UAS and SmallSat Weekly News

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28May22

Joby receives FAA nod to start air taxi services commercially Reuters 28May22

A Joby Aviation Air Taxi is seen outside of the New York Stock Exchange ahead of their listing in Manhattan, New York City, August 11, 2021

WASHINGTON, May 26 (Reuters) - Joby Aviation Inc (JOBY.N) said on Thursday it had received a certification from the Federal Aviation Administration that would allow it to begin its air-taxi operations commercially with a conventional airplane.

Although the certification gives the necessary clearance and is a significant milestone, the company still has additional regulatory hurdles to clear before its five-seater aircraft can legally fly passengers.

The FAA's Part 135 Air Carrier Certificate is among the three regulatory approvals critical for Joby's planned launch of all-electric aerial ridesharing service in 2024.

The certification would let Joby operate its electric vertical take-off and landing (eVTOL) aircraft as an air taxi service in cities and communities across the United States.

The FAA said it issued Joby the Part 135 certificate on May 19 "after they completed the five-phase certification process. Joby has one aircraft on the certificate, a CIRRUS-SR22."

Joby said it plans to use the conventional aircraft "to refine systems and procedures in advance of launching eVTOL service targeted for 2024." Joby shares closed up 8%.
https://www.reuters.com/business/autos-transportation/joby-receives-faa-nod-start-air-taxi-services-commercially-2022-05-26/

UAVOS Leverages Drones, Software, and Digital Twins to Improve Transmission Lines May 27, 2022 Mapping and Surveying | News

UAVOS has successfully completed a transmission line & towers drone survey project for an energy company that took place in the Northern area at latitude 20°. The project was aimed at helping the energy company fully automate

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the capture and processing of power line-related condition assessment data. Over 2300 km flights of BVLOS have been carried out to detect unauthorized objects and vegetation as well as line and tower elements defects. The project was done in a hard-to-reach area where the landscape often changes and offers different obstacles at a critically low temperature of around – 36 Cº. The UAVOS' drones and technology have proven to operate and detect faults in extremely low temperatures.

Thus, it is expected that UAVOS' technology will help its clients move towards more proactive maintenance practices, which will save their expenditure on repair. A central element of the project is to increase the automation of data processing, which is supposed to increase the analysis of the data collected during an inspection from 30% to 90%. Furthermore, a digital twin will be utilized and merged into one coherent environment.
https://uasweekly.com/2022/05/27/uavos-leverages-drones-proprietary-software-and-digital-twins-to-improve-serviceof-transmission-lines/?utm_source=rss&utm_medium=rss&utm_campaign=uavos-leverages-drones-proprietary-software-and-digital-twins-to-improve-serviceof-transmission-lines&utm_term=2022-05-27

Cyberhawk wins public safety award for power grid inspection and wildfire prevention May 27, 2022 News

Cyberhawk has been recognized for public safety at this year's Airwards, the global drone awards. The accolade was received in acknowledgment of the company's power grid inspection capabilities and contribution to wildfire prevention initiatives using drones.

Cyberhawk has developed a visual intelligence solution for critical energy infrastructure. The inspection solution supports condition monitoring of infrastructure to identify faults before they affect the electricity supply. Drone imagery is layered with existing inspection data, captured from helicopters or groundcrews, and analyzed using an IoT-enabled software solution called iHawk.

iHawk is cloud-based software that manages visual inspection data recorded from electricity towers, substations, and overhead lines to help power grid operators prioritize maintenance.

Airwards is the first program to recognize the real-world positive impact of drones. The awards are dedicated to recognizing innovative use-cases of drone technology from around the world.

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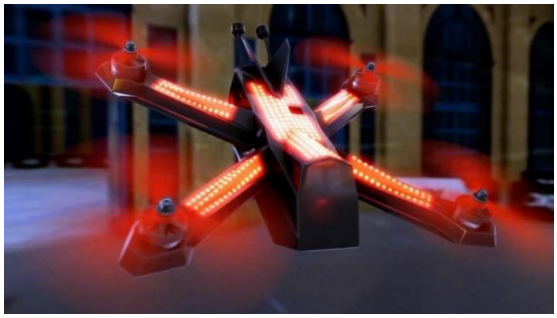
https://uasweekly.com/2022/05/27/cyberhawk-wins-public-safety-award-for-power-grid-inspection-and-wildfire-prevention/?utm_source=rss&utm_medium=rss&utm_campaign=cyberhawk-wins-public-safety-award-for-power-grid-inspection-and-wildfire-prevention&utm_term=2022-05-27

Draganfly Racing to Test New Drone Technologies PETER GUTIERREZ MAY 9, 2022



A DRL racing drone in action.

Long-time drone manufacturer Draganfly recently announced a multi-year partnership with the Drone Racing League (DRL), the world's premier professional drone-racing property. Together, the partners are launching DRL Labs, an innovation hub that will research and develop original drone and sensing technologies.

