UAS and SmallSat Weekly News

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

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Delson Aeronautics and its low-noise drone props win $25,000 competition Scott Simmie Apr. 8, 2021

Earlier this year, the Mitsubishi Chemical Advanced Materials KyronMAX® Challenge put out a call for engineers and designers to share designs that put KyronMAX's carbon fiber-based composites to solve a manufacturing or engineering challenge. There were dozens of submissions to the Challenge, and ultimately 14 finalists were selected. Michael Deloyer's pitch – which included recycling the UAV blades – really caught the attention of the judges.

Michael Deloyer, CEO, Delson Aeronautics, says, *With the manufacturing support from MCAM, we will explore their manufacturing methods and materials capabilities. From which we will produce blades in select sizes for testing on various UAV airframes. What this could amount to is an extremely lightweight, low cost, scalable, and sustainable solution to manufacturing the Delson ultra-quiet UAV blades.*

A post about this from Wevolver right here has more details about the capabilities of the Ultra-Quiet UAV Blades: *The patent-pending blade design method results in an average 10 dB sound reduction (50% quieter) relative to conventional UAV propeller blades.* Good luck, Michael. Looks – and sounds – like this product has a future. https://dronedj.com/2021/04/08/delson-aeronautics-and-its-low-noise-drone-props-win-25000-competition/#more-54775

Take a thrilling drone ride over an insane Chinese thrill ride David MacQuarrie Apr. 8, 2021

It's going to be a while before most of us can visit Chongqing. But until that day comes, here's a drone's view of a really insane Chinese thrill ride that dominates the region's Wulong Baima Mountain. The Flying Kiss is about a 2.5-hour drive from downtown Chongqing.

Two giant moving statues slowly move guests above a cliff that overlooks the Wu River. Since the statues are about 170 feet high, and

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the cliff is about 3,300 feet about the river, thrill seekers hover close to a mile above the scenic Wu.

The male statue represents Chaofeng, the son of the king of the sea. The female statue is the Purple Fairy, the daughter of the king of the sky. When they were dating, they made the Queen Mother angry when they struck her carriage accidentally. She changed them into two hills with the Wu River in between them. So the "Flying Kiss" ride expresses the hope that two lovers can finally come together. The operators encourage couples to board separate statues so they can experience the near rendezvous. Although there may be more to think about than blowing kisses when you're a mile high above the River Wu. Amazing!
https://dronedj.com/2021/04/08/insane-chinese-thrill-ride/#more-54767

SkyTask receives FAA waiver for BVLOS flights in Colorado Josh Spires Apr. 8, 2021

Drone company SkyTask has announced it has received an FAA waiver to conduct BVLOS flights at the Colorado State University Drone Center.

SkyTask's system allows drone operators and companies to set up operational boundaries that don't allow the drone to fly beyond them, ensuring a highly secure and safe operation. The system also uses optical detect and avoid technology and real-time cloud-based management to address regulatory barriers.

The Colorado State University Drone Center has been an important part of its history, allowing it to access its top-tier facilities, vertical experience, and engineering resources. It has also allowed SkyTask to simulate real-world applications of the solution. The SkyTask system means the person doing the inspection can be thousands of miles away while controlling the drone, with the knowledge that it can't fly out of the operational area. If anything goes wrong, it will automatically land. https://dronedj.com/2021/04/08/skytask-receives-faa-waiver-for-bvlos-flights-in-colorado/#more-54712

Skydio named Frost & Sullivan's 2021 Company of the Year Josh Spires Apr. 8, 2021

The award recognizes companies that demonstrate excellence in visionary innovation performance as well as customer impact.

Frost & Sullivan uses a rigorous analytical process to evaluate nominees which involves evaluation across two

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.net

dimensions. According to the company, Skydio "excels in many of the commercial drone space criteria," with the focus being on its advanced artificial intelligence and computer vision. Frost & Sullivan also shared its appreciation for how Skydio has been able to redefine autonomous drone capabilities.

Michael S. Blades, vice president, Aerospace, Defense & Security, Frost & Sullivan, shared: *Skydio is the fastest growing small UAS manufacturer in the world and is almost single-handedly re-establishing an industrial base for commercial drones in the United States. This growth is being accelerated by an unrivaled AI-driven autonomy engine that allows Skydio drones to safely and efficiently execute a wide range of missions with minimal inputs or oversight from human operators. Skydio's unique technologies have enabled several companies to use its drones to obtain waivers for conducting BVLOS operations that other platforms are prohibited from executing.* https://dronedj.com/2021/04/08/skydio-named-frost-sullivans-2021-company-of-the-year/#more-54697

Meet the future weapon of mass destruction, the drone swarm Zachary Kallenborn 2021-04-07 UAV Expert News

In October 2016, the United States Strategic Capabilities Office launched 103 Perdix drones out of an F/A-18 Super Hornet. The Strategic Capabilities Office did not actually create the swarm; engineering students at the Massachusetts Institute of Technology did, using an "all-commercial-components design."

