



UAS and SmallSat Weekly News

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11Dec21

Parrot ANAFI Ai, the first 4G connected robotic UAV is ready for work December 10, 2021 News



Parrot's new drone will begin shipping this January from **\$4,000** through its leading Resellers. The objective is to enable its professional users to gain speed and efficiency for their **photogrammetry, mapping, inspection, and surveying** missions with a drone designed and dedicated to those tasks.

Verizon 4G LTE provides a connection to the flight controller that avoids interferences. It paves the way for real-time data transfer and Beyond Visual Line of Sight flight operations.

The link between the drone and the user's device is secured by Parrot ANAFI Ai's embedded Secure Element offering each drone a unique ID. It also assures the privacy of data transferred and protects the integrity of the drone software.

ANAFI Ai features an omni-directional obstacle avoidance system, 48 MP camera, 4K 60fps videos, and 32 minutes of flight time in an airframe that weighs less than 2 pounds.

https://uasweekly.com/2021/12/10/parrot-anafi-ai-the-first-4g-connected-robotic-uav-is-ready-for-work/?utm_source=rss&utm_medium=rss&utm_campaign=parrot-anafi-ai-the-first-4g-connected-robotic-uav-is-ready-for-work&utm_term=2021-12-10

Embraer's Eve Receives New eVTOL Orders for Two Australian Companies Jessica Reed | December 9, 2021



Eve Urban Air Mobility Solutions, a subsidiary of Embraer, shared announcements this week about two new partnerships. Both ventures serve to accelerate electric air taxi use in Australia. The first partnership is an agreement to introduce **10** of Eve's electric vertical take-off and landing aircraft (eVTOL) to Queensland, Australia, for operation by luxury helicopter operator Nautilus Aviation. The second partnership is with Sydney Seaplanes, which has already ordered **50** eVTOLs from Eve.



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Nautilus Aviation, a division of Morris Group based in Northern Australia, will employ the new eVTOLs for scenic flights over the Great Barrier Reef and other iconic tourist attractions.

In addition to providing its electric VTOL aircraft, the company also contributes to air traffic management, safety standards, and training and support with its product suite.



Sydney Seaplanes, founded in 2005, has performed over 80,000 flights to date and intends to operate all-electric aircraft as soon as 2024.

On Australia's southeastern coast, Sydney Seaplanes has operated its aircraft since 2005 as a tourism service out of Sydney Harbour. The company hopes to commence all-electric flights as early as 2024 and is planning to create Alt Air, a **zero-emissions** regional airline, sometime in **2022**. The order for Eve's eVTOLs will contribute significantly to the sustainability goals for local tourism and commuter flights in Sydney.

<https://www.aviationtoday.com/2021/12/09/embraers-eve-partners-to-deliver-evtols-for-two-australian-companies/>

General Atomics Unveils Mojave Unmanned Aircraft System Jane Edwards December 10, 2021



[General Atomics'](#) aeronautical systems has introduced an unmanned aircraft system that offers short-takeoff and landing capabilities and can carry up to 16 Hellfire missiles in support of armed reconnaissance, attack and armed overwatch missions.

[Mojave](#) has a 450-HP turboprop engine and enlarged wings with high-lift devices and is based on flight control and avionics systems of MQ-1C Gray Eagle-ER and MQ-9 Reaper drones, the company said Thursday.

Mojave, which is the latest addition to the company's Predator line of UAS, has a payload capacity of up to 3,600 pounds and can be equipped with signal intelligence, synthetic aperture radar/ground moving target indicator and electro-optical/infrared sensors to support maritime and ground missions.

"We are providing the ground force with a long-endurance, armed overwatch UAS that can quickly reload weapons at austere sites, located close to the conflict zone," said [Linden Blue](#),



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CEO of General Atomics Aeronautical Systems. https://blog.executivebiz.com/2021/12/general-atomics-unveils-mojave-unmanned-aircraft-system/?_wte=robert.rea%40axcel.us&utm_source=Ebiz%20Welcome%20Email&utm_medium=email&utm_campaign=ExecutiveBiz%20Daily%20Headlines%2012.10.2021%20%28Uv5rwz%29&kla_id=01EN0ENFMACND181VSREZG5QN3&kx=flFBQb_oQZJUyKTHrsATtjXEZqq41jUx0eSlvjsCO0%3D.TBKKxP

SPH Engineering Introduces UAV-based Remote Water Sampling System December 8, 2021 News



SPH Engineering introduces the Remote Water Sampling System, a new UAV-based solution within UgCS Integrated Systems product line. The trial flight was conducted at a Latvian lake to proceed with water sampling for subsequent analysis in a laboratory.

The main benefit of this brand-new system is the possibility to take up to 1L water samples at a considerable distance from the bank or water access points (piers, bridges, etc.) or in hazardous test locations impossible for a boat or ship to navigate.

