UAS and SmallSat Weekly News

Contents

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22Apr23

Rocket Lab to launch new hypersonic rocket from Va. APRIL 17, 2023 KATHERINE SCHULTE

An Electron launch vehicle launches from NASA Wallops Flight Facility in March 2023. Photo by Brady Kenniston

California-based Rocket Lab USA Inc. will launch its new Hypersonic Accelerator Suborbital Test Electron (HASTE) rocket in Accomack County in the first half of 2023.

The company introduced the suborbital testbed launch vehicle, derived from its Electron rocket, on Monday. Rocket Lab is preparing the HASTE vehicle for launch for a confidential customer at its integration and control facility on Wallops Island. The rocket will launch from the company's Launch Complex 2 within Virginia Space's Mid-Atlantic Spaceport at NASA's Wallops Flight Facility, where the aerospace company launched its 60-foot-tall Electron rocket in January, its first launch from U.S. soil.

Rocket Lab announced in February 2022 that it had selected Wallops Island as the location for its launch site and a new manufacturing and assembly complex for its new, reusable Neutron rocket, a move that is expected to bring 250 jobs.

Rocket Lab National Security, a wholly owned subsidiary, will primarily operate HASTE. It will have a payload capacity of up to 1,540 pounds and options to accommodate larger payloads.
https://www.virginiabusiness.com/article/rocket-lab-to-launch-new-hypersonic-rocket-from-va/?oly_enc_id=9130E4751801F0T

US Sending Experimental Anti-Drone Weapons to Ukraine BY SAM SKOVE APRIL 4, 2023

The U.S. is sending anti-drone missiles as part of an experimental platform to help Ukraine down the Iranian-built drones that have devastated its energy infrastructure, according to representatives of government contracting company SAIC.

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On Tuesday, the U.S. announced a large package of military aid to Ukraine focused on air defense, including what it called "10 mobile c-UAS laser-guided rocket systems."

That follows a January competition held by the U.S. Army, which was seeking a system to fight off Shahed-136 suicide drones. SAIC, which participated in the competition, is in the running to send ten of the weapons to Ukraine, a company representative told Defense One on the sidelines of the Association of the U.S. Army's Global Force Symposium last week.

Russia has used Shahed-136s to attack not just Ukrainian military forces, but also enough civilian infrastructure to cause blackouts across the besieged country. Ukraine has downed many of the Iranian-made drones, which cost about $20,000 apiece, but sometimes is forced to use $500,000 air-defense missiles to do so. https://www.defenseone.com/defense-systems/2023/04/us-sending-experimental-anti-drone-weapons-ukraine/384801/

Enabling Advanced Air Mobility: Insights From the FAA, Honeywell, and ANRA

Jessica Reed | April 21, 2023

This week, a panel of experts discussed the challenges and opportunities associated with cooperating internationally on advanced air mobility, or AAM. Jessica Orquina, Manager of the Implementation Branch for the FAA's Safety & Integration Division in the UAS Integration Office, served as the moderator for the panel discussion.

"AAM is a new aviation ecosystem that will be enabled through innovative technology," Orquina remarked. "At FAA, we have a long history of safely bringing new technologies into aviation. We are committed to safely integrating AAM as well as drones into our aviation system in line with our safety standards." Orquina added that the FAA is working with international partners to adopt common certification and integration standards from other countries as AAM is being defined.

Pulkit Agrawal, Principal Certification Engineer (UAS/UAM) at Honeywell, spoke about some of the opportunities in the AAM industry. The company believes in the vision of efficient air transportation—electric air taxis that can complete a 100-mile trip in 45 minutes—as well as same-day package delivery via drone. While Honeywell is not making the aircraft themselves, "we do make the brains and muscles of these aircraft" to enable them to fly, Agrawal explained. Honeywell produces avionics systems, fly-by-wire systems, and thermal management solutions

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like the Micro VCS (Vapor Cycle System). https://www.aviationtoday.com/2023/04/21/enabling-advanced-air-mobility-insights-from-the-faa-honeywell-and-anra/?oly_enc_id=7021F0632090D7B

Drones to aid North Dakota flood emergency response Ishveena Singh | Apr 21 2023

An FAA UAS test site in North Dakota is preparing drones to support response efforts after Governor Doug Burgum declared a statewide emergency for spring flooding.

The Northern Plains UAS Test Site (NPUASTS) administers Vantis, a statewide beyond visual line of sight (BVLOS) drone network at the Grand Sky Business Park near Grand Forks. NPUASTS says it will use drones in several ways to enhance recovery efforts.

