



## UAS and SmallSat Weekly News

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### **Bristow Triples Down on Fleet Electrification** Charles Alcock September 23, 2021



Helicopter operator Bristow today announced a partnership with Eve Urban Air Mobility Solutions, revealing yet another element of Bristow's expansion into the advanced air mobility market. Under a memorandum of understanding, Bristow will work with the Embraer subsidiary to develop an air operator certificate for Eve's four-passenger eVTOL and has also committed to buying up **100** of the new model with deliveries to begin in 2026. This adds to Bristow's provisional commitments announced over the past few weeks to buy 50 Electra Aero eSTOL airplanes and 50 Vertical Aerospace VA-X4 eVTOLs.

Bristow's aim is to diversify its business model, which for a long time has been largely built around offshore passenger flights to and from oil and gas platforms. With Air Operator Certificatess in multiple countries around the world, the Texas-based group considers itself well-positioned to pursue new Advanced Air Mobility applications, including logistics flights, cargo deliveries, and search-and-rescue missions. The company is also keen to support multiple eVTOL manufacturers and other operators with services such as aircraft maintenance and crew training. <https://www.ainonline.com/aviation-news/business-aviation/2021-09-23/bristow-triples-down-fleet-electrification>

### **EMBRAERX AND PYKA ACCELERATE FUTURE OF AUTONOMOUS AGRICULTURE AIRPLANES** AgAirUpdate Staff | Sep 24, 2021



EmbraerX, the disruptive innovation arm of Embraer, and Pyka, an Oakland – based startup working at the forefront of autonomous aviation, today announced a partnership to accelerate the future of autonomous aerial agriculture operations. The collaboration is focused on technology, certification, operations, and future commercialization of Pyka's Pelican, a **100 % electric and autonomous** fixed – wing agricultural aircraft.

The companies will work together to accelerate the entry of Pyka's autonomous solutions into service in the precision agriculture sector. EmbraerX is committed to exploring products and services that could revolutionize the business , including new market segments for Embraer's agriculture aviation business. "EmbraerX is a market accelerator committed to developing



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solutions that can transform the world and inspire our partners by approaching unprecedented ideas with creativity and grit,” said Daniel Moczydlower , head of EmbraerX.”

<https://www.agairupdate.com/embraer-sa-embraerx-and-pyka-team-up-to-accelerate-the-future-of-autonomous-agriculture-airplanes/>

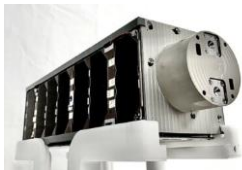
### Smallsat specialist OrbAstro busy building downstream dreams Brian Berger —

September 23, 2021



WASHINGTON — OrbAstro, a space-as-a-service startup with visions of flying [“tiny satellites in large flocks.”](#) is ready to launch its **first half-dozen** smallsats in 2022.

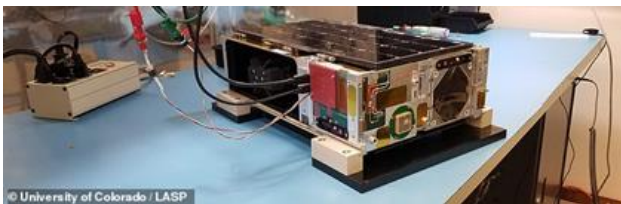
With a January launch lined up in India, spots reserved on upcoming SpaceX rideshare missions and a launch agreement with an undisclosed third provider, OrbAstro says it has five commercial satellites plus a pilot satellite for an in-house project all scheduled to launch next year. The UK and New Zealand-based company expects to add one or two more missions to its 2022 roster in the coming months.



*OrbAstro’s ORB-3 nanosatellite platform is the size of three 10-centimeter cubesats placed end to end.*

OrbAstro says it has taken deposits for a **dozen more** satellites slated for launch in 2023-2024. “Many of these are pilot missions for large nanosat [and] microsat constellations,” OrbAstro CEO and co-founder Ash Dove-Jay said in an interview this week. <https://spacenews.com/smallsat-specialist-orbastro-busy-building-downstream-dreams/>

### \$4 million satellite the size of a CHEERIOS box is going into space to search for alien planets CHRIS CIACCIA FOR DAILYMAL.COM 23 September 2021



A \$4 million satellite likened to a 'family-sized box of Cheerios' is headed into space later this month to look at the physics of distant exoplanets known as 'hot Jupiters,' **including the hottest planet ever found.**



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Known as [Colorado](#) Ultraviolet Transit Experiment (CUTE), the spacecraft is a cube satellite that will conduct a seven-month long mission to look at these planets. It is also **the first CubeSat mission funded by NASA to look at exoplanets** and see what this technology is capable of.

'It's an experiment that NASA is conducting to see how much science can be done with a small satellite,' Colorado University Boulder's Laboratory for Atmospheric and Space Physics researcher and principal investigator Kevin France said in a [release](#). 'That's exciting but also a little daunting.'

