UAS and SmallSat Weekly News

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AutoFlight's Prosperity I Performs Proof-of-Concept Transition Test Flight Jessica Reed | February 17, 2022

AutoFlight, a startup developing electric vertical take-off and landing (eVTOL) aircraft, completed a proof-of-concept transition test flight with its Prosperity I last month. This test flight, which demonstrated the aircraft's ability to move from vertical take-off to horizontal flight, took place in Jiangsu, China.

The startup is one of the first eVTOL companies worldwide to successfully complete a transition flight—only one other 4-seater eVTOL aircraft has achieved this. The aircraft was unmanned during the flight test, but the vehicle is designed to carry three passengers in addition to a pilot.

The company hopes to achieve manned flight certification in Europe by the year 2025 and completing this transition flight was an important milestone towards that goal. It is being developed for transporting passengers within cities or for connecting trips between two nearby cities or airports. The company intends for its services to eventually cost the same as a taxi ride and to provide the same level of safety—as AutoFlight put it, "clean, safe, quiet, and affordable airborne transportation for everyone."

In the transition phase of the test flight, "the rotors on the top stopped spinning and locked in a streamlined position while the propellers in the rear pushed the aircraft forward like a traditional fixed-wing plane," according to the company. The CEO, Tian Yu, remarked that the Prosperity I aircraft was able to complete the transition phase smoothly and safely. https://www.aviationtoday.com/2022/02/17/autoflights-prosperity-performs-proof-concept-transition-test-flight/

WINGCOPTER SPRIGHT PARTNERSHIP BRINGS DRONE DELIVERIES TO KANSAS

February 15, 2022 Sally French

German drone delivery giant Wingcopter is coming to the U.S. in a big way — and it's bringing the ability to conduct medical deliveries via drone with it. The company has signed a $16 million agreement

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with Spright, which is a subsidiary of U.S.-based medical service provider Air Methods.

Spright, which launched in July 2020, is the drone division of Air Methods, created to build a network of drones designed for delivering healthcare-related products around the U.S. By leveraging an existing infrastructure of more than 300 bases, Spright is set to be able to transport medical supplies via drone to hundreds of hospitals across the U.S., which are predominantly in rural, hard-to-reach areas.

Initial tests include flights throughout the Hutchinson Regional Health System, in Hutchinson, Kansas. If the Spright partnership is successful, Spright said it plans to expand beyond Kansas later this year. Items including medications, vaccines, blood, and lab samples will be flown via drone across medical facilities, primarily in rural and underserved areas.
https://www.thedronegirl.com/2022/02/18/wingcopter-spright-partnership/

Scottish county trials drone medical transport to NHS facilities Bruce Crumley - Feb. 18th 2022

The county of Angus in eastern Scotland is teaming up with drone startup DTLX to begin testing drone transport of medical supplies between regional hospitals and labs. The trials will operate from the coastal city of Montrose, and transport medical supplies and lab samples between various NHS facilities across Angus and those in Dundee, about 26 aerial miles south. The project will initially seek to speed up NHS efforts to respond to the COVID-19 pandemic.

If successful, it could be extended across northern Scotland, where rugged terrain and large areas with sparse populations can make easy access to health care for residents a challenge.

The program will be operated out of Mercury Drone Ports, a DTLX-managed project in conjunction with Angus authorities to promote the use of UAVs in an array of public and enterprise missions. Much of that activity has thus far been providing services to offshore wind and other energy facilities, but DTLX has also been demonstrating the efficiency of the craft in other ways. The tests it will launch in March using drones to transport medical supplies for the NHS will broaden that scope of activity and usher in beyond line of visual sight flights.
https://dronedj.com/2022/02/18/scottish-county-trials-drone-medical-transport-to-nhs-facilities/#more-76837

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Exodigo wants to end the era of blind digs with underground mapping drones

Ishveena Singh - Feb. 18th 2022

Israeli startup Exodigo is announcing the commercial availability of its subsurface mapping platform in the US with a bang. The tech company has scooped up a cool $29 million in seed funding to make underground mapping easier with drones.

The Exodigo sensor system is a nonintrusive subterranean mapping platform that has been designed for construction, mining, and utility firms. Combining advances in 3D imaging and artificial intelligence, the sensor can rapidly create a digital geolocated, 3D map of buried assets – right from man-made pipes and cables to soil layers, rocks, minerals, and even groundwater across any terrain.