The system combines: a drone (either DJI M300 RTK or DJI M600 Pro drone), Ruttner water sampler and SPH Engineering's UgCS SkyHub onboard computer, a radar altimeter and UgCS ground control software. Additionally, SPH Engineering has developed the messenger release device.

The system has been developed upon the request of the Latvian Environment, Geology and Meteorology Center. The system allows water to be taken repeatedly from the same location at a constant depth. A big advantage is the optional equipment (an altimeter and UgCS software) for both safety of the drone during the flight and the improved altitude accuracy above the water'. https://uasweekly.com/2021/12/08/sph-engineering-introduces-uav-based-remote-water-sampling-system/?utm_source=rss&utm_medium=rss&utm_campaign=sph-engineering-introduces-uav-based-remote-water-sampling-system&utm_term=2021-12-09

Bird-Shaped Flying Car Phractyl Macrobat Is a Bonkers, Idealistic Take on Air Mobility 11 Dec 2021 Elena Gorgan

Macrobat is an all-electric Personal Aerial Vehicle **like no other** before. You could call it a flying-car birdoplane, and the people behind it, a team of researchers and designers from Africa,



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would probably appreciate it. Introduced in mid-November it is **now raising funds** toward building a first functional prototype.

Phractyl, the name of the startup, stands for the PHRontier for Agile Complex Technology sYstem evoLution. Macrobat was named so because *“bats are the only mammals that can fly.”*



It sits on two articulated mechanical bird legs, with **tracks** at the feet. The legs allow for take-off from all kinds of terrain, offering initial push; meanwhile, the tracks should make landing in remote areas easier.

When it comes to taking off, the Macrobat tilts upwards from nose to tail, including the wings. Phractyl says they will be *“able to generate lift at low speeds.”*



Once it's up in the air, the landing gear retracts to reduce drag, and it flies much like an actual, non-bird-shaped plane. Macrobat will either be piloted by a human or operated from the ground like a drone. Numbers posted on the [official website](#) mention a 330-pound payload, a range of 93 miles, and a top speed of 111 mph.

As for when this birdoplane could take flight, don't hold your breath. Noting how battery tech is still *“going through puberty,”* the team at Phractyl notes, *“So we'll give it a few years to mature, and in the meantime, compensate for it with a highly efficient aerodynamic design.”* To make the wait more bearable, here's the introductory video which is so awesome and unique you can't even tell for certain if we're being pranked or this is in earnest.

<https://www.autoevolution.com/news/bird-shaped-flying-car-phractyl-macrobat-is-a-bonkers-idealistic-take-on-air-mobility-176290.html>

12Dec21

Flying, amphibious drones may help us fight wildfires in a warming world KELSEY D. ATHERTON DEC 10, 2021

In the plains of central Spain, just about 90 minutes south of Madrid, a firefighting robot is taking flight. With two engines, a smooth underbelly, and a construction straight out of World War II's Atlantic theater, the Singular Aircraft Flyox is a drone designed as an aerial workhorse



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on land and water. It is one of a growing number of drones that may be called to fight forest fires as aerial tankers, augmenting or replacing crewed aircraft in the process.

Citing the death rates of human firefighters—specifically the risk from smoke inhalation—Singular Aircraft owner and founder Luis Carrillo says the main goal of the drone is to “stop killing agricultural and firefighting pilots.”



Singular Aircraft is exploring two sizes of Flyox drone. The smaller version will have an internal capacity of 3,400 pounds, with a two-hour flight time and a range of 260 miles. The larger drone, owing to its greater fuel capacity, will only carry 3,000 pounds internally, but can operate for **four-and-a-half hours**, and reach distances of over 500 miles. Carrillo says the Flyox operates autonomously with a human monitoring the flight.

In addition to testing the Flyox in Spain, Singular Aircraft has conducted test flights at an experimental test airfield in Mexico and other locations around the world. The same characteristics that make the drone useful as a firefighter lend the airframe to a host of other tasks, with Singular Aircraft marketing versions for surveillance, cargo transport, or even agricultural use. <https://www.popsci.com/technology/firefighting-drones-help-fight-wildfires/>

13Dec21

DARPA Concludes Final Drone Swarm Control Tech Experiment; Timothy Chung Quoted Naomi Cooper December 10, 2021



The sixth [Offensive Swarm-Enabled Tactics](#) field experiment was held at the Cassidy Combined Arms Collective Training Facility in Fort Campbell, Tennessee, and tested open swarm architecture systems with **hundreds of unmanned platforms**, DARPA said Thursday.

Under the OFFSET program, systems integrators [Northrop Grumman](#) and [Raytheon BBN Technologies](#) developed swarm systems architectures with immersive interfaces for **human-swarm teaming** and physical testbeds. The latest experiment demonstrated the use of immersive interfaces, including virtual reality, augmented reality, sketch tablets and mobile phones, to command-and-control swarm agents.