"We want to advance the cutting-edge sport of high-speed drone racing," said Cameron Chell, Chairman and CEO of Saskatoon, Saskatchewan-based Draganfly. "There are a number of characteristics that separate racing drones from other unmanned aerial vehicles," Chell added. "Racing drones need to be fast, agile and durable, and they are typically smaller, only around 250 millimeters." These high-tech speedsters are specifically designed for forward flight and have a camera positioned on the front of the chassis. Pilots use high-performance electronic speed controllers to accelerate their drones quickly or slow down suddenly.

"Given the high-octane and adrenaline-pumping nature of drone racing," Chell said, "it is crucial that the frame of the vehicle is made of sturdy, lightweight materials like carbon fiber to withstand any impact. If a drone hits an obstacle on the course, a frail frame could be the difference between winning and not finishing. These competitions are exciting to watch, full of wild maneuvers and split-second decision-making."
https://insideunmannedsystems.com/draganfly-racing-to-test-new-drone-technologies/

Meteomatics, Swiss Weather Drone Company, Marks 10 Year Anniversary DAWN M.K. ZOLDI (COLONEL, USAF, RETIRED) MAY 16, 2022

This year marks a decade of excellence for St. Gallen, Switzerland-based Meteomatics, creators of the Meteodrone, the world's first autonomous uncrewed aircraft system (UAS)-weather system-in-one. For its decennial

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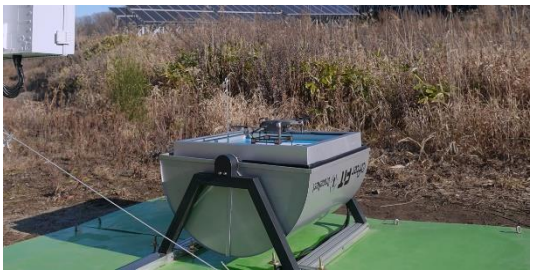
anniversary, it launched a drone-in-a-box solution and forged alliances with key partners in the United States.

Dr. Martin Fengler, an applied mathematics and weather prediction code expert, founded the company in March 2012. Its original three members provided meteorological consulting and services. By 2014, the group began producing its own weather data processing and distribution software, the Meteomatics' B2B weather API. Over 50 employees strong, in 2020, the company released their latest Meteodrone model to screen low- and mid-altitude atmospheric conditions.

This 100% Swiss-made 6-rotor electric vertical take-off-and-landing (eVTOL) UAS provides hyper-local and accurate micro-weather readings. Its proprietary design includes encased sensors that measure humidity, barometric pressure, and wind. Other novel features include a heated rotor system that prevents propeller icing. This enables safety of flight even in the most extreme conditions including fog, clouds and through thunderstorms.
https://insideunmannedsystems.com/meteomatics-swiss-weather-drone-company-marks-10-year-anniversary-with-new-launches-and-partnerships%EF%BF%BC/

Japanese firm gets BVLOS approval to fly autonomous drones at night Ishveena Singh - May. 27th 2022



In a first for Japan, renewable energy firm afterFIT has received approval to fly autonomous drones beyond visual line of sight (BVLOS) at night. The approval has been granted by the Japanese Ministry of Land, Infrastructure, Transport, and Tourism.

afterFIT uses drones to conduct inspections at its 1,924KW solar power plant in the Tochigi Prefecture. The drones, however, are operated from the company's Tokyo headquarters – some 124 miles away.

To enable these BVLOS drone inspections, afterFIT uses a modular system comprising of DJI drones, a low-cost docking station, and drone autonomy specialist FlytBase's FlytNow Auto software.

Explaining how the missions are conducted, afterFIT says it configures the drone to fly autonomously along a predetermined route scheduled on FlytNow, inspect solar panels, and live-stream infrared video feed and images back to the command center. Each inspection round

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takes about 20 minutes. Following the data collection, an AI system generates anomaly reports for the power plant.

afterFIT says drone deployment has enabled it to bring down the time it takes to inspect one MW from three hours to less than 10 minutes. Further, the use of a drone docking station has allowed the company to increase the frequency of inspections as well. Solar power plants that were previously inspected only once a year are now examined for damage and defects more frequently. https://dronedj.com/2022/05/27/bvlos-drones-night/#more-81482

29May22

How drones delivering vaccines are saving lives in India

By delivering medical goods to hard-to-reach places, drones have helped save lives across the world. Doctors Without Borders have tested them to help tackle tuberculosis in Papua New Guinea and Ebola in Liberia, and GAVI has used them to deliver vaccines in areas without the infrastructure for conventional delivery.

COVID-19 has accelerated the way healthcare providers use drones to deliver medicines and vaccines worldwide because they are particularly useful in places where road connectivity and refrigerated transport are a challenge.

Minister of Civil Aviation joint secretary Amber Dubey inspecting a vaccine delivery drone in Telangana, India

In India, there is an urgency for the public and private sectors to collaborate on drone applications to improve healthcare equity in rural areas. The World Economic Forum's Medicine from the Sky initiative is accelerating the transformation from inefficient health supply chains to digital, resilient infrastructure that reduces wastage and improves health outcomes. At its core, this project is addressing gaps in healthcare distribution systems by delivering vaccines and medicine to remote areas in India using drones. The initiative is also developing guidance for decision-makers and health systems to analyze the opportunities and challenges of drones delivering vaccines. More than 300 vaccine delivery trials have already been completed, with plans to expand and reach more communities. https://www.weforum.org/impact/drones-delivering-vaccines/

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China launches an autonomous mothership full of autonomous drones Loz Blain

May 23, 2022

China christened a remarkable new 290-foot ship last week – the world's first semi-autonomous drone carrier. It'll carry, launch, recover and co-ordinate the actions of more than 50 other autonomous aerial, surface, and underwater vehicles.

