## UAS and SmallSat Weekly News

## Contents

2 A \$119 price among new Paris Olympics air taxi details revealed
2 XTEND acquires Singapore drone firm Performance Rotors
3 Air Force expects sizeable vendor pool for drone wingmen
4 Parallel Flight heavy-lift drones protecting endangered island wildlife from invasive species
4 Civil Air Patrol Acquires 10 Military-Grade Drones for Emergency Assistance in North Carolina
5 GETAWAY ON A GORGEOUS ISLAND DRONE VACATION IN THE INDIAN OCEAN
6 Citymesh, SkeyDrone, Cegeka, Nokia, IDLabTE create nationwide emergency drone network
6 AeroVironment Unveils Innovative VTOL Kit Enhancing Puma AE UAS Capabilities
7 Virginia hospital readies drone medication delivery to remote Eastern Shore homes
8 US Air Force Research Laboratory demonstrates anti-drone swarm C-UAS technology
8 Airsentinel Launches Drone Detection App that Works (and Respects Drone Operators)
9 JAPAN AIRLINES HAS SIGHTS ON AUTONOMOUS AIR TAXIS
9 Korean Air Makes Progress on Drone Swarm Inspections
10 HOW DRONE USE OPTIMIZES INDUSTRIES
11 DJI Launches New Commercial Drone Platform
12 Satellite image shows WZ-8 supersonic drone at Chinese base
12 How soon can a drone deliver yourself a pizza? Congressman says sooner than you think
13 Phenix Half-Pint Successfully Concludes Company Flight Test in McMinnville, OR
14 DJI Mavic 2 Pro drone discovers 7,000-year-old cave art in Spain
14 Vertical's South Korea AAM partner to link air taxis in mobility app
15 EASA Proposes Noise Standards for eVTOLs
16 Swoop Aero: Beyond Consumer Delivery
16 VoltAero powers ahead with development of hybrid-electric Cassio 330
17 Wing Demonstrates Drone Delivery Anywhere - Delivering Beer and Peanuts to Coors Field
18 The Tech Behind BVLOS
18 Army Selects Northrop Grumman, Shield AI for Future Tactical UAS Prototype
19 Demonstration Highlights Upgraded Features of Gray Eagle Extended Range UAS
20 What do YOU think? FAA seeks public input on BVLOS drone ops

UAS and SmallSat Weekly News
20May23
A \$119 price among new Paris Olympics air taxi details revealed Bruce Crumley | May 182023


Transport authorities in France have lifted the veil a bit more on demonstration air taxi services slated to debut during the Paris Summer Olympics next year, including the anticipated cost of a ride between Charles de Gaulle Airport and a riverside Seine vertiport of about $€ 110$ (just over \$119).

Additional information on air taxi activity to and from Paris during the 2025 Olympics was provided this week by Augustin de Romanet, CEO of Aéroports de Paris (AdP), which is a involved in developing advanced air mobility during the event with partners that include Volocopter and Skyports Infrastructure.

Speaking on French news radio station France Info this week, de Romanet said flights between the main airport north of the capital and the city center should cost roughly double the current fixed-price of ground taxis.

Interviewers raised the topic with de Romanet by framing what's expected to be the world's first view of air taxis in operation - even in quasi-experimental form - as the biggest focus of public attention outside of Paris 2025 athletic events themselves.
https://dronedj.com/2023/05/18/a-119-price-among-new-paris-olympics-air-taxi-details-revealed/
XTEND acquires Singapore drone firm Performance Rotors Ishveena Singh | May 18 2023


Human-machine collab specialist XTEND says it has acquired Performance Rotors, a Singapore-based drone inspection firm. The collective technologies of these companies will make human-guided, remote interactive operations possible in a range of industrial inspection scenarios, including GPSdenied, unsafe, or confined spaces.

Israel-based XTEND believes it is critical that humans remain in control of any operation, irrespective of whether they are using robots or

## UAS and SmallSat Weekly News

drones in a public safety, search and rescue, inspection, or security scenario. While many businesses in this space are providing remote operations capabilities, XTEND is hyper-focused on "human to machine" interaction and bringing interactive features to operations through its patented operating system XOS.

The software company has recently been awarded multimillion-dollar contracts with the US Department of Defense as well as MAFAT, the Israeli Ministry of Defense's Research and Development Directorate, to modernize their use of drone technology. https://dronedi.com/2023/05/18/xtend-acquisition-drone-performance-rotors/

Air Force expects sizeable vendor pool for drone wingmen MICHAEL MARROW May 18, 2023


An MQ-28 Ghost Bat drone flies in tests for the Royal Australian Air Force.

WASHINGTON - As many as 30 vendors could soon be in the running to build the Air Force's forthcoming collaborative combat aircraft drone wingman, the service's acquisition czar said today, part of a strategy that seeks to "lower the stakes" of losing a bid so that more companies can stay in the mix.
"So I think we will expect in the not-too-distant future we'll have upwards of 20 to 30 competitors to provide collaborative combat aircraft meaningful capability," Air Force acquisition chief Andrew Hunter said during a discussion hosted by George Mason University's Greg and Camille Baroni Center for Government Contracting.

Separate from building the actual aircraft itself is fielding its underlying autonomous technologies, Hunter said, where the Air Force already sees many vendors participating.

The 20-30 vendor pool number is "the system itself," he said. "Within the system, the autonomy piece and the mission systems, we already have 20 to 30 competitors in our vendor pool providing capabilities. So, I would say we're already working with about 35 industry vendors on CCA today." https://breakingdefense.com/2023/05/air-force-expects-sizeable-vendor-pool-for-drone-wingmen/

## Parallel Flight heavy-lift drones protecting endangered island wildlife from invasive species Bruce Crumley | May 192023



California heavy-lift UAV startup Parallel Flight Technologies has repeatedly demonstrated a desire to harness its boundary-pushing development of drone technology to objectives benefiting people and the planet - the most recent example being its new partnership with environmental NGO Island Conservation to preserve native flora and fauna under threat of extinction from invasive predators.

