



UAS and SmallSat Weekly News

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29Oct22

Russia turns to creative solutions to fill UAV capability gaps 24th October 2022 - Alex Orlov in Helsinki



Sourcing drones from Iran is one answer to Russia's UAS problems. This light quadcopter was displayed at Army-2022 event near Moscow and can carry a 1-7kg payload with endurance of 30-60min Helsinki

As the scale and intensity of the war in Ukraine has expanded, the need for multiple classes of UAVs at tactical and operational levels is increasingly clear. However, the ongoing conflict has revealed the inability of the Russian defense industry to produce a full spectrum of UAS in the required quantities, on time or meeting MoD specifications.

Currently the most acute need is for reconnaissance UAVs, [loitering munitions](#) and SIGINT drones. While the problem was acknowledged publicly only in September, this set of challenges was evidently recognized by Russia's military-political leadership earlier and led to the decision to [procure Iranian-made drones](#).

As [reported by Shephard](#) in August, the Russian MoD most likely procured Iranian-made materiel at short notice by skipping lengthy acceptance procedures and trials.

According to the legislation signed by Prime Minister Mikhail Mishustin, Russian regional and local authorities can procure 'UAVs, means to detect UAVs, radio equipment, electronics, thermal and night vision optics and binoculars, transport vehicles and food rations', *inter alia*. 'Taking into account the special military operation, mobilization and training, it is allowed to purchase foreign industrial goods'. <https://www.shephardmedia.com/news/air-warfare/russia-turns-to-creative-solutions-to-fill-uav-capability-gaps/>

China's TP500 cargo drone conducts maiden flight GABRIELE PETRAUSKAITE 20th June 2022

According to state-owned news outlet [China.org](#), the TP500 took off for its first flight in Jingmen City, located in central Hubei province, at 6.18 a.m. and touched down at 6.45 a.m. local time on June 18, 2022.



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The maiden flight, which lasted for around 27 minutes, sees the Aviation Industry Corporation of China (AVIC) take another major step in its development program for large-scale unmanned air transport.

With a maximum range of up to 1,800 kilometers (more than 1,118 miles), the new general-purpose freighter drone can fly around 500 kilograms (1,102 lbs) of cargo goods. To accelerate the freight loading process, the UAV is equipped with a specific tail, which folds to ease access to the cargo compartment inside it.

According to the Chinese state broadcaster China Central Television, the TP500 is **the first** large-scale UAV developed in line with Civil Aviation Administration of China regulations. <https://www.aerotime.aero/articles/31364-china-cargo-drone-tp500-makes-maden-flight>

SpaceX launches 53 satellites into orbit from California 28Oct22



VANDENBERG SPACE FORCE BASE, Calif. (AP) — A SpaceX Falcon 9 rocket lit up the California sky on Thursday evening as it carried 53 Starlink satellites into orbit.

The rocket [blasted off](#) from coastal Vandenberg Space Force Base at 6:14 p.m. The launch at twilight left a white plume in the sky that was seen over a large area. The satellites were later deployed from the rocket's second

stage. Starlink is a space-based broadband internet system with **thousands of satellites** in low Earth orbit that provide service around the world.

The Falcon 9's reusable first stage successfully touched down on a seagoing landing platform in the Pacific Ocean. It was the **eighth flight** of the booster. <https://apnews.com/article/space-launches-spacex-california-pacific-ocean-9b55537e7868132f2c5486f4224a9572>

FAA Updates Recreational Drone Flying Guidance October 27, 2022 News



The U.S. Department of Transportation's Federal Aviation Administration (FAA) today issued guidance on how to become an FAA-recognized community-based organization for recreational drone flying.



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Under [federal law](#), recreational drone flyers must follow the safety guidelines of a FAA-recognized community-based organization. The organization is required to develop its safety guidelines in coordination with the FAA and an applicant may wish to tailor them to a particular type of unmanned aviation.

The FAA's guidance, [Advisory Circular 91-57C](#), provides a comprehensive list of recommended safety guidelines that applicants may consider using in their application. Organizations that [meet the legal definition](#) of a community-based organization may apply for FAA recognition through the [FAA's DroneZone website](#). The updated guidance also provides information on applying for recreational flying fixed sites, hosting sponsored events and educational use requirements. https://uasweekly.com/2022/10/27/faa-updates-recreational-drone-flying-guidance/?utm_source=rss&utm_medium=rss&utm_campaign=faa-updates-recreational-drone-flying-guidance&utm_term=2022-10-27

US Joint Counter-drone Office Selects Top Teams for Installation Protection

October 26, 2022 Counter UAS



Liteye System's Inc. in partnership with SAIC was recently selected by the Joint Counter-small Unmanned Aircraft Systems Office to provide approved Counter UAS services and hardware to the US Government. Liteye was chosen as an important part of the SAIC team to protect fixed locations under the Counter-UAS as a Service model.