If drone swarming technology is accessible enough that students can develop it, global proliferation is virtually inevitable. Creating a drone swarm is fundamentally a programming problem. The drone swarm challenge is getting the individual units to work together. That means developing the communication protocols so they can share information, manage conflicts between the drones, and collectively decide which drones should accomplish which task.

Because battlefields are complex—with soldiers, citizens, and vehicles entering or leaving, a robust military capability still requires serious design, testing, and verification. And advanced swarm capabilities like heterogeneity and flexibility are still quite novel. But getting the drones to collaborate and drop bombs is not. https://www.uavexpertnews.com/2021/04/meet-the-future-weapon-of-mass-destruction-the-drone-swarm/?utm_source=Master&utm_campaign=def1d55db4-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-def1d55db4-89168288

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.net

Is Augmented Reality the Future of BVLOS Flight? The Flyby Guys and Anarky Labs Unveil Drone AR Solution for DJI Miriam McNabb April 09, 2021

Is the new drone Augmented Reality (AR) system for DJI by Anarky Labs a game changer for the drone industry? Check it out and see for yourself.

A picture is worth a thousand words – and the human brain can take in an incredible level of detail visually. This new system could entirely change the way pilots think about visual observers and what flight beyond visual line of sight (BVLOS) really means. Using the Microsoft HoloLens, the system allows the pilot to see all their telemetry data in the sky, rather than having to look down at a screen. According to the Flyby Guys, who collaborated:

All telemetry data is in the sky. Way points and hazard detection are features that are unique to the solution, and height, distance and satellite count are visible at a glance when following the drone in the sky. In addition, the solution shows which direction the drone is facing.

While drone AR is a concept sure to catch the public's eye, it's also a real tool to enhance 3D situational awareness for pilots – increasing safety and enabling advanced operations.
https://dronelife.com/2021/04/09/is-ar-the-future-of-bvlos-flight-the-flyby-guys-and-anarky-labs-unveil-drone-ar-solution-for-dji/

uAvionix ping200X is the World's First FAA TSO Certified Drone Transponder April 8, 2021 News

Today, uAvionix, the leader in communications, navigation, and surveillance solutions for Unmanned Aircraft Systems, announced ping200X, its flagship Model S ADS-B OUT Transponder for UAS, has received Technical Standard Order certification from the FAA. It is the pinnacle of years of evolution and investment in low-Size, Weight, and Power (SWaP) avionics developed by uAvionix – certified for use on civil and defense manned and unmanned aircraft.

Weighing only 50 grams, ping200X delivers 200 watts of transmit power while only drawing an average of 1.5 watts from the aircraft's power supply. Its profile enables longer flight times and larger payloads with minimal energy consumption. When paired with truFYX, uAvionix's SBAS

GPS, ping200X meets the requirements of global controlled airspace, delivering safe separation information to Air Traffic Control, Traffic Collision Avoidance Systems, and Detect and Avoid systems. https://uasweekly.com/2021/04/08/uavionix-ping200x-is-the-worlds-first-faa-tso-certified-drone-transponder/?utm_source=rss&utm_medium=rss&utm_campaign=uavionix-ping200x-is-the-worlds-first-faa-tso-certified-drone-transponder&utm_term=2021-04-09

AT&T shows off its 5G innovation studio, featuring drones Josh Spires Apr. 9, 2021

The innovation studio will allow AT&T to work on new products and improved solutions for use in the future. The company also shared that space will allow business customers to see what 5G can do for them and how it can change the way they work.

A big project is using a drone from EVA, cloud services from Microsoft, all running on AT&T's 5G network. The project is still in the testing phase and looks at how its 5G network can allow pilots to control drones from thousands of miles away.

Once the project and testing are complete, AT&T will use the data to alter future tests and eventually the way drone operations are undertaken. The company has already been able to fly a drone remotely from the innovation center, suggesting the technology already works but needs some improvement and refinements. https://dronedj.com/2021/04/09/att-shows-off-its-5g-innovation-studio-featuring-drones/#more-54815

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DRONERESPONDERS and NUAIR Help Public Safety Agencies Implement Drone Tech Miriam McNabb April 05, 2021

Northeast UAS Airspace Integration Research (NUAIR) has taken a leadership position in helping agencies and companies across the state adopt drone technology. Now, public safety drone organization DRONERESPONDERS and NUAIR have strengthened their partnership to assist agencies in New York state integrate drone technology.

