban air mobility market and the new era of flight. When integrated with the existing transportation infrastructure, vertiports can serve as aerial hubs for tourists.

Inspired by the native African baobab tree, GZDG's design features a 30-meter-high tower, with a steel and laminated wood structure, a waiting room, a café, a 200-square-meter panoramic restaurant and connecting lift. The take off-and-landing platform will be set on the roof terrace. The vertiport is built with non-slip photovoltaic panels that can generate over 300 KW of electric power per day. <https://insideunmannedsystems.com/eco-sustainable-vertiport-for-sporty-2-passenger-uavs-on-the-drawing-boards-in-italy/>





## UAS and SmallSat Weekly News

### THE FAA’S REMOTE PILOT RECURRENT ONLINE TRAINING IS AVAILABLE NOW

HERE’S WHAT IT’S LIKE April 7, 2021 Sally French The Drone Girl Flight Diaries, News



After much anticipation, the Federal Aviation Administration’s Remote Pilot recurrent online training course is finally here, and it’s free, too. Under the Federal Aviation Administration’s [Final Rule on Remote ID](#) — which was released in December 2020, — the requirement to complete an [in-person, FAA recurrent test](#) every 24 calendar months will be replaced with a much simpler requirement: pilots must complete a free, online recurrent training course.

And now, that course is here, enabling you to easily keep your [FAA Part 107 Remote Pilot Certificate](#) current from the comfort of your couch. To access the recurrent course, you’ll need to be logged into your FAA Team account (you’ll need to create one if you haven’t already). From there, navigate to the correct course based on your existing state of certification. Once you click on it from a logged-in account, click enroll, and you’ll see a page that looks like this:



That’s the course page. You’ll navigate through the various buttons, mini-quizzes and videos to go through the course.

You’ll notice that there are actually a few different Part 107-related online course available.

<https://www.thedronegirl.com/2021/04/07/remotepilot-recurrent-online-training/>

### Guardian Agriculture secures \$10.5 million in seed round Josh Spires Apr. 7, 2021



A very newcomer in the [world of agriculture drones](#), Guardian Agriculture has launched with \$10.5 million in funding from some of the world’s largest agribusiness leaders. The company officially announced its launch yesterday and plans to bring **digital farming** to the United States **with US-built drones**.

[The seed funding round](#) was lead by Leaps by Bayer with participation from FMC Ventures, Wilbur-Ellis’s Cavallo Ventures, Fall Line Capital, the MIT-affiliated E14 Fund, Pillar VC, and Neoteny. The company has already raised an additional \$5 million from a previous funding round, **totaling \$15.5 million**.



## UAS and SmallSat Weekly News

Guardian Agriculture is headed up by ex-Apple, Otto, and Uber executives and has developed the first integrated drone system for precision application, extending growers' reach, reducing environmental impact, and minimizing product resistance.

Rather than buying the drone from Guardian Agriculture, it is **offered as a service**, removing the high up-front costs and allowing customers to access the latest drones without any of the upkeep needed. The drone collects and acts on the data to reduce pesticide wastage while speeding the process up. <https://dronedj.com/2021/04/07/guardian-agriculture-secures-10-5-million-in-seed-round/>

**8Apr21**

### **UPS agrees to buy electric vertical aircraft to speed up package delivery in small markets** Frank Holland 7April21



United Parcel Service is taking package delivery to new heights, literally, with the **purchase of 10** electric vertical takeoff and landing aircraft from Beta Technologies.

In an announcement Wednesday, Atlanta-based UPS said it will test the eVTOLs for use in its Express Air delivery network, focusing on small and medium markets. The company will operate the eVTOLs under its Flight Forward division, which is also exploring drone delivery.

The new type of aircraft, which looks like a cross between a plane and a helicopter, "unlocks new business models that don't exist today," Bala Ganesh, vice president of the UPS Advanced Technology Group, told CNBC.