The Huangpu Wenchong Shipyard began construction on the Zhu Hai Yun last July in Guangzhou. According to the South China Morning Post, it's the first carrier of its kind, a self-contained autonomous platform that will roll out with everything necessary to perform a fully integrated operation, including drone aircraft, boats and submersibles.

China doesn't expect it to navigate busy seaports by itself. Instead, the Zhu Hai Yun will run on remote control until it's out in the open water, and then its self-driving systems will take over to execute whatever mission it's running.

It's kitted out with everything it needs to deploy its own boats, subs, and aircraft, communicate with them, and run coordinated missions, including conducting "task-oriented adaptive networking to achieve three-dimensional views of specific targets." The aerial drones can land back on its deck, and it stands ready to retrieve the boats and subs once they've made their rounds. https://newatlas.com/marine/china-autonomous-mothership/

30May22

HERE ARE THE BIGGEST DRONE USE CASES FOR 2022 May 13, 2022 Sally French

So how are companies using drones? Here are the most popular use cases for 2022.

The team at German-based drone analytics Drone Industry Insights released its latest set of research to find the top drone applications.

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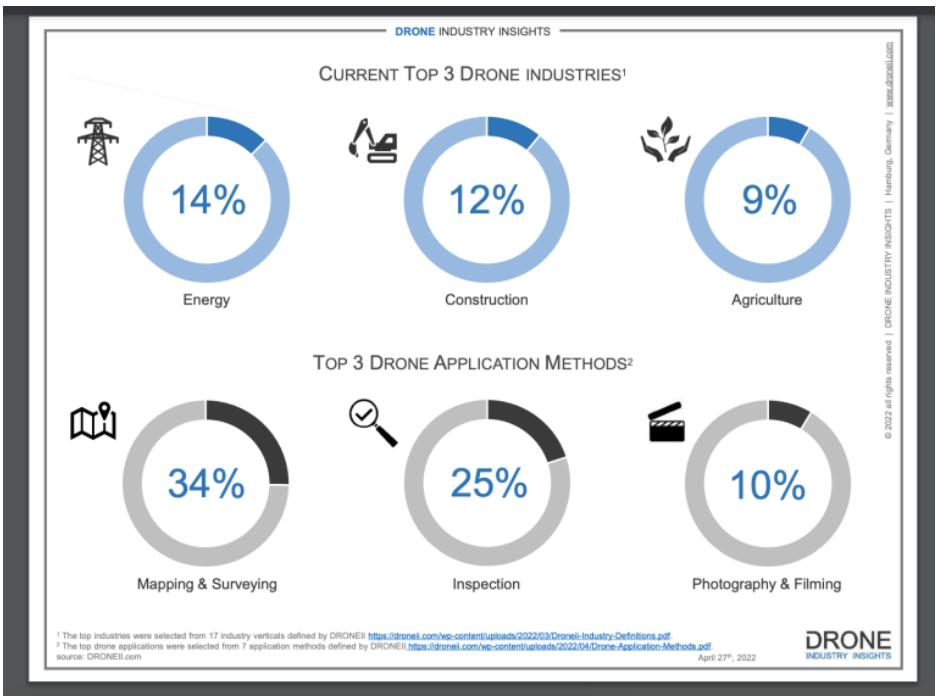

DII dug into the industries using drones. The top 3 industries are:

1. Energy (14% of all drone applications)
2. Construction (12% of all drone applications)
3. Agriculture (11 % of all drone applications)

Energy is far and away the biggest industry user of drones. It's also a huge industry — and it has a lot of money. By and large, energy companies are using drones for inspections of a range of equipment, including pipelines, wind turbines and oil storage tanks.

"By using a drone instead of a person, the inspector does not need to enter to dangerous areas, and the powerline/turbine that is being inspected usually does not have to be shut down to guarantee human safety, which means it continues to operate and generate revenue," according to a statement from DII.

The use of drones in energy has skyrocketed as of late. Global energy flights increased 123% and users increased 86% between 2018 and 2019, according to DroneDeploy data. Perhaps even more stark, flights conducted for or by energy companies jumped 74% between 2020's Q2 vs. Q1.