While there's no denying that traditional underground discovery techniques are grossly outdated and often inaccurate, Exodigo's own estimates suggest more than $100 billion is spent every year on unnecessary excavation and drilling to discover what lies underground in an attempt to avoid hitting gas pipelines, water sources, oil, and other potential hazards. Exodigo plans to commence pilot projects in California, Florida, and Texas in the weeks ahead.
https://dronedj.com/2022/02/18/exodigo-underground-mapping-drones/

Lithuania is deploying drones to detect potholes and inspect road damage

Ishveena Singh - Feb. 18th 2022

AB Kelių priežiūra, a state-owned company that ensures the maintenance of almost 13,050 miles of national roads, is teaming up with drone manufacturer Thrust and tech company Agmis to automate road inspections with flying machines and artificial intelligence. The joint project has been aptly titled GreenBee since it will help the inspection company to reduce its carbon footprint dramatically.

At present, road inspections in Lithuania are performed by specialist vehicles driving slowly and visually inspecting the road infrastructure. Depending on the type of road, these inspections are performed monthly, weekly, or sometimes daily. This means road inspection vehicles travel thousands of miles each year, emitting tons of carbon dioxide.

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Project GreenBee will replace ground vehicles with drones carrying high-definition cameras and sensors. These drones will fly along the inspection routes gathering video and sensor data, which will then be analyzed by AI and computer vision technologies to identify potholes, cracks, and other road damage.

Jolita Mackiene, head of Quality and Technology at AB Keliu prieziura, stresses that the introduction of drones will help to reduce the CO2 emissions of inspections by almost 90%. It will also help to divert maintenance resources from initial surveying to more critical tasks. https://dronedj.com/2022/02/18/drones-road-damage-inspection/

Autonomous mapping startup Emesent accelerates global growth after $32 million Series A February 18, 2022 News

Award-winning Australian autonomous mapping and data analytics startup Emesent is ready to execute its ambitious global expansion plans after closing an oversubscribed $32 million Series A round.

The raise was led by Australian investment firm Perennial Partners, with significant funding from international investors Tiger Global and TELUS Ventures. Lead seed round investors Main Sequence and Archangel Ventures also participated.

Emesent co-founders Dr Stefan Hrabar (CEO) and Dr Farid Kendoul (CTO) will use the funding to accelerate the company's already rapid global growth targets and expand its reach into new industries. "We have grown from seven to 130 staff in just three years, by establishing ourselves as a global leader in our industry, with 300 customers in 40 countries," Dr Hrabar said.

Dr Hrabar said Emesent's capital raise would enable it to double the size of its engineering team, particularly in data analytics. https://uasweekly.com/2022/02/18/autonomous-mapping-startup-emesent-doubles-down-on-global-growth-after-closing-32-million-series-a/?utm_source=rss&utm_medium=rss&utm_campaign=autonomous-mapping-startup-emesent-doubles-down-on-global-growth-after-closing-32-million-series-a&utm_term=2022-02-18

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20Feb22

Flights Help 'Teach' Drones to Navigate the World Feb 10, 2022

In December 2021, NASA's Scalable Traffic Management for Emergency Response Operations activity, or STEReO, ran early flight tests of technology the team is developing, at NASA's Ames Research Center in California's Silicon Valley.

Data collected during the flights will help "teach" unmanned aircraft systems how to understand their surroundings and navigate the world. If UAS could fly and land safely beyond their pilot's view, they could carry out certain tasks on their own, like visually identifying, then mapping, a wildfire perimeter.

During the tests, a large quadcopter UAS flew at low altitude, between about 100 and 150 feet. It carried several different sensors, including a camera and lidar scanner, that collected data to later train the aircraft's "brain."

The goal is for future vehicles to react to their environment in real time, for instance to detect and avoid obstacles in flight. Researchers are developing software that can be taught how to interpret what an aircraft's sensors perceive and what actions to take in response. STEReO's data, captured from the real world around buildings, trees, and other physical features, will make that training easier.

STEReO aims to support the modernization of emergency response by scaling up the role of unmanned aircraft and helping operations adapt to rapidly changing conditions during a disaster. The recent tests will help give a UAS the ability to conduct a mission autonomously, even if the vehicle is beyond the pilot's view or doesn't have a GPS signal. So, these small, agile aircraft will still be able to navigate in remote or disaster-struck areas without connectivity.
https://www.nasa.gov/image-feature/ames/flights-help-teach-drones-to-navigate-the-world

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Zipline in Kenya: Expanding Medical Drone Delivery Across Africa Miriam McNabb February 20, 2022 DRONELIFE Staff Writer Ian M. Crosby

Yesterday, instant logistics leader Zipline formed an agreement with Kisumu County, a member of the Lake Region Economic Bloc, that will see Zipline make use of its warehousing facility and autonomous aircraft technology for the storage and delivery of COVID-19 vaccines, blood products and other medical supplies to health facilities within the County.