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Sentien Robotics also exhibited its HiveXL drone carrier units designed to automate all aspects of drone operations. Johns Hopkins University Applied Physics Laboratory exhibited multiple fixed-wing aircraft built to operate in complex urban environments and Michigan Tech Research Institute supported the virtual part of the experiment. <https://executivegov.com/2021/12/darpa-concludes-final-drone-swarm-control-tech-experiment/>

US Air Force ‘Commits’ to Fielding Loyal Wingman UAVs Ahmirsayafi Dec 11, 2021

The US Air Force is ready to move beyond experimentation with unmanned combat aircraft and toward acquiring and fielding the next-generation unmanned air vehicles.



The service is analyzing and preparing to feed technologies developed from experiments into full-scale development and then production programs.

In recent years, the Air Force Research Laboratory helped fund the development of the Kratos Defense XQ-58A Valkyrie loyal wingman UAV. The research laboratory has also funded development of Skyborg, a software and hardware package designed to allow a variety of low-cost, loyal wingman UAVs to fly and carry out missions **autonomously**.

Now, the USAF wants to “operationalize unmanned combat aircraft in the fighter category”, says Secretary of the Air Force Frank Kendall, adding that the UAVs would be paired with the service’s Next-Generation Air Dominance fighter, the **top-secret** combat aircraft it plans to use to replace the Lockheed Martin F-22 Raptor in the 2030s.

“The idea here is you have one or more – I’d say nominally up to **five** – unmanned combat aircraft that are **controlled by a single** modern manned aircraft,” he says. <https://www.intecaerospace.com/?p=10258>

Virgin Orbit adds Spire satellite to next launch Jeff Foust December 10, 2021



WASHINGTON — Virgin Orbit will fly a Spire cubesat in addition to several other payloads on its next LauncherOne launch, scheduled no earlier than Dec. 22.

Virgin Orbit announced Dec. 9 that Spire’s ADLER-1 three-unit cubesat had been added to the manifest for that upcoming launch, called “Above the Clouds” by



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Virgin Orbit. The satellite, whose name is derived from Austrian Debris Detection Low Earth (orbit) Reconnoiter, was developed in partnership with the Austrian Space Forum and Findus Venture GmbH. It will collect data on the environment of “micro” space debris in low Earth orbit using a short-range radar provided by Spire.

In the statement, Dan Hart, chief executive of Virgin Orbit, said **only 20 days** elapsed between initial discussions and the agreement to add the satellite, and from there **36 hours** to get Federal Aviation Administration authorization to add the satellite to the mission and integrate it onto the vehicle. <https://spacenews.com/virgin-orbit-adds-spire-satellite-to-next-launch/>

Parsons to develop ground operations center for DARPA’s Blackjack satellites

Sandra Erwin — December 11, 2021



WASHINGTON — The Defense Advanced Research Projects Agency awarded Parsons a **\$10.8 million** contract to prototype a ground operations center for the agency’s Blackjack constellation.

DARPA started the Blackjack program in 2018 to demonstrate the utility of small satellites in low Earth orbit for military operations. The agency plans to launch as many as **12 satellites in 2022** that will carry a mix of payloads for communications, targeting, missile warning and navigation.

A number of suppliers are providing satellite buses and payloads. DARPA ordered 10 buses from Blue Canyon Technologies and two from Telesat. Raytheon, SEAKR Engineering and SA Photonics are supplying payloads. Lockheed Martin is the satellite integrator.

The space experiments and demonstrations in the Blackjack program are done in collaboration with the Air Force Research Laboratory and the Pentagon’s Space Development Agency which **plans to deploy a large network** of communications and missile-warning satellites in low Earth orbit. <https://spacenews.com/parsons-to-develop-prototype-ground-operations-center-for-darpas-blackjack-satellites/>

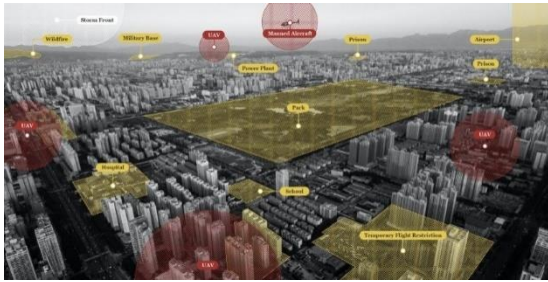
DroneUp acquires AirMap, creates airspace management and drone market ecosystem

December 7, 2021 Jenny Beechener UAS traffic management news, Urban air mobility

Drone flight services company DroneUp has announced its acquisition of Unmanned Traffic Management company AirMap.



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AirMap UTM services support as many as **100,000 global daily flights** and the company’s flight data is expected to help DroneUp build market and regulatory leadership, and further advance safe last-mile drone services. The acquisition comes on the heels of DroneUp’s recent partnership with Walmart to offer drone delivery to consumers from a growing network of drone airports, called DroneUp Hubs. The press release states:

As drone flight volume increases, safely managing flights is beyond human scale and requires an **automated system** to plan, request clearance, and factor in potential hazards and airspace restrictions. The AirMap platform advances safety for DroneUp’s operations, while also providing advantages for other drone operators to publish their flight plans promoting uniform safety.