Based south of Santa Cruz, Parallel Flight continues to enhance the capabilities of its hybrid heavy-lift Firefly drone, and broaden the kinds of work its maximum seven-hour flight time and 100 lb . payload capacities can support. The tie-up with the environmental non-profit comes in the wake of Parallel Flight joining the USDA Wildlife Services, US Air Force-backed project to deploy Firefly on extended bait-laying missions to eradicate invasive rats destroying indigenous wildlife on Wake Island.

Now those long-endurance, heavy-lift Firefly capabilities are available to Island Conservation through its open-ended partnership with Parallel Flight in the effort to battle invasive species that account for $75 \%$ of reptile, bird, amphibian, and mammal extinctions around the globe. https://dronedi.com/2023/05/19/parallel-flight-heavy-lift-drones-back-ngos-program-protecting-endangered-island-wildlife-from-invasive-species/

Civil Air Patrol Acquires 10 Military-Grade Drones for Emergency Assistance in North Carolina May 19, 2023 News


The North Carolina Wing has been on the cutting edge of the Civil Air Patrol Small Unmanned Aerial Systems (sUAS) program that culminated in the first locate and save within CAP in August of 2021. The program continues to lead the way with a jump in training and equipment that took place on Saturday 6 May 2023 at the NCWG headquarters.

UAS and SmallSat Weekly News
The NCWG partnered with the North Carolina Division of Emergency Management to receive ten (10) Teal 2 drones. The drones were purchased by Emergency Management and were given to the NCWG Civil Air Patrol to provide drone / sUAS support across the state when requested.

Capt Ralph Newcomb, Assistant Director of Operations for Unmanned Aerial Vehicles stated, "We now have the high quality sUAS / drones that we need to adequately work in partnership with NC Emergency Management to assist the citizens across NC and neighboring states when needed for any request, from search and rescue to post disaster assessments." https://uasweekly.com/2023/05/19/civil-air-patrol-acquires-10-military-grade-drones-to-enhance-emergency-assistance-in-northcarolina/?utm source=rss\&utm medium=rss\&utm campaign=civil-air-patrol-acquires-10-military-grade-drones-to-enhance-emergency-assistance-in-north-carolina\&utm term=2023-05-19

## 22May23

## GETAWAY ON A GORGEOUS ISLAND DRONE VACATION IN THE INDIAN

OCEAN May 19, 2023 Sally French


Belgium-based, award-winning aerial photographer Johan Vandenhecke is hosting a six-day drone photo trip to Mauritius, a stunning, tropical island in the Indian Ocean.

The trip, which will be comprised of a small group of drone enthusiasts (there are only five spots total per trip), promises to combine both learning, business, and fun and relaxation. Over the course of six days, Vandenhecke will show you the best drone spots on the island of Mauritius, helping you to improve your drone photography through live workshops in the field. Then, you'll head back to the private villa for composition and editing workshops.

Other more vacation-type activities are on the docket including sunset sailing, waterfall trails and incredible mountain peaks, plus a swimming with dolphins tour that involves your drone.

Prices start at $€ 3,000$ (about $\$ 3,200$ USD) for a 6-day stay, all-inclusive trip. You'll only need to pay for your own flight there. You can sign up through the form on his website (and do please let him know I sent you!). https://www.thedronegirl.com/2023/05/22/mauritius-drone-trip-islandvacation/

UAS and SmallSat Weekly News

# Citymesh, SkeyDrone, Cegeka, Nokia, IDLabTE create nationwide emergency 

drone network May 20, 2023 Philip Butterworth-Hayes UAS traffic management news


Belgian's telco operator Citymesh is introducing a network of 70 safety drones built to support the company's emergency services in a programme called SENSE.
"In a world's first, police stations and fire stations across Belgium will have a Drones-in-a-Box (DiaB) solution at their disposal," says a company press release. "When emergency services receive a call, depending on the type of call, the Safety Drone will take off to gather critical information in the first 15 minutes. Thanks to 4 K high definition \& thermal images enriched with AI, the emergency services get a lot more info on the situation and can thus make better and faster decisions... Crucial minutes for a human life. https://www.unmannedairspace.info/news-first/citymesh-skeydrone-cegeka-nokia-idlabte-create-nationwide-5g-emergency-drone-network/

## AeroVironment Unveils Innovative VTOL Kit Enhancing Puma AE UAS

Capabilities May 22, 2023


AeroVironment, Inc. today introduced the Puma ${ }^{\text {TM }}$ VTOL (vertical take-off and landing) kit, designed for plug-and-play integration into Puma 2 AE and Puma 3 AE small, unmanned aircraft systems (SUAS). The optional Puma VTOL kit expands the operational capabilities of the combat-proven Puma system in complex terrain, as neither runway nor large open space are required for launch and recovery of the VTOLequipped Puma, allowing operators to launch anywhere, anytime.

Leveraging AeroVironment's Crysalis ${ }^{T M}$ ground control solution, the added VTOL capability now allows a single Puma operator to execute missions and streamline operations through features like one-button launch and recovery.

Integration of the Puma VTOL kit requires minimal one-time modifications to the aircraft's airframe by qualified personnel. Once modified, the plug-and-play Puma VTOL kit can be easily added or removed in the field within a couple of minutes, allowing operators to quickly transition between a fixed-wing and VTOL platform to suit varying mission needs with a single aircraft. https://uasweekly.com/2023/05/22/aerovironment-unveils-innovative-vtol-kit-enhancing-

UAS and SmallSat Weekly News
puma-ae-uas-capabilities/?utm source=rss\&utm medium=rss\&utm campaign=aerovironment-unveils-innovative-vtol-kit-enhancing-puma-ae-uas-capabilities\&utm term=2023-05-22

Virginia hospital readies drone medication delivery to remote Eastern Shore
homes Bruce Crumley | May 222023


Drone medication deliveries are being prepared by Virginia's Riverside Shore Memorial Hospital Group, whose facility in Onancock on the peninsula forming the eastern perimeters of Chesapeake Bay is the overseeing operation. The service will provide faster access to prescriptions for Eastern Shore residents and inhabitants of Tangier Island, the latter of whom currently rely on or organize their own car and boat transportation to obtain orders, which can take nearly a week to arrive.

