



UAS and SmallSat Weekly News

Contents

- 2 People left jobless by pandemic flock to join growing drone industry
- 2 Investors inject \$14m into Terra Drone
- 3 NATO declares initial operating capability for RQ-4D Phoenix fleet
- 3 If drones can deliver Starbucks, what's taking so long for packages?
- 4 Couple gets engaged with elaborate drone proposal
- 4 Edgybees Closes \$9.5M in Series A Funding
- 5 Avidrone Aerospace Exhibits Flagship 210TL Tandem Drone
- 5 Meet the Next Generation Drone LiDAR Survey Equipment from Microdrones
- 6 Investing in Drones: Measure Submits Paperwork for Proposed IPO
- 6 Danish Transit Authority OKs Autonomous Drone Missions for Azur
- 7 Wingcopter to support local cargo drone projects around the world
- 8 The first helicopter on Mars phones home after Perseverance rover landing
- 8 Martin UAV demonstrates upgraded v-bat at the army expeditionary warrior experiment
- 9 Tevel Technologies builds fruit-picking drones, improving efficiency
- 9 You need this break: Slo-mo drone video of surfers
- 10 The FAA wants you... to be a drone test administrator
- 11 AeroVironment Closes Arcturus UAV Buy; Wahid Nawabi Quoted
- 11 Folding Drone Can Drop Into Inaccessible Mines
- 12 SAAB wins contract to lead the EU's detect and avoid push
- 12 Guinness World Record: Longest Animation Honors Van Gogh's Art in the Sky [VIDEO]
- 13 NASA's Ingenuity Could Be First Aircraft to Fly on Mars
- 14 Landmark conviction after near-deadly crash between drone and paraglider
- 14 Drone fishing is turning aquatic refuges into popular fishing spots
- 15 Genius NY is Looking for Startups: Apply Now for the Million Dollar Accelerator
- 15 Dronehub received a \$1.9m grant from NCBR for a mobile drone infrastructure
- 16 Joby Aviation takes flight into the public markets via a SPAC merger
- 16 Lehmann Aviation in talks to sell Flying Wing Drone technology
- 17 Five ways drones came into their own during the pandemic
- 18 Delta Drone expands operations with \$340,000 mining contract
- 18 Port of Antwerp is using autonomous safety drones
- 19 Vantis to build out operations center in Grand Sky aviation park
- 19 USAF to flight test Skyborg autonomous system at Orange Flag this summer
- 20 Urban Air Mobility Market: \$9 Billion by 2030?



20Feb21

People left jobless by pandemic flock to join growing drone industry HEADLINE

NEWS JOE PESKETT FEBRUARY 18, 2021



A thousand people left jobless by the pandemic signed up to Coptrz new training course in January alone, the company has said.

Industries and sectors such as hospitality and aviation have been devastated by the pandemic, and now Coptrz is picking up on the opportunity to swell the ranks of the growing drone industry.

Coptrz's A2 CofC drone training course is being offered **for free** to allow people to retrain and use their skills in a fast-growing sector.

COVID-19 will accelerate the drone sector's growth in the long-term. Price Waterhouse Coopers is predicting the UK's drone industry will increase by £43 billion and create net cost savings for the economy of £16 billion. By 2030 the industry will create 628,000 new jobs.

Coptrz's CAA certified training courses are delivered online via its Academy E-Learning Portal, through flexible remote learning and self-guided practical flight training. Courses use artificial intelligence to enable online examinations to remove the requirement to visit a physical test center, eliminating the cost, hassle and risk involved.

<https://www.commercialdroneprofessional.com/covid-jobless-flock-to-join-growing-drone-sector/>

Investors inject \$14m into Terra Drone HEADLINE NEWS JOE PESKETT FEBRUARY 17, 2021



The fundraising was organized by INPEX, Japan's largest oil and gas exploration and production company, and Nanto CVC No.2 Investment LLP through third-party allotment.

The investment will allow Terra Drone to further develop technologies and grow the client base, the company said.

Although severely affected by Covid-19, Terra Drone increased its revenue and profits in 2020. The consolidated annual revenue is approximately \$20 million.

Toshio Todoroki, general manager, Technology Department, Digital Transformation Unit, at INPEX Corporation, said: "Terra Drone is focused on providing industria solutions while possessing patented technologies for drones and sensors.

"They also have a vast experience in onshore and offshore drone inspection with major oil & gas companies in the world. Terra Drone is the only drone company in Japan, targeting to be the No.1 global company as a drone solution provider."

<https://www.commercialdroneprofessional.com/investors-inject-14m-into-terra-drone/>



NATO declares initial operating capability for RQ-4D Phoenix fleet Garrett Reim 18 February 2021



NATO has purchased and received five RQ-4D aircraft, in addition to ground control units and support equipment. The final UAV was received in November 2020. NATO RQ-4D UAVs are based on the US Air Force's RQ-4 block 40 Global Hawk.

The UAVs are to **share** intelligence, surveillance and reconnaissance information **with all 30 members of the NATO alliance**. The aircraft will be piloted remotely from Sigonella in Sicily, Italy.

The aircraft are NATO-owned and operated, as opposed to being owned and operated by individual members of the alliance. NATO also owns and operates other aircraft, such as a fleet of Boeing E-3A Airborne Warning & Control System aircraft, Boeing C-17 Globemaster III cargo aircraft and Airbus A330 Multi Role Tanker Transport aircraft.