For instance, during pre-mitigation, drones will be used to monitor flood levels, melt rates, and ice jams. Further, drone flights will be coordinated with first responders for quick access to real-time information. A 24/7 Mission Network and Operations Center is also planned to enable secure 24×7 coverage and coordination with emergency response personnel.

According to NPUASTS, all drone images and video footage will be made available for public viewing. In addition, a comprehensive flood risk report will soon be available at www.grandforksgov.com, which will provide the community with up-to-date information about flood risk. This will allow people to prepare more effectively for possible flooding. https://dronedj.com/2023/04/21/north-dakota-flood-drone-vantis/#more-92771

24Apr23

Counter drone market predicted to rise by $1.6 billion at CAGR 25% from 2023-2028 April 24, 2023 Jenny Beechener

The global counter drone market is predicted to witness a CAGR of 25% during 2023-2028 according to a report published by HTF Market Intelligence. The market is segmented by application: Detection (Radar, Sensors, Others); Detection & Disruption; Technology (Laser, Kinetic, Electronics); Verticals (Military & Defense, Homeland Security, Commercial); and by Geography. The Anti-Drone market size is estimated to increase by $1.6 Billion at a CAGR of 25% from 2023 to 2028. The report includes historic market data from 2017 to 2022E. Currently, market value is pegged at $2.6 Billion.

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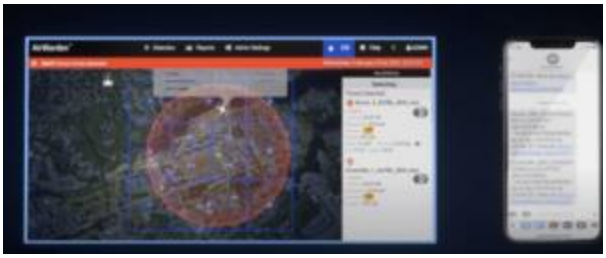
The study covers new evolving trends, drivers, restraints, opportunities generated by targeting market associated stakeholders. The growth of the Anti-Drone market was mainly driven by the increasing R&D spending across the world, however latest scenario and economic slowdown have changed complete market dynamics. https://www.unmannedairspace.info/counter-uas-systems-and-policies/counter-drone-market-predicted-to-rise-by-usd1-6-billion-at-a-cagr-of-25-from-2023-2028/

Drone Detection: AeroDefense Launches Low Cost, Low Profile Remote ID Receiver Miriam McNabb April 21, 2023 by DRONELIFE Staff Writer Ian M. Crosby



AeroDefense has announced Remote ID integration for its AirWarden™ drone and pilot detection system, as well as the new AirWarden Remote ID Receiver: a compact and affordable Remote ID broadcast receiver. Under the Federal Aviation Administration's Remote ID rule, flying drones are required to broadcast identification and location information that can be received by anyone. Newly manufactured drones are currently required to comply with this rule, while existing drones will need to do so by September 2023.

The system receives Remote ID broadcasts, with the AirWarden Command Console alerting the user to any breach in airspace by a Remote ID compliant drone. Essential information such as drone type, speed, and drone/pilot location is provided in real time while all other Remote ID information captured during detection can be reviewed on-demand. Organizations monitoring multiple sites can do so from a single screen, receiving visual alerts when a drone incident occurs in their specific area of interest. https://dronelife.com/2023/04/21/drone-detection-aerodefense-launches-low-cost-low-profile-remote-id-receiver-video/

ROCK Robotic Releases New LiDAR Systems for Advanced, Survey-Grade Mapping Miriam McNabb April 21, 2023 by DRONELIFE Staff Writer Ian M. Crosby

ROCK Robotic, a developer of professional survey-grade LiDAR technology, has announced the launch of the R3 and R3 PRO systems, its latest in LiDAR mapping solutions. The R3 product line incorporates advanced hardware components within a lightweight, integrated 3D point cloud collection tool. The R3 is an intuitive, end-

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to-end LiDAR solution that will integrate into ROCK Robotic's comprehensive LiDAR approach.

The ROCK R3 line features state-of-the-art technology such as a geodetic-grade GNSS receiver and tactical-grade IMU. The device comes equipped with a detachable 26MP camera for high-resolution RGB image capture. The R3 employs a Hesai Pandar XT16 sensor, while the R3 PRO offers the superior Hesai Pandar XT32 sensor. The solution weighs only 1.26 kg (2.77 lb) compared to its predecessor, the ROCK 360 system's 1.70 kg (3.74 lb). The R3 also provides optional advanced SLAM capabilities for mapping on the ground and in areas with weak GNSS signals. https://dronelife.com/2023/04/21/rock-robotic-releases-new-lidar-systems-for-advanced-survey-grade-mapping/

Liquid Neural Networks Empower Drones to Explore Uncharted Territory April 24, 2023

In the vast, expansive skies where birds once ruled supreme, a new crop of aviators is taking flight. These pioneers of the air are not living creatures, but rather a product of deliberate innovation: drones. But these aren't your typical flying bots, humming around like mechanical bees. Rather, they're - inspired marvels that soar through the sky, guided by liquid neural networks to navigate ever- avian changing and unseen environments with precision and ease.