The CubeSat will head into space onboard a United Launch Alliance Atlas V rocket alongside the Landsat 9 satellite from Vandenberg Space Force Base in Lompoc, California on September 27. <https://www.dailymail.co.uk/sciencetech/article-10022547/4-million-satellite-size-CHEERIOS-box-going-space-search-alien-planets.html?ito=1490>

## Drone Delivery in Abu Dhabi: Matternet and SkyGo Announce First City-Wide Drone Network

Miriam McNabb September 23, 2021 DRONELIFE Staff Writer Ian M. Crosby



[Matternet](#), the global leader in urban drone delivery, announced today a city-wide drone network for the quick delivery of medical goods in Abu Dhabi. Matternet is collaborating with the Abu Dhabi Department of Health as well as [SkyGo](#), a UAE logistics company with knowledge of the Abu Dhabi healthcare

landscape, logistics and distribution in the Gulf region.

Matternet will operate its technology under SkyGo's license for [BVLOS drone delivery](#) and transport urgent medical supplies such as COVID-19 vaccines, blood, and lab samples across Abu Dhabi's health system. This follows Matternet's achievement last month of becoming the **first drone company in the U.S.** to [transport the Pfizer-BioNTech COVID-19 vaccine via drone](#).

The service will expand to a 24/7 operation and become a critical component of Abu Dhabi's logistics infrastructure. Matternet and SkyGo plan to install [40 drone ports in Abu Dhabi](#) by the end of the first year of operation. <https://dronelife.com/2021/09/23/drone-delivery-in-abu-dhabi-matternet-and-skygo-announce-first-city-wide-drone-network/>



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### Drone Operations Collaborative Inspection package helps utility disaster response September 23, 2021 News



Beyond the Drone announces the launch of the Drone Operations Collaborative, "the DOC," an inspection solution for utility companies needing to manage, assess, and report conditions during emergency events.

The DOC is a collaboration among Futura Systems, Asymmetric Unmanned, and Beyond the Drone. Each company contributes personnel and technology to support the utility mission and respond to storms and emergencies.

The DOC solution is comprised of four elements: 1) An Airboss to help deconflict the airspace, meet FAA regulations and manage flight operations of multiple simultaneous missions. 2) Assessment and geospatial tools that help understand the condition of assets and the location and scale of damages. 3) The Utelinspect software solution to connect the flight and inspection operations and to streamline the process of reporting and responding to critical areas of need. 4) Standby onsite and remote drone inspection crews and equipment, and administrative personnel to help where and when needed. [https://uasweekly.com/2021/09/23/drone-operations-collaborative-doc-is-a-turnkey-emergency-inspection-package-to-help-utilities-respond-to-disasters-2/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=drone-operations-collaborative-doc-is-a-turnkey-emergency-inspection-package-to-help-utilities-respond-to-disasters-2&utm\\_term=2021-09-24](https://uasweekly.com/2021/09/23/drone-operations-collaborative-doc-is-a-turnkey-emergency-inspection-package-to-help-utilities-respond-to-disasters-2/?utm_source=rss&utm_medium=rss&utm_campaign=drone-operations-collaborative-doc-is-a-turnkey-emergency-inspection-package-to-help-utilities-respond-to-disasters-2&utm_term=2021-09-24)

### FIXAR equips outdoor UAVs with the BlackBox for safer sky September 23, 2021 News



FIXAR now equips all its outdoor drones with the additional BlackBox system for UAV flight data logging enabling traceability and accountability of the aircraft. It is capable of recording and storing information of settings, missions, sensor's data, user commands, automatic control and payload information.

It consists of a lightweight separate module that records flight data into logs and LogExport software. It allows geotagging to be available to operators at any time, even if the drone is powered off. The drone user or any other party is not able to interfere or modify the logged data, and data extraction from the device is performed wireless for an effortless process.



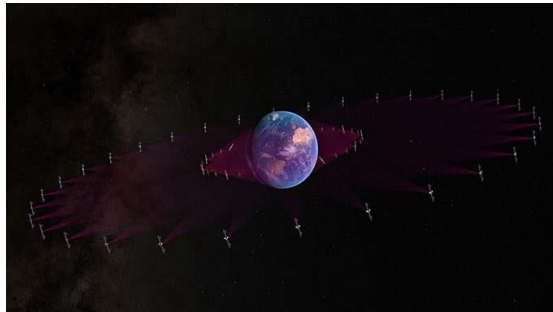


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The main objective of the BlackBox is to increase safety by providing data for mission analysis, identify faults in case of incidents and contribute to UAV industry security and development.

[https://uasweekly.com/2021/09/23/fixar-equips-outdoor-uavs-with-the-blackbox-for-safer-sky/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=fixar-equips-outdoor-uavs-with-the-blackbox-for-safer-sky&utm\\_term=2021-09-25](https://uasweekly.com/2021/09/23/fixar-equips-outdoor-uavs-with-the-blackbox-for-safer-sky/?utm_source=rss&utm_medium=rss&utm_campaign=fixar-equips-outdoor-uavs-with-the-blackbox-for-safer-sky&utm_term=2021-09-25)

## Hughes and SES Demonstrate First Multi-Orbit SATCOM for Remotely Piloted Aircraft September 23, 2021 News



[Hughes Network Systems, LLC](#) and [SES](#) today announced the successful first demonstration of a new multi-orbit satellite communications capability for remotely piloted aircraft. Conducted for General Atomics Aeronautical Systems, Inc., the demonstration paired Hughes HM series software-defined modems and Resource Management

System with SES's satellites that operate in geosynchronous and medium earth orbits. SES's multi-orbit fleet was leveraged to show how unmanned aerial vehicles, such as the GA-ASI MQ-9 series, can maintain connectivity and resiliency, even in contested environments.