A Zipline distribution hub will be established where it will act as the base of operations for the uncrewed aerial system and services for health projects and facilities throughout 16 counties in western Kenya. After the distribution hub is established and UAS delivery operations begin, Zipline and Kisumu County will work together in an operations phase with the goal of providing medical commodities such as COVID-19 vaccines to health facilities within the operational area.

Zipline has several business partnerships throughout Africa, with partners in Rwanda, Ghana, Nigeria, Côte d'Ivoire and now Kenya, where it intends to establish an industrious technology driven transformation in the health sectors. https://dronelife.com/2022/02/20/zipline-in-kenya/

South Korea launches UAM "Grand Challenge"program – targets first services by 2025 February 21, 2022 Philip Butterworth-Hayes

The Transport Ministry on Thursday kicked off the K-UAM Grand Challenge program to coordinate all South Korea's UAM-related activities as part of its focus to enable emerging aviation markets.

"This Ministry-led program will bring together industry players including aircraft developers, airspace designers, and air traffic management operators with the goal of developing and operating air vehicles or airspace management services in the UAM ecosystem," says the report.

"The K-UAM Grand Challenge program is joined by the Korea Aerospace Research Institute and 124 companies including Hyundai Motor Group and Korean Air who are part of UAM Team Korea. Also participating are foreign UAM stakeholders like Joby Aviation, Volocopter and

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Skyport, as well as global institutions like NASA who will lead tests on capabilities and readiness of vehicles and systems that could revolutionize mobility.

The Transport Ministry will prioritize the introduction of air medical services, such as patient ambulance transport and cargo delivery to underserviced communities, starting with gradually replacing helicopter demand with UAM aircraft in the defense sector. It also wants to develop tourism UAM services and set up UAM theme parks with help of local governments and public institutions to raise public awareness about UAM. https://www.unmannedairspace.info/latest-news-and-information/south-korea-launches-uam-grand-challengeprogramme-targets-first-services-by-2025/

KDDI and Japan Airlines "partner to accelerate BVLOS and flights-over-people operations" February 17, 2022 Philip Butterworth-Hayes UAS traffic management news

Japanese mobile network operator KDDI is partnering with Japan Airlines to expand its drone services, reports *UAS Vision.* According to news service NHK, "KDDI has been putting more resources into drone-operation systems, leveraging its communications technology. The tie-up will allow KDDI to tap JAL's expertise in managing flight operations. The two companies are anticipating large numbers of drones flying in the skies over Japan in the near future. From the next fiscal year starting in April, drone operators in Japan will be allowed to fly the aircraft beyond their line of sight, even when there are people below.

"The companies plan to conduct test flights for transporting goods to remote islands. They will jointly develop services for businesses and local governments that hope to use drones. KDDI is targeting revenue of 10 billion yen, or more than 80 million dollars, from the drone business in the year through March 2025." https://www.unmannedairspace.info/latest-news-and-information/kddi-and-japan-airlines-partner-to-accelerate-bvlos-and-flights-over-people-operations/

SpaceX launches 46 Starlink satellites, lands Falcon 9 rocket for 100th time Mike Wall published about 3 hours ago

A two-stage Falcon 9 rocket topped with 46 of SpaceX's Starlink broadband spacecraft lifted off from Cape Canaveral Space Force Station in Florida at 9:44 a.m. EST soaring into a clear, blue sky.

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About nine minutes after liftoff, the Falcon 9's first stage came back down to Earth for a vertical touchdown on SpaceX's drone ship which was stationed in the Atlantic Ocean a few hundred miles off the Florida coast. It was the 100th Falcon 9 rocket landing for SpaceX boosters.

A SpaceX Falcon 9 rocket launches 46 Starlink internet satellites to orbit on the Starlink 4-8 mission from SLC-40 at Cape Canaveral Space Force Base in Florida on Feb. 21, 2022. (Image credit: SpaceX)

Monday's flight was the 11th launch and landing of this Falcon 9 first stage. SpaceX has already launched about 2,100 Starlink satellites to orbit, with more than 200 falling from orbit from failures or decommissioning, according to Spaceflight Now. But the company is far from done. SpaceX has approval to launch 12,000 Starlink craft and has applied for permission from an international regulator for up to 30,000 more.