Inspired by the adaptable nature of organic brains, researchers from MIT's Computer Science and Artificial Intelligence Laboratory introduced a method for robust flight navigation agents to master vision-based fly-to-target tasks in intricate, unfamiliar environments. The liquid neural networks, which can continuously adapt to new data inputs, showed prowess in making reliable decisions in unknown domains like forests, urban landscapes, and environments with added noise, rotation, and occlusion. These adaptable models, which outperformed many state of the art counterparts in navigation tasks, could enable potential real-world drone applications like search and rescue, delivery, and wildlife monitoring. https://uasweekly.com/2023/04/24/liquid-neural-networks-empower-drones-to-explore-uncharted-territory/?utm_source=rss&utm_medium=rss&utm_campaign=liquid-neural-networks-empower-drones-to-explore-uncharted-territory&utm_term=2023-04-24

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Dronetag's Remote ID Solutions: A Gift to the Drone Community April 24, 2023 News

Dronetag, a leading provider of drone Remote ID solutions, has launched a new educational website aimed at helping drone pilots stay safe and compliant with the latest regulations. Drone-Remote-ID.com provides a comprehensive overview of available Remote ID solutions and current policies in different regions, making it easier for drone pilots to understand the new regulation and how it impacts their specific use cases.

Designed to be user-friendly and easy to navigate, Drone-Remote-ID.com compares all available Remote ID solutions and answers all questions drone pilots might have about drone identification policy in their region. According to Lukas Brchl, the co-founder and CEO of Dronetag, "The new website is our contribution to the drone industry. In striving for a safer sky, we invested our time to make the Remote ID as easy to grasp as it gets."

Dronetag's team of experts is committed to keeping the information on the new website up to date, ensuring that drone pilots have access to the latest information about Remote ID technology. The Remote ID is a crucial technology that helps the drone industry get ready for autonomous operations, sharing airspace with manned air traffic or conducting advanced drone flights with larger drones even beyond the line of sight.
https://uasweekly.com/2023/04/24/dronetags-remote-id-solutions-a-gift-to-the-drone-community/?utm_source=rss&utm_medium=rss&utm_campaign=dronetags-remote-id-solutions-a-gift-to-the-drone-community&utm_term=2023-04-24

Quadcopter Market anticipated to 'exceed $94 million by 2033' April 24, 2023 Jenny Beechener UAS traffic management news

The global quadcopter market is estimated at $24,147 million in 2023, according to report released by Fact.MR, and is expected to expand at promising 14.6% CAGR during the assessment period of 2023-2033. A wide range of professions are increasingly likely to use drones. Because of their speed and agility, these flying machines quickly provide comprehensive and valuable findings, says the report.

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Drones equipped with sensors and cameras are currently demonstrating how useful they are for capturing real-time video that can be saved for later analysis. Unmanned aerial systems can locate broken down structures and machinery more quickly and affordably than traditional methods. Drone use offers a cost-effective method and lowers the risk and costs associated with using aerial vehicles https://www.unmannedairspace.info/latest-news-and-information/quadcopter-market-anticipated-to-exceed-usd94-million-by-2033-fact-mr-report/

SAFIR-Med completes BVLOS cross border flight carrying medical goods April 24, 2023 Jenny Beechener AAM/UAM route and program news

SAFIR-Med and EULE project partners successfully demonstrated a beyond visual line of sight (BVLOS) flight from the Zuyderland medical centre in Heerlen, the Netherlands, to Uniklinik RWTH Aachen in Germany on 22 April 2023. The FlyXdrive TW-Neo uncrewed aerial system (UAS) covered the distance between the two hospitals, about 14.5 km, in about 15 mintues.

The flight was prepared within the research project **SAFIR-Med project**, to demonstrate how safe and flexible integration of advanced u-space services can be used, especially to enable fast and reliable transport services for urgently needed medical goods. Beside technical preparations, the main challenge was to overcome differences in legislation in Germany and the Netherlands for BVLOS flights. https://www.unmannedairspace.info/latest-news-and-information/safir-med-completes-bvlos-cross-border-flight-carrying-medical-goods/

Autonomous Resupply Drone In Development for USMC Phoebe Grinter / 21 Apr 2023

Leidos will develop a single prototype Unmanned Aerial System (UAS) that can autonomously resupply forward-deployed ground forces as part of a firm-fixed-price, multiple-award contract from the Marine Corps.