Adequate training on drone operations and regulations must be layered with the specific requirements for police and fire departments. That's where DRONERESPONDERS has stepped in: providing an extensive online drone resource center with training aids, videos, regulation updates, and more to their 3,800 members. NUAIR is also stepping up: helping more than 25

state, county and local agencies implement their drone programs so far. "In these uncertain times, when resources are sparse, NUAIR and DRONERESPONDERS are fortifying their partnership to fast-track state agency drone adoption to ease financial burdens and free-up state resources."

Roanoke County Fire and Rescue testing drone delivery for emergency situations April 8, 2021

ROANOKE COUNTY, Va. – Drones have become just as common as hoses and axes for many of our local fire departments, and now Roanoke County is piloting a program that would take its drones to the next level.

Roanoke County Fire and Rescue's drone program has grown more valuable by the day since launching in 2018. Most recently it flew over the top of the major fire at Pebble Creek Apartments to document damage and using thermal imaging, identify hot spots and places where the fire had spread.

The county is now testing a new way to fly items weighing up to a pound, dropping with a parachute to the ground. "[We're] going to be using that capability to deliver supplies to crews that are out in the field or to victims with supplies that they may need in an emergency," Lieutenant Sean Lacy said.

It could be flying medication or a radio to someone stranded in remote terrain or carrying a rope for technical rescue across a gorge or waterway.
https://www.wsls.com/news/local/2021/04/09/roanoke-county-fire-and-rescue-testing-drone-delivery-for-emergency-situations/

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US Air Force awards Raytheon $15.5 million contract to upgrade laser counter UAS system April 12, 2021 Jenny Beechener Counter-UAS systems and policies

A prototype has been under development since 2019 following the receipt of a $23.8 million contract from the Air Force Research Laboratory to develop two prototypes. Later that year the company secured another $13.1 million for a third prototype.

It uses directed energy to destroy small unmanned aerial systems. The weapon is designed to defeat a drone within three kilometers by keeping its beam focused on the threat for five

consecutive seconds. Operators control the weapon with a game-style controller and a laptop. The Air Force hopes directed-energy weapons can help defend its bases from small drone threats.

Raytheon has delivered three prototypes to the Air Force, with the first deployed overseas for testing in early 2020 and the second deployed later that year.
https://www.unmannedairspace.info/latest-news-and-information/us-air-force-awards-raytheon-usd15-5-million-contract-to-upgrade-high-energy-laser-counter-uas-system/

NASA seeks industry partners to engage with local authority and air mobility stakeholders April 12, 2021 Philip Butterworth-Hayes Urban air mobility

NASA is seeking public, private, and academic organizations to collaborate with NASA in Advanced Air Mobility (AAM) ecosystem working groups. The realization of the AAM vision will be possible only through the input and contributions of multiple stakeholders, each possessing the necessary authority, expertise, and resources to fulfill a critical role in AAM's development, approval, and implementation. The applicable participants will become integral to the working groups, which will provide a forum for those stakeholders to comment, collaborate and impact the overall ecosystem.

The primary purpose of the working groups is to share input, information and opinions that may help accelerate the development of safe, high-volume AAM flight operations in the national airspace system. A broad participation from many organizations will enable NASA, the Federal Aviation Administration, and the AAM community to supplement the existing efforts in the industry, focusing on understanding the viewpoints of a diverse group of stakeholders and the ecosystem as a whole. https://www.unmannedairspace.info/urban-air-mobility/nasa-seeks-industry-partners-to-engage-with-local-authority-and-other-advanced-air-mobility-stakeholders/

HOW TO PROGRAM A DRONE USING PYTHON April 12, 2021 Sally French DIY, Projects

If you're using the sticks of a remote controller to tell your drone where to go, is it really autonomous? And isn't autonomous the real definition of a drone? To control your drone in its true form – that is, enabling it to fly autonomously without your telling it where to go in real-time — then you'll have to pre-program its flight. And while that's easier said than done, it's not actually that hard using Python.

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

DIY drone-making whiz Caleb Berquist is an engineer by day, but he has an awesome side hustle that can help everyone out. He created Drone Dojo, a site that features how-to, online drone classes ranging from free instructional videos, lengthy text guides and full, multi-hour long virtual courses.