The company's Starlink internet satellite project aims to provide high-speed internet access to customers anywhere on Earth, especially in underserved or extremely remote areas of the planet where internet service is difficult to obtain. https://www.space.com/spacex-starlink-satellite-launch-4-8-rocket-landing?utm_source=SmartBrief&utm_medium=email&utm_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm_content=B67758A6-896C-4479-BFFC-4BD1EC2B7283&utm_term=95a14428-a25b-49ba-ba05-64ece93dde2a

Canada mulls using parachutes for drone delivery to indigenous communities

Ishveena Singh - Feb. 21st 2022

Aerospace company AVSS has been awarded a $1.1 million contract by the Canadian government to test whether its parachute delivery system can support drones to drop off packages at locations where it's difficult to land an aircraft.

The contract falls under the government's Innovation, Science and Economic Development Canada (ISED) program that funds R&D and test prototypes from innovative Canadian companies. This program also features a direct sales option post successful prototype evaluation, which, in this case, will allow government organizations to purchase up to $8 million

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worth of delivery drone parachutes from AVSS without procurement competition for three years.

AVSS says that its Payload Precision Delivery Systems (PPDS) is capable of autonomously reaching within 3 meters of an intended landing zone. The technology can be useful in several scenarios, including delivering medical kits during search and rescue operations or providing field rations to firefighters in a wildfire.

AVSS explains that it will supply 100 units of PPDS in March to Transport Canada, Indigenous Services Canada, and 3 Points in Space Media, which will then be testing and evaluating the technology for last-mile drone delivery in Northern Canada. The specific case that will be evaluated is for delivery to an indigenous community that does not have the expensive infrastructure for other types of drone delivery operations. https://dronedj.com/2022/02/21/avss-drone-delivery-parachute-canada/

22Feb22

DRL VIEWERSHIP DOUBLED IN 2021-22 SEASON, DRONE RACING GIANT REPORTS February 19, 2022 Sally French News

The Drone Racing League, which is the largest group of drone racers that just came off its 2021-22 Algorand World Championship event said viewership for the series doubled this season. DRL claims their races reached 250 million households in over 140 markets worldwide across the series.

DRL aired its 2021-22 race over the past weekend on NBC and Twitter in the U.S. Internationally, races aired on six continents and across 13 sports networks including NBC Sports, Sky Sports, FOX Sports and FOX Sports Australia, ESPN in Brazil, StarTimes, Sony TV, Eleven Sports, beIN SPORT, TrueVisions, O2 TV, eGG Network, ran.de, and Viaplay.

DRL also streamed their season on Twitter, ran.de, Viaplay, Star+, Weibo and Yhizibo, which are various streaming and social networks around the world. Over on TikTok, DRL saw 400% growth in the past year.

Perhaps more notably: some of the biggest networks like NBC Sports, devoted significant airtime to drone racing (NBC aired 60% more hours of drone racing this season versus last season). And between NBC Sports and Twitter, DRL secured 30 hours of original 2021

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programming during primetime slots, including a race on Christmas Day.
https://www.thedronegirl.com/2022/02/22/drl-viewership-doubled-2022/

This Spring, FAA Tests UTM Systems to Move Forward on Drone Integration Miriam McNabb February 21, 2022

In an announcement earlier this month, the FAA announced that they would be moving forward with drone integration and unmanned traffic management systems beginning this spring. UTM is a framework that will allow unmanned systems to operate safely in the same airspace with manned aircraft.

One of the first services launched in the US was the FAA's LAANC (low altitude authorization and notification capability) systems: as a second foundational step, the FAA announced the Remote ID rule at the end of 2020.

The Unmanned Aircraft System Traffic Management (UTM) Field Test will start in the spring of 2022. During the field tests, the FAA and industry partners will "conduct multiple drone flights in realistic test scenarios to learn more about how to manage drone traffic in varying environments. The flight tests will examine how the latest capabilities and standards will work to support the operations in the real world." https://dronelife.com/2022/02/21/this-spring-faa-tests-utm-systems-to-move-forward-on-drone-integration/

Swarming Drones Application for UAS Unveiled Phoebe Grinter / 21 Feb 2022

EDGE has unveiled swarming drones, its latest application for Unmanned Aerial Systems (UAS), on the first day of the Unmanned Systems Exhibition and Conference (UMEX 2022), taking place at the Abu Dhabi National Exhibition Centre 21-23 February.

Participating as the event's official Strategic Partner in its second appearance at UMEX, EDGE showcased its swarming drones, which are based on the Hunter 2 series of UAS developed by HALCON, a regional leader in the production and supply of precision-guided weapons and UAS.

