UAS and SmallSat Weekly News

Contents

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30Jan21

Drone footage captures devastation after Alabama tornado 2021-01-28 UAV Expert News

A drone captured the significant damage left in the wake of a tornado that tore through central Alabama, killing one person and injuring at least 20 others.

The footage showed damaged roofs, collapsed walls and house frames in Fultondale, a northern suburb of Birmingham. Multiple piles of debris were seen scattered on the streets and covering destroyed homes. Other videos showed flipped vehicles, downed power lines and trees ripped from the ground.

The tornado ripped through Fultondale Monday night before moving toward nearby Center Point.

Emergency management officials urged people to take shelter during the storm, submit damage reports and stay away from Fultondale and Center Point.
https://www.uavexpertnews.com/2021/01/drone-footage-captures-devastation-after-alabama-tornado/?utm_source=Master&utm_campaign=dbaa99a8cc-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-dbaa99a8cc-89168672

Horizon presents its long-range Cavorite X5 hybrid eVTOL Loz Blain January 25, 2021

Canada's Horizon Aircraft has popped up out of stealth mode with an interesting 5-seat hybrid eVTOL design using a wicked-cool split-wing mechanism to transition between VTOL and horizontal flight, and a totally unique path to market.

Cavorite is a word invented by H.G. Wells in his 1901 book *The First Men in the Moon*. In the book, it's a metal alloy, created by a Mr. Cavor, which is able to cancel out the effects of gravity on anything it covers.

The X5 is a five-seat canard-style plane with a large pusher prop at the back. Its large, forward swept main wing and smaller, swept-back front canard wing offer a high degree of lift for taking

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off and landing on short strips. Where VTOL is required, these wings split apart in the middle to reveal arrays of ducted fans, six along each rear wing and two in each front wing, turning the X5 into a 16-rotor, self-balancing multicopter.

Once in forward flight, the wings close over, restoring the aerodynamically-efficient shape of a standard wing. Horizon claims that with an LS V8 engine on board and a relatively modest battery system, the Cavorite X5 will offer fully-loaded ranges up to 310 miles with 215 mph cruise capability and the ability to fill up and fly home on pump gas. Unladen with cargo or passengers, it'll fly more than 625 miles. https://newatlas.com/aircraft/horizon-aircraft-cavorite-v5-interview-evtol/

The people of Singapore aren't sure about residential drones Josh Spires Jan. 29th 2021

A recent study by the Nanyang Technological University in Singapore has found that the public isn't as keen to see residential drones flying overhead as those flying above industrial zones. The study also found that drones being used in recreational areas are widely accepted.

The acceptance of drones on the commercial, government, and safety side of things is a lot different. Of the 1,050 Singaporeans and permanent residents aged 21 to 80, 92% are happy to see drones being used for search and rescue missions. Sixty-two percent of the study group also shared that they are happy for drones to transport people in the future.

The study also identified the top four worries the general population has surrounding drones and their use. The top one is drones being misused by unauthorized parties. The second is not telling where drones are flying, the third is the potential threat to physical safety, and the last is an invasion of privacy.

The public isn't sure about the benefits of drone technology when used for security reasons. However, they understand the benefits the technology brings to consumers, the economy and improving workplace safety. https://dronedj.com/2021/01/29/the-people-of-singapore-arent-sure-about-residential-drones/#more-48260

31Jan21

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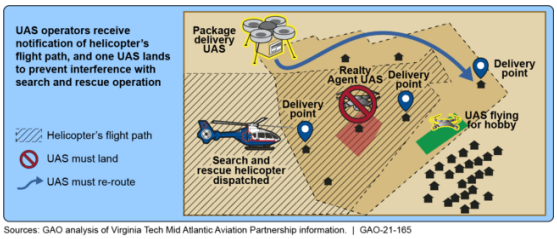
FAA Could Strengthen Its Drone Traffic Management System by Improving Communication Press 30 January 2021



The Federal Aviation Administration (is working with industry and public stakeholders to develop a traffic management system for unmanned aircraft systems. The UAS traffic management ecosystem (UTM) involves developing a framework of interconnected systems for managing multiple UAS operations. Under UTM, FAA would first establish rules for operating UAS, and UAS-industry service providers and operators would then coordinate the execution of flights.

Operators would likely be able to access UTM through smart phone applications to map routes for UAS flights and check for flight restrictions. FAA began collaborating in 2015 with NASA to establish and implement a framework to research, develop and test increasingly complex UTM concepts and capabilities with industry stakeholders. For example, in one scenario tested in Virginia, UAS operators using UTM were alerted to a rescue helicopter, allowing the operators to avoid the area.