DroneUp operates commercially throughout the U.S. and is an authorized government drone services provider for 13 states serving public sector organizations. It has more than 190 active waivers and authorizations with the FAA. AirMap is one of three UTM providers currently deployed internationally and provides UTM in Switzerland with a geographic footprint and customer base stretching from North America to Europe, Southeast Asia, and Australia.

<https://www.unmannedairspace.info/uncategorized/droneup-acquires-airmap-creates-airspace-management-and-drone-market-ecosystem/>

The FAA Accredits the Drone Racing League as First UAS Event Organizer

December 13, 2021 Drone Racing



The Drone Racing League today announced it has been accredited by the Federal Aviation Administration as **the first unmanned aircraft systems event organizer**. A leader in drone-event safety, DRL also announced its participation in FAA’s Partnership for Safety Plan Program to establish a **standardized set of safety protocols** for individuals and

organizations seeking to conduct unmanned aircraft systems demonstrations, air shows, exhibitions and events in front of live audiences.

To help the industry maximize drone safety at their events, DRL will support the FAA in evaluating safety procedures and technology, developing and implementing official U.S. drone event safety guidelines, and educating the drone community on drone safety. The league will also continue to adhere to the highest safety protocols at their high-speed drone races, which



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take place in iconic locations, like stadiums, landmarks, and museums, and are watched by millions of fans on NBC, NBCSN, Twitter and other premier networks around the world.

At race and testing events, DRL activates safety measures, including tech-controls to terminate drones mid-flight, netting to protect pilots, crew and fans from drones, and course closures to ensure nobody is near the drones while they are in the air. DRL will bring this safety process to their [DRL Vegas Championship Race Presented by T-Mobile](#), the culminating, live-audience event of the 2021-22 DRL World Championship Season, on Wednesday, **January 5, 2022** outside of T-Mobile Arena on the Las Vegas Strip. https://uasweekly.com/2021/12/13/the-faa-accredits-the-drone-racing-league-as-first-uas-event-organizer/?utm_source=rss&utm_medium=rss&utm_campaign=the-faa-accredits-the-drone-racing-league-as-first-uas-event-organizer&utm_term=2021-12-13

FAA Video for New Drone Pilots: Watch This Before Flying Your Holiday

Drone! Miriam McNabb December 13, 2021



An FAA video for new drone pilots (watch below!) has valuable information about the basic rules. If you're getting – or giving – a drone for the holidays, watch this first. (Written summary below video link: for more information, be sure to visit the [FAA UAS page](#).)

For the last several years, drones have been among the most popular holiday gifts. This causes a lot of concern for regulators, who fear that December 26 will see thousands of brand new pilots taking flight. The FAA has upped it's communications game, however: they're working to ensure that drone owners understand that there are rules to follow – and those rules need to be taken seriously. Among the important points that the FAA video for new drone pilots makes: <https://dronelife.com/2021/12/13/faa-video-for-new-drone-pilots-watch-this-before-flying-your-holiday-drone/>

Evaluating the Economic Efficiency of Commercial Drones Mike Ball / 14 Dec 2021



[FIXAR](#) has released a whitepaper that outlines how to evaluate the economic efficiency of different types of unmanned aerial vehicles for commercial applications. The whitepaper considers three different use cases, comparing FIXAR's 007 fixed-wing VTOL UAV with a standard multirotor drone and considering a variety of factors such as endurance, operational costs and productivity.



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The use cases detailed by the whitepaper include:

- Aerial photography of a 60 square kilometer landscape
- Long-distance linear infrastructure inspection
- Drone-based delivery with payloads of up to 3 kg

To find out more about how the FIXAR 007 fixed-wing VTOL UAV performs in commercial drone applications, [download the full whitepaper here.](#)

https://www.unmannedsystemstechnology.com/2021/12/evaluating-the-economic-efficiency-of-commercial-drones/?utm_source=UST+eBrief&utm_campaign=8f2ed3a7e9-ust-ebrief_2021-dec-14_engaged&utm_medium=email&utm_term=0_6fc3c01e8d-8f2ed3a7e9-119747501&mc_cid=8f2ed3a7e9&mc_eid=0d642a9d48

Northrop to Reconfigure Global Hawk Aircraft for DOD Hypersonic Test Program

Naomi Cooper December 14, 2021



The aerospace and defense contractor said Monday it will start engineering and planning work under the DOD Test Resource Management Center's SkyRange program and will equip four unmanned aircraft vehicles with sensors intended to support data collection and monitoring hypersonic missile tests.

Northrop will modify the drone systems at Grand Sky unmanned aircraft development and testing facility in North Dakota.