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The ground-launched drones fly in formation to perform a coordinated mission that can overwhelm an adversary. Leveraging Artificial Intelligence technology, the tactical drones share information with one another to track and maintain their relative positions and to engage targets. https://www.unmannedsystemstechnology.com/2022/02/swarming-drones-application-for-uas-unveiled-at-umex-2022/?utm_source=UST+eBrief&utm_campaign=98c5c0f1e7-ust-ebrief_2022-feb-22&utm_medium=email&utm_term=0_6fc3c01e8d-98c5c0f1e7-119747501&mc_cid=98c5c0f1e7&mc_eid=0d642a9d48

NCDOT Launches National First with Tethered Drones on IMAP Trucks February 22, 2022 News

The statewide Incident Management Assistance Patrol (IMAP) program and the Division of Aviation's Unmanned Aircraft System (UAS) program recently helped develop and deploy the operation of tethered drones from select IMAP vehicles. This helps responders assess incidents, provide situational awareness to the NCDOT Statewide Transportation Operations Center and Traffic Management centers and assist with traffic management of incidents. The deployment of this technology was realized as a result of a federal innovation grant received in 2020.

Traditionally, traffic operations staff views video feeds at the STOC/TMC through traffic cameras or they receive reports from responders in the field. Tethered drones safely offer another method to provide more information in real time, with higher quality video, and for long periods of time.

IMAP trucks are equipped with multiple specialized tools to assist stranded motorists or scene management with first responders. The drone can fly up to 150 feet to take video and livestream it to the STOC/regional TMC as well as to emergency management personnel at the incident. This instant information can provide a safer environment for those on scene or approaching an incident and allow the centers to better manage traffic and share more accurate traveler information with the public. The systems are highly portable and can be quickly launched and recovered. https://uasweekly.com/2022/02/22/ncdot-launches-national-first-with-tethered-drones-on-imap-trucks/?utm_source=rss&utm_medium=rss&utm_campaign=ncdot-launches-national-first-with-tethered-drones-on-imap-trucks&utm_term=2022-02-22

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US Ally Orders Puma 3 AE sUAS for ISR Operations Phoebe Grinter / 17 Feb 2022

AeroVironment, Inc. has received a $8.5m firm-fixed-price U.S. Department of Defense Foreign Military Sales contract award to provide Puma 3 AE small Unmanned Aerial Systems (UAS), initial spares packages, training and support to an allied nation.

AeroVironment's Puma 3 AE delivers Intelligence, Surveillance and Reconnaissance in all environments. Puma 3 AE has a wingspan of 9.2 feet , weighs 15 pounds and can operate for up to 37.2 miles with AeroVironment's Long-Range Tracking Antenna.

Multi-mission capable, operators can swap between Mantis i45 and the enhanced night variant Mantis i45 N for day, night, and low-light operations. Puma 3 AE is launchable by hand, bungee, rail, or vehicle, and recoverable by deep-stall landing, providing class-leading capabilities in challenging environments around the world.
https://www.unmannedsystemstechnology.com/2022/02/us-ally-orders-puma-3-ae-suas-for-isr-operations/?utm_source=UST+eBrief&utm_campaign=98c5c0f1e7-ust-ebrief_2022-feb-22&utm_medium=email&utm_term=0_6fc3c01e8d-98c5c0f1e7-119747501&mc_cid=98c5c0f1e7&mc_eid=0d642a9d48

23Feb22

Cincinnati Bearcats Drone Show: Verge Aero Presents Another Great Spectacle [VIDEO] Miriam McNabb February 22, 2022 by DRONELIFE Staff Writer Ian M. Crosby

Verge Aero creates a Cincinnati Bearcats drone show – another great display to add to major celebrations around the world.

The Cincinnati Bearcats celebrated the end of their winning season with a display by drone show company Verge Aero, featuring a total of 150 drones. The celebration was held at the Bearcats' home field, Nippert Stadium, where Verge Aero's fleet took to the skies, spelling out the team's 13-0 winning season and displaying their logo. The drone display was accompanied by over 100 lighting fixtures and 384 rooftop

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fireworks. See the show: https://dronelife.com/2022/02/22/cincinnati-bearcats-drone-show-verge-aero-presents-another-great-spectacle/

MIGHTYFLY STEPS UP FLIGHT TESTING FOR AUTOMATED, AUTONOMOUS CARGO DELIVERIES CHARLES ALCOCK FEBRUARY 17, 2022

MightyFly has completed the first test flights with its MF-100 autonomous cargo aircraft and is preparing to start piloted freight delivery operations. On Thursday, the company reported that the remotely monitored flights have been conducted over recent months in the San Francisco Bay Area under an FAA special airworthiness certificate issued last year.