And yes, Berquist put out this great, free guide to "How to Control a Drone with Python." Berquist is the expert so click that link and read his guide, but I won't completely leave you hanging. Before you leave for Berquist's excellent guide, here are some basics you'll need to know: https://www.thedronegirl.com/2021/04/12/how-to-program-a-drone-using-python/

AeroVironment Receives Multiple Puma 3 AE Orders Totaling $11 Million from NATO April 11, 2021 Military | News

The orders are part of a three-year base contract received from NSPA in January 2020. The contract includes an option for two additional years of logistics support for Raven®, Wasp® and Puma tactical UAS. The total potential value of the multi-year contract is $80 million, encompassing the procurement and sustainment of AeroVironment UAS employed by the defense forces of several NATO countries.

AeroVironment's Puma 3 AE unmanned aircraft system is designed for land and maritime operations. The hand-launched Puma 3 AE has a wingspan of 9.2 feet, weighs 15 pounds and can operate for up to 2.5 hours. The aircraft also has a range of 12.4 miles with a standard antenna, and up to 37.2 miles with AeroVironment's Long-Range Tracking Antenna. Capable of landing in water or on land, the all-environment sensor suite empowers operators with extended flight time and a level of imaging capability never before available in the tactical UAS class.

AeroVironment's family of tactical UAS comprises the majority of all unmanned aircraft in the U.S. Department of Defense inventory and its rapidly growing international customer base of more than 50 allied governments https://uasweekly.com/2021/04/11/aerovironment-receives-multiple-puma-3-ae-orders-totaling-11-million-from-nato-support-and-procurement-agency/?utm_source=rss&utm_medium=rss&utm_campaign=aerovironment-receives-multiple-puma-3-ae-orders-totaling-11-million-from-nato-support-and-procurement-agency&utm_term=2021-04-12 .

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.net

FIXAR says fixed-wing VTOL has greater range, capacity, than competition Scott Simmie Apr. 12, 2021

The FIXAR 007 (named for its 7-kilogram weight) utilizes a unique design. As opposed to many conventional fixed-wing VTOLs, it does not require the angle of its rotors transition for forward flight. It uses Fixed Angled Rotors, which is how the aircraft (and the company) derives its name. Nor does it require separate motors for vertical and forward flight, meaning it's not carrying any dead weight in either VTOL or forward flight modes.

In addition to the parameters noted above, the Baltic drone manufacturer says it also compared stats like flights per day, average number of trouble-free flights, cost of aircraft ownership per hour, payload capacity, and number of flight hours. As a result, FIXAR claims its product is the most economical and efficient UAV in its class. https://dronedj.com/2021/04/12/fixar-says-fixed-wing-vtol-has-greater-range-capacity-than-competition/#more-55113

Can drones make it rain in the United Arab Emirates? David MacQuarrie Apr. 12, 2021

The United Arab Emirates has hired British researchers to explore ways drones can make it rain.

The UAE typically receives less than four inches of rain per year. And this year's "rainy season" is mostly over. Most of the emirate's water comes from desalinization plants, so it's exploring new technologies to help increase the annual rainfall. Researchers at the University of Reading will test if drones setting off electrical arcs can encourage the skies to open up.

Dr. Keri Nicoll, an associate professor at the University of Reading, told *Arab News*, "Our theory and modeling work has shown that charging these small droplets can increase the likelihood of merging through electrostatic forces. And ultimately help them become raindrops."

Can drones make it rain?

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

"Equipped with a payload of electric charge emission instruments and customized sensors, these drones will fly at low altitudes and deliver an electric charge to air molecules, which should encourage precipitation," says Alya al-Mazroui, director of the UAE's rain enhancement science research program.

Al-Mazroui says it's too early to predict the effectiveness of the study. It's one of nine "rain enhancement" projects given $15 million from the UAE's Ministry of Presidential Affairs. https://dronedj.com/2021/04/12/drones-rain-united-arab-emirates/#more-55015

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Swoop Aero's African Drone Delivery Operations Expand for COVID Vaccine Distribution Miriam McNabb April 12, 2021

Melbourne-based drone delivery logistics company Swoop Aero's African drone delivery operations are expanding in preparation for COVID-19 vaccine distribution.

"In collaboration with NGO partners and governments of The Democratic Republic of Congo, Malawi and now Mozambique, Swoop Aero is implementing drone delivery networks across three countries in Africa and are on track for further growth across the continent," says a press release.

Africa has taken a leading role in demonstrating widescale drone delivery operations. During the COVID pandemic, while travel and training opportunities have been limited, Swoop Aero has moved ahead on implementing Beyond Visual Line of Sight drone delivery networks in Mozambique. Swoop Aero completed pilot flight operations transporting COVID-19 testing samples and TB testing samples in October of 2020. https://dronelife.com/2021/04/12/swoop-aeros-african-drone-delivery-operations-expand-in-preparation-for-covid-vaccine-distribution/

HiDRON stratospheric glider completes first regular test flight HEADLINE NEWS JOE PESKETT APRIL 13, 2021

The HiDRON stratospheric glider, a joint project between UAVOS and Stratodynamics, has successfully carried out its regular test flight.