Under the 18 month contract, Leidos will develop, deliver and demonstrate an autonomous Medium Unmanned Logistics System – Air prototype, known as SeaOnyx, which will then be used to perform a logistics distribution mission at the tactical edge of the battlefield.

The goal of the project is to demonstrate a prototype UAS that can carry a logistics payload between 300 and 600 pounds to a combat area with a radius of 25 to 100 nautical miles.

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https://www.unmannedsystemstechnology.com/2023/04/autonomous-resupply-drone-in-development-for-usmc/?utm_source=UST+eBrief&utm_campaign=6171f138ea-ust-ebrief_2023-apr-25&utm_medium=email&utm_term=0_6fc3c01e8d-6171f138ea-119747501&mc_cid=6171f138ea&mc_eid=0d642a9d48

25Apr23

Skydio AI-Empowered Drone Self Navigates in Flight Over Sydney Harbor

Miriam McNabb April 24, 2023 by DRONELIFE Staff Writer Ian M. Crosby

From Sydney Harbour's Goat Island, an AI enabled drone launched from a docking station, maneuvering around buildings and pylons before detecting the Harbour Bridge in the foreground.

This marked the first occasion in which the Skydio Dock, an ultra-smart docking station, had been deployed in Australia. The launch was carried out by US drone manufacturer Skydio, alongside Australian RPAS training leader Aviassist, as part of the Sydney Dialogue summit demonstrating new technologies.

The Skydio Dock can fly a drone in a five-kilometer range and to within 11 centimeters of a foreign object, resulting in increased efficiency within industries such as agriculture, mining and transport. Although not required, an individual can monitor the drone's stream remotely from anywhere in the world.

"It was only a matter of time," said Aviassist's Ross Anderson. "The drone was able to work out there were certain structures in the area and fly around them. It's not autopilot, it's AI. It was the drone summing up its surroundings and saying to itself, 'hey, I can fly here, I can't fly there'."

AI enabled drones are expected to have nearly limitless potential applications. Skydio already has clients within the transport and mining sectors. https://dronelife.com/2023/04/24/skydio-ai-empowered-drone-self-navigates-in-flight-over-sydney-harbor-with-first-deployment-of-skydio-dock-in-australia/

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SURVICE-Malloy Team Awarded U.S. Navy UAS Production Contract April 25, 2023

Military | News

SURVICE Engineering, partnered with Malloy Aeronautics, was awarded a production contract with the Navy and Marine Corps Small Tactical Unmanned Aircraft Systems program office to produce nearly two hundred Tactical Resupply Vehicle (TRV) aircraft. This contract is the result of the SURVICE-Malloy team taking first place in the U.S. Navy and Marine Corps Tactical Resupply Unmanned Aircraft System fly-off competition at the Yuma Proving Ground in Arizona in 2020.

"This award represents a success story in the transition of technology from U.S. research laboratories into the hands of our warfighters," said Mark Butkiewicz, Vice President of Applied Engineering at SURVICE Engineering. "Working in collaboration with the Marine Corps Warfighter Lab and the US Army Futures Command, we have been able to accelerate the timeline of developing and fielding new technology.

Under the TRUAS program, the TRV will provide essential resupply to warfighters in contested environments. This capability will reduce the number of troops put in harm's way while assuring logistics resupply to the forward deployed warfighter.
https://uasweekly.com/2023/04/25/survice-malloy-team-awarded-u-s-navy-uas-production-contract/?utm_source=rss&utm_medium=rss&utm_campaign=survice-malloy-team-awarded-u-s-navy-uas-production-contract&utm_term=2023-04-25

DroneUp to deliver meds to Eastern Shore APRIL 24, 2023 KATE ANDREWS

Virginia Beach-based unmanned flight company DroneUp will launch a project to deliver medications via drone to patients on the Eastern Shore and Tangier Island as part of a collaboration with Riverside Health System and the Virginia Institute for Spaceflight & Autonomy (VISA) at Old Dominion University, among other partners.

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The project received $1.877 million in funding from the U.S. Department of Transportation's SMART Grants Program as one of 59 winning proposals out of a pool of 389 applications. The medical cargo drone delivery project, which was Virginia's only SMART Grant-winning entry, will first test and plan delivery of prescription medicines to patients living in rural parts of the Eastern Shore and Tangier Island, according to the Monday announcement. After stage one is complete, the project will move into full implementation. Drones will leave Riverside Shore Memorial Hospital carrying medications to patients' doorsteps, and both the hospital and patients will be able to track the drones' progress in real time.