Assisting the hospital in the activity is UAV startup DroneUp, which is headquartered in Virginia Beach, VA, just south of the intended area of aerial service.

Riverside Shore Memorial Hospital Group's medication delivery project is being supported by a $\$ 1.9$ million grant from the US Department of Transportation. The agency's Strengthening Mobility and Revolutionizing Transportation program selected the drone shuttle proposal as one of 59 innovation pitches that were awarded financial backing.

Riverside's drone transportation of medication will be pursued in two stages, with the initial planning and prototyping work using DroneUp UAVs to make mock deliveries to remote trial locations around Virginia's Eastern Shore already under way. Phase two will begin live test runs from Riverside Hospital to patients' homes, which will expand and transition into regular operation next month. https://dronedj.com/2023/05/22/virginia-hospital-readies-drone-medication-delivery-to-remote-eastern-shore-
homes/\#:~:text=Patients\%20in\%20eastern\%20Virginia\%20can,delivery\%20program\%20for\%20remote\% 20locations.

UAS and SmallSat Weekly News

## US Air Force Research Laboratory demonstrates anti-drone swarm C-UAS

technology May 19, 2023 Philip Butterworth-Hayes Counter-UAS systems and policies


The US Air Force Research Laboratory (AFRL) conducted a demonstration April 5, 2023, of its high-power microwave counter drone weapon, the Tactical High-power Operational Responder, or THOR, as it engaged a swarm of multiple targets at the Chestnut Test Site, Kirtland Air Force Base, according to an AFRL press release.

Capt. Eric Plummer, a test engineer with AFRL's Directed Energy Directorate, operated the THOR system and has been with the THOR program for nearly two years. He was responsible for aiming the THOR system at the swarm.
"THOR was extremely efficient with a near continuous firing of the system during the swarm engagement," said Capt. Tylar Hanson, THOR deputy program manager. "It is an early demonstrator, and we are confident we can take this same technology and make it more effective to protect our personnel around the world." https://www.unmannedairspace.info/latest-news-and-information/us-air-force-research-laboratory-demonstrates-anti-drone-swarm-c-uastechnology/

Airsentinel Launches Drone Detection App that Works (and Respects Drone Operators) Miriam McNabb May 22, 2023


Drone detection can be a touchy subject in the commercial drone industry. RemOte ID for drones gives stakeholders the capability to identify unmanned aircraft and their pilots, helping reduce the risk of unauthorized drone incursions - thereby supporting the expansion of the legitimate commercial industry. Some operators, however, are legitimately concerned that having pilot location and identification data made public could lead to unintended negative consequences. Drone manufacturing leader DJI developed a solution that made drone detection as easy as possible for pilots in 2019, but was criticized when demonstrating their first drone detection app amid fears that the app provided too much information to too many people.

## UAS and SmallSat Weekly News

Airsentinel.ai is co-founded by Kenji Sugahara, a drone industry thought leader and the CEO of the Drone Service Providers Alliance, an operator-focused advocacy group. Air Sentinel's new drone detection app aims to meet the need for airspace security while respecting drone operators. Sugahara points out that the app, designed to detect and provide remote identification data from drones in real-time, doesn't reveal pilot locations to unregistered users. https://dronelife.com/2023/05/22/airsentinel-launches-drone-detection-app-that-works-and-respects-drone-operators/

JAPAN AIRLINES HAS SIGHTS ON AUTONOMOUS AIR TAXIS May 17, 2023 Sally
French


The Tokyo-based airline this month announced a partnership with Silicon Valley tech startup Wisk Aero that could bring self-flying, all-electric air taxi services to Japan.

In short, there's a future where you might take a bullet train across the country, only to disembark and make the last few miles of your journey in what's essentially a helicopter with no pilot.

Under the terms of the partnership, Wisk Aero would provide the aircraft, while a combination of both Wisk and JAL Engineering (that's the engineering arm of Japan Airlines, also known as JAL) would together develop plans for the maintenance and operation of Wisk's autonomous air taxis.

Of course, this hardly means that you'll be able to hop in an autonomous flying aircraft anytime in Japan soon. "In Japan, the introduction of autonomous air travel is developing, and we strongly feel that this partnership with Wisk is the first step towards the development of the next generation of safe air mobility in Japan," Ryo Tamura, CEO of JALEC, said in a prepared statement. https://www.thedronegirl.com/2023/05/23/japan-airlines-has-sights-on-autonomous-airtaxis/

## Korean Air Makes Progress on Drone Swarm Inspections Henry Canaday May 22, 2023

Korean Air is making progress on its novel approach to drone-based aircraft inspections, which uses a swarm of drones to further reduce inspection time and ensure complete coverage even if one drone malfunctions. Since demonstrating the drone swarms in late 2021, the airline has refined the technology and received government support to further development.

UAS and SmallSat Weekly News


The airline's drone swarm approach uses the latest drone enhancements, such as pre-set inspection plans, geofencing to keep drones in restricted areas, a collision avoidance system and artificial intelligence (AI). The drones are made locally by a Korean manufacturer. Al will enable the drones to detect
various defects such as dents and cracks.
The inspections are expected to partially replace the manual inspections regulations require at fixed intervals or whenever anomalies are found in pilot flight logs that indicate possible damage to airframes. However, the drones will not entirely replace manual inspections. They will be looking only at the top parts of the fuselage, wings, and tail sections-the parts of the aircraft that are difficult, risky, or time-consuming for mechanics to
inspect. https://aviationweek.com/mro/emerging-technologies/korean-air-makes-progress-drone-swarm-inspections

HOW DRONE USE OPTIMIZES INDUSTRIES ED ALVARADO MAY 22, 2023 Index

1. Application Methods: the Use of Drones for Work
2. Industry Verticals: Drone Use Within Industries
3. Application Report: Data on the Commercial Use of Drones