The initial vertical takeoff and landing hover flights at Half Moon Airport were made in winds of up to 15 knots." The MightyFly engineering team has been checking on the redundancy performance of the MF-100's hybrid-electric propulsion system and its sensors as well as conducting stress tests with some payload onboard.

The next phase of testing will begin within a few months to demonstrate the transition to horizontal cruise flight over longer ranges. The MF-100 is expected to have a payload of 100 pounds on flights of up to 600 miles at 150 mph, and the company already has plans for a larger model that could carry 500 pounds. https://www.futureflight.aero/news-article/2022-02-17/mightyfly-steps-flight-testing-automated-autonomous-cargo-deliveries

Wisk Aero Partners with Long Beach for Advanced Air Mobility in Southern California Feb. 22, 2022 Wisk Aero LLC

Wisk Aero, a leading Advanced Air Mobility (AAM) company and developer of the first all-electric, self-flying air taxi in the United States, has partnered with the City of Long Beach, California through its Long Beach Economic Partnership (LBEP) to make AAM a reality in Southern California.

Through this partnership, the two organizations will work to create an AAM working group composed of business, local government, and community leaders that will focus on evaluating, planning, and implementing AAM in Long Beach with a focus on autonomous flight. Wisk and LBEP will co-chair the working group for an initial two-year term.

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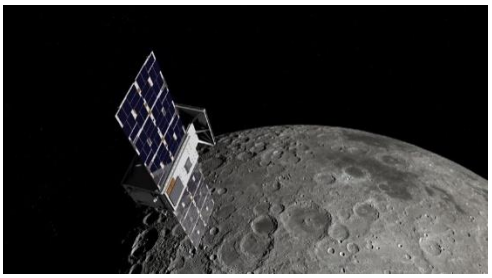
The working group will examine four key areas to evaluate the opportunities and impacts that AAM represents for Long Beach. They include an analysis of the economic impact and workforce development, community acceptance and outreach, integration of autonomous AAM into city transportation plans, and federal and state government funding opportunities.

With support from Wisk, LBEP will coordinate the development of an Economic Impact Study that will be conducted by the Cal State Long Beach Office of Economic Research. The study will estimate the annual economic impact of AAM operations in Southern California and other regional state economies. The results of the study are expected to be completed later this year. https://www.aviationpros.com/aircraft/business-general-aviation/press-release/21257764/wisk-wisk-aero-partners-with-long-beach-to-make-advanced-air-mobility-a-reality-in-southern-california

CAPSTONE lunar cubesat mission to launch this spring Jeff Foust February 22, 2022



WASHINGTON — A cubesat mission to test a lunar orbit critical to NASA's Artemis program is in the final stages of preparations for a launch this spring.

The Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment, or CAPSTONE, spacecraft is a cubesat mission that will test operations in the near-rectilinear halo orbit (NRHO) around the moon that will be used by Artemis missions, including the lunar Gateway. NASA selected Colorado-based Advanced Space to develop the mission in 2019.

Advanced Space said Feb. 18 that it completed the fourth in a series of operational readiness tests for CAPSTONE simulating a week of operations in lunar orbit. That included tests of one aspect of the mission, crosslinks with the Lunar Reconnaissance Orbiter spacecraft to determine its position without the assistance of ground stations.

The spacecraft, built by Tyvak Nano-Satellite Systems, is called a "12U XL" cubesat, a 12-unit cubesat with a radio tower on top that extends its size. It will launch on a Rocket Lab Electron rocket using a version of that company's Photon satellite bus to send the stage on a lunar trajectory. https://spacenews.com/capstone-lunar-cubesat-mission-to-launch-this-spring/

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ALIAS equipped Black Hawk helicopter completes first uninhabited flight February 22, 2022 Military | News

The DARPA Aircrew Labor In-Cockpit Automation System (ALIAS) program completed a first ever flight of a UH-60A Black Hawk helicopter without anyone onboard. Sikorsky, a Lockheed Martin company, completed 30-minutes of uninhabited flight with the optionally piloted vehicle (OPV) over the U.S. Army installation at Fort Campbell, Kentucky on February 5th. An additional uninhabited flight was also conducted on February 7th.

The Black Hawk was retrofitted with Sikorsky MATRIX™ autonomy technologies that form the core of ALIAS and can change the way aviators and air crews execute their missions by providing assistance when flying with limited visibility or without communications.