In addition to Riverside, DroneUp, and VISA, other partners in the medication delivery project include the Accomack-Northampton Planning District Commission and Virginia Innovative Partnership Corp., which includes the Unmanned Systems Center.
https://www.virginiabusiness.com/article/droneup-to-deliver-meds-to-eastern-shore/

26Apr23

Protecting Drones from Jamming Attacks: infiniDome Raises $9 Million Series A

Miriam McNabb April 25, 2023 by DRONELIFE Staff Writer Ian M. Crosby

Anti-jamming solutions provider infiniDome has closed $9M in a Series A funding round led by South Korea's Hanwha Aerospace alongside Honeywell Ventures and Next Gear Ventures.

This funding will support the deployment of infiniDome's GPSdome2 to major defense forces such as US DoD, Israeli Defense prime, South Korean Army (ROK armed forces), and Indian armed forces. This is Honeywell Ventures' third round of investment in infiniDome, with Next Gear Ventures having supported the company since their Seed round. Going forward, infiniDome intends to maintain its partnership with its strategic investors through joint development of dedicated solutions and global commercial agreements.

Founded in 2016 by Omer Sharar (CEO), Moshe Kaplan (CTO), and Ehud Sharar (President and VP Manufacturing), infiniDome creates GPS protection and resilient navigation solutions made to protect UAVs and vehicles from jamming attacks. https://dronelife.com/2023/04/25/protecting-drones-from-jamming-attacks-infinidome-raises-9-million-in-series-a/

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Joby signs $55m extension to Agility Prime contract with USAF

Howard Hardee 25 April 2023

Electric air taxi developer Joby Aviation has disclosed a $55 million extension to its Agility Prime contract with the US Air Force (USAF) to deliver and operate up to nine of its yet-to-be-certificated aircraft.

The California-based electric vertical take-off and landing (eVTOL) vehicle maker said on 25 April that the deal – which raises the value of Joby's contract with USAF to $131 million – "underlines the US government's continued commitment to leadership in this new sector".

Joby Aviation expects its eVTOL aircraft to enter commercial operations in 2024

The first two aircraft are to be delivered to Edwards Air Force Base in California "by early 2024" and are expected to be the first eVTOL aircraft stationed at a US military base, the company says. The low-noise, five-passenger aircraft will demonstrate a range of potential use cases for passengers and cargo.

Four USAF pilots recently became the first military personnel to fly an eVTOL aircraft as sole pilot in command "through the full flight envelope, including transition from vertical to wing borne flight" at Joby's manufacturing facility in Marina, California.
https://www.flightglobal.com/fixed-wing/joby-signs-55m-extension-to-agility-prime-contract-with-usaf/152994.article?utm_campaign=FG-DEFENCE-FILLER%20260423-JM&utm_medium=email&utm_source=newsletter&utm_content=FG-DEFENCE-FILLER%20260423-JM

Local initiative to promote advantages of drones takes flight

BRIAN BREHM The Winchester Star Apr 24, 2023

The Winchester Star

WINCHESTER — A project that aims to make Winchester a major hub for drone manufacturers and service providers continues to progress.

John S. Eberhardt III of Winchester, who for two years has been part of a local effort to show how drones can improve the daily lives of local residents and governments, said initial implementation of a flight network for unmanned aircraft is projected to occur late this year.

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The cost, Eberhardt said, could be hundreds of thousands of dollars, but government grants are expected to offset adoption expenses.

The flight network will create a zone that tracks drones, monitors unsafe practices and determines the location of drone operators who are not following proper flight rules.

Eberhardt said drones, many of which are equipped with cameras, have to follow the same laws as police and fire agencies, meaning drone pilots are not allowed to fly into off-limits area or use the unmanned devices to spy on people.
https://www.winchesterstar.com/winchester_star/local-initiative-to-promote-advantages-of-drones-takes-flight/article_ef311c89-e749-521b-adc7-b827aea2a953.html

27Apr23

ASK DRONE GIRL: IS THE DJI RC MOTION 2 COMPATIBLE WITH DJI VIRTUAL FLIGHT APP? April 25, 2023 Sally French

So, before I dive into my suggestions for what to do, let's give readers a bit of history:

What is the DJI RC Motion 2?

The DJI RC Motion is a unique type of joystick controller designed to go with the DJI Avata, which is a Cinewhoop-style FPV drone. Unlike the Nintendo-style controllers of most drones, this one is a device that you typically hold in just one hand resembling a blaster gun. As you wave it around, the drone moves in tandem.