In today's rapidly evolving world, the use of drones has revolutionized various industries, offering innovative and efficient solutions to complex tasks. From capturing breath-taking aerial images to delivering packages with precision, drones have become indispensable in diverse terrains and contexts. The term "drone application method" simplifies the description of their utilization, allowing us to categorize their uses into distinct groups. Whether it's through sensing methods like photography and surveying or action-oriented interactions like spraying and delivery, drones have proven their versatility and effectiveness. By exploring these application methods, we gain valuable insights into the remarkable capabilities of drones and their impact on different industry verticals. https://droneii.com/how-drone-use-optimizesindustries?utm source=email\&utm medium=a-b-newsletter\&utm campaign=b-release-applications2023\&utm content=read-blog\&utm term=continue-reading-button\&goal=0 8e282c8de0-388abe68e9261904885\&mc cid=388abe68e9\&mc eid=7a6c4a1fef\#1525106654181-a2b63cd6-e0c3

## UAS and SmallSat Weekly News



DJI Launches New Commercial Drone Platform Phoebe Grinter / 23 May 2023


DJI has launched the DJI Matrice 350 RTK, an upgraded flagship drone platform that is believed to be more adaptable, safer, and efficient for any aerial operation in public safety, energy, mapping, infrastructure, or forestry.

With its 55-minute max flight time (flying at approximately $8 \mathrm{~m} / \mathrm{s}$ without payloads), the M350 RTK has a payload capacity of 2.7 kg allowing operators a choice of payloads for their task. The new DJI O3 Enterprise Transmission gives users peace of mind with triple-channel 1080p HD live feeds and a max transmission distance of 20 km at a flight altitude of approximately 120 m . This is achieved with a four-antenna transceiver system, which can intelligently select the two optimal antennas to transmit signals, while the four antennas receive signals simultaneously. Antiinterference capabilities are significantly improved, and transmission stability is optimized.

## UAS and SmallSat Weekly News

https://www.unmannedsystemstechnology.com/2023/05/dji-launches-new-commercial-droneplatform/?utm source=UST+eBrief\&utm campaign=495051e7e6-ust-ebrief 2023-05-
23\&utm medium=email\&utm term=0 6fc3c01e8d-495051e7e6-
$119747501 \& \mathrm{mc}$ cid $=495051 \mathrm{e} 7 \mathrm{e} 6 \& \mathrm{mc}$ eid=0d642a9d48
Satellite image shows WZ-8 supersonic drone at Chinese base Mike Yeo May 18


This satellite image is from Planet Labs.
MELBOURNE, Australia - A satellite image obtained by Defense News shows what appears to be a WZ-8 supersonic reconnaissance drone parked outside one of two newly built hangars at China's Lu'an Airbase.

China is continuing to revamp a bomber base that was identified in recently leaked U.S
documents as hosting a new supersonic reconnaissance drone.
The satellite image, provided to Defense News by Planet Labs, shows Lu'an Airbase in China's Anhui province. The previously unoccupied base is undergoing an upgrade, with construction beginning sometime between April 2018 and early 2019. Improvements include the resurfacing of the 3,200-meter (3,500-yard) runway, the widening of taxiways, and the construction of 20 bomber-sized aircraft shelters and two hangars to replace open aircraft parking bays. https://www.defensenews.com/unmanned/2023/05/18/satellite-image-shows-wz-8-supersonic-drone-at-chinese-base/?utm source=substack\&utm medium=email

## How soon can a drone deliver yourself a pizza? Congressman says sooner than

 you think Brendan Cullerton May. 22, 2023

WASHINGTON (Gray DC) - Drone delivery company Wing, which is part of Google and delivers for Walgreens, believes drone deliveries are more common than most people think.
"We've done up to a thousand deliveries a day in metro areas of two to six million people," Wing spokesperson Jonathan Bass said.

UAS and SmallSat Weekly News
Wing operates in Ireland, Australia and select portions of the United States, but Rep. Garrett Graves, R-LA, said no drone companies are able to reach their full potential in the U.S.

Graves heads the House Subcommittee on Aviation and wants to address drone regulations in a package of potential new rules for the Federal Aviation Administration.

Wing said the benefits go beyond faster deliveries for the customer. "It takes cars off the road, reduces congestion, it's more efficient," Bass said. "There are a broad range of benefits. It can also be safer in some cases."

Graves said he expects a significant increase in U.S. drone deliveries within two to three years, widespread use in 10 years, and on a longer timeline, drones being used to transport people. https://www.graydc.com/2023/05/22/how-soon-will-you-be-able-drone-deliver-yourself-pizza-congressman-says-sooner-than-you-think/

## Phenix Half-Pint Successfully Concludes Company Flight Test in McMinnville, OR

 May 23, 2023 News

Phenix Solutions, a renowned leader in the UAS industry, proudly announces the successful completion of the company flight test for their groundbreaking MultiCapable Distribution Platform, known as the "Half-Pint." Following its debut alongside the flagship Ultra 2XL Heavy Lift UAS Aircraft at the HAI Heli-Expo in March 2023, the Half-Pint was rigorously tested at the FAA UAS Flight Test Range in preparation for Medium Utility Lift System Flight Tests.

Powered by a turbine engine, the Half-Pint boasts a useful payload capacity of approximately 250 lbs . With its low operating cost, this aircraft serves as an ideal entry point for customers venturing into the Medium Cargo UAS marketplace. Phenix Solutions' upcoming plans for the Half-Pint include conducting a Distribution Platform Cargo Demonstration for a valued customer, as well as participating in an AAM Flight Demonstration in collaboration with their esteemed teammates at the University of Alaska later this summer. https://uasweekly.com/2023/05/23/phenix-half-pint-successfully-concludes-company-flight-test-in-maminnville-or/?utm source=rss\&utm medium=rss\&utm campaign=phenix-half-pint-successfully-concludes-company-flight-test-in-mcminnville-or\&utm term=2023-05-23

## DJI Mavic 2 Pro drone discovers 7,000-year-old cave art in Spain Ishveena

Singh | May 232023


A DJI Mavic 2 Pro drone has captured what is believed to be rock paintings around 7,000 years old. The cave art, discovered in the Alicante province along the coast of Spain, has managed to remain hidden till now because the mountainous region is extremely difficult to access on foot.