<https://www.flightglobal.com/military-uavs/nato-declares-initial-operating-capability-for-rq-4d-phoenix-fleet/142500.article>

If drones can deliver Starbucks, what's taking so long for packages? 2021-02-18

If you live in Fayetteville, North Carolina, you can now have Starbucks delivered — not quite in your backyard yet, but soon perhaps.



An Israeli drone company, [Flytrex](#), has been testing drone delivery in North Carolina, delivering items from restaurants in the Holly Springs Towne Center to a pickup location within a five-minute drone flight. Starbucks, Dairy Queen Blizzards, pastries and light meals are among the menu items.

Flytrex is among the growing number of drone providers and companies that are hoping to cash in on a delivery market that is expected to reach more than [\\$6 billion by 2026](#). The FAA approved a waiver request by [American Robotics Inc.](#) that allows the company to [fly drones beyond the visual line of sight of operators](#), something that is not currently allowed under existing regulations.

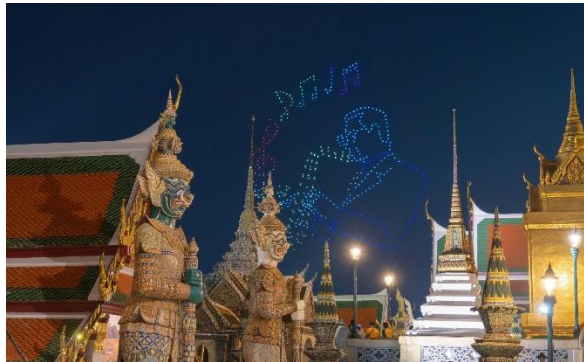
The competition in the space is fierce. Walmart will begin a [drone delivery pilot](#) with customers along the Arkansas and Missouri state line this summer in cooperation with drone provider [Zipline International](#). Air Canada is supporting [e-commerce drone deliveries](#) in Canada; Japan Airlines is also involved in a drone delivery project; and Astral Aviation in Kenya has set up a drone division. Amazon has been [testing drone delivery](#), as is UPS. Workhorse Group's electric trucks are being designed with a [drone atop the vehicle](#), allowing a delivery driver to hand-deliver packages while the drone delivers additional items.



UAS and SmallSat Weekly News

https://www.uavexpertnews.com/2021/02/if-drones-can-deliver-starbucks-whats-taking-so-long-for-packages/?utm_source=Master&utm_campaign=94e441656f-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-94e441656f-89168288

Couple gets engaged with elaborate drone proposal 2021-02-19



Love filled the skies in Shanghai this February, thanks to an unconventional drone marriage proposal. The [stunning visuals](#) took place at the Bund, a waterfront in China. Footage showed the illuminated drones form the shape of a women’s hand in the sky. The drones then made an engagement ring, and the hand slipped its finger right in. Finally, the drones created the phrase “Marry me” in pink and white letters.

Drones are becoming a popular tool for events in Shanghai. The city created its pre-recorded New Year’s Eve show in 2020 entirely with drones instead of fireworks. The illuminated display used [2,000 drones](#) to make formations even more elaborate than typical pyrotechnics like Chinese characters, running men, dragons and planets.

https://www.uavexpertnews.com/2021/02/couple-gets-engaged-with-elaborate-drone-proposal/?utm_source=Master&utm_campaign=94e441656f-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-94e441656f-89168288

Edgybees Closes \$9.5M in Series A Funding February 18, 2021 News



[Edgybees](#), the leading provider of real-time high precision geo-registration and visual augmentation of [aerial video](#), today announced \$9.5 million in Series A Funding led by Seraphim Capital, with participation from Refinery Ventures, LG Technology Ventures, Kodem Growth Partners, OurCrowd and Verizon Ventures. Existing investors include 8VC, Motorola Solutions Venture Capital and NFX. The investment will be used to drive product innovation, expand global adoption and support an aggressive hiring strategy.

Edgybees Visual Intelligence Platform™ provides the industry’s **only** high-accuracy geo-registration and alignment of aerial video in real time. The company’s unique approach enables rapid decision-making by visually augmenting roads, key landmarks and other mission-critical data on top of live video feeds, delivered through the Edgybees’ platform or by integrating with third-party systems. This operational perspective reduces time-to-target and enhances team



UAS and SmallSat Weekly News

collaboration, situational awareness, and mission effectiveness.

https://uasweekly.com/2021/02/18/edgybees-closes-9-5m-in-series-a-funding/?utm_source=rss&utm_medium=rss&utm_campaign=edgybees-closes-9-5m-in-series-a-funding&utm_term=2021-02-19

Avidrone Aerospace Exhibits Flagship 210TL Tandem Drone February 18, 2021 News



Abu Dhabi National Exhibition Center – [Iris Automation](#) is showcasing its innovative Detect-and-Avoid Casia system with partner and unmanned aircraft systems technologies leader [Avidrone Aerospace](#) at this week's [IDEX](#) exhibition.

Avidrone Aerospace manufactures **the world's only** commercialized tandem rotor, electric powered, fully automated helicopter UAV system. Specializing in fully automated, heavy payload drones for cargo delivery, medical resupply and airborne sensors, the Avidrone lifts payloads and performs cargo deliveries up to **35lbs**. The acoustically quiet VTOL aircraft is capable of complete Beyond Visual Line of Sight operations without a human pilot.