To further develop and implement UTM, FAA conducted tests through its UTM pilot program, completed in November 2020 and is working on a UTM implementation plan.
https://www.suasnews.com/2021/01/faa-could-strengthen-its-implementation-of-a-drone-traffic-management-system-by-improving-communication-and-measuring-performance/

UAS supplier Wingcopter raises $22m, announces serial production HEADLINE NEWS JOE PESKETT JANUARY 27, 2021

Wingcopter, the German developer, manufacturer and operator of unmanned delivery drones for commercial and humanitarian applications, has secured $22 million in Series A funding.

Wingcopter will use the funds to strengthen its leadership in drone-based logistics, with a special focus on healthcare-related applications, including the distribution of COVID-19 vaccines. At the same time, Wingcopter is well-positioned to establish more partnerships worldwide centering around other automated delivery applications.

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The financing round was led by Silicon Valley-based Xplorer Capital, a key investor in autonomous technologies, and Futury Regio Growth Fund, a Germany-based growth capital fund. In addition, Futury Ventures and Hessen Kapital III participated in this financing round.

In addition to selling drones, Wingcopter will rapidly expand its drone-delivery-as-a-service offerings. These services give customers the opportunity to instantly benefit from Wingcopter's technology and its BVLOS flight operations track record on five continents without having to own and maintain a fleet of drones, hire and train pilots, or run operations themselves.

A portion of the new capital is allocated to setting up a partially automated serial production at Wingcopter's new headquarters in Weiterstadt, Germany, already home to 100 employees. The 77,500 square feet site allows for a swift ramp up to mass production.

Wingcopter plans to further grow the team in the fields of flight testing, certification, production (including a new U.S. facility) and software development, specifically focused on ground and flight control software, embedded systems, software architecture and cloud infrastructure. https://www.commercialdroneprofessional.com/uas-supplier-wingcopter-raises-22m-announces-serial-production/

Thales and H3 Dynamics trial new autonomous drone monitoring system

HEADLINE NEWS JOE PESKETT JANUARY 31, 2021

H3 Dynamics and Thales have jointly trialed a real-time autonomous drone flight monitoring system in an urban environment in Singapore.

The trial, which took place last month but has only just been announced, combined H3 Dynamics' DBX autonomous drone charging box and a drone electronically registered and identified using Thales' Remote Identification tracker under the management and monitoring of the Thales UAS Airspace Management solution.

The trial demonstration that took place in front of key stakeholders was showcasing various "real-life" and "stress-test" flight scenarios, including several geofencing and mission deviations. The drone equipped with a Thales Remote ID tracker was monitored in real-time using Thales UAS Airspace Management solution, enabling Beyond Visual Line of Sight autonomous drones operations.

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Compliant with ASTM international & ASD-STAN European standards, the tracker weighs less than 70 grams. It features both the Network remote ID function through LTE and the Direct Remote ID function through Wi-Fi / Bluetooth. It acts as a beacon allowing authorities to register, identify, monitor and track the drones in operation in real time. All communications are end-to-end cyber-secured. https://www.commercialdroneprofessional.com/thales-and-h3-dynamics-trial-new-autonomous-drone-monitoring-system/

Plymouth Rock Technologies Supplies UAV for United Nations Mission in Somalia January 29, 2021 News

The program is for a reseeding mission. The United Nations Environment Program estimated 8.2 million trees were cut down for charcoal in Somalia between 2011 and 2017, increasing land degradation, food insecurity and vulnerability to flooding and drought. Illegal trade in charcoal is recognized as a key contributor to insecurity in Somalia, providing a major source of funding for militias, terrorist groups, and other actors linked to conflict, who illegally tax exports.

The platform supplied for this application is a highly modified hexacopter drone that has the sensory and beyond visual line of sight capability of the PRT X1.

"Operating in a war zone, flying BVLOS at night while carrying a heavy payload, and delivering it with exact precision is not a simple undertaking," stated Carl Cagliarini, Co-Founder and Chief Strategy Officer of PRT. "Not to mention in all weather conditions and on a 20 nautical mile round trip! The technologies within this UAV platform are similar to those on military assets. The task of stripping away every ounce of weight to add the means for stealth flight and mission tools was critical." https://uasweekly.com/2021/01/29/plymouth-rock-technologies-supplies-uav-for-united-nations-assistance-mission-in-somalia/?utm_source=rss&utm_medium=rss&utm_campaign=plymouth-rock-technologies-supplies-uav-for-united-nations-assistance-mission-in-somalia&utm_term=2021-01-29

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1Feb21

Drones at Dawn: The New InterDrone Podcast You Won't Want to Miss! Miriam McNabb January 28, 2021

Drones at Dawn is a can't miss new podcast, sponsored by Interdrone – and I'm thrilled to be with Dawn Zoldi, CEO of P3 Tech Consulting and show host, as the first guest when the show launches next **Monday, February 1, 2021, 10 am ET** (click here to tune in).