[Jane Bishop](#), vice president and general manager of global surveillance at Northrop, said the facility has a 35,000 sq. ft. hangar and is the ideal location to support Global Hawk's engineering modification work.

Northrop-manufactured Global Hawk is an autonomous platform that supports intelligence, surveillance and reconnaissance missions of the Air Force and global partners. The aircraft undergoes ground station, cyber resiliency, and mission planning upgrades to support U.S. combatant commands. <https://blog.executivebiz.com/2021/12/northrop-to-reconfigure-global-hawk-aircraft-for-dod-hypersonic-test-program/>



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FAA PODCAST ANSWERS BURNING QUESTIONS ABOUT FIGHTING FIRES WITH DRONES December 7, 2021 Sally French News



More than 6 million acres of forest burned this year, across the nation. California had an especially brutal year, as nearly 2.5 million acres have burned in the state through early November. That's nearly double the amount that burned on average over the past five years, according to CalFire, the state's fire agency. Among the largest burns were the Dixie fire, which began in July and lasted more than three months.

Flying drones equipped with infrared cameras and ignition payloads are being used for wildland firefighting these days. And in a [recent episode](#) of the Federal Aviation Administration's "The Air Up There" podcast, 'FAA drone guy' Kevin Morris and co-host Talisa White discussed how drones are critical in fighting wildfires, along with Mike Sheldon, an air traffic security expert for FAA, Dirk Giles, the Forest Service's drone program manager, and Pete York, a CAL FIRE captain.

For the National Forest Service, drone use began back in 2015. "Since then, we've seen nothing but an incredible growth rate," Giles said in the podcast. "If you really looked at, like, that 2015 timeframe, just the platform that we were using versus what we're using now — increasing endurance, better sensors that are integrated into the airspace — it's an incredible tool to heighten the situational awareness of on-the-ground decision makers right now." Giles said his unit comprises 65 drone operators.

<https://www.thedronegirl.com/2021/12/14/wildland-firefighting/>

FlytNow Announces a Virtual Summit Focused on Drone Autonomy, BVLOS and DiaB Tech December 14, 2021 Events | News



Enterprise drone-automation software company FlytBase, Inc. has announced its plans to host NestGen, an **all-online summit on drone autonomy** and its future in the uncrewed aerial system (UAS) industry, slated for Feb 22, 2022.

Registrations are free till Dec 31, 2021: <https://nestgen.flytnow.com>.

As the commercial UAS industry continues to mature, autonomy is emerging as its next big frontier. Drone-in-a-box (DiaB) systems are a key enabler for the deployment of autonomous drones, and are therefore a fundamental building block for this industry. Until recently, DiaB systems were highly expensive and complex. However, over the last couple years, significant progress has been made towards the development of modular, compact, and reliable DiaB



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systems that are compatible with standard, off-the-shelf drones and available at a fraction of the cost of traditional DiAB systems. These new-age systems are drastically increasing the accessibility of the tech, subsequently widening its market and user base across the globe.

https://uasweekly.com/2021/12/14/flytnow-announces-nestgen-a-virtual-summit-focused-on-drone-autonomy-bvlos-and-diab-tech/?utm_source=rss&utm_medium=rss&utm_campaign=flytnow-announces-nestgen-a-virtual-summit-focused-on-drone-autonomy-bvlos-and-diab-tech&utm_term=2021-12-14

Drone delivery firm Antwork raises \$314M in Series B funding Ishveena Singh - Dec. 14th 2021 DRONE DELIVERYCHINA



China-based drone delivery specialist Antwork Technology has scooped up a cool \$314 million in Series B funding. The fresh capital infusion was led by Thor Capital with participation from existing investor Unity Ventures.

Antwork was established in 2015 with a vision to build a drone delivery network in urban areas. The startup has designed and developed two multicopter drones with 20 km range and up to 5 kg payload capacity; a drone port for autonomous landing and takeoff; an uncrewed hub station equipped with a drone port and cargo storage boxes; and a cloud-based aerial traffic management system and scheduling software to automate cargo delivery.

In 2019, the Civil Aviation Administration of China awarded the company with **the country's first license for urban drone deliveries**. Antwork used the opportunity to trial delivery logistics with food giants such as KFC and Starbucks. But once COVID-19 struck, it began to focus more on medical drone deliveries including the aerial transportation of critical supplies and blood for emergency transfusion.

The drone delivery company is now looking for partners in Europe and the Middle East.

<https://dronedj.com/2021/12/14/drone-delivery-antwork-series-b/>



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Sweden's Aerit to fly drone deliveries in vast area north of Stockholm Bruce

Crumley - Dec. 14th 2021



Founded a mere 11 months ago, [Aerit](#) is keen to take the lead in Sweden's blossoming UAV services market. The company is preparing delivery service with its own Nimbi drones, which feature a **winch system** that doesn't require landing for either loading or lowering orders to customers. This month the Swedish Innovation Agency, Vinnova, said it would provide funding for a year-long test run of drone deliveries by

Aerit to Norrtälje – composed of islands and vast rural expanses that may be reached faster by UAV than road.