While neat, it had some issues. In March 2023, DJI updated many of the problems with the original Motion Controller with the launch of what was called the DJI RC Motion 2, which is now what is marketed today to accompany the DJI Avata drone.

An upgraded joystick and accelerator now offer a reverse function, which better gives you power to dictate multidirectional flight, including vertical, backward, and sideways — and is also helpful in quickly adjusting the direction or choosing a spot to land. This controller also features an Fn dial that lets users quickly adjust the camera's ISO, shutter, and other parameters without having to interact with the goggles.
https://www.thedronegirl.com/2023/04/27/dji-virtual-flight-app-rc-motion-2/

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Virgin Galactic completes glide flight from Spaceport America

Greg Rose 26 April 2023

Virgin Galactic has completed a successful glide flight from Spaceport America in New Mexico, in what is one of the final steps towards commercial spaceline operations.

VSS Unity's flight took place at at 06:53 MST today, 26 April. The spaceship was released at 47,000' at 07:47 MST and landed at 07:56 MST. VSS Unity was piloted by CJ Sturckow and Nicola Pecile, with Kelly Latimer and Jameel Janjua piloting VMS Eve. Glide flights include key elements of a spaceflight profile, including a mated take-off, high-altitude release from mothership, and landing.

The flight's objectives included evaluating the performance of the spaceship in the glide phase, following the modification period. The team were also able to continue evaluating the handling qualities and flight controls of the spaceship, and gather data on the new mothership pylon with the spaceship attached during standard climb and release.

This successful glide flight completes the final validation test points, in addition to data gathered in a mated configuration flight last week. The data will be analysed in the coming weeks, and pending this analysis Virgin Galactic's vehicles will be cleared for return to spaceflight. https://www.virgin.com/about-virgin/latest/virgin-galactic-completes-glide-flight-from-spaceport-america

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FAA Weighs Aircraft Versus Spacecraft Airspace Needs Gordon Gilbert April 25, 2023

Due to increasing spacecraft activity and a growing number of launch sites in the U.S., the FAA is taking additional steps to "optimize and equitably manage" the airspace in the vicinity of launch sites. To minimize disruptions, the agency has developed a set of objective factors to better balance the needs of commercial launch licensees, airlines, general aviation, and the military.

The FAA will consider the following factors in determining whether a space operation may proceed as requested or whether an alternative time is necessary: location and timing of the proposed launch; the number of flights and/or passengers that will be affected by the operation; holidays or events that result in more than usual airspace congestion; launch window duration; and nighttime versus daytime launches (the FAA prefers space operations at night).

In addition, the agency will prioritize commercial space operations that have a national security purpose, are in the national interest, and/or carry payloads. At the end of June, the agency plans to meet with aviation and space industries' representatives to continue collaborating and then later establish an airspace access priorities aviation rulemaking committee.
https://www.ainonline.com/aviation-news/business-aviation/2023-04-25/faa-weighs-aircraft-versus-spacecraft-airspace-needs

Phoenix Air Unmanned Receives Nationwide BVLOS Waiver for Powerline Inspections April 20, 2023 Commercial UAV News Staff

Phoenix Air Unmanned, LLC (PAU) received a broad area waiver from the Federal Aviation Administration authorizing utility powerline inspection flights beyond the visual line of sight (BVLOS) of the remote pilot in command. The authorization spans powerline infrastructure across the United States and builds upon thousands of miles of BVLOS transmission line inspection flight experience.

PAU has partnered with key industry providers, including Freefly Systems and Kongsberg Geospatial, for delivery of its complex nationwide BVLOS solution which requires multiple layers of safety and airspace deconfliction.

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PAU has been granted operations beyond visual line of sight of the remote pilot in command and visual observers, operations over people, and operations over moving vehicles. The waiver itself relies on a robust safety case to include electronic airspace surveillance, a clear and defined operating area, and performance criteria justifying the safety of the operation.

Phoenix Air Unmanned flight crews operate the Freefly Alta X over the centerline of the transmission line, flying from structure to structure and capturing multiple datasets including high-resolution inspection imagery. In June of 2021, a single PAU flight team captured 134.4 miles of transmission line inspection imagery in a single day. These inspections were flown under an identical BVLOS waiver, proving the scalability of BVLOS transmission line inspection flights with UAS. https://www.commercialuavnews.com/regulations/phoenix-air-unmanned-receives-nationwide-bvlos-waiver-for-powerline-inspections?mkt_tok=NzU2LUZXSi0wNjEAAAGLYtrjpxJTpSkXacEj0PyatbiUl8YfVEpocCPcbwWLBWFFZxKmD2LiL6VQtR6nk-6-bSzWZYAAylFFDq1eP2tiRUbSCuwzjqBovutIFloD0UERbA

MGI Engineering Launches Cargo eVTOL APRIL 20, 2023 Commercial UAV News Staff

Specialist consultancy company MGI Engineering has launched its cargo UAV technology demonstrator program. MGI CEO and Founder Mike Gascoyne officially unveiled its fully functional technology demonstrator at the eVTOL Insights' London Conference on Wednesday 19th April 2023. This announcement will thrust the well-established specialist engineering consultancy firm into the newly- emerging cargo eVTOL industry and promises to bring a fresh viewpoint on how to develop the latest aerospace technology for these novel vehicles.