Just last year, California-based DroneBase raised a $12.5 million Series C funding round to expand its work in solar and wind energy. https://www.thedronegirl.com/2022/05/30/biggest-drone-use-cases-for-2022/

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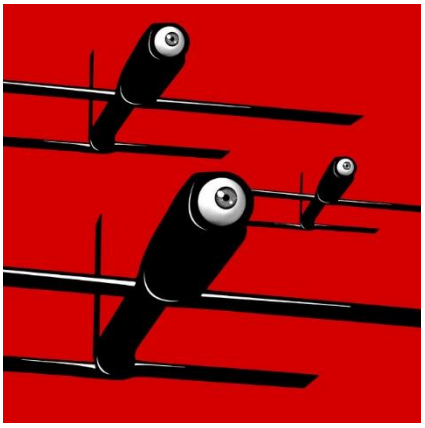
No One Can Hide from This Weapon in the War in Ukraine May 30, 2022 ALEX KINGSBURY



All wars have their iconic weapons, from the AK-47 to the I.E.D. In Ukraine, it's the drone.

A vast number and variety of drones — unmanned aerial vehicles — have been used on both sides of the war, including large military-grade machines and smaller consumer models. Drone operators are the new snipers, even though they are often miles from the battlefield.

Consider a video that circulated widely on social media in the past few weeks: A drone hovers above a bomb-shattered neighborhood in Ukraine. Below it, several troops in Russian uniforms get into a truck. The drone releases a small explosive, which plummets toward their parked truck. Then the driver throws the vehicle into reverse. Just as the truck begins to roll, the explosive drops straight through the truck's open sunroof and detonates. The windshield explodes out over the hood, and the interior is engulfed in smoke.

In Ukraine, drones have brought international audiences right up to the front lines, documenting the destruction of cities and capturing footage of attacks against Russian ships and tanks, men and matériel. This mix of off-the-shelf drones and their larger military-grade brethren has experts watching the conflict closely and pondering what it means for future wars.
https://www.nytimes.com/2022/05/30/opinion/drones-ukraine-war.html?campaign_id=9&emc=edit_nn_20220530&instance_id=62734&nl=the-morning&regi_id=76945057&segment_id=93727&te=1&user_id=f3d322e93016f7ce6835ec0bc3368a5c

Boston police bought another 'high performance' drone Ivy Scott Globe Staff May 29, 2022

The Boston Police Department has quietly taken steps to expand its drone surveillance program this year without notifying the City Council or the public, raising concerns among privacy advocates about the transparency of its technology use.

In early March, the department purchased another high-performance drone and plans to create a drone team to operate it. The $25,000 aircraft is the department's eighth drone in active use

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and one of its most advanced. A police spokesman said the use of all department drones remains limited to approved operations, such as crime-scene reconstruction or monitoring security during special events including the Boston Marathon.

But the expansion renewed concern that police drones could be used to carry out routine surveillance that violates people's Fourth Amendment rights against unwarranted searches. Last fall, the City Council passed an ordinance that will require the department to disclose all previous and future surveillance technology purchases to the council, starting July 20. In addition to requiring the department to obtain permission from the council before purchasing new technology, the ordinance also allows the council to review technology already purchased by the police and decide whether the department may continue using it.

Over a dozen police departments in the state regularly use drones — law enforcement drones make up over 40 percent of all those registered to government agencies in the state, according to data reported by the Massachusetts ACLU.
https://www.bostonglobe.com/2022/05/29/metro/boston-police-bought-another-high-performance-drone-want-create-new-unit-fly-it/

Denmark launches medical drone delivery service with a 50km mission May 30, 2022 Philip Butterworth-Hayes UAS traffic management news

Denmark's minister of transport Trine Bramsen attended today Denmark's first long-range hospital drone delivery service launch, when a drone took off from Svendborg Hospital carrying blood samples to the island of Ærø. According to social media reports it was the first flight across the water, a route of 50 kilometers, taking place at an altitude of 80 meters. After 34 minutes of flight, the drone landed safely in Ærøskøbing.

The flight was part of the HealthDrone three-year innovation project to develop "health drone services" for transport of patient samples, medicine and medical equipment between hospital wards, medical centers, and home care. "Behind the project is a partnership consisting of OUH, Falck, Holo, Unifly, Scandinavian Avionics and SDU. HealthDrone is in the process of developing and testing drones for transporting blood samples and medicine between Ærø, Svendborg and Odense.

"It is exceptional in a European context that we fly with the drones without shutting down the airspace. Together with Naviair, Unifly and the Danish Transport Authority, we at SDU have

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developed a method for tracking helicopters and aircraft so that we can maneuver around them. The air traffic control at Naviair can see on their screens when a drone flight is in progress and will act if a rescue helicopter needs the airspace.
https://www.unmannedairspace.info/uncategorized/denmark-launches-medical-drone-delivery-service-with-a-50km-mission/

Drone services market to grow from $13.9 billion to $40.7 billion in next five years May 26, 2022Jenny Beechener

Marketsandmarkets has published a 299-page research report on the drone services market that estimates the market will grow at a Compound Annual Growth Rate of 23.8% from 2021 to 2026. North America is estimated to account for the largest share of the drone services market in 2021.

According to the report, drone services is an evolving market for flying drones that can be remotely controlled or flown autonomously by integrating software-controlled flight plans into their embedded systems. Commercial drone services support industries such as agriculture, insurance, construction, marine, aviation, oil & gas, mining, and infrastructure in performing tasks such as search and rescue, package delivery, industrial inspection, assembling imagery, spraying fertilizers, distributing healthcare supplies to remote places, and broadcasting shows.