Drones at Dawn is a podcast focused on "Amplifying the Voices Who are Making a Difference in the UAS/AAM Industry," says InterDrone. It's an opportunity to keep up on the latest industry developments while getting practical information you can use to grow your business.

Mike Pehel, Marketing Director and InterDrone Chairman explains, "The idea is to grab your coffee and kick off your week each Monday morning, 10 am ET, with a 30-minute live discussion on emerging unmanned aircraft systems, advanced air mobility platforms, use cases and issues with Dawn and her all-star guests. The line-up includes industry experts who will help you elevate your understanding of the latest developments impacting the industry and provide you with practical tips, lessons learned and best practices to elevate your business."
https://dronelife.com/2021/01/28/drones-at-dawn-the-new-interdrone-podcast-you-wont-want-to-miss/

Maine Company Successfully Launches Prototype Rocket PATRICK WHITTLE Jan. 31, 2021 Associated Press

BRUNSWICK, Maine (AP) — A Maine company that's developing a rocket to propel small satellites into space passed its first major test on Sunday.

Brunswick-based bluShift Aerospace launched a 20-foot prototype rocket, hitting an altitude of a little more than 4,000 feet in a first run designed to test the rocket's propulsion and control systems. It carried a science project by Falmouth High School students that will measure flight metrics such as barometric pressure, a special alloy that's being tested by a New Hampshire company — and a Dutch dessert called stroopwafel, in an homage to its Amsterdam-based parent company.

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The company, which launched from the northern Maine town of Limestone, the site of former Loring Air Force Base, is one of dozens racing to find affordable ways to launch so-called nano satellites. Some of them, called Cube-Sats, can be as small as 10 centimeters by 10 centimeters.

Sascha Deri, chief executive officer of bluShift, said the company is banking on becoming a quicker, more efficient way of transporting satellites to space.
https://hosted.ap.org/article/062c942d4b4799097b6ca57c82ec54e9/maine-company-successfully-launches-prototype-rocket

UK defence laboratory demonstrates swarm of collaborative drones January 29, 2021 Jenny Beechener Civil/military integration, UAS traffic management news

A swarm of 20 drones has recently completed the largest collaborative, military focused evaluation of swarming uncrewed aerial vehicles in the UK, according to the Department of Defence. The exercise was the culmination of the Defence Science and Technology Laboratory's 'Many Drones Make Light Work' competition.

Following 2 earlier phases, the £2.5 million contract for Phase 3 was awarded in January 2019 to an industry team led by Blue Bear Systems Research including Plextek DTS, IQHQ, Airbus and Durham University.

The swarm consisted of 5 different types and sizes of fixed wing drones, with different operational capabilities, together with 6 different payload types, flying representative tasks at RAF Spadeadam in Cumbria. Three operators in Blue Bear's Mobile Command and Control System managed the entire swarm whilst simultaneously handling different, collaborative payload analysis tasks.

The UAVs flew simultaneous Beyond-Visual-Line-Of-Sight cooperative tasks, with Blue Bear collaborative autonomy ensuring they all contributed to overall mission goals. Throughout the two weeks of trials, more than 220 sorties were undertaken.
https://www.unmannedairspace.info/latest-news-and-information/concept-evaluation-by-uk-defence-laboratory-demonstrates-swarm-of-collaborative-drones/

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PwC study points to lower cost, safer journeys using drones and electric aircraft

February 1, 2021 Jenny Beechener UAS traffic management news

A new report from the UK Research and Innovation and PwC assesses potential benefits to the UK economy from the use of drones and electric aircraft. Analysis in the *Future Flight Challenge Socio-economic study* found that switching to these new technologies could be up to 48% cheaper, deliver faster journey times and improve worker safety when compared to current methods.

To support the widespread and safe use of new aviation technologies, UKRI's Future Flight Challenge wanted to understand the potential costs and benefits of applications and assessed six use cases:

- inspect a 220km powerline in Scotland
- deliver mail from Inverness to Kirkwall in Scotland by cargo drone
- deliver medicine from a pharmacy direct to patient homes
- use a battery powered sub-regional air taxi instead of the train
- use a battery powered air mobility vehicle to travel 25km in a rural area
- use a battery powered air mobility vehicle service to travel 10km in a major city.

The study found that using drones to inspect powerlines, deliver mail and medicines could be up to 35% cheaper than the current way and people travelling from York to Preston could significantly benefit from having access to an electric aircraft.

Cheaper fares and travel times were potentially halved when compared to completing the journey by train.

The Future Flight Challenge is funded by GBP125 million from the Industrial Strategy Challenge Fund. It aims to revolutionize the way people, goods and services fly.
https://www.unmannedairspace.info/latest-news-and-information/pwc-study-points-to-lower-cost-safer-journeys-using-drones-and-electric-aircraft/

Ferrovial and Lilium announce plans to develop US Vertiport Network January 28, 2021 Jenny Beechener

Urban air mobility Infrastructure operator Ferrovial has signed a framework agreement with Lilium, the aviation company developing an all-electric, vertical take-off and landing aircraft, to

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develop a network of at least ten vertiports in Florida. The zero-carbon infrastructure and services will cover locations in all major cities across the state.