MGI's solution focuses on a configurable design with two variants of its demonstrator technology; the first is a tilt rotor with two rotors on each corner capable of tilting from 45 degrees in the forward direction to 45 degrees rearward. The second features eight rotors with direct drive motors distributed across four wings and all four wings use MGI's proprietary tilt mechanism that is used to control pitch and roll. The vehicle platform concept has also been designed to be scaled-up efficiently to payloads up to 500kg.
https://www.commercialuavnews.com/drone-delivery/mgi-engineering-launches-cargo-evtol?mkt_tok=NzU2LUZXSi0wNjEAAAGLYtrjpn2b8-

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The World of Drone Stocks APRIL 26, 2023 Contributed Guest Article

To assess UAV stock performance, Droneii looked at the market cap of 13 publicly traded drone companies focused only on hardware and service from the beginning to the end of 2022. Only four of these companies recorded an increase in market capitalization. Among these companies, Primoco UAV (PRG:PRUIA) had the highest percentage increase in its market cap (+62%). The other UAV stocks to register an increase in market cap for their company were: AeroVironment (NASDAQ: AVAV), Drone Shield (OTC: DRSHF) and Parrot (FR: PARRO).

Nine companies recorded a decrease, with Japanese ACSL (JP:6232.T) showing a high level of stability. Meanwhile, AgEagle (NYSE:UAVS) experienced the biggest percentage loss in its market cap, and ONDAS Holdings (NASDAQ:ONDS) had the biggest absolute loss in market cap.

In the area of advanced air mobility, there has been a noticeable increase in companies listed. In 2021, there was only one company listed, which then became five in 2022, and has now reached seven advanced air mobility stocks. The three companies which consistently held the highest market cap throughout all of 2022 were: Joby Aviation (NYSE:JOBY), Eve Air Mobility (NYSE:EVEX), and Vertical Aerospace (NYSE:EVTL). Eve Air Mobility (NYSE:EVEX) showed the most stability, but it only began properly trading in May of 2022, making the data more limited. The company with the biggest loss in market cap from the start until the end of 2022 was Lilium (NASDAQ:LILM). https://www.commercialuavnews.com/international/the-world-of-drone-stocks?mkt_tok=NzU2LUZXSi0wNjEAAAGLYtrjpyPwrEVjXCyZU1fgFaejYsQZcmsyq38URdrDa4eQueIDkw6yIaFs0sIMIPGOiqmwrgCYkF2DofkxvHMMwYTjatlxHCNxAt_yabGy8HmhSA

Microsoft FarmVibes: The Journey Towards Sustainable Agriculture APRIL 24, 2023, João Antunes

As a critical approach for ensuring food security and protecting the planet's natural resources for future generations, sustainable agriculture emphasizes using environmentally friendly practices to produce food while minimizing the negative impact on the land, water, and air.

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Drones have the potential to revolutionize sustainable agriculture by providing farmers with a more efficient and precise way to monitor their crops and make decisions about resource management.

To advance precision agriculture and make it more accessible to farmers around the world, Microsoft Research developed FarmVibes. Designed for researchers, practitioners, and data scientists, FarmVibes provides valuable data and insights into crops and fields. It enables farmers to collect and analyze data from their farms in real time, allowing them to make informed decisions about crop management, irrigation, fertilization, and pest control.