Some of the prominent key players listed include: Cyberhawk (UK), Sky-Futures Ltd. (UK), senseFly Ltd. (Switzerland), DroneDeploy Inc. (US), Terra Drone Corporation (Japan), PrecisionHawk (US), and Aerodyne Group (Malaysia) https://www.unmannedairspace.info/latest-news-and-information/drone-services-market-to-grow-from-usd-13-9-billion-to-usd-40-7-billion-by-2026-in-next-five-years/

LATAM slashes aircraft inspection costs and time with drones Bruce Crumley - May. 30th 2022

South American airline group LATAM communicated updates on its use of drones in its aircraft inspection and maintenance, repair, and operations systems earlier this month. The airline said continued testing of the aerial technique is allowing it to be expanded within the company's network.

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Significantly, LATAM said flight of tech-packed automated UAVs had cut the time of performing inspection on its aircraft from eight hours to just 40 minutes.

That result wasn't obtained overnight. LATAM initially began trialing drones for aircraft inspection in late 2019, partnering with specialized French UAV services group Donecle to oversee the process. As the application demonstrated its value in LATAM's main service center in São Carlos, Brazil, the carrier continued testing ways to enhance it and broaden its use. https://dronedj.com/2022/05/30/latam-slashes-aircraft-inspection-costs-and-time-with-drones/

31May22

ParaZero Files IPO This Week Miriam McNabb May 27, 2022

"The Kiryat Ono, Israel-based company, plans to raise $16 million by offering 2.5 million units at a price range of $5.20 to $7.20. Each unit consists of one share of common stock and two warrants, exercisable at the IPO price. At the midpoint of the proposed range, ParaZero Technologies would command a fully diluted market value of $58 million," says the Renaissance Capital announcement.

ParaZero is the latest drone ecosystem player to join the markets. Drone safety systems have come to the forefront of the industry as global regulators consider flight beyond visual line of sight and advanced operations. Currently, drone parachutes – ParaZero has a patented system that deploys as part of their autonomous safety system – are the most commercially viable means of meeting regulator's ground impact standards for flight over people. https://dronelife.com/2022/05/27/parazero-files-ipo/

Global Drone Companies Are Saving Lives in Ukraine Dawn Zoldi (Colonel, USAF Ret.)

As countries seemingly stood by and debated what to do for Ukraine, the global commercial drone industry stepped up. In an unprecedented grassroots effort, global commercial drone manufacturers have worked directly with NATO, Ukrainian defense officials or nonprofits to put commercial off the shelf (COTS) and do-it-yourself hobby drones in the hands of Ukrainian military and volunteer forces. In many cases, they also provided in-person training. These companies have ultimately helped to save lives. This

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article highlights some of these impactful contributions: Red Cat Holdings, Skydio, BRINC, Quantum-Systems GmBH, Draganfly, and Volatus Aerospace.
https://dronelife.com/2022/05/30/global-drone-companies-saving-lives-in-ukraine-a-memorial-day-salute/

U.S. Army Upgrades 'Bee Swarm' To 'Wolf Pack' During EDGE Trials Steve Trimble May 17, 2022

Envision a scenario where drone swarms lead future air assault missions by the U.S. Army: Roving dozens of miles deep into enemy territory with sensors, jammers and warheads, these networked air systems will be tasked as an autonomous group to hunt for hostile air defenses, then attack them or send their positions back to crewed helicopters armed with precision munitions or ground units with long-range missiles.

But that is only a concept. With the Army scheduled to field the first swarm-equipped units in the Future Vertical Lift family of systems in eight years, even basic details of a new operational specialty for tactical swarming behaviors are still being worked out.

Consequently, the Army gathered 1,300 soldiers, technicians, and analysts from 23 defense organizations and seven foreign allies for three weeks at Dugway Proving Ground—a dusty stretch of Utah's Great Salt Lake Desert larger than Rhode Island—for the second annual Experimental Demonstration Gateway Exercises (EDGE), which ran from late April to mid-May with 34 new technologies including 17 from the FVL portfolio.
https://aviationweek.com/defense-space/budget-policy-operations/us-army-upgrades-bee-swarm-wolf-pack-during-edge-trials?utm_rid=CPEN1000003332045&utm_campaign=33071&utm_medium=email&elq2=2955cd63d71b4d54bfed918a7bdaa354&utm_emailname=AW_News_Aerospace_20220531&sp_eh=536b822f340988ca12deeaf6a0907ccae63850ee4cf07728d68baa3b8017155d

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CAMCOPTER S-100 Provides Enhanced Maritime Surveillance in Denmark Phoebe Grinter / 25 May 2022

Schiebel's CAMCOPTER S-100 is supporting the Royal Danish Navy (RDN) in carrying out maritime surveillance tasks including detecting, verifying, and providing information on potential oil spills and discharges at sea

The Royal Danish Navy will be operating the Schiebel CAMCOPTER S-100 for maritime surveillance in Denmark's northernmost town, Skagen. The Remotely Piloted Aircraft System (RPAS) service is delivered by the European Maritime Safety Agency (EMSA).