They will collaborate in designing and constructing the facilities as well as the operation and maintenance for passenger service. The partners seek to provide an efficient and environmentally friendly alternative transport network connecting locations across Florida. They believe Vertiports are a key component in realizing the potential of innovations in eVTOL aviation, providing infrastructure for landing, recharging, and taking off with passengers.

The Lilium Jet will connect regions in new, sustainable and more convenient ways. Electric engines allow the Lilium Jet to operate in densely populated urban areas and cover longer distances at high-speed with zero operating emissions. By saving time and enhancing connectivity, the service will drive economic growth for cities and increase access to industry, culture and nature. https://www.unmannedairspace.info/latest-news-and-information/ferrovial-and-lilium-announce-plans-to-develop-us-vertiport-network/

Cobb program pairs girls with drones 2021-02-01 UAV Expert News

Riley Wilhoite is on an unusual mission for a 10-year-old. She's examining roofs around her neighborhood, looking for cracks, storm damage or holes. But the goal for the Tritt Elementary student isn't about spotting construction defects; it's learning how to manipulate a drone.

Wilhoite is on assignment from Fly Girls, a group launched two years ago in Cobb County schools to help girls in grades four through eight explore the world of aerospace through drones. With initial funding from Lockheed Martin, students received training on Parrott Mambo mini drones and joined like-minded peers across the county in "missions" designed to master drones' practical uses.

One of Fly Girls' first events in spring 2019 was held at Kennesaw Mountain High on the same day a state drone competition hosted about 100 young women from around Atlanta. Fly Girls interacted with peers from other school districts, attended a drone boot camp and watched a high school competition. Members of Cobb police and fire departments demonstrated how drones are used in different industries. https://www.uavexpertnews.com/2021/02/cobb-program-pairs-girls-with-drones/?utm_source=Master&utm_campaign=97e59ccd2b-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-97e59ccd2b-89168288

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eBee Geo: senseFly's Newest Fixed-Wing Mapping Drone Miriam McNabb February 01, 2021

senseFly has announced a new product in their line of professional mapping drones: the eBee Geo. eBee drones are well-known for their unique, incredibly lightweight construction. Their exceptional safety design, combined with flight endurance and sophisticated payload, have made the eBee a leading choice for long range mapping projects around the world.

A lower-priced, easy-to-use option, "eBee Geo represents the first extension into a new eBee X series of fixed-wing drones and is positioned as a cost-effective option for surveyors and GIS professionals who may be unfamiliar with fixed-wing drone mapping and data collection."

It offers an Endurance Extension option which can enable 90-minute flight time and single-flight coverage of up to 1,236 Acres at 400 ft. including on-demand RTK/PPK for accuracy of 0.6 in without ground control points. https://dronelife.com/2021/02/01/ebee-geo-senseflys-newest-fixed-wing-mapping-drone/

Aerospace & Defense Equity Firm Acquires UAV Factory 28 Jan 2021 Mike Ball

UAV Factory has been acquired by AE Industrial Partners (AEI), a private equity firm specializing in aerospace, defence and government services. UAV Factory will be a new standalone unmanned technology platform for AEI, who are seeking to invest significantly in the rapidly growing unmanned systems market.

UAV Factory is a recognized designer and manufacturer of tactical UAVs and has delivered more than 300 aircraft to defense, intelligence and commercial customers in over 55 countries. The company has a unique vertical integration strategy, producing airframes, engines, stabilized EO/IR ISR payloads and related components in-house.

UAV Factory's Penguin C series UAS, featuring 20 hours of flight time and proprietary Octopus ISR gyro-stabilized sensors, are widely used by customers around the world for a variety of critical ISR missions. UAV Factory is based in Riga, Latvia, with a second location in Bend, Oregon. https://www.unmannedsystemstechnology.com/2021/01/uav-factory-acquired-by-aerospace-defense-equity-firm/?utm_source=UST+eBrief&utm_campaign=cdec632ca6-eBrief_2021_2Feb&utm_medium=email&utm_term=0_6fc3c01e8d-cdec632ca6-119747501

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Hillwood and Bell demonstrate point-to-point autonomous package delivery

February 2, 2021 News

Hillwood and Bell Textron Inc., a Textron Inc. company, demonstrated a point-to-point unmanned aircraft system package delivery in North Texas at the AllianceTexas Mobility Innovation Zone. The Bell Autonomous Pod Transport flew across the Mobility Innovation Zone, and delivered a package to a landing area, demonstrating its future commercial capabilities.