Built on Microsoft's Azure cloud platform, FarmVibes collects real-time data from various IoT sensors, including weather stations, soil moisture sensors, irrigation systems, drones, and other aerial imaging devices, which can easily capture high-resolution images of crops and fields. Machine learning algorithms can then analyze this data to identify crop characteristics, such as plant height, leaf area index, and plant stress.
https://www.commercialuavnews.com/forestry/microsoft-farmvibes-the-journey-towards-sustainable-agriculture?mkt_tok=NzU2LUZXSi0wNjEAAAGLYtrjp-TJr_299QBQmmWtx42o4SFrrzjaYdLghWI0roh1Du5avSmtzuEOLgOqbdV1EUlcWQUb52qxk1WQ1DXkceB5NBTJtiT2p71l8sCSX9XhDQ

AeroVironment Wins $64.6M U.S. Army Contract for Switchblade Loitering Missile Systems April 26, 2023 Military | News

AeroVironment, Inc. received additional funding of $64,565,126 on March 24 from the U.S. Army Tactical Aviation and Ground Munitions (TAGM) project office for the procurement of Switchblade® 300 loitering missile systems. This most recent firm-fixed-price contract increases the total funded amount of Switchblade systems under the original U.S. Army contract to $231,331,651. The contract will be managed by the U.S. Army Contracting Command, Redstone Arsenal, and the systems are scheduled to be delivered by July 2024.

AeroVironment's combat-proven Switchblade 300 loitering missile systems have been deployed by the U.S. Army for more than a decade and are currently providing real-time ISR and precision strike support on battlefields in Ukraine. Ideal for use against beyond-line-of-sight targets,

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Switchblade systems were approved by the U.S. government for use by Ukraine and additional nations after the start of the Russia-Ukraine war in 2022. This new U.S. Army contract includes foreign military sales of Switchblade 300 for the first time to France and another allied nation, expanding Switchblade's footprint internationally.

The backpackable Switchblade 300 offers operators the flexibility to rapidly maneuver and employ the system on the ground. Real-time video, GPS coordinates, and wave-off capabilities provide the operator confidence in precisely attacking key targets.
https://uasweekly.com/2023/04/26/aerovironment-wins-64-6m-u-s-army-contract-for-switchblade-300-loitering-missile-systems/?utm_source=rss&utm_medium=rss&utm_campaign=aerovironment-wins-64-6m-u-s-army-contract-for-switchblade-300-loitering-missile-systems&utm_term=2023-04-27

Red Cat Launches Military-Grade Teal 2 sUAS at AAAA Summit in Nashville April 26, 2023 Military

Previously available only to early-adopter customers, the Teal 2 is now available for order for military, government, and commercial purposes. Manufactured at Red Cat's purpose-built factory in Salt Lake City, Utah, the U.S.-made system is the first sUAS equipped with Teledyne FLIR's new Hadron 640R sensor. This provides end users with the highest resolution thermal imaging in a small (Group 1) form factor, optimized for nighttime operations.

In addition to Teledyne FLIR, Red Cat's other technology partners for the Teal 2 include Athena AI, Reveal Technology, and Tomahawk Robotics. Its compact size and rugged design enable it to be rucksack portable and deployed in the most challenging environments. Multi-vehicle command and control allows for a 360-degree view of a target, or for ISR on multiple targets.

Early-adopter customers, including U.S. Customs and Border Protection, have ordered 54 units of the Teal 2. These systems provide supplemental airborne reconnaissance, surveillance, and tracking capability, enhancing situational awareness for U.S. field commanders and agents.
https://uasweekly.com/2023/04/26/red-cat-launches-military-grade-teal-2-suas-at-aaaa-summit-in-nashville/?utm_source=rss&utm_medium=rss&utm_campaign=red-cat-launches-military-grade-teal-2-suas-at-aaaa-summit-in-nashville&utm_term=2023-04-27

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NEED A BEGINNER DRONE IN 2023? DRONE GIRL JOINS DRONE LAUNCH ACADEMY WITH RECOMMENDATIONS April 27, 2023 Sally French

If you're looking for a beginner drone in 2023, you might check out my written, drone buying guides. But for something a little more human, here's a fun conversation to tune into.

"Your Drone Questions. Answered." is a relatively new podcast that launched in March 2023. And yours truly, The Drone Girl, joined in for Episode 7, which has the very straight and to-the-point title: "What is the best beginner drone to get started?"

The podcast can be download from Apple Podcasts (or pretty much any other podcast player) and is also available in video form on YouTube, which you can watch here:

In this episode of "Your Drone Questions. Answered.", I join host John Dickow to detail what beginners should look for in a beginner drone in 2023. For this podcast, I basically break beginner drones into two categories:

1. Cheap "trash" drones.
2. High-quality yet beginner-friendly drones.

Especially in the early days of drones, when it was relatively easy to crash a multi-hundred drone, I highly recommend this category of cheap "trash" drones. In short, if you crash it (which you very likely will, given how unwieldy these drones are), you didn't spend a lot of money so it's not a big loss. Generally speaking, the cheaper the drone, the harder it is to fly. That's actually good news, as it helps in developing better piloting skills. You can check out my full list of the best, cheap practice drones here. https://www.thedronegirl.com/2023/04/28/beginner-drone-in-2023-podcast/

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