The CAMCOPTER S-100 is supporting the RDN alongside other national authorities in carrying out various maritime surveillance tasks, including detecting, verifying and providing information on potential oil spills and discharges at sea.

All data gathered from the flights is shared live through the EMSA RPAS Data Center allowing users to monitor any unusual activity at sea with a potentially harmful impact on the safety and security of persons and vessels in the area or affecting the environment itself. The S-100's multiple state-of-the-art sensors significantly enhance the maritime surveillance capabilities of the RDN. https://www.unmannedsystemstechnology.com/2022/05/camcopter-s-100-provides-enhanced-maritime-surveillance-in-denmark/?utm_source=UST+eBrief&utm_campaign=5f654a7ea9-ust-ebrief_2022-may-31&utm_medium=email&utm_term=0_6fc3c01e8d-5f654a7ea9-119747501&mc_cid=5f654a7ea9&mc_eid=0d642a9d48

UAS Startups Investments and Support Through GENIUS NY Accelerator – Apply Now 5/6/2022

If you're a startup in uncrewed systems, IoT, big data, or robotics then the GENIUS NY program needs to be on your radar. It is the world's largest business accelerator focused on uncrewed aircraft systems (UAS) and is looking for the five teams which will participate in the sixth round of the year-long program. The in-residence accelerator, operated out of Syracuse, New York, will invest more than $3 million in five finalist companies, including a $1 million grand prize, this year.

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The program has an incredible track record of success. Since 2017 GENIUS NY has invested more than $15 million in 26 startup companies who have gone on to raise more than $90 million in follow-on funding to scale and grow operations.

Its secret sauce is the ability to combine high value investments in companies at the beginning of the program while also offering participants industry mentors, stipends, resources, programming and networking opportunities. http://www.geniusny.com/news/uas-startups-get-investments-and-growth-support-through-proven-genius-ny-accelerator-program-apply-now

Spright, Synerjet partner on healthcare drone deliveries in Brazil Bruce Crumley - May. 31st 2022

Medical drone delivery operator Spright is teaming up with Latin America aviation company Synerjet in what they believe will be a major step toward expanding access to healthcare services across Brazil.

The two firms agreed this month to ready their effort to speed and improve distribution of medical supplies across Brazil and its population of 212 million people. In doing so, Synerjet will rely on its experience in the region to identify potential healthcare customers, establish an effective series of aerial routes, and provide 19 delivery drones that Spright will operate.

Last year, Synerjet became a strategic partner of German delivery drone company Wingcopter, and added its UAVs to the stable of airplanes, helicopters, and other vehicles it operates.

Though, like the US, most of Brazil's population lives in urban areas with ample medical services, the sizeable 13% of the total living in remote rural areas represents the target demographic for the new drone delivery of healthcare services. The approach mirrors activities Spright has established in the US since it was founded by aerial services parent company Air Methods. https://dronedj.com/2022/05/31/spright-synerjet-partner-on-healthcare-drone-deliveries-in-brazil/#more-81606

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‘Beam me up:’ nation’s first quantum drone provides unrivaled security

May 31, 2022 News

Harnessing the laws of nature – namely quantum physics – a cutting-edge teleportation technology is taking cybersecurity to new, “unhackable” heights using miniscule particles of light or “beams.”

Florida Atlantic University’s Warner A. Miller, Ph.D., in concert with Qubitekk and L3Harris , is leading the United States’ efforts to deliver the first drone-based, mobile quantum network to seamlessly maneuver around buildings, inclement weather and terrain and quickly adapt to changing environments such as warfare.

Together with Qubitekk, an award-winning leader in manufacturing entangled photon sources and other hardware for networking quantum processors and sensors, FAU has been entrusted by the U.S. Office of the Secretary of Defense to develop the project.

The network includes a ground station, drones, lasers, and fiber optics to share quantum-secured information. “The combination of quantum communication and unmanned aerial systems in this project represents an important advance in the Air Force’s efforts to create fieldable quantum systems for the warfighter,” said A. Matthew Smith, Ph.D., a senior research physicist at the Air Force Research Laboratory Information Directorate.
https://uasweekly.com/2022/05/31/beam-me-up-nations-first-quantum-drone-provides-unrivaled-security/?utm_source=rss&utm_medium=rss&utm_campaign=beam-me-up-nations-first-quantum-drone-provides-unrivaled-security&utm_term=2022-05-31

Cubesats to the Moon

Jeff Foust Tuesday, May 31, 2022

On the evening of Monday, June 13, in New Zealand, a Rocket Lab Electron rocket is scheduled to lift off from the company’s Launch Complex 1. That launch will look like many others by the company except for a prominent white NASA “worm” logo on the side of the booster, an indication that the launch is being performed for the space agency.