Unlike anywhere else in the nation, the MIZ provides the scale, infrastructure and backdrop for the commercialization of budding technologies in air mobility. Launching from the MIZ Flight Test Center, flying in complex airspace and landing in Pecan Square, Hillwood Communities' master-planned community in Northlake, Texas, the APT, which is designed to be capable of various missions from package delivery to critical medical transport and disaster relief, flew a preprogrammed four-mile route through the MIZ.

Taking off on its voyage, the APT initiated a vertical takeoff, and then rotated to fly on its wing, becoming nearly silent to the ground below. The APT reached a maximum altitude of 300 feet.

The APT is the electric vertical takeoff and landing family of vehicles Bell is developing and can reach speeds of more than 100 miles per hour and has a baseline payload capability of 70 pounds, recently demonstrating carrying payloads over 100 pounds. It is capable of twice the speed and range of a conventional multirotor, and the vehicle is designed for rapid deployment, quick reconfiguration, and nimble battery swap and recharge.
https://uasweekly.com/2021/02/02/hillwood-and-bell-demonstrate-point-to-point-autonomous-package-delivery/?utm_source=rss&utm_medium=rss&utm_campaign=hillwood-and-bell-demonstrate-point-to-point-autonomous-package-delivery&utm_term=2021-02-02

Drones show the full extent of the US Highway 1 washout Josh Spires Feb. 1, 2021

After receiving severe weather in California, a section of Highway 1 has been completely washed out. Drones were quickly on the scene, capturing the full extent of the damage caused by the landslide.

Luckily, the washout area had already been closed as a precautionary measure ahead of the severe weather and rainfall the state was set to receive.

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Taking a look at the footage, we can see that a highway section has literally just disappeared. You can see a large pile of tree trunks presumably downed in the landslide not too far above the road. Take a look at the video for yourself: https://dronedj.com/2021/02/01/drones-show-the-full-extent-of-the-us-highway-1-washout/#more-48396

2Feb21

Missing juvenile found in 13 minutes thanks to a thermally equipped drone Josh Spires Feb. 1, 2021

A thermally equipped drone has proved its worth in a recent search for a missing juvenile in Rutherford County, Tennessee.

A juvenile was reported missing near Wade Herrod Road, resulting in the Stormpoint Drone Team and Rutherford County Fire Rescue launching drones into the area. The drones are equipped with FLIR's thermal cameras and locate the juvenile using their heat signature.

It only took 13 minutes to find the missing person, all because of the drones. This figure is often hard to hit when searching for a missing person on the ground. The added situational awareness and search capabilities a drone adds to a team like this is truly impressive and shows why agencies are adopting drones in the country and the world.
https://dronedj.com/2021/02/01/missing-juvenile-found-in-13-minutes-thanks-to-a-thermally-equipped-drone/

Flylogix in project using unmanned vehicles to detect oil spills from the air

by Allister Thomas 02/02/2021

Flylogix has partnered on a two-year project to use unmanned aircraft to detect and monitor oil spills from the sky. The UK-based unmanned aerial vehicle specialist has announced a partnership with Oil Spill Response Limited (OSRL), an international cooperative owned by the industry to improve preparedness, response and intervention to any incidents.

OSRL was on the ground assisting clean-up efforts on the Deepwater Horizon incident in the Gulf of Mexico nearly 11 years ago. Through this new partnership, FlyLogix and OSRL will work to develop "enhanced response techniques" to oil spills using unmanned aerial systems.

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The new scheme will work with the sector, as well as search and rescue operators, to develop interoperability between manned and unmanned assets in responding to an oil spill. Flylogix said its long-range systems could carry out "prolonged monitoring missions and early confirmation of spills", reducing the costly burden on manned vehicles.

Flylogix has previously carried out inspection work for BP off Shetland using an unmanned drone. Its "Skyspace" tool provides operational data in real time.
https://www.energyvoice.com/oilandgas/295837/flylogix-oil-spills-response/

IAEA develops drone technology for radiation monitoring 02 February 2021

An International Atomic Energy Agency-developed instrumentation and methodology for unmanned aerial vehicles equipped with radiation detectors, cameras and GPS devices has been tested and validated under real conditions in Fukushima Prefecture in Japan. Based on this experience, the agency said it is ready to assist interested IAEA Member States to develop and implement this technology for radiological mapping following a nuclear or radiological emergency.

The IAEA has provided a complete UAV-based instrumentation system for radiation measurements as well as post-measurement analysis and interpretation methodology. It has also provided training of personnel, both at Fukushima Prefecture and at its Nuclear Science and Instrumentation Laboratory in Seibersdorf, Austria, on how to apply the UAV and its instrumentation system, as well as how to use the software for obtaining and interpreting data.