The demonstration replicated a typical unmanned Intelligence, Surveillance and Reconnaissance mission, transmitting high-definition video and sensor data to and from the unmanned vehicle to the command center. The RMS automatically switched the satellite signals to stay connected – even when a signal experienced interference and jamming scenarios. A quasi-instant and smooth beam switch took just seconds to complete, allowing a near real-time capability that enhances the military's Primary Alternative Contingency Emergency planning.

[https://uasweekly.com/2021/09/23/hughes-and-ses-demonstrate-first-multi-orbit-satcom-for-remotely-piloted-aircraft/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=hughes-and-ses-demonstrate-first-multi-orbit-satcom-for-remotely-piloted-aircraft&utm\\_term=2021-09-23](https://uasweekly.com/2021/09/23/hughes-and-ses-demonstrate-first-multi-orbit-satcom-for-remotely-piloted-aircraft/?utm_source=rss&utm_medium=rss&utm_campaign=hughes-and-ses-demonstrate-first-multi-orbit-satcom-for-remotely-piloted-aircraft&utm_term=2021-09-23)

## Volocopter and Geely Joint Venture Orders 150 Volocopter Aircraft September 23, 2021 News



Bruchsal, Germany – Volocopter and Aerofugia, a subsidiary of China's Geely Technology Group, announced the finalization of their joint venture company to introduce UAM in China. The JV, headquartered in Chengdu, will work with the aviation,

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transportation, and government agencies in Chengdu and other parts of mainland China to **bring urban air mobility to China within the next three to five years**. Chengdu is the capital of Sichuan Province and a significant economic, cultural, and transportation hub in Western China. It is also a key manufacturing base for Geely – one of many synergies the JV will profit from on top of Geely's production capability and industrial distribution expertise.

At the opening ceremony, Volocopter also signed a Contract Manufacturing Agreement with Volocopter Chengdu and General Aviation Manufactory Base of Geely Technology to produce Volocopter's aircraft and parts in China. [https://uasweekly.com/2021/09/23/volocopter-and-geely-joint-venture-orders-150-volocopter-aircraft/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=volocopter-and-geely-joint-venture-orders-150-volocopter-aircraft&utm\\_term=2021-09-23](https://uasweekly.com/2021/09/23/volocopter-and-geely-joint-venture-orders-150-volocopter-aircraft/?utm_source=rss&utm_medium=rss&utm_campaign=volocopter-and-geely-joint-venture-orders-150-volocopter-aircraft&utm_term=2021-09-23)

26Sep21

### **Gol and Grupo Comporte order 250 VA-X4 zero-emission aircraft from Avolon**

HEADLINE NEWS MANUFACTURER GEORGINA FORD SEPTEMBER 26, 2021



Avolon, the international aircraft leasing company, announces a partnership with Gol, Brazil's largest airline and Grupo Comporte, Brazil's leading transport operator, to commercialize an eVTOL ride-sharing platform.

They will collaborate to identify and target local partners, infrastructure and certification requirements across a range of commercial models, launching **one of the world's first** eVTOL ride-sharing businesses.

The VA-X4, manufactured by Vertical Aerospace, will be the most advanced and safest eVTOL in the market on its introduction in 2024. Avolon is a launch customer for the aircraft, which can transport four passengers and one pilot distances of 100 miles at up to 200 miles per hour. eVTOLs introduce the ultra-short-haul aircraft category to commercial aviation and will revolutionize air travel with VA-X4 zero-emissions aircraft. This announcement means Avolon already has commitments for over half of its order for 500 VA-X4 aircraft, which was announced in June 2021. <https://www.commercialdroneprofessional.com/gol-and-grupo-comporte-order-250-va-x4-zero-emission-aircraft-from-avolon/>



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### **Elistair's Tethered UAV contribute to the safety of the Montana Guns N' Roses concert** APPLICATIOND RONES AT WORK GEORGINA FORD SEPTEMBER 26, 2021



Police at the University of Montana's Washington Grizzly Stadium had access to a persistent aerial view of the stadium and surrounding area streamed directly from Orion's electro-optic and infrared sensors. This dual-sensor payload, combined with the 24h flight endurance of the Orion, meant that the system could carry out an uninterrupted, day into night mission without the need to land.

Deployed by [CloudCover](#) on the roof of a building near the stadium, the drone provided the command post with a permanent view of the stadium grounds, entry and exit points, sales areas, parking lot, and hiking trails on the mountains surrounding the University of Montana campus. Local police, university police, and state troopers were on hand to spot individuals in distress and identify any suspicious behavior in or near the stadium within a three-mile radius.

Once the concert was over, the Orion 2, equipped with its infrared camera, ensured the smooth exit of fans and employees and located groups of people hiding in the stadium to evacuate them. <https://www.commercialdroneprofessional.com/elstairs-orion-2-tethered-uav-deployed-by-our-partner-cloudcover-to-contribute-to-the-safety-of-the-14-000-fans-gathered-at-the-guns-n-roses-concert-in-montana/>

**27Sep21**

### **Fortem Technologies completes counter drone demonstration during US Army test** September 24, 2021 Jenny Beechener Counter-UAS systems and policies



Fortem Technologies reports that its DroneHunter detection and capture system defeated threat drones during a recent US Army test in Yuma Proving Ground, AZ. DroneHunter is an AI-enabled, radar-guided drone that locks onto its target, fires a net, captures the threatening drone, and tows it to a safe deposit location.