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

UAVOS' operators launched the stratospheric aircraft from a high-altitude balloon carrying a technology supported by NASA's Flight Opportunities program successfully deploying an experimental payload to 24 km altitude and back.

Extensive testing was performed utilizing UAVOS' autopilot system and payload test services. A launch routine was tested allowing a safe transition from free-fall to stable horizontal flight in thin air after being dropped from the balloon. UAVOS' autopilot system has once again proven its superior long – range performance Beyond Visual Line of Sight capabilities.

The payload was a combination of forward-sensing turbulence detection technologies developed by the University of Kentucky in Lexington and NASA's Langley Research Center in Hampton, Virginia.

The flight test aimed to help researchers assess the performance of a wind probe from the UK along with an infrasonic microphone sensor. Together, the instruments are designed to aid forward-sensing turbulence detection for unmanned aerial vehicles, commercial aircraft, the urban air mobility market, and on-demand drone delivery sector. https://www.commercialdroneprofessional.com/hidron-stratospheric-glider-completes-first-regular-test-flight/

Anavia Develops Advanced Long-Range Unmanned Helicopters 12 Apr 2021 Mike Ball

Anavia, a developer and manufacturer of VTOL UAVs, has partnered with Unmanned Systems Technology to demonstrate their expertise in this field. The HT-100 is a long-range unmanned helicopter constructed using lightweight carbon fiber and an innovative double rotor system. These features combine to deliver a UAV capable of flight times of 240 minutes and the ability to carry up to 65 kilos of payload.

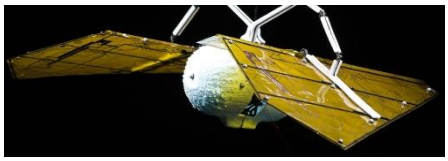
Featuring both remote control and easily programmed autonomous flight, the platform is simple to set up and fly and can be operated from a small footprint under almost any conditions. It features redundant actuators as well as an electric backup motor. It is programmed to enter an autorotation mode when the RPM drops below a certain level, allowing for controlled

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

descent and landing in the event of technical issues.

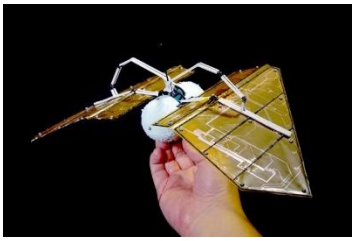
The aircraft also features a collision avoidance transponder and lights, providing enhanced airspace visibility and minimizing the risk of collision with other aircraft. https://www.unmannedsystemstechnology.com/2021/04/anavia-develops-advanced-long-range-unmanned-helicopters/?utm_source=UST+eBrief&utm_campaign=0c9d3a760b-ust-ebrief_2021_apr-13&utm_medium=email&utm_term=0_6fc3c01e8d-0c9d3a760b-111778317

THESE BIO-INSPIRED DRONES ARE READY TO FLY LIKE BATS THROUGH BOSTON'S SEWERS April 13, 2021 Guest Post The Drone Girl Projects



Boston's aging sewers are crumbling – but it's not easy to pinpoint exactly where infrastructure updates are needed. Robots seem ripe to do the job, but rovers are too slow to navigate the enormous, maze-like system. Traditional drones with fast-rotating blades can't fly inside narrow drainpipes because they generate turbulent flows which can cause them to crash.

The Aerobat is a 'bio-inspired' drone. It's also considered a Micro Aerial Vehicle (MAV) because it's just 20 grams (that's lighter than an AA battery), and it was built by the SiliconSynapse Lab, part of the Electrical and Computer Engineering Department of Northeastern University in Boston. MAVs are expected to accelerate inspection timelines and reduce costs. Researchers say one Aerobat could accelerate inspection times by 10-100x.



Aerobat's design is based on bat wings, collapsing and expanding to maximize lift generation and avoiding powerful air jets like rotorcraft do. A bat wing has 40 joints, and the Aerobat makers tried to replicate that. Like bats, a single wingbeat is composed of a downstroke phase, where the drone's wings are extended and swing down, and an upstroke phase, where the wings are collapsed and lifted. Utilizing clever design allows Aerobat to be driven with a few actuators, minimizing overall weight while simultaneously maximizing lift force generated during each flapping cycle. https://www.thedronegirl.com/2021/04/13/aerobat-drones-northeastern-boston/

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UPS Will Purchase BETA Technologies VTOL Aircraft: The Future of Drone Delivery Miriam McNabb April 13, 2021

UPS has announced that they plan to purchase electric Vertical Takeoff and Landing aircraft from BETA Technologies, expanding their air service to small and mid-size markets. "These aircraft will take off and land at UPS facilities in a whisper-quiet fashion, reducing time-in-transit, vehicle emissions, and operating cost."