Iris Automation is a computer vision technology company pioneering the development of advanced detection systems used to help provide safe drone operations including scalable Beyond Visual Line of Sight missions. Casia technology combines software and hardware onboard the UAS which detects other aircraft, classifies them, makes intelligent decisions about the threat they pose and then triggers an alert to the remote pilot while automating maneuvers to safely avoid collisions. https://uasweekly.com/2021/02/18/avidrone-aerospace-exhibits-flagship-210tl-tandem-drone/?utm_source=rss&utm_medium=rss&utm_campaign=avidrone-aerospace-exhibits-flagship-210tl-tandem-drone&utm_term=2021-02-19

21Feb21

Meet the Next Generation Drone LiDAR Survey Equipment from Microdrones

INSIDE UNMANNED SYSTEMS FEBRUARY 15, 2021 AIR



Building upon the momentum of the Microdrones as a Service (mdaaS) program launched in mid- 2020 (which offers customers convenient monthly payment options for equipment and software) Microdrones is pleased to announce the newest in its lineup of drone LiDAR survey equipment, the [mdLiDAR1000HR aaS](#), available as part of this program.

Dr. Nicolas Seube, Director of R&D for the Microdrones sister software company, mdInfinity, explains “The Microdrones mdLiDAR1000HR aaS precision was analyzed by flights between 30

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.net



UAS and SmallSat Weekly News

and 60 meters over a wide sample of surfaces (asphalt, gravel, roofs, natural ground) exhibiting different reflectance. This drone LiDAR system, with a 90-degree field of view for both scanned points and imagery, repeatedly provides a precision of 1.6 cm (.052 ft) at 1- σ when flown at 40 m (130 ft) at a speed of 8 m/s (18 mph). This was confirmed by a repeatability analysis.” <https://insideunmannedsystems.com/meet-the-next-generation-of-industry-leading-drone-lidar-survey-equipment-from-microdrones/>

22Feb21

Investing in Drones: Measure Submits Paperwork for Proposed IPO Miriam

McNabb February 19, 2021



For individuals, investing in drones is difficult – there are relatively few publicly traded companies solely dedicated to the drone industry. Now, drone operations software platform provider Measure may be offering investors another opportunity. Yesterday, [MEASURE](#) announced the confidential submission of a Draft Registration Statement for a proposed Initial Public Offering. It is expected to commence after the SEC completes its review process, subject to market and other conditions.

Measure began in the drone industry as one of the first large drone services providers: Aerodyne [acquired the services](#) part of the business in 2019, and Measure is now focused on their drone operations software platform.

Publicly traded drone companies include French drone manufacturer Parrot (EPA:PARRO), which trades on the French stock exchange; drone parachute company ParaZero (ASX: PRZ), trading on the Australian stock exchange; and the giant of publicly traded drone companies, Aerovironment (NASDAQ: AVAV.) Chinese passenger drone company EHang (NASDAQ: EH) is also growing fast.

Measure may be only one of several drone companies to propose an IPO this year. Reuters [reported last month](#) that EHang competitor Joby Aviation is exploring a public offering. <https://dronelife.com/2021/02/19/investing-in-drones-measure-submits-paperwork-for-proposed-ipo/>

Danish Transit Authority OKs Autonomous Drone Missions for Azur Jason

Reagan February 19, 2021

French drone startup [Azur Drones](#) has obtained its first autonomous flight authorization in the Northern European market. The Danish Transport Authority gave the OK for the company to



UAS and SmallSat Weekly News

deploy its Skeyetech drone-in-box solution on safety and operations missions within the oil-and-gas sector.



An Azur spokesperson says the process included a risk analysis known as Specific Operational Risk Assessment as approved by the European Union Aviation Safety Agency and adds the company “has been contributing to regulatory works at the international level to make autonomous flights a standard.”

Using high-definition optical and thermal sensors, Skeyetech autonomous drones can fly daily surveillance and inspection missions and can be directly controlled by security teams **without the necessity of remote pilot training.**

Skeyetech’s design is based on aerospace standards to include motor redundancy, vital equipment redundancy, pyrotechnical parachute and geo-caging system. The system has logged more than **10,000 autonomous flights.** <https://dronelife.com/2021/02/19/danish-transit-authority-oks-autonomous-drone-missions-for-azur/>

Wingcopter to support local cargo drone projects around the world HEADLINE

NEWS JOE PESKETT FEBRUARY 22, 2021



Wingcopter, the German developer, manufacturer and operator of unmanned delivery drones for commercial and humanitarian applications, has joined forces with the Flying Labs Network as a Technology Partner.

The goal of the partnership is to improve supply chains through locally led cargo drone projects and to equip local talent with the skills to operate Wingcopter’s unmanned systems in long range drone applications, **including beyond visual line of sight.** The Flying Labs Network strengthens local expertise in the use of drones, robotics, data and AI for positive social change in more than **30 countries** across Africa, Asia and Latin America.

Wingcopter offers local Flying Labs a state-of-the-art technology for the delivery of medical goods in hard-to-reach areas. The partnership allows Flying Labs around the world to directly access Wingcopter’s delivery drone expertise and to acquire Wingcopter drones at a discounted price. WeRobotics supports the Flying Labs through joint trainings and joint projects.