Aerit's selection was in part based on its successful BVLOS drone delivery in October, when one of its Nimbi UAVs flew a small food order on an autonomous, 2.7-kilometer mission in Halland county, on Sweden's southwest coast. It was only the second BVLOS flight in the country after Swedish research institute RISE staged the first one during a trial in 2019. The Halland run was **the first commercial drone delivery mission**, however, and by extension also the **first in BVLOS mode**.

Aerit now joins RISE as one of its partners in the upcoming drone delivery service to Norrtälje. Those flights will also examine the technical and [regulatory considerations](#) of UAV commercial operation under European Union Aviation Safety Agency rules that came into force in January. <https://dronedj.com/2021/12/14/swedens-aerit-to-fly-drone-deliveries-in-vast-area-north-of-stockholm/>

15Dec21

European and US Regulators Discuss Integrating Unmanned Aircraft into Civilian Airspace Jessica Reed | December 14, 2021

A live webcast hosted by the Science and Technology Innovation Program (STIP) this week covered regulatory efforts to integrate commercial drones into the existing European and U.S. airspace systems. Discussion centered around educating members of the public without a background in aviation to ensure safety in recreational drone operations, assessing risks when developing regulations, and prioritizing sustainability to increase community acceptance.



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The three featured speakers at the “Sharing the Air: EU and US Efforts to Integrate Commercial Drones into Civilian Airspace” webcast included Sabrina Saunders-Hodge, Acting Deputy Executive Director of the Unmanned Aircraft Systems Integration Office at the FAA; Maria Algar Ruiz, Drone Programme Manager of the European Union Aviation Safety Agency (EASA); and Janusz Janiszewski, CEO of the Polish Air Navigation Services Agency (PANSA).

According to the [Wilson Center website](#), where the live event was featured, the ongoing evolution of commercial drone operations necessitates integrating air traffic management with unmanned air traffic management as well as considering the existing aviation rules for drones in the development of future regulations.

Saunders-Hodge brought up the Code of Federal Regulations Title 14, part 107 guidelines—commonly known as the “small UAS rule”— “now permits routine operations over people and over moving vehicles, and at night under certain conditions.” The European Commission is working on a Drone Strategy 2.0 “for a smart and sustainable unmanned aircraft eco-system in Europe,” according to EASA’s website. <https://www.aviationtoday.com/2021/12/14/european-us-regulators-discuss-latest-efforts-integrate-unmanned-aircraft-civilian-airspace/>

Flytrex Gets FAA Approval for One Mile Drone Deliveries. 1 Mile – 10,000

Homes Miriam McNabb December 14, 2021



Flytrex is offering on-demand drone delivery for food and retail in **North Carolina**. The company boasts collaboration with more leading restaurants and retail chains than any other drone delivery company: and they’ve already successfully **completed thousands of deliveries**. With this approval, the company will be able to fly a 1 mile radius over cars and people: Flytrex operates with Part 135 partner Causey Aviation Unmanned: now, the partnership will offer “food, drinks and other goods to approximately **10,000 eligible households** that can opt in to the service,” says a press release.

Flytrex has launched 3 drone delivery stations in North Carolina. The latest of these delivers food orders from restaurants and chains at the Holly Springs Towne Center to residents’ backyards. “Flytrex has been operating in the ‘First in Flight’ state since September 2020, beginning in Fayetteville, NC, and expanding its service to the town of Raeford, NC. Since February 2021, the volume of Flytrex orders across its North Carolina operations has increased more than tenfold, with thousands of deliveries to date,” says the press release.



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“The process for ordering delivery via drone will remain the same at each location. Eligible households will be able to purchase a wide variety of food orders and goods from nearby stores and local restaurants and cafes. Orders are placed using the Flytrex app, which updates customers regarding their order status along the route until the package is lowered safely by wire into their backyards.” <https://dronelife.com/2021/12/14/flytrex-gets-faa-approval-for-one-mile-drone-deliveries-1-mile-10000-homes/>

U.S. Air Force Selects Leidos for Counter-Small Unmanned Aerial Systems

Contract December 14, 2021 Counter UAS | Military | News



[Leidos](#) a FORTUNE® 500 science and technology leader, today announced it has been awarded a prime contract by the U.S. Air Force to support the service’s counter-small unmanned aerial system (C-sUAS) efforts. This single-award has a total estimated value of **\$82 million**. It includes a one-year period, as well as four one-year options.

“The complex and rapid proliferation of small, unmanned aircraft systems by adversaries presents new risks and challenges for our armed forces,” said Will Johnson, Leidos Senior Vice President, Logistics and Mission Support. “We are proud to support the Air Force’s mission to increase the operational capability of fielded and future C-sUAS equipment.”