DroneHunter performed **autonomously** from queuing through launch, intercept, and capture of the threat drones, depositing them in a designated safe drop zone and landing. During the test, DroneHunter engaged fixed-wing and rotary-wing targets of various speeds, size, altitude, and flight characteristics at operationally significant ranges with a high Probability of Kill.





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Fully integrated with the Army's Forward Area Air Defense Command and Control system, DroneHunter successfully accepted command and engagement orders. Using queuing from various radars in the Army's Fixed Site Low, Slow, Small Unmanned Aircraft System Integrated Defeat System, DroneHunter successfully engaged and negated targets.

<https://www.unmannedairspace.info/counter-uas-systems-and-policies/fortem-technologies-completes-successful-counter-drone-demonstration-during-us-army-test-exercise/>

### Here are the cheap counter-drone solutions DoD tested in the Arizona desert

Jen Judson Friday, Sep 24



WASHINGTON — The Pentagon has demonstrated another round of [systems capable of countering small drone threats](#) focused on [cheap, ground-launched and hand-held options](#) in the desert in Arizona.

After soliciting whitepapers in May on the federal contract opportunities site, the Joint Counter-Small Unmanned Aircraft Systems Office and the Army's Rapid Capabilities and Critical Technologies Office chose **five solutions** to go up against [threat targets at Yuma Proving Ground](#) from Aug. 30 through Sept. 17.

The five drone busters are Northrop Grumman's XM1211 30mm Proximity Round, the Smash Hopper from Smart Shooter, Flex Force's Agile Small Deflection Precision Stabilized Weapon System, IXI's DroneKiller and the DroneGun MKIII from Drone Shield.

The DroneGun and the DroneKiller each use electronic warfare capabilities to neutralize a drone threat while the rest rely on kinetic measures to defeat unmanned systems.

Flex Force's offering uses a 7.62mm round, while the Smash Hopper uses a 5.56mm round that is fired from a regular handheld weapon that would deploy with a soldier.

Northrop's proximity round was fired from an XM914 chain gun already in the Army's inventory. The rounds can detect an approaching aircraft, and as the aircraft comes within range, the round explodes and the craft, flying through a cloud of debris from the explosion, is taken down. <https://www.airforcetimes.com/land/2021/09/24/here-are-the-cheap-counter-drone-solutions-dod-tested-in-the-arizona-desert/?contentFeatureId=f0fmoahPVC2AbfL-2-1-8&contentQuery=%7B%22section%22%3A%22%2Fhome%22%2C%22exclude%22%3A%22%2Funmanned%22%2C%22from%22%3A5%2C%22size%22%3A10%7D>



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### RED CAT SUBSIDIARY SECURES NASA CONTRACT FOR DRONE SUPPORT



[Skypersonic](#), a subsidiary of [Red Cat Holdings](#) and a confined space drone technology provider, has received a **five-year** contract with [NASA](#) to supply drone and rover hardware, software and support for the agency's [Simulated Mars mission](#).

Red Cat said Monday Skypersonic's Dronebox real-time transoceanic remote piloting platform will command the piloting of the drones and the rover commissioned in NASA's series of analog missions, known as [Crew Health and Performance Exploration Analog](#), which will simulate year-long stays on Mars.

Skypersonic CEO [Giuseppe Santangelo](#) said the company's technology was chosen by the space agency to control its drones and rover in the simulated environment based on its functionality.

NASA's crew members will utilize Skypersonic's drone capabilities as they conduct simulated spacewalks from the agency's 1,700 square-foot Mars Dune Alpha isolated habitat. The simulated missions are set to begin in the fall of 2022.

CEO of Red Cat, [Jeff Thompson](#), said the company is honored to support NASA on the project, adding that he believes the Red Cat's **remote pilot capability is a "game changer"** in the drone industry." [https://blog.executivebiz.com/red-cat-subsidiary-secures-nasa-contract-for-drone-support/?wte=robert.rea%40axcel.us&utm\\_source=Ebiz%20Welcome%20Email&utm\\_medium=email&utm\\_campaign=ExecutiveBiz%20Daily%20Headlines%2009.27.2021%20%28UYgws2%29&kla\\_id=01EN0ENFMACND181VSREZG5QN3&kx=fLFBQb\\_oQZJUyKTHrsATtjXEZqq41jUx0eSlvjsCO0%3D.TBKKxP](https://blog.executivebiz.com/red-cat-subsidiary-secures-nasa-contract-for-drone-support/?wte=robert.rea%40axcel.us&utm_source=Ebiz%20Welcome%20Email&utm_medium=email&utm_campaign=ExecutiveBiz%20Daily%20Headlines%2009.27.2021%20%28UYgws2%29&kla_id=01EN0ENFMACND181VSREZG5QN3&kx=fLFBQb_oQZJUyKTHrsATtjXEZqq41jUx0eSlvjsCO0%3D.TBKKxP)

### Skyports and Brent Cross Town plan a passenger air taxi vertiport serving northwest London

September 23, 2021 Jenny Beechener UAS traffic management news



Vertiport company Skyports has signed a memorandum of understanding with Brent Cross South Limited Partnership, a joint venture between Argent Related and Barnet Council, to develop a passenger air taxi vertiport at Brent Cross Town.