"With reduced workloads pilots can focus on mission management instead of the mechanics," said Stuart Young, program manager in DARPA's Tactical Technology Office. "This unique combination of autonomy software and hardware will make flying both smarter and safer."
https://uasweekly.com/2022/02/22/alias-equipped-black-hawk-helicopter-completes-first-uninhabited-flight/?utm_source=rss&utm_medium=rss&utm_campaign=alias-equipped-black-hawk-helicopter-completes-first-uninhabited-flight&utm_term=2022-02-23

How agricultural drones are helping Ukraine prepare for the upcoming farming season Ishveena Singh - Feb. 23rd 2022

Ukraine is looking at agricultural drone technology to ensure it continues to be a major player in the global grains market despite escalating geopolitical tensions.

Robotic Agrosystems, one of the largest drone service providers in Ukraine, recently ordered 100 agricultural drones from XAG. The company expects to help cultivate more than 500,000 hectares of crops with drone sprayers in the 2022 farming season.

As the "breadbasket of Europe" and a major exporter of grains and oilseeds, Ukraine's interest in agricultural drones is not surprising. Drones with autonomous operations not only relieve human labor, but their precision application feature also helps to cut down the use of pesticides. This is why, in 2021 also, many farms used drones for a variety of purposes,

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including weeding, fertilization, pest and disease control, and desiccation. To date, aerial technology has served a diversity of major crops, such as wheat, barley, corn, rapeseed, and sunflower, that are the cornerstone of the country's agricultural export. https://dronedj.com/2022/02/23/xag-agricultural-drones-ukraine/

Australia to spend millions on drones for Antarctica research and surveillance

Bruce Crumley - Feb. 23rd 2022

Australia has announced it will be spending millions on drones and automated robotic vehicles for exploration and research on Antarctica, as well as to provide surveillance of what observers say is increased Chinese activity around the continent.

Australia, which lays claim to about 42% of Antarctica, is concerned by what some observers say has been China's increasingly assertive activity around the continent – something it will monitor with new drone and helicopter deployments. Prime Minister Scoot Morrison said Tuesday the government had cleared $584 million in spending on those aerial craft, as well as robotic vehicles that will be used to keep an eye on Chinese vehicles and personnel in the area.

"The money we are investing in drone fleets, helicopters, and other vehicles will enable us to explore areas of East Antarctica's inland that no country has ever been able to reach before," Morrison said in a statement. Nearly $43.6 million of the total will be spent on UAV fleets and other autonomous vehicles that will be able to reach and map otherwise inaccessible or environmentally fragile areas of East Antarctica. https://dronedj.com/2022/02/23/australia-to-spend-millions-on-drones-for-antarctica-research-and-surveillance/

Drone Delivery of Lab Specimens: Spright and Interpath with Yellowhawk Tribal Health

Miriam McNabb February 23, 2022 Staff Writer Ian M. Crosby

Today, Air Methods drone division Spright and Interpath Laboratory have announced a partnership for the launch of a first-of-its-kind drone delivery network capable of transferring lab specimens. The partnership conducted its first proof-of-concept test flight last week with the Yellowhawk Tribal Health Center to Interpath's main medical laboratory location in Pendleton, Oregon.

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Working with the Pendleton UAS Test Site team, the project will deploy a Wingcopter 198 drone utilizing beyond line of sight technology to carry out the 15-mile flight from Yellowhawk to Pendleton.

Currently, the process in place for laboratory services involves taking patient samples throughout the day before sending them out in batches in the evening for delivery to Interpath. The new drone-delivery initiative will replace the current process with a green solution that allows samples to be picked up and delivered throughout the day rather than overnight, while also removing gasoline-powered vehicles from roads and lessening local traffic. https://dronelife.com/2022/02/23/drone-delivery-of-lab-specimens-spright-and-interpath-partner/

New video documents creation of the Green Goblin SkySurfer hoverboard Bruce Crumley - Feb. 24th 2022

Movie fans have been wowed by images of the Green Goblin cruising the skies on a drone-esque hoverboard. But engineer, inventor, and fearless flight enthusiast Hunter Kowald has made that ability a reality with his SkySurfer craft.

Kowald first gained serious attention when passerby footage of his early morning aerial shushing above Times Square went viral last June. The previous month he turned heads around Los Angeles when he swooped onto the roof of a neighborhood McDonalds to make the kind of order delivery usually left to uncrewed drones. Those and other jaw-dropping demonstrations of the self-built SkySurfer led Insta360 to document Kowald's journey from youthful aerial experimenter to the creator and marketer of what he calls "the world's most compact, powerful, and efficient ultralight aircraft."