In partnership with Team SAIC, Liteye successfully demonstrated its Counter Unmanned Aerial Systems capabilities and is now eligible to compete for future CaaS contract opportunities. Throughout the demonstration, the Liteye team was praised for its professionalism and performance.

The Liteye SHIELD system consists of the Spyglass™ radar system developed and manufactured by Numerica Corporation, along with HD EO/IR optics and RF Detection, Take-Over, and Defeat capabilities. The SHIELD system can operate as a stand-alone system, be remotely operated, or be integrated into a higher-level Command and Control solutions.

https://uasweekly.com/2022/10/26/us-joint-counter-drone-office-selects-top-teams-for-installation-protection/?utm_source=rss&utm_medium=rss&utm_campaign=us-joint-counter-drone-office-selects-top-teams-for-installation-protection&utm_term=2022-10-27



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SKY-HERO and AARDVARK Announce World's First NDAA-Compliant Interior sUAS Platform October 26, 2022 News



AARDVARK and Sky-Hero are pleased to announce the release of the world's first National Defense Authorization Act (NDAA)-compliant interior use tactical sUAS, LOKI Mk2US. The Mk2US is built to comply with the rigorous standards set forth in the NDAA and the recent Department of Defense blacklisting of certain Chinese-made drone parts and technologies.

In response, Sky-Hero, the world's leading manufacturer of interior tactical robotics, redesigned and resourced the LOKI Mk2 to eliminate all of the covered Chinese components and replace them with European or American items.

Speaking about this new drone, Yves Coppye, CEO of Sky-Hero, stated: "We have been asked by many of our top users around the world to ensure that all major components are built by NATO countries. After two years of work, we are pleased to announce that we have reengineered and redesigned these components and located American or European sources for them."

https://uasweekly.com/2022/10/26/sky-hero-and-aardvark-announce-worlds-first-ndaa-compliant-interior-suas-platform/?utm_source=rss&utm_medium=rss&utm_campaign=sky-hero-and-aardvark-announce-worlds-first-ndaa-compliant-interior-suas-platform&utm_term=2022-10-27

3rd International Drone Show Competition! Submit Entries Now Miriam

McNabb October 28, 2022 by DRONELIFE Staff Writer Ian M. Crosby



The [3rd International Drone Show Competition](#), organized by [SPH Engineering](#), is inviting drone show companies, 3D animators, event and marketing agencies with drone light shows in their portfolio, fireworks professionals and more to take part in the online event bringing

together the best representatives of the drone show industry. The international jury will select the winners, who will receive prizes from drone manufacturer and competition partner Flyfire. Winners will receive the recognition of the Drone Show Global Community, and the creators of the best 3D animations will be able to present their works at the International Drone Show Festival in 2023.



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Until November 20th, participants will be able to submit their project videos in up to five categories, including “Best drone show animation”, “Best drone show storytelling”, “Best drone show at the event”, “Best promotional drone show”, and the new “Best integrated show simulation: Fireworks and Drones” category added in partnership with Finale Fireworks. The winners in each of these categories will be announced this coming December, with each winner to receive a drone show operator kit alongside special prizes such as 5 Kaiken drones, DJI Avata Fly Smart Combo, iPhone 14 Pro, GoPro HERO11 Black and accommodation at the International Drone Show Festival. <https://dronelife.com/2022/10/28/3rd-international-drone-show-competition-submit-entries-now/>

Las Vegas sheriff plans drone fleet as immediate responders to gun violence

Bruce Crumley - Oct. 28th 2022



Sheriff-elect Kevin McMahon said in a speech last week that he’s planning on **deploying 400 drones** around Las Vegas to serve as immediate response assets to gun violence. The idea, McMahon said, is to establish a network of bases from which automated UAVs will power on and [fly to areas](#) where shots ring out to record data and pinpoint the trouble – and, even more critically, better [inform police](#) officers rushing to the dangerous scene.

The plan is built around 11 different hot spots across the Las Vegas Valley where fully 75% of local crimes occur. McMahon intends to position scores of drones around those problem areas and link them to [ShotSpotter](#) sensor networks that detect and [alert police](#) to gunfire.

Under McMahon’s scheme, however, the ShotSpotter platform will also set the UAVs flying toward localities where shots occurred to record footage of ongoing activity and provide arriving cops with better awareness of what’s happening, and where.