At facilities in California and Colorado, where the launch will take place in the early morning hours of Monday, controllers will be closely watching the single cubesat on board, called the Cislunar

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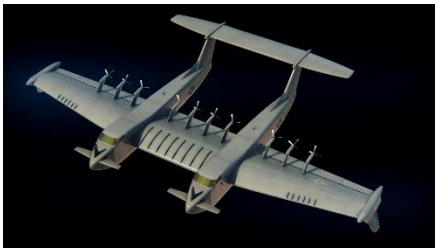
Autonomous Positioning System Technology Operations and Navigation Experiment (CAPSTONE). About six days later, after a series of burns by a Rocket Lab upper stage called Lunar Photon, CAPSTONE will be released on a trajectory that will eventually place it into a near-rectilinear halo orbit (NRHO) around the Moon, the same orbit that will be used by NASA's Artemis program for the Gateway and crewed missions to the lunar surface.
https://www.thespacereview.com/article/4395/1

1Jun22

DARPA's revolutionary seaplane wants to change how the Pentagon hauls cargo

JUSTIN KATZ May 27, 2022

For its Liberty Lifter project, the research agency is betting on a concept called the "wing-in-ground effect," an aerodynamic principle that's well-known but proven difficult to master.



WASHINGTON: The Pentagon's premiere research agency is moving forward with an effort to build an unusual kind of plane that, if successful, will rival the lift of the Air Force's storied Globemaster, cost half the price and not be constrained by a traditional runway. That's if the Defense Advanced Projects Research Agency can get right what the Soviet Union got wrong.

Dubbed the "Liberty Lifter," DARPA says the seaplane will use a trick of physics to serve as "a long-range, low-cost X-plane capable of seaborne strategic and tactical lift."

While DARPA has an early, dual-hulled concept in mind, Alexander Walan, a DARPA official overseeing the program, said the agency expected to receive proposals from industry this week in response to a solicitation for conceptual and preliminary design work, with two contracts up for grabs and scheduled to be awarded later this summer.

DARPA hopes to build and fly a prototype vehicle within five years.
https://breakingdefense.com/2022/05/darpas-revolutionary-seaplane-wants-to-change-how-the-pentagon-hauls-cargo/

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DRONE INDUSTRY INSIGHTS

Dear **Drone Industry Professional,**

As you probably know, every year we run a brief survey for drone companies all across the globe. We ask simple yet important questions such as how they have been performing, what activities they have been involved in, what their primary markets and perspectives on the future are, and much more. This results in our yearly Drone Industry Barometer, and all survey participants receive a free copy of the final report directly to their mailbox.

Last year, we expanded our reach by translating the survey into a few languages, and this year, we are facilitating global participation even more. We have now translated the survey into **Korean, Japanese, Chinese, Spanish, French and Portuguese**. This selection of languages opens the door for more participation from the biggest regional market (Eastern Asia) as well as huge geographic regions (the entire American continent, and parts of Africa).

The survey is only 17-29 brief questions (depending on your industry vertical), so it takes around 15-20 minutes to complete. **If you are a drone industry professional** and you'd like to participate, you can fill out the survey through one of the links below. https://mailchi.mp/droneii/drone-industry-barometer-2022

Mars Helicopter Marks New Flight Records Kate O'Connor May 31, 2022

NASA's Mars Helicopter, *Ingenuity*, has set new records for its longest and fastest flight to date. During its 25th flight, which lasted 161.3 seconds, the rotorcraft covered 2,310 feet at a speed of 12 MPH after climbing to an altitude of 33 feet. As shown in the video below, *Ingenuity's* navigation camera recorded and transmitted footage of the flight.

"For our record-breaking flight, Ingenuity's downward-looking navigation camera provided us with a breathtaking sense of what it would feel like gliding 33 feet above the surface of Mars at 12 miles per hour," said *Ingenuity* team lead Teddy Tzanetos.

Ingenuity, recognized as the first powered aircraft to operate from the surface of another planet, flew for the first time in April 2021 and is currently

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preparing for its 29th flight. NASA announced in March that it was extending Ingenuity flight operations through September to support the *Perseverance* rover's exploration of Mars' Jezero Crater. https://www.avweb.com/aviation-news/space-flight/mars-helicopter-marks-new-flight-records/?MailingID=938&utm_source=ActiveCampaign&utm_medium=email&utm_content=Pearl+10X+Reaches+Development+Milestone%2C+Mars+Helicopter+Marks+New+Flight+Records&utm_campaign=Pearl+10X+Reaches+Development+Milestone%2C+Mars+Helicopter+Marks+New+Flight+Records+-+Wednesday%2C+June+1%2C+2022

Swiss Post to hand over drone delivery operations to California's Matternet

Ishveena Singh - Jun. 1st 2022

California-based drone logistics company Matternet, which has been working successfully with Swiss Post since 2017, says it will take over drone delivery operations from Switzerland's national postal service starting January 1, 2023. In addition, Matternet will leverage its experience from operations in Switzerland to build Europe's first city-wide drone delivery network.

The five-year partnership between Swiss Post and Matternet has seen the organizations achieve many milestones together, including the operation of the first beyond visual line of sight (BVLOS) commercial drone delivery route over a city in Lugano (2017) and the first BVLOS commercial drone delivery route in a major European city (Zurich, 2018).