<https://www.commercialdroneprofessional.com/wingcopter-to-support-local-cargo-drone-projects-around-the-world/>



The first helicopter on Mars phones home after Perseverance rover landing

Elizabeth Howell a day ago

The Ingenuity helicopter has reported in from the Red Planet.



The first helicopter ever sent to another world is doing just fine on Mars after surviving a "seven minutes of terror" landing aboard NASA's Perseverance.

The Ingenuity helicopter, [which landed on Mars with Perseverance](#) on Thursday (Feb. 18), is awake and communicating with controllers on Earth.

Controllers at NASA's Jet Propulsion Laboratory received a downlink on Friday at 6:30 p.m. EST through the Mars Reconnaissance Orbiter, indicating the 4-lb. helicopter and its base station are both operating normally. https://www.space.com/mars-helicopter-ingenuity-okay-perseverance-rover-landing?utm_source=Selligent&utm_medium=email&utm_campaign=SDC_Newsletter&utm_content=SDC_Newsletter+&utm_term=3417707

Martin UAV demonstrates upgraded v-bat at the army expeditionary warrior experiment

February 21, 2021 Military News



Martin UAV announced its **selection and further participation** in the [Army Expeditionary Warrior Experiment \(AEWE\)](#) which assesses advanced technologies in support of the U.S. Army modernization efforts. AEWE is taking place Feb. 5 – March 5, 2021 at Fort Benning in Georgia.

Martin UAV deployed and is scheduled to demonstrate its newly upgraded version of the V-BAT, the V-BAT 128; showcasing increased power, payloads and endurance. Among the V-BAT 128's enhancements are updates to the engine with increased horsepower, **11 hours** of endurance, higher ceiling (20,000' MSL) and interchangeable payloads (25 lbs not including fuel weight) for mission-specific requirements. The improved version of the V-BAT maintains its current small VTOL footprint to launch, transport and operate. https://uasweekly.com/2021/02/21/martin-uav-demonstrates-their-upgraded-v-bat-at-the-army-expeditionary-warrior-experiment/?utm_source=rss&utm_medium=rss&utm_campaign=martin-uav-demonstrates-their-upgraded-v-bat-at-the-army-expeditionary-warrior-experiment&utm_term=2021-02-22



Tevel Technologies builds fruit-picking drones, improving efficiency Josh Spires Feb. 22, 2021



Israeli-based company Tevel Technologies uses AI-driven [drones to pick fruit](#) from trees as the pandemic is shutting down farms worldwide and leaving the fruit to rot. The drones are allowing farmers to speed up the picking process and ensure all ripe fruit is picked.

[The fruit-picking drones](#) are equipped with a grabber, an array of forward-facing cameras, and a soft bumper to keep the plants from getting chopped up. The camera array uses an algorithm that knows the characteristics of ripe fruit. In this case, a drone gently grabs an apple and twists. It then drops the apple into a bin and continues until it is full.

As the drones work autonomously and are tethered to a base station, a human isn't required to watch over them, with the only interaction required to pack the system away at the end of the day. The drones connect to a cloud-based interface that asks you what fruit you want to pick, and then the drones get to work. This interface also shows you how many acres have been picked, as well as the total weight picked, the number of days it took to pick all of the fruit, and the amount of profit that can be made from the harvest.

Tevel Technologies suggests that the drones should be used alongside human pickers to fill the gaps when not as many pickers are available. At the end of last month, the company [received \\$20 million in funds](#) from a Series B headed by Kubota. See it in action: <https://dronedj.com/2021/02/22/tevel-technologies-builds-fruit-picking-drones-improving-efficiency/#more-50584>

You need this break: Slo-mo drone video of surfers Scott Simmie Feb. 22, 2021



Okay, spring is a little less than a month away. And, if you're like many of us in the northern hemisphere, you are probably so ready.

Drones are a great tool for capturing the sport of surfing. Small enough to be unobtrusive to surfers and agile enough to track the speed of a breaking wave, they've captured the beauty of this in a way that land-based cameras cannot. Plus, of course, watching surfing makes us think of the beach. Which, especially at this time of the year, we miss.



UAS and SmallSat Weekly News

This footage was captured by the Mavic Air 2, with the camera set to 4K, 60FPS. The pilot – and the surfers – were all highly skilled. This video includes several captures where the tube starts collapsing behind the surfer, sending out a blast of mist that looks almost like it’s been fired from a gun.

This video comes to us via [Drone Nerds](#). Besides the nice shooting and hypnotic music, there are a couple of other things worth noting about this video. At about 1:22, the drone gets really close to a breaking wave. I mean, it appears to be so close that it probably got splashed. The other fun moment is when you can see a Phantom pop onto the screen, followed by a second drone that’s briefly seen. You’ll find that moment at about 1:56. Nice job on this:

<https://dronedj.com/2021/02/22/missing-the-sand-and-surf-check-out-this-drone-video-from-oahu/#more-50647>

The FAA wants you... to be a drone test administrator Scott Simmie Feb. 22, 2021



The FAA is moving ahead with its plans for a nation-wide system to train and test recreational drone pilots. The Recreational UAS Safety Test, or TRUST, must be given by a qualified person, and at no charge.