Through this contract, Leidos will support the Air Force Life Cycle Management Center and enhance the air base defender’s capability to detect, identify, track, and defeat small Unmanned Aircraft Systems. This will take place through a wide range of system and software maintenance, development, and deployment tasks.

Headquartered at Wright-Patterson Air Force Base, Ohio, the Air Force Life Cycle Management Center is one of six centers reporting to the Air Force Materiel Command and provides test and evaluation, life cycle management services and sustainment for every major Air Force weapon system. https://uasweekly.com/2021/12/14/u-s-air-force-selects-leidos-for-counter-small-unmanned-aerial-systems-contract/?utm_source=rss&utm_medium=rss&utm_campaign=u-s-air-force-selects-leidos-for-counter-small-unmanned-aerial-systems-contract&utm_term=2021-12-15



UAS and SmallSat Weekly News

The First UAV Navigation Solution in GPS Challenged and Denied Environments

December 14, 2021 News



During November 2021, in Israel, [infiniDome](#), [Honeywell](#), and [Easy Aerial](#) demonstrated the first UAV-tailored resilient navigation [solution](#) to complete critical missions under GPS challenged and denied environments.

The three parties demonstrated the fully operational Robust Navigation System which [integrates GPS anti-jamming technology](#), [Inertial System](#) and [Radar Velocity System](#) allowing UAVs not only to stay in the sky but actually complete their mission.

Unmanned Aerial Vehicles (UAVs) are increasingly used in what were traditionally manned missions in Defense, HLS, and commercial applications as their prices decrease, their capabilities improve, and regulation for them eases.

However, these UAVs rely almost entirely on the Global Navigation Satellite System for basic navigation, particularly for Beyond Visual Line Of Sight and autonomous operations.

Due to the weakness of GNSS signals, UAVs are extremely susceptible to jamming attacks which can be carried out from large distances using cheap jammers bought online. They do not work in many situations such as when flying too high, too low, too fast, fog, darkness, and above sea.

The RobustNavigationSystem, jointly developed by Honeywell and InfiniDome, solves the problem by pairing GNSS-based UAV-tailored [Honeywell Compact Inertial Navigation System \(HCINS\) with InfiniDome's GPS anti-jamming technology \(GPSdome\)](#), integrated with Honeywell's Radar-based Velocity System. The Robust Navigation System is a one-stop shop that can be installed on almost any UAV with a common flight controller providing it with continuous, accurate navigation data in GNSS-challenged or fully GNSS-denied environments. https://uasweekly.com/2021/12/14/infinidome-honeywell-and-easy-aerial-demonstrate-the-first-uav-tailored-resilient-navigation-solution-to-complete-critical-missions-under-gps-challenged-and-denied-environments/?utm_source=rss&utm_medium=rss&utm_campaign=infinidome-honeywell-and-easy-aerial-demonstrate-the-first-uav-tailored-resilient-navigation-solution-to-complete-critical-missions-under-gps-challenged-and-denied-environments&utm_term=2021-12-15



UAS and SmallSat Weekly News

Percepto autonomous inspection drones approved to fly BVLOS in Australia

Ishveena Singh - Dec. 15th 2021



The Civil Aviation Safety Authority of Australia has granted operational approval to drone-in-a-box solutions provider Percepto to fly beyond visual line of sight in the country.

Percepto, whose software platform AIM has been named as [one of 100 Best Inventions of 2021](#) by *Time* magazine, is an Israel-based provider of autonomous inspection and monitoring. And while the waiver is new, the company already holds approvals to operate its drones without direct human supervision at industrial sites in the US, Italy, Spain, Norway, Portugal, and, of course, its home nation.

The Australian waiver will facilitate fully remote inspection of an industrial site in a market where many facilities are in rural and sparsely populated areas. And with many companies increasingly introducing remote operations to manage, monitor, and secure their sites, Percepto hopes that the CASA approval will lay the groundwork for more similar waivers for its customers nationally.

A waiver will also allow high-risk sites, such as mines and refineries, to better manage safety and environmental risks, while increasing productivity and reducing downtime.

<https://dronedj.com/2021/12/15/percepto-autonomous-inspection-drones-bvlos-australia/>

South Korean town to open regulation-free drone park Bruce Crumley - Dec. 15th 2021



A popular vacation destination near South Korean capital Seoul is preparing to open what local news reports describe as **the nation's largest drone park**, offering enthusiasts and systems developers alike a regulation-free space for operating UAVs.

A ceremony was held on Tuesday on the grounds of the **\$8 million** project, which officials hope to open next March as the UV Land drone complex. The facility is in Taean, a popular tourism area about 68 miles southwest of Seoul. The region was designated by the South Korean government in 2020 to create parks where private drone pilots, businesses, and other sector participants can pilot craft in a regulation-free setting.

The facility features a multi-purpose building that permits indoor flights, and offers controlled spaces for developers. The park also sports a 400-meter runway, and a 4,000-square-meter



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field to allowing outdoor navigation – and affording sufficient space between controller-wielding pilots. Structured activities will also be organized at UV Land, including formal drone training and demonstration events organized by a private university that runs a specialized aviation program.