Brent Cross Town, a 180-acre development in northwest London which is being regenerated as a new **£7 billion mixed-use park town** for the capital, was selected as a prospective location for the vertiport due to its outstanding connectivity into central London. A vertiport will create the opportunity



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for electric passenger air taxi services between this and other Skyports vertiports in and around London and the rest of the UK. Skyports plans a modular infrastructure design to enable rapid construction of an interim vertiport as early as 2024.

As specialists in the planning and construction of vertiport infrastructure, Skyports will work with Brent Cross Town to share market insights in the AAM industry, undertake due diligence on the site and engage with regulatory bodies such as the UK Civil Aviation Authority and local government to obtain relevant permissions. <https://www.unmannedairspace.info/latest-news-and-information/skyports-and-brent-cross-town-plan-a-passenger-air-taxi-vertiport-serving-north-west-london/>

### Isle of Wight to test drone deliveries of chemotherapy Bruce Crumley - Sep. 27th 2021



London-based Apian has teamed up with the UK National Health System's local administration on the Isle of Wight to begin exploratory tests spanning September through November. If initial results come back positive, the plan is to begin trial flights of drones to deliver chemotherapy medicines to cancer patients

on the island. Should those take place, they'd mark **the world's first ever delivery of chemotherapy supplies by UAV.**

In their current [joint project](#), the NHS and Apian flights will deploy 85 kg electric vertical takeoff and landing planes produced by Skylift, which can carry maximum payloads of 20 kg and reach top speeds of 100 mph. The 7-shaped, 29-mile corridor designated by aviation authorities for missions between Portsmouth and Wight will operate during fixed windows during weekdays at maximum altitudes of 850 feet.



As initial trial missions continue, university partners in the project will conduct simulated flight condition testing on the chemotherapy treatments to determine if they experience any negative effects from factors like vibration, altitude, or temperature fluctuation. Hopes are high that those and other parts of the trial will clear the way for live, life-saving chemo missions. <https://dronedj.com/2021/09/27/isle-of-wight-to-test-drone-deliveries-of-chemotherapy/#more-68079>



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### Drone video captures humpback whales in rare Aussie-water 'heat run' Bruce

Crumley - Sep. 27th 2021



A drone videoed an enormous group of male humpback whales battling each other for the right to mate with the only female among them.

Researchers in Australia got their voyeuristic craft aloft after sighting an expanding group of whales thrashing about off the city of Gold Coast 50 miles

south of Brisbane. Their drone not only captured video of the humpback mating ritual known as a "heat run" underway – a rarity in Aussie waters. It also documented an unprecedented number of whales fighting for the prize of reproducing with the female whose presence had sent them bonkers. Last week's airborne peek at the creatures' pugilistic foreplay involved **an astonishing 16 whales** – far larger than the usual groups of four to six, and even surpassing what had previously been the biggest melee ever seen involving 13 rivals.

Human clashes of rival suitors may escalate into chest poking, shoulder shoving, or – for those who happen to live in Bridget Jones movies – embarrassing fights in restaurants or fountains. Even the most rugged of those, however, pale beside a bust-up between 16 27.5-ton whales bashing each other at speeds of 16 mph. Collisions are hard enough to knock flesh from opponents. And when brute strength and violence isn't enough, contenders will resort to underhanded ruses like blowing air at foes to blind them. See the video:

<https://dronedj.com/2021/09/27/drone-video-captures-humpback-whales-in-rare-aussie-water-heat-run/#more-68076>

### Airlogix's Hammerhead seeks unique spot in autonomous eVTOL delivery drone segment Bruce Crumley - Sep. 27th 2021



Delaware-based autonomous electric takeoff and landing delivery drone developer Airlogix is making its way into that increasingly crowded segment convinced it has **found the sweet spot** that established rivals have left unoccupied.

The team of US-Ukrainian engineers behind Airlogix says the craft "combines the power and speed of a plane and the high mobility of a helicopter with the compactness and steering of a drone." Airlogix claims the company has found a way to get top performance out of battery



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supplies that will allow the Hammerhead to fly heavier payloads to medium-distance destinations that smaller uncrewed aerial vehicles cannot, and which operators of heavy-lift craft consider too short and light to take on.

Improving battery efficiency by a factor of four, Airlogix says, allows its Hammerhead to transport payloads of up to 20 kg at top speeds of 90 km/h over a maximum range of 100 km. It [claims](#) craft produced by rival Volansi and Wingcopter can fly similar medium-range missions, but with cargo limited to 9 kg and 6 kg respectively. Dronevolt's French Hercules 20, Airlogix continues, totes 15 kg, but allows for relatively short flight times of 15 minutes. The only options for companies seeking to fly greater payload on longer flights, it argues, is turning to heavy-lift craft that represent overkill for 10-20 kg of cargo.