The decision could indicate the future of drone delivery in the supply chain on a large scale. "BETA's aircraft are designed to operate autonomously as technologies and regulations are established, " says the announcement. "UPS Flight Forward received the first U.S. Federal Aviation Administration air carrier certification to operate a drone airline and is operating daily revenue-generating flights with drones. The FAA certification also enables UPS Flight Forward to fly payloads of up to 7,500 lbs. either with an operator or autonomously."

The BETA aircraft have a 1,400-pound cargo capacity and can quickly transport deliveries that would otherwise fly on small fixed wing airplanes. UPS says the VTOL aircraft will serve healthcare providers, small and medium-sized businesses, and other companies in small communities. "With a 250-mile range and cruising speed of up to 170 miles per hour, UPS will be able to plan a series of short routes, or one long route, on a single charge to meet customers' needs." https://dronelife.com/2021/04/13/ups-will-purchase-beta-technologies-vtol-aircraft-the-future-of-drone-delivery/

Small, unmanned aircraft may help reshape naval maritime surveillance Apr 12th, 2021

WASHINGTON – Equipping surface warships with small unmanned aerial vehicles like the Boeing Insitu ScanEagle and Blackjack, expands the fleet's surveillance horizons, lethality, and overall effectiveness at a low cost. Moreover, small UAVs are easy to launch and recover. The National Interest reports. Continue reading original article

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.net

12 April 2021 -- For several decades, navies have sought to use UAVs for routine missions that require a long time on station, such as maritime surveillance and reconnaissance.

Big UAVs like the MQ-4C Triton can have limited deployments to airfields or ships with large decks such as aircraft carriers. These systems are expensive to operate, albeit less costly than most manned aircraft.

One challenge to deploying UAVs on surface ships has been a lack of space. Even ships designed with a flight deck and hangar have limited space for which unmanned aircraft must compete with manned helicopters. The answers may be small UAVs like the Boeing Insitu ScanEagle and Blackjack. https://www.militaryaerospace.com/unmanned/article/14201059/unmanned-small-uavs-maritime-surveillance?utm_source=MAE+Weekly&utm_medium=email&utm_campaign=CPS210413071&o_eid=3090G6152045F2X&rdx.ident%5Bpull%5D=omeda%7C3090G6152045F2X&oly_enc_id=3090G6152045F2X

Blade to Add 20 Beta eVTOLs to Urban Air Mobility Fleet Charles Alcock April 13, 2021

Blade Urban Air Mobility today reached agreement to add up to 20 of Beta Technologies' $4 million Alia 250 eVTOL aircraft to its passenger transportation network, with deliveries due to start in 2024, followed by operations from 2025. According to Blade, the aircraft will be acquired through its "third-party financing relationships" with its operating partners, and Jet Linx Aviation is set to be the first to start operating an initial batch of five aircraft.

On a full charge, the Alia will be able to operate on routes of up to 250 nm carrying six people (including a pilot) or three standard cargo pallets at speeds of up to 170 mph. Beta says it will take 50 minutes to recharge the aircraft, which is to be certified under FAA's Part 23 rules.

Blade says that, initially, the Alia will operate from the company's existing private terminal infrastructure in the northeast U.S. where Beta will install recharging facilities. Most of the company's services, which currently use a mix of helicopters and amphibious fixed-wing aircraft, are concentrated around the New York City area, as well as south Florida, Nantucket, and the Hamptons. According to Beta, the Alia will be 10 times quieter than a helicopter when

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.net

hovering, and even quieter during cruise flight. https://www.ainonline.com/aviation-news/business-aviation/2021-04-13/blade-add-20-beta-evtols-urban-air-mobility-fleet

Drones hunting hurricanes this season 2021-04-12 UAV Expert News

Earlier this year, NOAA tested research drones in Maryland that will be used this hurricane season. The goal is to improve hurricane intensity forecasts.

This hurricane season, the latest drone technology will be used to focus on where storms get their energy. This is about 2,000-3,000 feet above the surface of the ocean. This is the most dangerous part of the storm for Hurricane Hunters, so it often isn't sampled by aircraft.