First, the FAA developed the test content with input from drone stakeholders. Next, the FAA issued a [Request for Information](#) seeking to work with drone stakeholders on the administration of the test. The FAA is now ready for the third stage, to make the test available to recreational flyers through FAA Approved Test Administrator of TRUST.

The FAA is drawing on people and organizations already peppered across the land and willing and able to administer the TRUST course materials and testing. Would you like to be an FAA Authorized Drone Test Administrator?

Today, the FAA began inviting interested parties to submit applications to become testers. If you’re approved, you’ll wind up with a really long title. You will become: An FAA Approved Test Administrator of The Recreational UAS Safety Test (FAA Approved TA TRUST).

How can you apply? [Open up this pdf](#). Fill it out. Email it back to the address listed at the bottom. You must submit your application by March 31. <https://dronedj.com/2021/02/22/the-faa-is-looking-for-drone-test-administrators-apply-now/#more-50655>



23Feb21

AeroVironment Closes Arcturus UAV Buy; Wahid Nawabi Quoted Jane

Edwards February 23, 2021 News



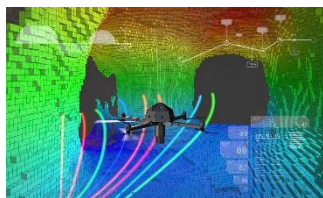
[AeroVironment](#) (Nasdaq: AVAV) has finalized its [acquisition of Arcturus UAV](#) through a \$405 million cash-and-stock transaction in a push to expand its portfolio with the addition of medium unmanned aircraft systems.

Arcturus UAV uses its [JUMP 20](#) vertical takeoff and landing platform and provides intelligence, surveillance and reconnaissance services in support of U.S. Special Operations Command under the potential \$975 million Mid-Endurance UAS IV indefinite-delivery/indefinite-quantity contract. The company also supports the U.S. Army's Future Tactical UAS program and offers [T-20](#), a catapult-launched, fixed wing UAS.

"The JUMP 20 and T-20 platforms, combined with associated ISR services, represent a significant expansion to AeroVironment's portfolio of intelligent, multi-domain robotic systems that will enhance long-term shareholder value and help our customers around the world Proceed with Certainty," said [Wahid Nawabi](#), president and CEO of AeroVironment.

https://www.govconwire.com/2021/02/aerovironment-closes-arcturus-uav-buy-wahid-nawabi-quoted/?utm_campaign=Posts%20from%20GovconWire%20%2002.23.2021%20%28VJM8h8%29&utm_medium=email&utm_source=Executive%20Mosaic%20Publications&_ke=eyJrbF9jb21wYW55X2lkijogIIRCS0t4UCIsIjRbF9lbWFpbCl6ICJyb2JlcnRocmVhQGdtYWlsLmNvbSJ9

Folding Drone Can Drop Into Inaccessible Mines Rahul Rao 22 Feb 2021



Researchers in the UK, led by [Headlight AI](#), have developed a drone that could cast a light in the darkness. Named Prometheus, this drone can enter a mine through a borehole not much larger than a football before unfurling its arms and flying around the void. Once down there, it can use its payload of scanning equipment to map mines where neither humans nor robots can presently go.

Prometheus can fly around some of those challenges. Inspectors can lower Prometheus, tethered to a docking apparatus, down a single borehole. Once inside the mine, the drone can undock and fly around using LIDAR scanners to generate a 3D map of the unknown void.



UAS and SmallSat Weekly News

Prometheus can fly through the mine autonomously, using infrared data to plot out its own course.

Other drones exist that can fly underground, but they're either too small to carry a relatively heavy payload of scanning equipment, or too large to easily fit down a borehole. What makes Prometheus **unique** is its ability to fold its arms, allowing it to squeeze down spaces its counterparts cannot. <https://spectrum.ieee.org/automaton/robotics/drones/folding-drone-can-drop-into-inaccessible-mines>

SAAB wins contract to lead the EU's detect and avoid push Josh Spires Feb. 23, 2021



The Swedish aerospace and defense company SAAB has announced it will [lead the EU's push](#) to detect and avoid technology, allowing drones to fly alongside crewed aircraft safely.

As more and more drones are hitting the skies for commercial uses, it's becoming important to ensure the drones' safety and other aircraft in the sky. A common method to do this is to equip the drones with detect and avoid technologies to ensure they don't collide with another aircraft.

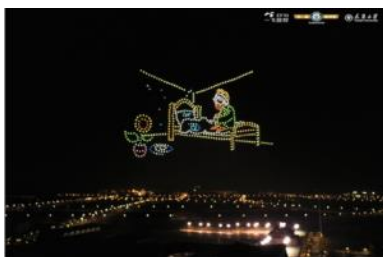
The European Union has [awarded SAAB](#) with a **\$26 million grant** to allow the company to begin work into the technology. The grant is just one of many the EU is currently handing out to companies to find the next generation of defense technologies.

<https://dronedj.com/2021/02/23/saab-wins-contract-to-lead-the-eus-detect-and-avoid-push/#more-50698>

24Feb21

Guinness World Record: Longest Animation Honors Van Gogh's Art in the Sky

[VIDEO] Miriam McNabb February 22, 2021



Guinness World Records [reports](#) that a new drone record was achieved on December 18 2020, when EFYI Group and Tianjin University (China) created a drone animation using **600 drones**, winning the record title for "longest animation performed by unmanned aerial vehicles" with a time of **26 minutes 19 seconds**. The Vincent Van Gogh themed animation featured

scenes from the artist's life, generating 12 images per second per the record guidelines for "animation."