According to research published in the Spanish journal Lvcentvm, the coastal and pre-coastal area of the north of the province of Alicante is one of the main centers of Neolithic (or New Stone Age) habitat in the peninsular Mediterranean. In total, researchers explored 18 caves in the region using a small DJI drone with an Advanced Pilot Assistance System (APAS) and omnidirectional obstacle sensing.


For instance, you can see the before and after of a Levantine anthropomorph (a stylized human figure), which has been cleaned using Adobe Photoshop.

Two of these caves, inaccessible without the use of climbing equipment, were found to be harboring prehistoric artwork measuring around four inches in size each. Raw drone data was then enlarged and analyzed using photo editing software, which led to the motifs being identified more clearly.
https://dronedj.com/2023/05/23/dii-drone-cave-art-spain/
Vertical's South Korea AAM partner to link air taxis in mobility app Bruce
Crumley | May 232023


Advanced air mobility (AAM) company Vertical Aerospace has established a multifaceted partnership with the self-described "super app provider" mobility unit of South Korea's internet giant, Kakao Corporation, including pre orders of up - to 50 of the UK startup's VX4 air taxis.

## UAS and SmallSat Weekly News

London-based Vertical said the accord links it with South Korea's Kakao Mobility, which has attracted 30 million regular users to its app providing 20 different transportation services.

The Vertical-Kakao Mobility AAM link-up not only represents further proof of South Korea moving fast to prepare for nearing air taxi services. It also is another example of air taxi developers like Vertical courting diversified transport app providers as natural partners in reaching and interfacing with future clients. US company Joby, for example, had earlier joined forces with the country's SK Telecom and TMAP, motivated by similar objectives.

The partnership calls for Kakao Mobility to support Vertical's efforts commercializing AAM operations in South Korea. That will involve preparing and carrying out network and fleet planning, infrastructure requirements, regulatory development, and consumer awareness of air taxi services. https://dronedj.com/2023/05/23/verticals-south-korea-aam-partner-to-link-air-taxis-in-mobility-app/

## 24May23

EASA Proposes Noise Standards for eVTOLs Gordon Gilbert May 22, 2023


EASA has published what it claims are the world's first proposed noise certification standards for eVTOLs. Known as the Environmental Protection Technical Specifications (EPTS), the proposed specification would be applicable to eVTOLs powered by multiple vertical, non-tilting, evenly distributed rotors.

According to EASA, they are intended to fill a regulatory gap and use the internationally harmonized noise certification standards for heavy helicopters as a starting point while it "collects more noise data from specific eVTOL designs through certification projects." In addition, a hover noise level has been developed to aid in the assessment of flight operations in the vicinity of vertiports.

The proposed noise measuring procedures and analyses are adapted to the characteristics of eVTOLs where necessary. For example, as eVTOLs are expected to be quieter than today's conventional VTOL aircraft in certain phases of flight, there is a need to allow them to fly closer to the microphone in those phases to maintain an accurate signal-to-noise reading.

Comments on the proposal are due by June 15. https://www.ainonline.com/aviation-news/business-aviation/2023-05-22/easa-proposes-noise-standards-evtols

Swoop Aero: Beyond Consumer Delivery Jessica Reed | May 23, 2023


Swoop Aero, an integrated drone logistics company based in Australia, is expanding its presence in the U.S. with the help of Quickstep USA's networks and expertise. The company, which already operates fullstack software and hardware logistics operations across four continents, recently entered a Memorandum of Understanding with Quickstep USA. The agreement aims to provide Swoop's Kite drone to the Department of Defense and other federal agencies.

Medical deliveries and logistics form the foundation of Swoop Aero's global operations. The company has successfully transported approximately 1.4 million medical items via drone.

Swoop Aero currently operates integrated drone service networks in six countries, including Malawi, the Democratic Republic of the Congo, Mozambique, Namibia, Australia, and New Zealand. They also have partners operating networks in the UK, Europe, and Singapore.

The fifth generation of Swoop Aero's Kite aircraft is currently undergoing FAA certification. https://www.aviationtoday.com/2023/05/23/swoop-aero-beyond-consumer-delivery/

VoltAero powers ahead with development of hybrid-electric Cassio 330 Dominic
Perry, Geneva 24 May 2023
French hybrid-electric aircraft developer VoltAero is gearing up for the maiden sortie of its initial Cassio 330 prototype, which the company expects to take place later this year.


Hybrid-electric Cassio 330 is expected to secure certification in late 2024

Jean Botti, chief executive of the Royan-headquartered (France)start-up, anticipates a first flight "in the fall" during which the aircraft will be powered solely by its Kawasaki Motors-supplied 150kW (201hp) thermal engine.

Robert Rea | Axcel Innovation | Suffolk, VA robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

UAS and SmallSat Weekly News
Botti says the first prototype will be used to assess the Cassio 330's handling qualities and aerodynamic performance and will be later used for additional propulsion development.

VoltAero's hybrid-electric module combines the Kawasaki thermal engine, Safran Engineus 100 electric motor and a gearbox from French transmission specialist Akira. Batteries are supplied by US firm Electric Power Systems.

Taxi, take-off, climb, and landing are performed solely using electric power, while the thermal engine serves as a range extender, recharging the batteries during cruise. Already used in the motorcycle industry, the Kawasaki power unit will deliver high levels of maturity at service entry, helping to de-risk the program, argues Botti.