That's where Airlogix thinks **it has a big opening** with the Hammerhead. It is designed to carry medical containers, emergency kits, components, and rescue robots for **mid-range**, non-polluting autonomous eVTOL drone deliveries. <https://dronedj.com/2021/09/27/airlogix-hammerhead-seeks-unique-spot-in-autonomous-evtol-delivery-drone-segment/#more-68229>

28Sep21

## FIVE AMERICAN UNIVERSITIES JUST GOT \$2.8 MILLION TO RESEARCH

**DRONES** September 27, 2021 Sally French News



The Federal Aviation Administration announced this week that it will award a combined \$2.8 million in drone research, education, and training grants to five universities largely concentrated in the American midwest. The money is intended to allow academics to research critical areas that will advance drone operations in the U.S. Those three areas are:

- **Advanced material:** identifying the types of composites and other advanced materials used in drones to help develop standards and regulations.
- **Right-of-way rules:** providing safety-based recommendations for the FAA and drone industry standards organizations to consider in drone detect-and-avoid requirements.
- **Flight data recorder requirements:** exploring flight-recorder requirements for drones, including remotely piloted air mobility aircraft.

And the five American universities receiving the funding? They are:

- Mississippi State University.
- Wichita State University.
- Embry-Riddle Aeronautical University.





## UAS and SmallSat Weekly News

- University of Kansas.
- University of North Dakota.

The funding is a part of a program called the [Alliance for System Safety of UAS through Research Excellence \(ASSURE\)](https://www.thedronegirl.com/2021/09/28/five-american-universities-just-got-2-8-million-to-research-drones/) grant program. <https://www.thedronegirl.com/2021/09/28/five-american-universities-just-got-2-8-million-to-research-drones/>

## Air Taxis, Vertiports: City of Orlando Leading the U.S. Towards Advanced Air Mobility

Miriam McNabb September 27, 2021 by Ian M. Crosby



The City of Orlando is looking to become a national leader in innovating on [air mobility options](#), including emerging electric Vertical Takeoff and Landing (eVTOL) technologies and [“vertiports for air taxis.”](#)

The City of Orlando has cemented a partnership with [VHB](#) to create an [Advanced Air Mobility \(AAM\) Transportation Plan](#), as well as an exclusive aero-research partnership with NASA, where the City was one of only five to be selected.

On Friday, September 24, Orlando and VHB commenced the AAM transportation planning process by assembling transportation agencies, local governments, and private stakeholders to discuss regional transportation and environmental challenges and opportunities.

The planning process will take place over the next several months through a series of community workshops and will assess expected impacts associated with AAM through a regional connectivity plan. The gathered feedback will help to shape the advancement of the project going forward. <https://dronelife.com/2021/09/27/air-taxis-vertiports-and-more-city-of-orlando-leading-the-u-s-towards-advanced-air-mobility/>

## Austin PD Drones: Department to Launch Robotics Unit

Miriam McNabb September 27, 2021 By Jim Magill



Within the next several months, the [Austin Police Department](#) is expected to request the City Council approve funding for the creation of the unit, Assistant Chief Scott Perry said in an interview.



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The department first launched a drone pilot program around late 2019, using about \$31,000 in donated funds and \$1,800 in federal funds to purchase drones and equipment. Currently, Austin PD maintains a fleet of 17 multi-rotor UAVs, including 16 [DJI Mavics](#) and one [Skydio drone](#), Perry said. The department currently has two pilots [certified to fly the drones](#), with several other officers in [training to receive their pilot certification](#).

“Once it becomes a full-time unit, there will be some expenditures that come into play, but we will be able to get our budget and see how we can best use the dollars that are allocated to the police department to either fund programs or get more drones,” Perry said.

As part of its effort to establish the Robotics Unit, Austin PD will also launch a public educational program, to familiarize the general public with the UAVs and the way in which the department plans to deploy them. <https://dronelife.com/2021/09/27/austin-pd-drones-department-to-launch-robotics-unit/>

29Sep21

**Abu Dhabi hosts UAV and USV technology challenge** 28th September 2021 The Shephard News Team



Abu Dhabi-based technology research organization ASPIRE announced the 2023 Mohamed Bin Zayed International Robotics Challenge (MBZIRC) Maritime Grand Challenge on 28 September to explore real-time solutions to maritime safety and security challenges. The competition has a prize fund of more than **\$3 million**.

The Grand Challenge is held **every two years** and aims to foster innovation and technical excellence in robotics, by taking technology out of the laboratory and into the field. This time, the competition will involve a ‘heterogeneous **collaboration** among unmanned aerial vehicles and unmanned surface vehicles [USVs]’, ASPIRE noted, in order to identify a target vessel from several similar vessels in open waters in a [GNSS-denied environment](#), and to offload specific items from the target onto a USV in the shortest possible time using autonomous technologies.

Dr Arthur Morrish, chief executive of ASPIRE, described this as a new kind of exercise in autonomous robotics. [https://www.shephardmedia.com/news/defence-notes/abu-dhabi-hosts-uav-and-usv-technology-challenge/?utm\\_source=Newsletter&utm\\_medium=email&utm\\_content=Today's++Daily+Defence+News+Alert&utm\\_campaign=Daily+News+Alerts+%2813+Sep+onwards%29](https://www.shephardmedia.com/news/defence-notes/abu-dhabi-hosts-uav-and-usv-technology-challenge/?utm_source=Newsletter&utm_medium=email&utm_content=Today's++Daily+Defence+News+Alert&utm_campaign=Daily+News+Alerts+%2813+Sep+onwards%29)



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30Sep21

### 5G DRONE TEST UNDERWAY IN NEW YORK'S 50-MILE DRONE

**CORRIDOR** September 28, 2021 Sally French News



[5G](#) has been a buzzword in the drone industry this year promising faster feeds and the ability to transfer bigger files. For companies using drones to gather high volumes of data such as multiple layers of imagery for inspections or mapping projects, 5G is critical in transmitting that data more efficiently. For [drone racing](#), [5G](#) makes it possible to live stream high-definition racing footage with minimal latency. Telecom giants including [Verizon](#) and [Qualcomm](#) are quickly vying to get a piece of the action. Better understanding and use of 5G could aid in areas including emergency response, infrastructure inspection, package delivery, and asset management.