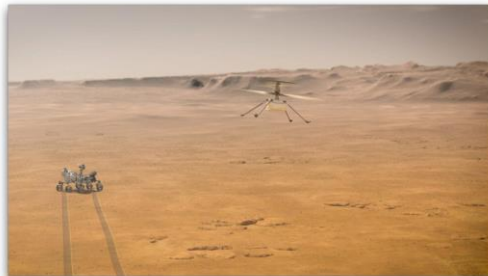


UAS and SmallSat Weekly News

The drones used were the “Agile Bee II”, which has a flight endurance of 38 minutes. The small aircraft weighs 1.45 kg (about 3 pounds) and has a speed of 10 miles per second. Guinness World Records points out that achieving the longest animation record tests the capabilities of the cluster control systems, transmission of drones and ground stations, signal transmissions, and security. These technologies all have potential to offer major benefit for the commercial drone industry well beyond drone animations.

The record for longest animation follows a recent record for the most Unmanned Aerial Vehicles airborne simultaneously. Achieved by Shenzhen Damoda Intelligent Control Technology Co., Ltd. in Zhuhai, Guangdong, China, the record now stands at **3,051 drones in the air at one time**. The record was demonstrated with another light show: but also has greater significance in commercial or military applications as operators demonstrate technology to operate thousands of drones in perfect formation. <https://dronelife.com/2021/02/22/guinness-world-records-announces-another-drone-record-achieved/>

NASA’s Ingenuity Could Be First Aircraft to Fly on Mars Kelsey Reichmann February 23, 2021 [Ingenuity](#), [Mars](#), [Mars Helicopter](#), [NASA](#), [Perseverance](#)



On Feb. 18, NASA landed the Perseverance rover on Mars. Inside the belly of Perseverance sits Ingenuity, a four-pound (1.5 pounds on Mars) rotorcraft technology demonstrator that will attempt to fly in the unforgiving Martian atmosphere.

So far Ingenuity has completed its first milestone: surviving the launch, cruise and landing on Mars.

Deploying from Perseverance’s belly will be its next challenge. Ingenuity will then have to survive cold Martian nights and autonomously charge itself with its solar panel. All these obstacles have to be overcome before the aircraft even attempts flight, which it will do autonomously.

“The main thing is we want to get the legs off the ground,” said Håvard Grip, Ingenuity’s chief pilot at NASA’s Jet Propulsion Laboratory. ‘And so, we will basically go up about three meters, and we’ll hover there, and then come down again and that will be the first really major milestone.” <https://www.aviationtoday.com/2021/02/23/nasas-ingenuity-first-aircraft-fly-mars/>



Landmark conviction after near-deadly crash between drone and paraglider

2021-02-19 Dudarev Mikhail



A drone pilot has been convicted and fined \$1000 in a landmark case after his recreational drone collided mid-air with a paraglider.

Judge Mina Wharepouri found the man guilty in October on two charges under the Civil Aviation Act 1990 after his drone was used in a manner causing unnecessary endangerment and failing to keep clear of a manned aircraft. The incident happened in 2018 between a drone and trainee paraglider at Karioitahi Beach near Waiuku.

In his judgement, delivered in the Manukau District Court yesterday, Judge Wharepouri found the drone operator had been overly reliant on the view from his drone’s camera and failed to maintain visual line of sight of the drone when he hit the paraglider about 100m above the ground. https://www.uavexpertnews.com/2021/02/landmark-conviction-after-near-deadly-crash-between-drone-and-paraglider/?utm_source=Master&utm_campaign=188e8379a0-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-188e8379a0-89168672

Drone fishing is turning aquatic refuges into popular fishing spots Josh Spires Feb. 24, 2021



Usually, a [person wanting to fish](#) can only go as far out as they can cast their bait, creating a safe environment just beyond the cast distance for the fish and other marine life.

Now that drones are being purposed to take the line out farther, these safe spots of aquatic refuges are becoming some of the most popular fishing spots thanks to many fish and food for the fish in the area. Bruce Mann, senior scientist at the Oceanographic Research Institute from the SA Association for Marine Biological Research, shared:

Deeper waters beyond casting range serve as refuges to certain fish species and now these previously untouched areas can be exploited. The use of technology, such as drones, will put more pressure on some of these already vulnerable populations like silver and dusky kob. Fish caught by drone anglers tend to be much bigger, and the fight times needed to land them are longer. Released animals in this tired state are more vulnerable to predation, and their chances of survival are greatly reduced.



UAS and SmallSat Weekly News

South Africa is taking its first steps to help regulate the high-tech sport and educate anglers with the creation of the SA Drone Angling Association. <https://dronedj.com/2021/02/24/drone-fishing-is-turning-aquatic-refuges-into-popular-fishing-spots/>

25Feb21

Genius NY is Looking for Startups: Apply Now for the Million Dollar

Accelerator Miriam McNabb February 24, 2021



“The world’s largest accelerator competition for unmanned technology start-ups is now accepting entries for its 5th year. Five finalists will be selected for this year’s program and split a total of \$3 million in cash with the winner taking home a \$1 million top prize. [Applications](#) are open until March 31, 2021,” says a press release.