Kawasaki Motors recently became an investor in VoltAero, contributing to its Series B funding round through which the company is aiming to raise $€ 32$ million ( $\$ 34.5$ million). https://www.flightglobal.com/aerospace/voltaero-powers-ahead-with-development-of-hybrid-electric-cassio-330/153426.article

Wing Demonstrates Drone Delivery Anywhere - Delivering Beer and Peanuts to
Coors Field Miriam McNabb May 23, 2023 by DRONELIFE Staff Writer Ian M. Crosby


Earlier this month, Google's Wing held a demonstration delivery at Colorado's Coors Field, where it delivered beer and peanuts to the field. Though not held on a game day, over 1,000 people were present in the stands to celebrate the kickoff party for AUVSI's annual autonomous systems conference.

Coors Field was selected for the demonstration due to its challenging environment. Located in Denver, Colorado, one of the country's fastest growing cities, the stadium is filled with obstacles for delivery such as stadium seating and jumbotrons. At 5,200 feet, Coors Field sits a "mile high" in North America's second tallest city.

As the company prepares a major expansion of its drone delivery service with the Wing Delivery Network operating model announced earlier in the year, Wing set out to demonstrate the technology's ability to deliver nearly anywhere. The company is focused on replacing existing methods of ground-based delivery to transport small packages more efficiently across large

## UAS and SmallSat Weekly News

areas. https://dronelife.com/2023/05/23/wing-demonstrates-drone-delivery-anywhere-delivering-beer-and-peanuts-to-coors-field/

The Tech Behind BVLOS joanne costin may 15, 2023


## Army Selects Northrop Grumman, Shield AI for Future Tactical UAS

Prototype INSIDE UNMANNED SYSTEMS MAY 22, 2023
With teammate Shield AI, Northrop Grumman is developing an enhanced-capability version of the innovative V-BAT aircraft, shown in this rendering, to replace the Army's RQ-7B Shadow tactical UAS.

UAS and SmallSat Weekly News


Northrop Grumman Corp., teamed with Shield AI, has been chosen by the U.S. Army to participate in the Future Tactical Unmanned Aircraft System competition, Increment 2, to replace the longserving RQ-7B Shadow tactical unmanned aerial system.

Under a seven-week base period contract, the Northrop Grumman-led team will define the modular open-system architecture of an enhanced V-BAT aircraft, including the integration of advanced surveillance and electronic warfare payloads. The V-BAT UAS is an innovative, agile, compact, and lightweight platform that a combat team of two soldiers can rapidly launch and recover in challenging and on-the-move environments.

Northrop Grumman is teamed with Shield AI, designer and manufacturer of the V-BAT platform, to provide best-in-class solutions for an expeditionary vertical takeoff and landing UAS, capable of persistent aerial reconnaissance for U.S. Army Brigade Combat Teams, Special Forces and Ranger battalions. https://insideunmannedsystems.com/army-selects-northrop-grumman-shield-ai-for-future-tactical-uas-prototype/

## Demonstration Highlights Upgraded Features of Gray Eagle Extended Range UAS

 May 24, 2023 Military | News

General Atomics Aeronautical Systems, Inc. (GA-ASI) is supporting a demonstration that began in March and is featuring two U.S. Army-owned Gray Eagle Extended Range Unmanned Aircraft Systems. GA-ASI - the developer of the GE-ER platform - was contracted by the Army to integrate and operate an array of new capabilities on the versatile UAS platform as part of an ongoing effort to modernize GE-ER for Multi-Domain Operations.

As part of this MDO configuration, the next-generation Synthetic Aperture Radar used for the demonstration is the new Eagle-Eye Multi-Mode Radar supplied by GA-ASI.

Many of the MDO capabilities showcased in this demo are featured in the latest Gray Eagle model, the Gray Eagle 25M, which is designed to meet the range and accuracy to Detect, Identify, Locate \& Report stationary and moving targets. The Gray Eagle 25M's Open Architecture allows easy implementation of Future Airborne Capability Environment standards across control interfaces, avionics, datalinks, and provides the ability to integrate a

## UAS and SmallSat Weekly News

customizable suite of multi-INT sensors providing the Stand-Off Survivability with Stand-In Capability required for Multi-Domain Operations. https://uasweekly.com/2023/05/24/demonstration-highlights-upgraded-features-of-gray-eagle-extended-range-uas/?utm source=rss\&utm medium=rss\&utm campaign=demonstration-highlights-upgraded-features-of-gray-eagle-extended-range-uas\&utm term=2023-05-24

## 25May23

What do YOU think? FAA seeks public input on BVLOS drone ops ishveena Singh | May 242023


The Federal Aviation Administration (FAA) is seeking public comment on requests by four companies to conduct beyond visual line of sight (BVLOS) drone operations at or below 400 feet. These companies are Zipline, UPS Flight Forward, Phoenix Air Unmanned, and uAvionix.

As the FAA reviews the recommendations of the BVLOS Operations Aviation Rulemaking Committee (ARC), the agency is mulling how it can allow for expanded drone operations in certain environments where safety is not adversely affected. Essentially, the FAA is looking for additional technical input on key concepts and potential approaches for use in future exemptions and waivers given to drone companies.

Drone delivery giant Zipline, for instance, wants a revision to its Exemption No. 19111B, so it can use "Detect and Avoid" systems to deconflict with other aircraft during BVLOS operations, in lieu of using visual observers.

On the other hand, UPS Flight Forward seeks an FAA nod to incorporate a remote operations center that would allow a remote pilot in command to conduct flights in a different location using the FAA-certified Matternet M2 drone and a ground-based surveillance system along with a suite of situational awareness tools that would replace the use of visual observers.

Phoenix Air Unmanned, meanwhile, seeks relief to operate the SwissDrones SVO 50 V2 for linear infrastructure operations, including aerial work, aerial photography, survey, and powerline and pipeline patrol and inspection. These operations, the company says, include BVLOS flights over certain roads and transient operations over people within the right of way.

## UAS and SmallSat Weekly News

And finally, drone avionics tech specialist uAvionix is asking the FAA for an exemption to permit BVLOS flights for the purpose of research and development using the Rapace eVTOL aircraft.