Right now, we use dropsondes that are sensors released from a NOAA aircraft to the ocean surface collecting data in a hurricane. They give meteorologists a snapshot of the weather conditions. The drones will create a continuous flow of data in a hurricane. They can ideally collect data for 3 hours and cover 265 miles. https://www.uavexpertnews.com/2021/04/drones-hunting-hurricanes-this-season/?utm_source=Master&utm_campaign=758f81525a-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-758f81525a-89168288

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Germany backs 3 billion euro contract for European military drone Reuters Staff

AEROSPACE AND DEFENSE APRIL 14, 2021

BERLIN (Reuters) - The German parliament's budget committee on Wednesday approved a 3-billion-euro ($3.59 billion) contract for the development of a European military drone to be built by Airbus, Dassault and Leonardo. The German military will receive 21 drones, 12 ground control stations and four simulators from the joint project with France, Italy and Spain, with delivery expected to start in 2030. The new drones are supposed to eventually replace drones from Israel Aerospace Industries which Germany has leased and has been operating in military missions in Afghanistan and Mali.

With an expected length of more than 15 meters and a wingspan of 30 meters, the drone will be able to stay in flight for more than 24 hours at heights of around 13,000 meters to monitor the situation on the ground with sensors such as radars and infrared cameras.

https://www.reuters.com/article/us-germany-defence-euro-drone/germany-backs-3-billion-euro-contract-for-european-military-drone-idUSKBN2C120S

Arianespace offers free launch to deserving cubesat Andrew Parsonson April 14, 2021

VALLETTA, Malta — European launch provider Arianespace announced April 13 that it would provide a free cubesat launch to one deserving space technology startup, lab or university.

The "Destination: A Better Life on Earth" competition is part of Arianespace's plan to unveil a range of smallsat rideshare offerings in June at VivaTech 2021, the fifth edition of an annual technology conference held in Paris.

The winner of the Destination: A Better Life on Earth competition will win integration and launch services aboard a future Arianespace rideshare mission. Participating teams are required to submit a mission proposal aimed at improving life on Earth or advancing human knowledge. Additional selection criteria include that the payload be no larger than a cubesat unit measuring 10 centimeters a side.

Submissions for the competition are already open and close May 14. Five finalists will be selected by an Arianespace panel with the winner being announced at an event June 16 during the opening day of VivaTech. https://spacenews.com/arianespace-offers-free-launch-to-deserving-cubesat/

Air Force Issues Solicitation for Counter-Small UAS Technology Prototyping

BRENDA MARIE RIVERS APRIL 15, 2021 NEWS

The U.S. Air Force Research Laboratory is looking for small businesses that can potentially provide development, testing and deployment support for counter-small unmanned aircraft system prototypes. AFRL said in a notice posted Wednesday that it plans to issue a potential six-year, $490.4 million award with task orders for research and development services.

Vendors must have the capacity to provide hardware, software, technical reports and documentation services to help address asymmetric warfare needs involving commercial-off-the-shelf sUAS. Work under the award also covers operational sustainment support for command-and-control, interceptor and radiofrequency systems, according to the solicitation

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

document. Other contract services may include scenario and concept development, integration, field assessments and maturation.

The solicitation comes as part of the Air Force's efforts to address needs for systems with the capacity for low collateral damage when defeating sUAS and sUAS swarms. Responses to the solicitation are due on May 14. https://www.govconwire.com/2021/04/air-force-issues-solicitation-for-counter-small-uas-technology-prototyping-effort/?utm_campaign=Posts%20from%20GovconWire%20%2004.15.2021%20%28VnXsir%29&utm_medium=email&utm_source=Executive%20Mosaic%20Publications&_ke=eyJrbF9jb21wYW55X2lkIjogIlRCS0t4UCIsICJrbF9lbWFpbCI6ICJyb2JlcnRocmVhQGdtYWlsLmNvbSJ9

Red Cat Holdings Announces Issuance of U.S. Patent on Drone Positioning System April 14, 2021 News

Red Cat Holdings, Inc. , a leading brand in the drone industry, reports that the U.S. Patent and Trademark Office issued U.S. Patent No. 10,877,162 on December 29, 2020 to Skypersonic Inc. Red Cat previously announced the signing of a definitive agreement to acquire Skypersonic in February 2021 and expects to close the transaction in April.

Entitled "Terrestrial Based Positioning Systems and Methods," the patent covers terrestrial based positioning technology deployed in Skyloc, Skypersonic's real time environmental monitoring drone system.

Skyloc is a stand-alone, real time, software system which enables a drone to record and transmit inspection data while being operated from thousands of miles away. It features absolute linear distance measure and inspection auto-reporting as well as on-board gas detection via a calibrated multi-gas sensor.