But the technology is very much in its **early days** still. And the best place to get a taste might be in New York, where the MITRE Engenuity Open Generation 5G Consortium is set to launch the **nation's first** 5G unmanned aircraft systems testing range. The Consortium is a wide group of startups, industry associations, academics, and government liaisons all of whom are seeking to solve complex 5G challenges. <https://www.thedronegirl.com/2021/09/30/5g-drone-test-new-york/>

### Raytheon introduces new MUM-T loyal wingman capability

Defense Brief  
Editorial September 30, 2021



*A BQM-34 unmanned aircraft prepares to launch at White Sands Missile Range during the August 2021 test.*

Raytheon recently unveiled its own solution for a "loyal wingman" capability in a joint test with the Pentagon's Strategic Capabilities Office in late August 2021.

During the test, Raytheon Intelligence & Space, a Raytheon Technologies business, demonstrated three unmanned aircraft that collaborated with each other using **Manned Unmanned Teaming** technology. A human operator supervised the completion of a simulated tactical mission.



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As explained, the human operator set a mission objective for the unmanned aircraft using a human machine interface and then supervised conduct of the mission. The unmanned aircraft then collaboratively developed and executed the necessary tactics to fulfill the mission.

Brad Tousley, vice president for Advanced Concepts & Technology at Raytheon Intelligence & Space, said "Raytheon Intelligence & Space's technology allowed a human to set the mission and **step back** as unmanned aircraft decided how to carry out and execute a complex tactical mission directed by the human."

During the August flight test, the team achieved its primary goal of demonstrating collaborative behavior in an operationally representative environment. The unmanned aircraft collected the types of simulated sensor data that enable crewed fighter aircraft in combat scenarios. Future flight tests will continue maturing the system. <https://defbrief.com/2021/09/30/raytheon-introduces-new-mum-t-loyal-wingman-capability/>

## Kaua'i drone pilots uncover, protect native plants threatened with extinction

Bruce Crumley - Sep. 29th 2021



Here is a tale of drones for good, wrapped inside a wider effort to protect and preserve some of the world's most endangered plants. Over the summer, botanist and drone pilot Ben Nyberg flew his craft while surveying flora in otherwise inaccessible locations on Kaua'i and discovered a species thought to have been wiped out apart from a single spot far across the island. Now he's looking to expand use of drones from not only discovering the hidden survivors of threatened plants like those, but also in **harvesting their seeds** to ensure they'll never die off.

Nyberg is the geographic information systems and drone project coordinator for the nonprofit National Tropical Botanical Garden which began using the craft on Kaua'i in 2016. The move to observe the island's plant life from the skies was logical amid the difficulties – and considerable dangers – that accessing the island's often steep, slippery, or entirely vertical rises and cliffs present to researchers approaching on foot or dangling down from ropes. Indeed, many features that make Kaua'i so gorgeous also make getting close to that beauty impossible. To surmount those hindrances, Nyberg sent a drone aloft – and suddenly miles of isolated, inhospitable terrain opened up for inspection. <https://dronedj.com/2021/09/29/kauai-drone-pilots-uncover-protect-native-plants-threatened-with-extinction/>



## UAS and SmallSat Weekly News

### Ring's Always Home Cam security drone for sale on Amazon... by invitation Bruce

Crumley - Sep. 29th 2021



Ring made its [Always Home Cam](#) available for purchase by invitation from its Amazon owner's product [page](#) this week. For the price of \$250, customers will receive a drone-by-any-other-name "first-of-its-kind flying indoor security camera for your home" that shoots 1440 x 1440 HD video as it patrols their house using preset flight

paths. The T-shaped craft's propellers are encased in plastic as a safeguard against any drone-meets-face collisions – the potential of those having been quasi-eliminated by embedded obstacle avoidance technology anyway. Safety and security both assured – what could be simpler?

Fixed cameras and motion detectors can send out similar alerts without buzzing around your crib like a stoned bat filming every possibly intimate detail they encounter, say detractors. But that may just be a matter of personal opinion.

Ring assures its Always Home Cam can be set to halt patrols while the house is occupied. The slight but audible whine of its approaching rotors, meanwhile, should suffice to warn people to halt any overly private activity that should never be filmed (though that, too, appears to be a matter of personal opinion). However, the drone will mostly be operating when homesteads are empty. <https://dronedj.com/2021/09/29/rings-always-home-cam-security-drone-for-sale-on-amazon-by-invitation/>

### U.S. Government Awards Contracts to Citadel Defense for New Drone Location Solutions September 29, 2021 Counter UAS



[Citadel Defense](#) has been awarded three new counter unmanned aircraft systems contracts from the U.S. Government for their newest product, Titan Drone Finder. Developed alongside servicemen and servicewomen, the new Titan DF solution allows operators to locate the drone, track the flight path, and autonomously neutralize threats that cross a user-defined alert zone.