The data collected can be used to assess potential radiation risks and help establish appropriate remediation, decontamination and nuclear waste management plans and strategies.
https://www.world-nuclear-news.org/Articles/IAEA-develops-drone-technology-for-radiation-monit

Cargo Delivery Partner Joins NASA's Advanced Air Mobility Project January 31, 2021 News

NASA's Advanced Air Mobility (AAM) National Campaign is working alongside the Federal Aviation Administration to integrate innovative operational use cases for Urban Air Mobility

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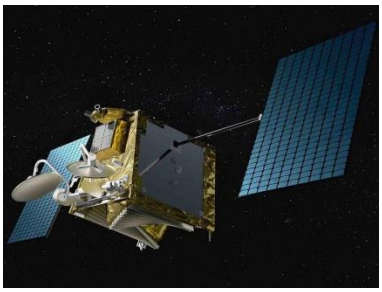
vehicles into the national airspace system, including air taxis and cargo delivery vehicles. The project will test industry provided vehicles to see how the designs could safely interact with other air traffic in the future. Elroy Air joins vehicle partners Wisk and Alaka'i Technologies, who signed information exchange agreements with NASA last year. These agreements allow for open exchange of information to accelerate AAM operations through the National Campaign project. This partnership will help inform development of landing zones and ground operations, in addition to aircraft storage, maintenance, infrastructure and procedures.

These companies join current industry partners to prepare for the first National Campaign series, called NC-1, beginning in 2022 with intent to assess safety scenarios focused on automation and vehicle designs. These partners will focus on demonstrating integrated operations through flight activities with vehicles and third-party airspace service providers at various locations around the country.

Elroy Air adds a hybrid electric vertical take-off and landing cargo delivery vehicle called "Chaparral" to the testing series. The company envisions the vehicle delivering heavy cargo in the 250-to-500-pound range across 300 miles as a commercial or medical supply transport. https://uasweekly.com/2021/01/31/cargo-delivery-partner-joins-nasas-advanced-air-mobility-project/?utm_source=rss&utm_medium=rss&utm_campaign=cargo-delivery-partner-joins-nasas-advanced-air-mobility-project&utm_term=2021-02-01

3Feb21

BT in Talks to Use OneWeb Satellites for Rural Internet Push Thomas Seal February 2, 2021



BT Group Plc and government-backed satellite startup OneWeb are discussing ways of collaborating to connect the remotest parts of Britain to broadband.

The companies are in the early stages of studying how broadband beamed from satellite constellations like OneWeb's might be used to reach homes that are too expensive to connect using terrestrial cable or wireless networks.

"We're looking at being able to support telecom companies around the world," said a OneWeb spokesman, who confirmed the early-stage talks with BT. London-based OneWeb, a rival to

Elon Musk's Starlink satellite network, has launched 110 out of a planned 648 fridge-sized satellites into low-earth orbit. The company said recently it could start connecting U.K. customers and others in northern regions by the end of this year.

Prime Minister Boris Johnson has pledged extra subsidies to bring gigabit-per-second connection speeds to the whole country. Yet fair and cost-effective solutions have proved elusive, and talks continue between government and industry to overcome the hurdles. https://www.bloomberg.com/news/articles/2021-02-02/bt-in-talks-to-use-oneweb-satellites-for-rural-internet-push

Lilium expands flying taxi vision with 10 stations planned for Florida 2021-02-02 UAV Expert News

eVTOL startup Lilium has signed an agreement to build a network of at least 10 vertiports across the state. This network will connect major cities in the area using its all-electric Lilium Jet. The team behind the five-seat Lilium Jet says it will travel at cruise speeds of up to 185 mph and be capable of traveling 185 mi on each charge.

There is a lot of research, development and testing to play out, but the company is nonetheless intent on moving the pieces into place in time for a proper lift off. Lilium announced last November that it has planned its first vertiport for Orlando, Florida, which will function as a passenger station for folks to hop in and out of its flying taxis.

Today's announcement expands on this, with the company partnering with Spanish infrastructure firm Ferrovial to build out a network of at least 10 vertiports in Florida. These will be built in "strategic locations" in "all major cities," with the first location in South Florida to be announced in the coming US springtime. https://www.uavexpertnews.com/2021/02/lilium-expands-flying-taxi-vision-with-10-stations-planned-for-florida/?utm_source=Master&utm_campaign=59c0b22f29-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-59c0b22f29-89168288

Drones, thermal cameras locate missing Rutherford County juvenile in freezing weather 2021-02-03 UAV Expert News

A missing juvenile in Rutherford County NC was located using drone and thermal camera technology Saturday evening.

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The Stormpoint Drone Team worked with Rutherford County Fire Rescue and found the juvenile in thick woods, according to a press release.

The two agencies responded to the call and launched a drone with FLIR imaging technology. The technology allowed them to detect heat signatures on the ground, which was especially effective during Saturday evening's cold weather.