The Syracuse, New York, [GENIUS NY program](#) is one of central NY’s secret weapons in becoming a drone industry hub. The program provides more than funding, although the \$3 million is a big draw: the accelerator also provides space, connections, mentoring and networking. Combined with the world class drone testing facilities available at nearby NUAIR, the FAA UAS test site, it’s a compelling offering for a small company trying to get off the ground.

New York’s development of a [50 mile drone corridor](#) to facilitate the development of advanced operations has added further incentive for companies to grow their businesses in the central NY area. “Since 2017, GENIUS NY has invested over **\$12 million in 22 early stage companies** from around the world,” says the announcement. <https://dronelife.com/2021/02/24/genius-ny-is-looking-for-startups-apply-now-for-the-million-dollar-accelerator/>

Dronehub received a \$1.9m grant from NCBR for a mobile drone infrastructure

February 23, 2021 News



The consortium, led by Dronehub – a European leader in a drone-in-a-box solutions – received funding from the National Centre for Research and Development from Poland in the amount of \$1.9 million. Thanks to the grant, an innovative solution will be created – a mobile drone infrastructure for automatic orthophotos.

“The world and technology are rushing forward, performing measurements or inspections of large industrial areas by humans is already a waste of money and time. As part of this project,



UAS and SmallSat Weekly News

we will improve our system, in which these processes are carried out fully autonomously by drones, without the need to involve an operator” – says Vadym Melnyk, founder and CEO of Dronehub. “In addition, the drone carrying out the mission will be able to use the docking station when it is moving.” The drone will be able to carry out take-offs and landings, as well as replace or recharge the battery, without wasting time for returning to a stationary docking station. https://uasweekly.com/2021/02/23/dronehub-with-a-usd-1-9m-grant-from-ncbr-for-a-mobile-drone-infrastructure/?utm_source=rss&utm_medium=rss&utm_campaign=dronehub-with-a-usd-1-9m-grant-from-ncbr-for-a-mobile-drone-infrastructure&utm_term=2021-02-25

Joby Aviation takes flight into the public markets via a SPAC merger Kirsten Korosec@kirstenkorosec February 24, 2021



Joby Aviation, a startup that has spent a more than a decade developing an all-electric, vertical take-off and landing passenger aircraft, will become a public company through a merger with Reinvent Technology Partners, a special purpose acquisition company from well-known investor and LinkedIn co-founder Reid Hoffman and Zynga founder Mark Pincus.

The combined company, which will be listed on the New York Stock Exchange, will have a pro forma implied valuation of **\$6.6 billion**. Through the deal, Joby is capturing \$1.6 billion in cash proceeds — \$690 million of which will come from Reinvent’s cash in trust and an \$835 million from private investors The Baupost Group, funds and accounts managed by BlackRock, Fidelity Management & Research LLC and Baillie Gifford. A \$75 million convertible note, from Uber, will also be converted into common stock at a \$10 per share value.

<https://techcrunch.com/2021/02/24/joby-aviation-takes-flight-into-the-public-markets-via-a-spac-merger/>

Lehmann Aviation in talks to sell Flying Wing Drone technology HEADLINE NEWS JOE PESKETT FEBRUARY 25, 2021



UAS manufacturer, Lehmann Aviation, has said it is in discussions to sell its Flying Wing Drone technology and refocus its strategy on larger utility aircraft.

“As we are switching our strategy to focus on larger drones, we are now in discussion with organizations interested in small flying wing solutions,” the company said in a statement.



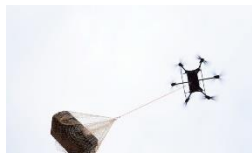
UAS and SmallSat Weekly News

“Our fully operational system comes with a world-class design. Discussions are in progress to sell manufacturing tools with autopilot and control software technology licenses.”

Lehmann Aviation said it is now developing new unmanned aerial systems dedicated to logistic markets. It has been developing drone technology for 15 years and sells products to both government and commercial customers. <https://www.commercialdroneprofessional.com/lehmann-aviation-in-talks-to-sell-flying-wing-drone-technology/>

Five ways drones came into their own during the pandemic HEADLINE NEWS JOE

PESKETT FEBRUARY 23, 2021



The entrepreneurs in this space are some of the most creative and agile in the world, so I’m sure we will be in for some exciting surprises as well, but these are the industries and trends I am confident will thrive in 2021.

Disruption of Traditional Industries - While some industries ground to a halt with the first wave of shutdowns, we counted on our essential workers in infrastructure, construction, and oil and gas to keep those critical operations fully functioning. We’ll begin to see drones making these critical jobs safer and more efficient.

Human Lives and Property Saved - One of the most exciting applications of drone technology is their ability to assist in emergency operations and save lives. We’ve seen drones assist in organ delivery for transplant patients and partnerships to bring them into lifesaving search and rescue operations.

Innovation in Transportation - In 2021 flying cars and drone taxis will continue to grow in popularity and demand as consumers begin to see drones and autonomous technology as the safest option for travel.

Security – Eyes in the Sky - Drones are already being used to keep an eye on facilities and operations from above because they provide an obvious value – they can cover more ground than their ground-based counterparts while being smaller, cheaper and more efficient than other manned aircraft like a helicopter.

Pace of Regulatory Change - It’s really exciting to see the regulatory changes that are finally allowing the technology to progress at a noticeably faster clip.