The FAA says it will open a 20-day public comment period on May 25, 2023. The agency anticipates making a decision this summer, stressing that the data collected from these operations will inform the FAA's ongoing policy and rulemaking activities. You may go to www.regulations.gov and follow the online instructions for sending your comments electronically. https://dronedj.com/2023/05/24/faa-bvlos-drone-ups-zipline/\#more-93519
mscasser@umd.edu; ursula.s.powidzki@gmail.com; rkaese@tedco.md; darryl.r.mitchell@nasa.gov; kris.a.romig@nasa.gov; gary.evans@axcel.us; mike.hitch@nasa.gov; denise.a.lawless@nasa.gov; christina.d.moats-xavier@nasa.gov; thomas.e.johnson@nasa.gov; tony@teamalaris.com; daniel.morris@nianet.org; myaz@hampton.gov; stanley@nianet.org; william.edmonson@nianet.org; heather.gramm1@maryland.gov; elizdietzmann@gmail.com; steven.bain@oncourse-Ilc.com; Marty@General-Ideas.com; james@djmontgomery.com; rkwhite@vbgov.com; mburgess@airsightglobal.com; eleavitt@airsightglobal.com; b.hanrahan@precisionhawk.com; danginobell@outlook.com; Tcheek503@yahoo.com; jeanhaskell415@gmail.com; iha@eservices.virginia.edu; ayoung5090@aol.com; icc7s@eservices.virginia.edu; cxcarter@odu.edu; msandy@odu.edu; robert.a.baker.ctr@navy.mil; rick@crtnsolutions.com; eupchurch@sitechma.com; sjohnson@adaptiveaero.com; dubtravis@hotmail.com; p.gelhausen@avidaerospace.com; pcushing@williamsmullen.com; rkorroch@williamsmullen.com; steven.walk@nhgs.tec.va.us; tanner.loper@nhgs.tec.va.us; talberts@odu.edu; rdwyer@hrmffa.org; kenny.elliot@yorkcounty.gov; william.a.wrobel@nasa.gov; harry@virginiauas.com; asubramani@avineon.com; icampbell@avineon.com; sean@hazonsolutions.com; scott@virginiauas.com; Bob@virginiauas.com; jcronin@odu.edu; peter.bale@srsgrp.com; chris@hoistcam.com; ed@hazonsolutions.com; msatterlund@mwcllc.com; sadlerc@yorkcounty.gov; ariela@powerofavatar.com; dataariseconsulting@gmail.com; kim.lochrie@vaspace.org; dyoung@genedge.org; david@hazonsolutions.com; ralph@jeremycreekfarm.com; jeff.johnson@vtcrc.com; emcmillion@reinventhr.org; director@doav.virginia.gov; jspore@reinventhr.org; paulrobinson@atrusa.com; vic.z.tumwa@nasa.gov; jacobw@us.ibm.com; dlandman@odu.edu; sherwood@nianet.org; peter.mchugh@nianet.org; marchuleta@edgeautonomy.io; inoel@yorkcounty.gov; cmeredith@nnva.gov; cstuppard27@gmail.com; carl.conti@sisinc.org; Hughesfamily51@charter.net; tom.walker@webteks.com; zak@unrealworx.com; jack@generalaerocompany.com; bruce.holmes@airmarkets.aero; peter.mchugh@nianet.org; mpoplawski@nnva.gov; mark.flynn@doav.virginia.gov; jshaeffe@odu.edu; rclaud@odu.edu; pmengden@swiftengineering.com; astreett@swiftengineering.com; kielyw@msn.com; dcgrulke@cox.net; jrea23@hotmail.com; mastaglio@hotmail.com; kenaijunkie@hotmail.com; murat@destecs.net; dlandman@odu.edu;

Robert Rea | Axcel Innovation | Suffolk, VA robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