Using the drone, rescue crews located the juvenile in about 13 minutes, the press release said. The crews then found the juvenile and took them to be evaluated by Rutherford County paramedics. https://www.uavexpertnews.com/2021/02/drones-thermal-cameras-used-to-locate-missing-rutherford-county-juvenile-in-freezing-weather/?utm_source=Master&utm_campaign=59c0b22f29-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-59c0b22f29-89168288

RIT professor developing drone imaging systems to monitor grapevine nutrients

February 2, 2021 News

A Rochester Institute of Technology professor is helping develop drone imaging systems aimed at empowering farmers to better manage the nutrients in their vineyards. Professor Jan van Aardt from the Chester F. Carlson Center for Imaging Science is receiving $357,000 from the United States Department of Agriculture to help grape growers make data-driven nutrient-management decisions.

Van Aardt is part of a large consortium, led by Washington State University, working together to develop the novel approach. Farmers need to analyze the levels of nutrients such as nitrogen, magnesium, potassium and others to optimize fertilization and subsequent yields, but current methods are expensive, time-consuming and require destructive chemical analysis of leaves. The goal is to provide practical sensing tools that can help farmers improve vineyard productivity, berry and wine composition and quality, environmental sustainability and business profitability.

"We can collect hundreds of spectral channels and distill the problem into a handful of channels that are necessary to estimate, say nitrogen levels, and then design an operational solution for a farmer or service provider to assess the nutrients. We'll also look at what the flight

parameters should look like – what time of year we should fly, how frequently, how fast and what the pixel size should be." https://uasweekly.com/2021/02/02/rit-professor-developing-drone-imaging-systems-to-help-farmers-monitor-grapevine-nutrients/?utm_source=rss&utm_medium=rss&utm_campaign=rit-professor-developing-drone-imaging-systems-to-help-farmers-monitor-grapevine-nutrients&utm_term=2021-02-03

Verizon, UPS, and Skyward Announce Connected Drone Delivery at CES 2021

PORTLAND, Ore. – **Skyward, A Verizon company**, and **UPS Flight Forward** today announced collaborative efforts to deliver retail products with drones connected to Verizon 4G LTE, as well as 5G testing and integration for delivery. The companies aim to deliver retail products via connected drones at The Villages in Florida.

In 2020, Verizon, UPS Flight Forward, and Skyward started testing 4G LTE in delivery drones to demonstrate cellular reliability and performance at altitude.

"The low latency of 5G and edge compute is ideal for monitoring traffic in and out of a busy logistics hub, especially those using mixed fleets of autonomous vehicles like drones, trucks, and planes," said Mariah Scott, Skyward President. "This year, we'll be taking the collaboration with UPS further by testing 5G Ultra Wideband integrations to connect the sky."

UPS has operated more than 3,800 successful drone delivery flights since the creation of UPS Flight Forward, its drone delivery company, certified by the Federal Aviation Administration in 2019. But in 2020, drone delivery emerged as much more than rapid delivery of essential healthcare items — during the global pandemic it provided high-risk seniors a rapid and contactless delivery option to remain healthy at home.

"Using Verizon's 5G and Skyward, we'll be able to transform the delivery experience — more personal, more on-demand and with the same safety, efficiency, and reliability our customers trust today," said Bala Ganesh, Vice President, Advanced Technology Group at UPS.
https://skyward.io/verizon-ups-and-skyward-announce-connected-drone-delivery-at-ces-2021/?utm_source=mkto&utm_medium=email&utm_campaign=es_2021_Skyward_newsletter&utm_content=blog_1_11_2021&mkt_tok=eyJpIjoiTkRrMlpEUTBZekJsT0RkbSIsInQiOiJCWk9YMFpsckFvY2NPcnBnTlFkT3R3WjZ4UjFkbWQ4S0pFeSt0RkxHT015THJtbnVjSGFTOHg3Z2J0ZXN5YmhFWmx3RnE1ZE05U2N3M2FEQWpGaTFGWUVDN3VrditweERXUUYrdlJtZWFZbzN5YTlWN3c0b1pDR0VrN1loV2N3KyJ9

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4Feb21

SpaceX launches 60 Starlink satellites on record-setting used rocket, nails landing Amy Thompson 6 hours ago

This Falcon 9 first stage last flew just 27 days ago.

CAPE CANAVERAL, Fla. — SpaceX launched 60 more Starlink internet satellites to orbit this morning (Feb. 4) on a mission that notched a booster-reusability milestone for the company.

A two-stage Falcon 9 rocket topped with the 60 broadband spacecraft lifted off from Space Launch Complex 40 here at Cape Canaveral Space Force Station today at 1:19 a.m. EST.

Approximately nine minutes later, the rocket's first stage returned to Earth, landing smoothly on one of SpaceX's drone ships in the Atlantic Ocean. The massive ship, "Of Course I Still Love You," is one of two SpaceX vessels that catch falling boosters and return them to port.