Matternet considers Switzerland one of the most advanced countries in the world for large-scale drone delivery operations. The company credits the country's growth in the sector to a robust regulatory framework established by the Federal Office of Civil Aviation and Switzerland's focus on world-class, efficient logistics and environmentally friendly technologies. https://dronedj.com/2022/06/01/swiss-post-drone-delivery-matternet/

2Jun22

Drone Startup WingXpand: the Best of Multi-Rotor and Fixed Wing Miriam

McNabb June 01, 2022 By Jim Magill

Commercial and military customers looking for a drone solution that combines the portability of a multi-rotor copter drone with the heavy-lift capability and long-range flight time of a fixed-wing aircraft might have found the answer they're looking for with a new UAV built by drone startup WingXpand.

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When disassembled, the aircraft, which the company bills as the world's only expandable-wing drone, weighs about 10 pounds and can be carried in a backpack. It can be assembled onsite in under two minutes into a plane-like vehicle with a 7-foot wingspan that can fly up to five times longer and can carry 10 times more weight than conventional quadcopters.

Co-founded by Michelle Madaras and CEO James Barbieri, St. Louis-based WingXpand debuted its signature aircraft at the AUVSI Xponential event in April. The company hopes to make its first deliveries of aircraft to customers in the third quarter of the year.
https://dronelife.com/2022/06/01/drone-startup-wingxpand-the-best-of-multi-rotor-and-fixed-wing/

3Jun22

XDynamics partners with Airvuz for highly anticipated drone contest June 2, 2022

News

In an exciting new collaboration among drone industry leaders, AirVuz and XDynamics announced a partnership to award new state-of-the-art drones to winners of a monthly drone video contest. AirVuz is the world's leading drone video and photography sharing platform and hosts an online community which includes many of the world's top aerial cinematographers. Through its Evolve 2 aerial imaging platform, XDynamics enables professional aerial filmmakers to produce cinema-quality aerial content with minimal restrictions on their creative freedom.

"Over the years, the contributor community at AirVuz has grown to include many of the top aerial content creators anywhere in the world. Since 2018, we have been running weekly, monthly, and annual competitions in which we pick the best videos uploaded to the AirVuz website. Our partnership with XDynamics allows us to offer a prize opportunity for our monthly contest winners –an Evolve 2 drone.

Beginning on June 1, 2022, contestants should upload their best drone videos to the AirVuz website: https://www.airvuz.com. All submissions to the website between 12:01AM CDT on June 1, 2022 through 11:59PM CDT on June 30, 2022 will be eligible to win the prize for June; the winner will be announced in July. The creator of the winning submission will receive as a prize an EVOLVE 2 drone package with a current retail price of $3,699. https://uasweekly.com/2022/06/02/xdynamics-partners-with-airvuz-for-highly-anticipated-

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drone-contest/?utm_source=rss&utm_medium=rss&utm_campaign=xdynamics-partners-with-airvuz-for-highly-anticipated-drone-contest&utm_term=2022-06-02

Draganfly's new Heavy Lift delivery drone can transport packages up to 67 pounds Ishveena Singh - Jun. 2nd 2022

Draganfly has announced a new delivery drone called Heavy Lift, which can transport packages weighing up to 67 pounds to customers within 18 miles. In addition, Draganfly has launched a long-range laser scanning system that can produce survey-grade point cloud data.

The Heavy Lift drone comes with a flight time of up to 55 minutes. It can support automated missions as well as manual flight operations. Draganfly points out that in addition to making deliveries, the heavy-duty drone permits flexibility for carrying large high-end sensors like hyperspectral and bathymetric LiDAR to conduct large-area surveys. LTE-enabled autonomous navigation and advanced flight control system allow long-range beyond visual line of sight operations.

The newly announced Long Range LiDAR laser scanning system integrates advanced sensors from Teledyne with Trimble subsidiary Applanix's IMU + GNSS. The result is a scanning range of 750m and accuracy of up to 2cm with 2 million points being captured per second.
https://dronedj.com/2022/06/02/draganfly-heavy-lift-delivery-drone/

Tahitian drone pilot wows viewers with insane Teahupo'o surfing videos Bruce Crumley - Jun. 2nd 2022

One of the many (admittedly less important) ways that expanding UAV use has revolutionized the ways people live, work, and even play is in providing drone video fans enhanced proximity and angles of surfing. One pilot has now taken that to new heights by giving the world new perspectives into the multi-faceted insanity of Tahiti's monstrous Teahupo'o.

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There isn't much known about UAV pilot and film creator Moana Peifer whose 28 no-text and no-comment offerings on his YouTube channel don't reveal any information about himself or his aerial hardware. But others now gaining considerably more attention are his recent drone videos taken above Teahupo'o – which has been translated "the place of skulls" – and the surfers battling the massive waves, shallow reef below, and mind-blowing swarms of riders, boats, jet skis, and other obstacles that amass around it during big days.

The epic swells that rolled through Teahupo'o in the past few weeks have been captured by professionals shooting from water level craft. But specialized surfing media and even generalist publications have also discovered and raved about Peifer's amateur drone videos of the action, which include suitably crafted titles like "TEAHUPOO FEAR."
https://dronedj.com/2022/06/02/tahitian-drone-pilot-wows-viewers-with-insane-teahupoo-surfing-videos/

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