## UAS and SmallSat Weekly News

robert.stolle@cit.org; jolson@ecpi.edu; wiedmanj@gmail.com; w1wnr@aol.com; alex.synnott@gmail.com; jkirby145@yahoo.com; Daniel@lingoconsulting.com; I.delaporte3@gmail.com; cyook@kslaw.com; allcvi@consolidatedventuresinc.com; jholman@hreda.com; savery@oihr.org; charity.gavaza@poquoson-va.gov; mjkaszub@odu.edu; twc4223@yahoo.com; boshier@verizon.net; dslindleyva@gmail.com; ilind@att.net; aaron@tidewaterglobal.net; jeffdye01@gmail.com; dtackels@dronedeploy.com; cwirt@nnva.gov; abece001@odu.edu; dtb7p@virginia.edu; kenneth.niederberger@gmail.com; Ashley.rowe@yorkcounty.gov; juliewheatley@co.accomack.va.us; junnam@asm-usa.com; mohara@ball.com; robert.fleishauer@ssaihq.com; manning@stcnet.com; mkim@genexsystems.com; rwhite@vigyan.com; skyemciver@gmail.com; khoffler@adaptiveaero.com; jerylhill@cox.net; bwachter@bihrle.com; mproffitt@adaptiveaero.com; james.closs@nianet.org; djones@dslcc.edu; director@lakecountyedc.com; cshelton@startwheel.org; aradovic@dcnteam.com; cgeraghty@proenviro.com; jimmy@lyftedmedia.com; bheenan@morphtec.com; ed.albrigo@cit.org; joe.fuller@dartfleet.com; asynnott@telegraphoffice.com; jim@ust-media.com; anthony.vittone@dartfleet.com; jairusmwenzel@gmail.com; john.robinson@srsgrp.com; jgill@tcc.edu; arthur@promediavideoservices.com; walt@fcg-co.com; david.throckmorton@nianet.org; photographybydavid.dr@gmail.com; mgboyd99@gmail.com; johndcalder@gmail.com; mpapazis@scott-macon.com; bigbenjmn@gmail.com; bljohnson@virginiamohs.com; amy.wiegand@droneup.com; stevel@co.kinggeorge.state.va.us; dbrillembourg@avidaerospace.com; daniel.g.wolfe@usi-inc.net; blarys@cox.net; kim@wildflowerintl.com; carly@wildflowerintl.com; DMorris@ReinventHR.org; genevieve.ebarle@nianet.org; marco.rubin@cit.org; mytravelexpert@msn.com; ¡chapman@cwm-law.com; codyreese21@yahoo.com; icostuli@odu.edu; jselfridge@gmail.com; chris@assayonwheels.com; dbarton@daa.com; pierre@si-forest.com; lynn.mcdaniel@ctr-cit.org; tracy.tynan@cit.org; jerylrhill@gmail.com; chewlett@deloitte.com; aoksoy@odu.edu; charles@tudorproductions.com; Frederic.dalorso@act.nato.int; bj.sharon.hall@sbcglobal.net; chris.moad@earlycharm.com; info@droneii.com; EdMullinSr@outlook.com; Brian.spratt@siforest.com; Mike.griffin@si-forest.com; Lisa.May@murphian.com; mfrigelj@pmasolution.com; amy.wiegand@droneup.com; roger.venezia@maryland.gov; mattisdrone@gmail.com; johnmarkva@mac.com; jhawk009@odu.edu; dmperkins@odu.edu; davidplace47@gmail.com; ksrawat@ecsu.edu; Thomas.garrett@yahoo.com; marco@expressdroneparts.com; info@pt2go.com; Wasilenko@emeritus.evms.edu; shaun@caterboom.com; kbarquinero@gmail.com; amy.k.klarup@nasa.gov; Daniel.Berry@act.nato.int; cvidoli@fastmail.fm; evandro@airgility.co; Jeanne.larcombe@gmail.com; s.snedecor@advancedaircraftcompany.com; rbesser@stevens.edu; ac@cordillera-apps.com; ci@cjspadycpa.com; eashby2008@gmail.com; lena.little@nasa.gov; michael.I.french.civ@mail.mil; mrichards@wildflowerintl.com; Amber.Wilson@doav.virginia.gov; Theresa@redorangestudio.com; keagle@odu.edu; ac@cordillera-apps.com; uasci@dcnteam.com; carole.mattessich@nianet.org; dbowles@odu.edu; joshb@uavfactory.com; mcopeland@eagleaviation.tech.com; gp@cordillera-apps.com; roberthrea@gmail.com; miriam@dronelife.com; david@where2wheel.com; chris.bugg@sandler.com; zachary.johns@hush.aero;

Robert Rea | Axcel Innovation | Suffolk, VA robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

## UAS and SmallSat Weekly News

joe.piazza@teamalaris.com; aj.gallagher@hush.aero; jonathan.kelly@ssaihq.com; steve fitzsimmons@comcast.net; dougsmith@hreda.com; mail@GlobalStrategySupport.com; larry.lombardi@currituckcountync.gov; dgagne@divcom.com; mickey@cowden.tech; rese.cleaver@droneup.com; Jim@JHWUnmannedSolutions.com; ovadia.salama@gmail.com; ajaques@airt.ngo; byron@airsupply.com; wyatt@airsupply.com; Andrew@airsupply.com; nio@phaseone.com; rbo@phaseone.com; colter.menke@maryland.gov; steve.jarriel@dronevideopartners.com; david@americanaerospace.com; bobaldrich@geturgently.com; chris@geturgently.com; patrice@trisdom.com; missie@vpdrone.com; pramod@airgility.co; Don.Berchoff@trueweathersolutions.com; sales@inertiallabs.com; ccoffey@Irprecisiontooling.com; mwhite@Irprecisiontooling.com; don@zenithaerotech.com; anielsen@odu.edu; JMay@autonomousflight.us; Tim@QuestKnightEnterprises.com; andrew.branson@droneup.com; tjs12454@gmail.com; orders@airsupply.com; michaelfrench070@gmail.com; michael.beiro@linebird.net; jeff.etter@droneup.com; ryan.williams@droneup.com; greg.james@droneup.com; jdaniel@missiongo.io; elle.pechiney@alarispro.com; jessica.ambrose@droneup.com; danny.cullen@droneup.com; a.frank@advancedaircraftcompany.com; anthony.vittone@droneup.com; stanley@nianet.org; Pstoutamire@autonomousflight.us; sgreen@mwcllc.com; Supremeroman77@gmail.com; karenandkeith@cox.net; daniel.g.wolfe@usiinc.net; davehinton757@gmail.com; msterk@thelongbowgroup.com; Richard.Laing@ncia.nato.int; richard.r.antcliff@gmail.com; Zachary.johns@hushaero.com; carrie.rhoades@nasa.gov; ryan.labarre@firstiz.com; jstorm22@gmail.com; director@gsdm.global; joefuller757@gmail.com; cwood3910@att.net; hudpagosa@yahoo.com; mlboshier@gmail.com; bdallen@odu.edu; b.fenigsohn@advancedaircraftcompany.com; mspapen1@gmail.com; matt.beatty@droneup.com; deancartini@cartinidrones.com; chris sadler@verizon.net; chris.sadler@ctr-vipc.org; jschultz@areai.com; Chris.Sadler@VirginiaIPC.org; Tom.mastaglio@outlook.com; Brandon.graham@nianet.org; Robin.ford@nianet.org; CameoBluejay@protonmail.com; ed.alvarado@droneii.com; tori.brudi@droneup.com; jacqueline.putegnat@droneup.com; markprosper@ymail.com; ngrden@reinventhr.org; dan.jakab@droneup.com;

David.smith@vsp.virginia.gov; earthcare@aol.com; marchuleta@edgeautonomy.io email; patrick.santucci@droneup.com; michele@macjamlaw.com; w.j.fredericks@advancedaircraftcompany.com; vippnv@earthlink.net; trevor brinkman@surryschools.net; maria.mendez@inertiallabs.com; dbutton@edgeautonomy.io; Tim@startwheel.org, charles.e.juenger@nasa.gov; pgleavy3@gmail.com; ben.g@elsight.com;


UAS and SmallSat Weekly News