A SpaceX Falcon 9 rocket launches 60 Starlink internet satellites from Cape Canaveral Space Station in Florida on Feb. 4, 2021. It was the fifth launch for this Falcon 9 first stage, which last flew just 27 days ago — the quickest turnaround between missions for any SpaceX booster. Today's launch was also the first of two nearly back-to-back Starlink liftoffs; another 60 satellites are scheduled to take flight early Friday morning (Feb. 5) on a different Falcon 9.
https://www.space.com/spacex-starlink-18-satellites-launch-rocket-landing

Fly me a pizza (or two) Jennifer A. Kingson Jan 28, 2021 Economy & Business

A fledgling system north of Tel Aviv has three drones making six test runs a day from a Pizza Hut to designated parking lots where drivers pick up the meals and deliver them the "last mile."

Why it matters: All signs point to a future in which systems like this are ubiquitous across America, with food and merchandise shuttled overhead to centralized landing hubs (as opposed to your doorstep or balcony).

The big picture: UPS, Alphabet, FedEx, Amazon, Walmart and other giants are pressing forward with plans for delivery-by-drone, a market that Deloitte predicts will represent $115 billion annually by 2035 (if you include cargo drones and urban taxis).

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Momentum is building in the U.S., as are early-days experiments:

- Verizon and UPS plan to deliver goods by drone to The Villages in Florida.
- The FAA just gave its first approval to a Massachusetts company to fly fully automated drones (with no pilot steering from the ground).
- Companies are gearing up to deliver COVID-19 vaccines by drone.

https://www.axios.com/pizza-drone-delivery-faa-aproval-8d29d6e8-d703-4bd0-8fc3-0def94c6ed13.html

5Feb21

DRONEDEPLOY SERIES E: THIS TECH STARTUP CAN'T STOP RAISING MONEY February 4, 2021 Sally French The Drone Girl News

San Francisco-based drone software startup DroneDeploy announced today that it has raised $50 million in Series E funding, resulting in $142 million of total fundraising to date (and the most for any drone data company). The DroneDeploy Series E money will be used 'to expand the company's products beyond aerial capture, accelerate its expansion into Europe, and explore opportunities for strategic acquisitions.'

Investors Energize Venture Capital and AirTree led the round with participation from Bessemer, Scale, Emergence, Angelpad, Uncork and Frontline Ventures. https://www.thedronegirl.com/2021/02/04/dronedeploy-series-e/

NASA Advanced Air Mobility National Campaign Feb 03, 2021

With this Announcement, NASA is supporting the Advanced Air Mobility (AAM) industry and community in addressing key safety and integration barriers by bringing together AAM vehicle, airspace and infrastructure providers and hosting an AAM National Campaign series.

NASA's Aeronautics Research Mission Directorate is seeking AAM partners that will focus on demonstrating integrated operations in flight and simulation activities to be conducted as part of the first AAM National Campaign (NC-1), which is planned for 2021 and 2022. NASA is currently seeking **AAM vehicle developers** that propose to fly as part of NC-1 flight activities in 2022, **AAM operations infrastructure providers** that propose to test and evaluate their

infrastructure technologies and solutions as part of NC-1, and **AAM airspace entities** that propose to participate in an integrated AAM airspace simulation activity in 2021.

The AAM National Campaign series is designed to promote public confidence in AAM safety; facilitate community-wide learning while capturing the public's imagination; and give prospective vehicle manufacturers and operators, and prospective airspace service providers, insights into the regulatory and operational environment for their systems/services.

Proposals are due March 12, 2021.
https://beta.sam.gov/opp/62ed89f4e4374d22aafc85e1a9661322/view

Scottish mountain biker's harrowing descent captured by FPV drone David MacQuarrie Feb. 4, 2021

Scottish thrill seeker Danny MacAskill released a new hair-raising cycling video. And almost as impressive as his nearly vertical ride down a mountain is the FPV drone photography that documents the mountain biker's descent.

MacAskill takes on the summit of Sgurr Dubh Beag (Little Black Peak) on the Isle of Skye. "The remote location and steep face forced us to think outside the box. It meant we had to move away from traditional filming techniques, with us opting to shoot the entire film using GoPros mounted on myself and an FPV racing drone," says MacAskill.

The 35-year-old cyclist starts off slow with an arduous climb up the 900-meter route. At the top, even MacAskill admits it's pretty scary looking down at the Loch below. The plunge begins at about the 1:00 minute mark. And the FPV captures a really bone-rattling drop at 1:08.

MacAskill didn't do this in one take, but there are some impressively long shots. And while few of us will be able to duplicate MacAskill's mad skills, the FPV sequences are an inspiration to struggling drone pilots.
https://dronedj.com/2021/02/04/scottish-mountain-bikers-harrowing-descent-captured-fpv-drone/#more-48930

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