Skypersonic technology emulates GPS data utilizing Ultra Wide Band signals, allowing drones to operate where GPS signals are absent. This technology is currently being used in pipe and tunnel inspections, where it has been providing linear positioning. Skypersonic is presently finalizing contracts for industrial inspections of infrastructures across Europe. https://uasweekly.com/2021/04/14/red-cat-holdings-announces-issuance-of-u-s-patent-on-drone-positioning-system/?utm_source=rss&utm_medium=rss&utm_campaign=red-cat-holdings-announces-issuance-of-u-s-patent-on-drone-positioning-system&utm_term=2021-04-15

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

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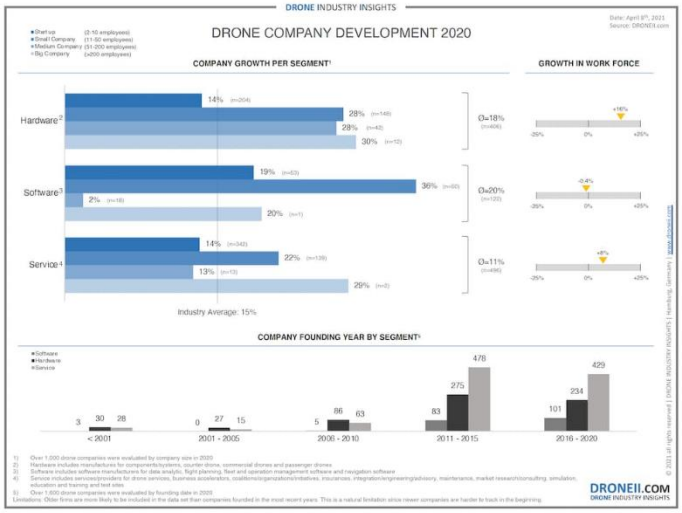
DRONE COMPANIES AND THE PANDEMIC DRONE MARKET LUKAS SCHROTH APRIL 15, 2021

How did drone companies develop in the pandemic year 2020?



The drone market has grown steadily and continuously over the past several years. The technology is here to stay and is becoming more prevalent across numerous industries. 2020 was a unique year due to Covid-19; we saw and still see many companies around the world from a wide variety of industries struggling. In mid-2020, we surveyed the impact of the pandemic on companies in the drone industry in our Drone Industry Barometer. It showed that the impact did not stop at the drone industry, and some drone companies faced problems such as a decrease in demand and layoffs.

On the other hand, some companies indicated an increase in demand and other positive effects on their business. Overall, respondents even felt that the changes in business models triggered by the lockdowns would have a positive impact on the drone industry in the long run. Now that 2020 ended, we tracked the founding date and company size development of more than 1,000 companies whose core is the drone business across a wide range of industry sectors. Additionally, the drone companies were classified into start-ups, small companies, medium companies, and large companies to show how businesses of different sizes were affected.

On average, the companies grew by 15% in personnel, which corresponds to an increase of 11% of the total drone industry workforce. See the data: https://droneii.com/drone-companies-and-the-2020-pandemic?utm_source=email&utm_medium=newsletter&utm_campaign=drone-companies-development-2020&utm_content=read-blog&utm_term=continue-reading-button&mc_cid=591e3f5c9a&mc_eid=7a6c4a1fef

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

All Nippon Airways Partners with Wingcopter to Bring Drone Delivery to Japan Kelsey Reichmann April 15, 2021

ANA HOLDINGS INC. (ANA HD), the parent company of All Nippon Airways, and Wingcopter have formed a new partnership to build a drone delivery network for pharmaceuticals and other consumer goods in Japan.

The project will use Wingcopter's drone which has vertical take-off and landing capabilities while also taking advantage of fixed-wing architecture by using a tilt-rotor mechanism. Wingcopter will also provide pilot training, mission planning, operational design, and maintenance.

In a video announcing the partnership, Tom Plümmer, CEO of Wingcopter, said operations would start on the Gotō Islands in Nagasaki Prefectur, Japan and expand from there.

"Here in Gotō, 100 km west from Nagasaki city, there are 11 inhabited remote islands," Tetsuya Kubo, vice president of ANA HD overseeing the digital design lab, said in the video. "We would like to help those people living on the islands who have difficulties in accessing medical care, food and other vital supplies."

Wingcopter's drone has a range of 120 km and has been tested in harsh weather conditions, according to the company's website. The drone has a 178 cm wingspan, 132 cm from front to tail, and has a max payload of six kilograms. In fixed-wing mode, it can reach speeds of 150 kilometers per hour and drops down to 100 kilometers per hour in cruise speed.
https://www.aviationtoday.com/2021/04/15/nippon-airways-partners-wingcopter-bring-drone-delivery-japan/

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