Christopher Williams, CEO of Citadel Defense said, "We take every measure to compress the time and space required for operators to make a decision and take action against a threat in their airspace."





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Citadel's rapidly growing family of Titan CUAS systems has automation that creates an operational advantage for servicemen and servicewomen on the front lines. When defending against swarms and difficult-to-detect threats, AI-powered combat systems like Titan allow operators to identify and terminate enemy UAS threats with speed, accuracy, and reliability.

[https://uasweekly.com/2021/09/29/u-s-government-awards-citadel-defense-multiple-contracts-for-new-drone-and-pilot-location-solution/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=u-s-government-awards-citadel-defense-multiple-contracts-for-new-drone-and-pilot-location-solution&utm\\_term=2021-09-29](https://uasweekly.com/2021/09/29/u-s-government-awards-citadel-defense-multiple-contracts-for-new-drone-and-pilot-location-solution/?utm_source=rss&utm_medium=rss&utm_campaign=u-s-government-awards-citadel-defense-multiple-contracts-for-new-drone-and-pilot-location-solution&utm_term=2021-09-29)

### **Taliban, China Decry Afghan Airspace Violations by US** September 29, 2021 Ayaz Gul



ISLAMABAD — The Taliban and China called Wednesday for the United States to stop flying drones over Afghanistan's airspace, saying such actions were in breach of Afghanistan's sovereignty and a mutual agreement.

"We recently saw [the] United States violating all international rights, law and ...commitments [made] to the Islamic Emirate [the Taliban] in Doha, Qatar, as Afghanistan's sacred airspace is being invaded by U.S. drones," the Taliban said in a statement.

The Islamist group referred to its February 2020 agreement with Washington that paved the way for U.S. and NATO troops to leave the country. The withdrawal process concluded last month, marking the end of nearly 20 years of international involvement in the Afghan war.

<https://www.voanews.com/a/taliban-china-decry-afghan-airspace-violations-by-us/6250889.html>

### **Drone captures lava from Spain's La Palma volcano crashing into ocean** Ishveena

Singh - Sep. 30th 2021



Spain's La Palma island is expanding. As the red-hot lava from the volcano that erupted on the island on September 19 reached the Atlantic Ocean this week, it triggered plumes of white steam. The molten rock cooled rapidly on coming into contact with the water, binding itself to the cliffside, enlarging the island's

territory. A drone captured the historic moment.



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By the end of Wednesday, the surface of La Palma island had increased by 835 acres, courtesy of a D-shaped tongue of molten rock that has formed on the island's western shore. But now, there are fears that parts of the shoreline could collapse, triggering explosions. Authorities were also worried that the lava meeting the Atlantic would produce clouds of toxic gases which can cause skin, eye, and respiratory tract irritation. However, the wind direction has been cooperating, so thankfully the air inland is okay to breathe as of now.

*Drone video shows lava from La Palma volcano meeting the ocean*



But while the wind direction may be fine for the moment, La Palma's troubles are far from over. As the lava continues to [run downhill like a river](#), it has **wiped out at least 855 buildings** and 18.6 miles of roads so far. Authorities fear that uneven terrain could make the lava overflow its current path, spread to other areas, and destroy more houses and farmland.

[https://dronedj.com/2021/09/30/drone-la-palma-volcano-lava-](https://dronedj.com/2021/09/30/drone-la-palma-volcano-lava-ocean/#more-68398)

[ocean/#more-68398](#)

10Oct21

## Dual-Use Drone Technology: Closing the Gap Between Military and Commercial Applications

Miriam McNabb September 30, 2021 guest post by Edmond Hennessy



The previously clear lines between Defense and Commercial technology developments and use have been blurred over time. In some circles, dual-use drone technology has become mandatory: technology developers must demonstrate that their product solutions are applicable to both Defense and Commercial applications, utilizing common components and parts.

Historically, unmanned vehicles were developed first by the Government/Military complex as the first priority and then found their way into the Commercial world. An early-stage example is [Global Hawk](#) – a [high-altitude/high-endurance UAV](#), which was developed in the mid- 90's with a consortium consisting of [DARPA \(lead technology source\)](#), Defense Contractors ([Northrup Grumman](#), [Lockheed Martin](#), and others), Academia and a range of [Commercial Off-the-Shelf](#) providers.



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New capabilities were added: Foliage Penetrating Radar, Linguistics Systems (language processors), Decision-Support Systems, Advanced Communication Systems and other capabilities, making Global Hawk a fully autonomous vehicle with interoperability in the future.

Today, Global Hawk is also utilized for non-defense applications: Drug Interdiction, Mapping and Topography, Structural Investigation. It is also common for the roles to be reversed: with Commercial UAS and Drone developers translating their capabilities into the Defense Market.

Commercial Drone providers have extended their influence into the Aerospace and Defense target segments with Flight Control Systems, Ground Control Systems and advanced graphic-processing capabilities that can populate existing, military drone platforms. These commercial providers are now focused on gaining traction and support with US DOD Program Offices and Agencies (cross-military lines), selected Defense Contractors and other sources that need to leverage their capabilities. <https://dronelife.com/2021/09/30/dual-use-drone-technology-closing-the-gap-between-military-and-commercial-applications/>