The objective of the effort is obviously to create spaces where people can indulge in their arial passions without taking the legal or safety risks of doing so in cities and towns. But in addition to that enthusiast and tourism focus, Taeon officials are also looking to exploit the area’s regulation-free status to draw business and research activities from South Korea’s [rapidly developing](https://dronedj.com/2021/12/15/south-korean-town-to-open-regulation-free-drone-park/#more-73526) drone industry. <https://dronedj.com/2021/12/15/south-korean-town-to-open-regulation-free-drone-park/#more-73526>

16Dec21

Wingcopter wins Latin-American business aviation specialist SYNERJET as new investor December 16, 2021 News



The capital influx comes from [SYNERJET Corp](#), a business aviation specialist in Latin America, with operations in Brazil, Colombia, Ecuador, Chile, Panama, and Guatemala. The new funding follows recently announced investments from Japan-based DRONE FUND as well as UBER co-founder Garrett Camp’s Expa.

SYNERJET made the investment shortly after joining Wingcopter’s Authorized Partner Program which allows companies to act as a distributor and local technical support provider for the Wingcopter 198. As an Authorized Partner, SYNERJET wants to target drone operators, logistics companies, and providers in the healthcare industry. For Wingcopter, the partnership represents an important gateway to the Latin American market and is a **major milestone** in its global expansion plans. The company will benefit from SYNERJET’s knowledge of the regulatory framework as well as its strong relationships and experience with local civil aviation authorities.

SYNERJET joins existing investors DRONE FUND, Expa, Xplorer Capital, Futury Capital, Hessen Kapital III, and Corecam Capital Partners in the run-up of Wingcopter’s Series B investment round in 2022. https://uasweekly.com/2021/12/16/wingcopter-wins-latin-american-business-aviation-specialist-synerjet-as-new-investor/?utm_source=rss&utm_medium=rss&utm_campaign=wingcopter-wins-latin-american-business-aviation-specialist-synerjet-as-new-investor&utm_term=2021-12-16



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eVTOL plane maker Vertical Aerospace lists on NYSE Bruce Crumley - Dec. 16th 2021



Another player in the bustling advanced air mobility sector has staked out a corner of Wall Street, with London-based electric vertical takeoff and landing (eVTOL) plane manufacturer Vertical Aerospace completing its **\$300 million** New York Stock Exchange floatation today.

Maker of the four-passenger VX4 eVTOL plane, Vertical Aerospace joins other sector competitors like Joby, Lilium, and [Archer](#) in [introducing its shares](#) on Wall Street. Trading under the ticker EVTL, the firm's new shares should generate over \$300 million – a good deal more than the \$250 million Vertical says it needs to obtain European certification of the VX4 by 2024.

The NYSE floatation marks another big step in Vertical's corporate development – in October, it revealed it had raised \$205 million in new funding from Mudrick Capital. Around the same time, the company [announced](#) it had signed accords with London's Heathrow Airport to study the integration and use of its craft at Europe's biggest passenger air platform. Then, just last week, Vertical introduced a prototype of its eVTOL plane, which it renamed to the shortened VX4.

That craft – which begins testing soon – will be capable of operating both shorter air taxi services and medium-distance flights. The VX4 will have a maximum range of 100 miles and fly at top speeds of 202 mph. Vertical's eVTOL plane will have room for four passengers and a **pilot** (when not in **automated mode**), produce no emissions, and offer nearly silent operation – 100 times quieter than a helicopter, according to the company.

<https://dronedj.com/2021/12/16/evtol-plane-maker-vertical-aerospace-lists-on-nyse/>

17Dec21

Azur's Skeyetech – DIZI Recognized as a Major Innovation in Drones for Nuclear Sites Miriam McNabb December 16, 2021



[Azur Drones](#) has won a major award at the World Nuclear Exhibition. Only a few weeks after launching, Azur's Skeyetech – DIZI, an autonomous solution to detect radioactivity, has been recognized as a game-changer in drones for nuclear site inspections.



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Radiation detection is an ideal application for autonomous drones: it's dangerous, expensive, and time consuming for humans to carry out, and critical to the safety of communities and uninterrupted service.

“Developed in partnership with AVNIR Energy, the Skeyetech-DIZI solution is **the first scintillation detector embedded on an autonomous drone**. This solution enables 24/7 radioactivity measurements very quickly and automatically,” says an Azure press release.

“Skeyetech-DIZI is a real innovation for the safety and environmental control of nuclear sites. Thanks to the miniaturization of the detector embedded in an autonomous drone,” explains Patrick Landais, President of the WNE Awards Jury. <https://dronelife.com/2021/12/16/azurs-skeyetech-dizi-recognized-as-a-major-innovation-in-drones-for-nuclear-sites-at-wne/>