Vermont-based [Beta Technologies](#) will design and build the eVTOLs, which are set to be delivered to UPS in 2024, pending certification from the Federal Aviation Administration. Beta will also provide landing pads and rechargeable batteries. UPS holds an option to purchase up to **150 more** eVTOLs. The price of the transaction was not disclosed. The eVTOLs can fly up to 250 miles at 170 mph on a single charge. <https://www.msn.com/en-us/money/companies/ups-agrees-to-buy-electric-vertical-aircraft-to-speed-up-package-delivery-in-small-markets/ar-BB1fo7ng>



## UAS and SmallSat Weekly News

### The Port of Antwerp Is Working To Deploy Autonomous Drones to Improve Operations

APRIL 5, 2021 João Antunes Infrastructure & Transport



With Europe's new legislation allowing ports to coordinate and manage drones in their airspace, the Belgian Port of Antwerp, Europe's second-largest port, is creating a drone ecosystem for the future together with Unifly.

In 2019, [Port of Antwerp's participation](#) in the SAFIR (Safe and Flexible Integration of Initial U-space Services in a Real Environment) project successfully demonstrated the safety and economic viability of integrated drone traffic in seaports. The project also made clear what's needed in terms of regulation and requirements at all levels to facilitate drone flights in and around the port safely and securely. In February 2021, the Port of Antwerp deployed, **for the first time**, an autonomous drone developed in collaboration with the company DroneMatrix.

Last month, it became the first seaport to initiate unmanned air traffic management in a busy and complex port environment - **the first non-aviation authority to become a fully-fledged geozone manager**.

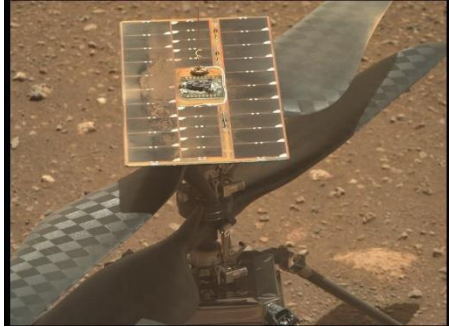
Proven to be an invaluable asset in maintaining safety around a port, drones can be used to monitor emissions, conformance, other alarming situations, and to conduct general surveillance. Appointed as technology partner to develop the Port's Unmanned Traffic Management (UTM) platform, [Unifly](#) will develop a robust and sophisticated system to enable smooth and safe use of the airspace as well as allow for round-the-clock automated features to keep the port safe. [https://www.commercialuavnews.com/infrastructure/the-port-of-antwerp-is-working-toward-the-deployment-of-autonomous-drones?utm\\_source=marketo&utm\\_medium=email&utm\\_campaign=newsletter&utm\\_content=newsletter&mkt\\_tok=NzU2LUZXSioWnJEAAAF8UaFZ7zRlvIGWhyB8K814TQQwFgM31-9rV7cYK19y2C5sWu2HFGw5Yki6ZmGwZVt53g5tfRTbo-gnhq6TJcZu7e0kVHbm2slpYWBaJNb0IKFw0w](https://www.commercialuavnews.com/infrastructure/the-port-of-antwerp-is-working-toward-the-deployment-of-autonomous-drones?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=NzU2LUZXSioWnJEAAAF8UaFZ7zRlvIGWhyB8K814TQQwFgM31-9rV7cYK19y2C5sWu2HFGw5Yki6ZmGwZVt53g5tfRTbo-gnhq6TJcZu7e0kVHbm2slpYWBaJNb0IKFw0w)



## UAS and SmallSat Weekly News

### Mars helicopter Ingenuity unlocks its rotor blades to prepare for 1st flight on Red Planet

Meghan Bartels a day ago Ginny is getting ready to go for a spin!



The [Mars helicopter Ingenuity](#) has unlocked its two rotor blades as preparations continue for the vehicle's first flight, due to occur no earlier than Sunday (April 11).

As of April 4, the little chopper has parted ways with Perseverance, [preparing to take to the skies](#) during a month-long test campaign.

"The blades of glory, aka rotor blades of the #MarsHelicopter, have been unlocked and are ready for testing," NASA's Jet Propulsion Laboratory (JPL) in California [wrote in a tweet posted early today](#) (April 8). "Next, we'll do a slow-speed spin-up of the blades for the first time on the Martian surface."

Unlocking and testing Ingenuity's blades mark the **last major milestones** before the helicopter attempts to fly. NASA officials have said they will test the blades first at 50 and then at 2,400 revolutions per minute before the helicopter attempts to fly. <https://www.space.com/mars-helicopter-ingenuity-unlocks-rotor-blades>