The video recounts Kowald's trajectory from precocious aerial inventor up to his recent flight of the SkySurfer above the dunes of a desert, using an Insta360 invisible selfie stick to create third-person perspective shots. The film tells the story of Kowald's determination to develop the craft and his ability to bounce back from what at times had to be crushing test flight failures. See the video: https://dronedj.com/2022/02/24/new-insta360-video-documents-hunter-kowalds-creation-of-the-green-goblin-esque-skysurfer-hoverboard/

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France to spend $14 million against drones transporting contraband into prisons

Bruce Crumley - Feb. 24th 2022

The incidence of drones being used to transport contraband – including drugs, tobacco, mobile phones, electronics, and even weapons – to prison inmates has not only increased dramatically, but spread to virtually all countries where consumer UAVs are accessible. France has been no exception to that, with jails across the country reporting rising numbers of intercepted flights, as well as successful drops authorities only discover when banned payloads are found circulating among detainees.

To help battle that, French correctional officials have initiated a bidding process for over $14.7 million in anti-drone tech.

According to a public notice posted online, France's Direction of Penitentiary Administration has called for private sector proposals for systems capable of blocking remote navigation tech abord drones transporting contraband, or otherwise violating banned airspace around prisons. Bids are to propose "complete jamming systems of illicit communications (GSM, WIFI)," as part of "a detection, identification, and neutralization solution of drones" at jails around the country. https://dronedj.com/2022/02/24/france-to-spend-14-million-against-drones-transporting-contraband-into-prisons/

25Feb22

Skydio 3D Tower Capture: Optimized for Vertical Structures Miriam McNabb February 24, 2022 by DRONELIFE Staff Writer Ian M. Crosby

Skydio 3D Scan utilizes advanced AI to autonomously fly a Skydio drone in and around a structure to capture a complete photoset of every surface necessary to generate highly detailed digital twins, quicker and with greater precision than even the most experienced pilot..

The original 3D Capture mode gives users the ability to efficiently scan complex structures by setting a floor, a ceiling and at least three pillars to define a scan volume. Rather than flying the drone to set multiple pillars, 3D Tower Capture allows the user to define the scan volume as a

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cylinder through four simple parameters, setting a floor, a ceiling, a center, and a radius. This streamlined process saves battery life and makes the scan setup much simpler and faster.

3D Tower Capture optimizes by defaulting its flight path to start at the top or bottom of the tower and fly a spiral path around the Z axis, reducing the number of images that are captured and in turn significantly reducing the total time spent scanning. Starting the scan from the top of the tower also improves the efficiency of larger multi-battery scans, as the drone has a shorter distance to fly when repositioning itself following the battery swap. https://dronelife.com/2022/02/24/skydio-3d-tower-capture-optimized-for-vertical-structures/

China's Civil Aviation Authority Releases Certification Guidance on EHang EH216

Mark Phelps February 23, 2022

EHang, China's self-described "autonomous aerial vehicle (AAV) technology platform company," announced today that the Civil Aviation Administration of China has formally adopted Special Conditions for Type Certification for the company's EH216-S AAV. EHang stock surged 12.17 percent as of midmorning.

The special conditions provide compliance and safety guidance for the company on flight performance, structures, design and construction, propulsion systems, systems and equipment, data link, and ground-station control, according to a company statement.

The two-seat EH216-S is powered by eight electric motors driving vertical rotors. It is designed for the tourism and autonomous air taxi market. In January, EHang announced that AirX, a Japan-based air mobility digital platform company, placed a pre-order for 50 EH216-S aircraft. EHang said at the time, "The pre-order of the EH216 AAVs are planned to facilitate various Urban Air Mobility projects in Japan and may provide 'air taxi' services for the 2025 World Expo in Osaka, Kansai, Japan." https://www.avweb.com/aviation-news/chinas-civil-aviation-authority-releases-certification-guidance-on-ehang-eh216/?MailingID=841&utm_source=ActiveCampaign&utm_medium=email&utm_content=FAA+Launches+Initiative+To+Eliminate+General+Aviation+Lead+Emissions%2C+Ukrainian+Airspace+Closed+After+Russian+Attack&utm_campaign=FAA+Launches+Initiative+To+Eliminate+General+Aviation+Lead+Emissions%2C+Ukrainian+Airspace+Closed+After+Russian+Attack+-+Friday%2C+February+25%2C+2022

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