<https://www.commercialdroneprofessional.com/five-ways-drones-came-into-their-own-during-the-pandemic/>



UAS and SmallSat Weekly News

Delta Drone expands operations with \$340,000 mining contract Josh Spires Feb. 25, 2021



Delta Drone International has announced it will be providing a multinational African mining company with drone surveillance hardware. The [\\$340,000 mining contract](#) will allow the company to diversify its offerings and expand into more markets around the world.

If the undisclosed mining company is happy with the results, it will likely extend the contract and purchase drones for surveillance into the future. Delta Drone's subsidiary Rocketmine will be working with the mine to deploy the drones. Rocketmine is the company's mining-focused division.

Delta Drone International is the result of a merger between Delta Drone South Africa and Australian drone parachute company ParaZero. The merger will allow both companies to take advantage of each other's market share in Australia and Southern Africa and take on the ever-growing **American market**. <https://dronedj.com/2021/02/25/delta-drone-expands-operations-with-340000-mining-contract/>

Port of Antwerp is using autonomous safety drones Josh Spires Feb. 25, 2021



The Port of Antwerp, Belgium, has turned to [autonomous drones](#) to undertake inspections, surveillance, and monitoring missions. The drones will allow the port to undertake fully independent operations, improve efficiency, lower costs, and make the port safer. The drones result from the "[Port of the Future](#)" program that aims to advance the technologies used.

The trial has been funded in part by the Belgian province of Limburg and the Flemish government via VLAIO (the Flemish Agency for Innovation and Entrepreneurship). This allowed the company, which produces the drone DroneMatrix, to increase its R&D efforts.

The drones will be used to complete infrastructure inspection, surveillance and monitoring, incident management, berth management, and oil spill or drift waste detection. The test aims to see how the drones cope with the complex environment and see what areas in which they exceed expectations.



UAS and SmallSat Weekly News

If all goes well, the port's harbor safety and security department will take ownership of the drones and use them in day-to-day operations. <https://dronedj.com/2021/02/25/port-of-antwerp-is-using-autonomous-safety-drones/#more-50943>

Vantis to build out operations center in Grand Sky aviation park Josh Spires Feb. 25, 2021



[North Dakota's Vantis BVLOS drone network](#) continues to hit milestones. The group has just signed a deal to build its mission and network operations center (MNOC) in the Grand Sky business and aviation park. It will act as the main headquarters for all drone operations on the network.

MNOC will provide network operations monitoring and administration, customer coordination and support, performance, and safety data reporting. It will allow employees to validate operator and unmanned aircraft information, confirm operational flight approvals, authorize information access, and review documentation, training and credentials.

Vantis was chosen to be the name for its bold and disruptive quality, befitting the new perspectives seen and horizons built with this program. The now named statewide beyond visual line of sight (BVLOS) drone system will allow users to access the network with the infrastructure and resources already provided.

Last year, North Dakota invested **\$28 million** to create the statewide BVLOS network as a part of a larger plan to make the state drone-friendly. <https://dronedj.com/2021/02/25/vantis-to-build-out-operations-center-in-grand-sky-aviation-park/>

26Feb21

USAF to flight test Skyborg autonomous system at Orange Flag this summer

Garrett Reim 25 February 2021



The US Air Force Research Laboratory plans to flight test its Skyborg autonomous aircraft technology during Orange Flag exercises this summer for the **first time**.

The AFRL has previously said tests would take place in July 2021. Participation in the Orange Flag exercises was previously

undisclosed.



UAS and SmallSat Weekly News

The Skyborg program remains in early development, Brigadier General Heather Pringle, commander of AFRL, said during a press conference at the Air Force Association's Aerospace Warfare Symposium on 24 February.

"The Skyborg capability isn't going to be a weapons school graduate wingman any time soon," she says. "We are looking to take the components of the autonomy, fly it in some very rigorous test capabilities, such as the Orange Flag flights coming up this summer, and then look to slowly add capabilities, measure, learn from our successes, and then keep the program going."

Orange Flag exercises are intended to test the interoperability of US Air Force fighters, bombers and command-and-control aircraft. The event focuses on developmental and operational testing of new technologies. US Navy and US Marine Corps aircraft also participate.

<https://www.flightglobal.com/military-uavs/usaf-to-flight-test-skyborg-autonomous-system-at-orange-flag-this-summer/142626.article>

Urban Air Mobility Market: \$9 Billion by 2030? Miriam McNabb February 25, 2021



The [report](#) "**Urban Air Mobility Market by Component (Infrastructure, Platform), Platform Operation (Piloted, Autonomous), Range (Intercity, Intracity), Platform Architecture, Unmanned Platform Systems, End User and Region – Global Forecast to 2030**" says the market is poised to grow from \$2.6 billion in 2020 to \$9.1 billion by 2030, at a CAGR of 13.5% from

2020 to 2030. "The increasing demand for an alternative mode of transportation in urban mobility for commercial applications and technological innovations in unmanned technology are the major factors driving the market."

The report also predicts **Europe**, not Asia, will lead the market. "Countries in this region, such as Germany, UK, and France, are investing heavily in the development and procurement of advanced eVTOL systems for commercial operations. Advancements in the manufacturing capability of emerging economies in this region will drive the market." <https://dronelife.com/2021/02/25/urban-air-mobility-market-9-billion-by-2030/>