McMahon said [the drones](#) will be able to immediately start recording evidence if violent crimes are under way or keep tabs of possible suspects’ movements. That will give police officers better situational awareness that will reduce the risks of being shot when they arrive, and provide invaluable assistance to understaffed forces. <https://dronedj.com/2022/10/28/las-vegas-sheriff-drone/#more-88025>



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Iranian Drones in Ukraine Project Tehran's Power Beyond Mideast, Testing U.S., Europe

Dion Nissenbaum and Benoit Faucon Oct. 28, 2022

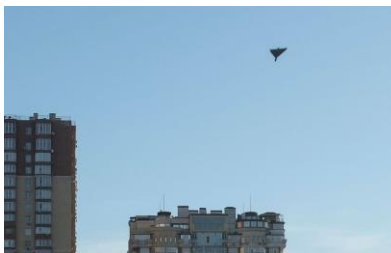


Watch: Footage showed police officers shooting at a drone in Kyiv after Russia targeted the city with a new wave of strikes, according to Ukrainian officials. Rescue workers pulled people from the rubble of a residential building that was damaged by the attack. Photo: Yasuyoshi Chiba/AFP/Getty Images

Russia's expanding use of [Iranian drones in Ukraine](#) poses an increasing threat for the U.S. and its European allies as Tehran attempts to project military power beyond the Middle East.

In recent weeks, Ukrainian officials say, **Russia has launched more than 300 Iranian drones** that have targeted military units, power plants and civilian buildings in the capital, Kyiv. The Ukrainian military said it has **shot down more than 70%** of the drones, but [Ukrainian officials are asking the U.S. and NATO allies](#) for more help to counter the threat. The North Atlantic Treaty Organization [has vowed to rush hundreds of drone jammers](#) to Ukraine as part of a deepening effort to shore up Ukraine's air defenses.

While the international community focused for years on trying to constrain Iran's nuclear program, Tehran methodically built [an army of drones that reached across the Middle East](#).



A drone flying over Kyiv during a Russian attack last week.

Since 2015, Iran and its proxies have fired nearly 1,000 drones in attacks that have killed hundreds of people in Yemen, Saudi Arabia, the United Arab Emirates, Ukraine and the Gulf of Oman, according to the Saudi military and the Armed Conflict

Location and Event Data Project, which collects and analyzes information on protests and violence around the world. Besides Russia, Iran has also sold its drone technology to friendly governments, including Venezuela, Syria, and Ethiopia, according to the U.S. Department of Defense. <https://www.wsj.com/articles/iranian-drones-in-ukraine-project-tehrans-power-beyond-mideast-testing-u-s-europe-11666880851>



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With Western Weapons, Ukraine Is Turning the Tables in an Artillery War Andrew E. Kramer Oct. 29, 2022

In the southern Kherson region, Ukraine now has the advantage in range and precision guidance of artillery, rockets, and **drones**, erasing what had been a critical Russian asset.



A team of Ukrainian soldiers armed a drone with bombs on Friday during a mission that destroyed a Russian armored personnel carrier on the front lines in the country's southern Kherson region.

KHERSON REGION, Ukraine — On the screen of a thermal imaging camera, the Russian armored personnel carrier disappeared in a silent puff of smoke.

"What a beautiful explosion," said First Lt. Serhiy, a Ukrainian drone pilot who watched as his weapon buzzed into a Russian-controlled village and picked off the armored vehicle, a blast that was audible seconds later at his position about four miles away. With powerful Western weapons and deadly homemade drones, Ukraine now has artillery superiority in the area, commanders and military analysts say.

Ukraine now has an edge in both range and in precision-guided rockets and artillery shells, a class of weapons largely lacking in Russia's arsenal. Ukrainian soldiers **are taking out armored vehicles worth millions of dollars with cheap homemade drones**, as well as with more advanced drones and other weapons provided by the United States and allies.

<https://www.nytimes.com/2022/10/29/world/europe/ukraine-russia-war-artillery.html>

31Oct22

Ukraine's Patchwork Air Defense Faces New Threat From Cheap Iranian Drones

Stephen Kalin and Michael R. Gordon Oct. 30, 2022



Ukraine is relying on a hodgepodge of air-defense systems to counter the Russian threat from the sky that has intensified with Moscow's use of drones that Ukraine and Western governments say have been supplied by Iran.

Kyiv has [pleaded for more air-defense help](#) from the U.S. and other Western backers. The top U.S. military officer, Gen. Mark Milley, and other allied



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officials have [promised to help Ukraine](#) acquire additional systems and connect them into an integrated network. But that assistance is coming slowly, leaving Ukraine [vulnerable to continued attacks](#) from **drones**, cruise missiles and ballistic missiles.

Adversaries such as Iran have sought to exploit this by [developing cruise and ballistic missiles as well as drones](#) that are cheap and relatively easy to use.

<https://www.wsj.com/articles/ukraines-patchwork-air-defense-faces-new-threat-from-cheap-iranian-drones-11667122204>

Flying robot taxis could ease traffic problems in major cities sooner than you may think *Richie Hertzberg | Oct. 28, 2022*



Wisk is a Boeing-backed “Electric Vertical Take-Off and Landing” aerospace company in Mountain View, California, building unmanned air taxis for commuters living in congested cities who want to skip the traffic.

The conventional strategy for mitigating traffic in big cities usually involves the building of additional infrastructure like bridges, tunnels, and roads. But for more than a decade, an aerospace company in Mountain View, California, has been developing an unmanned air taxi that aims to allow commuters to fly over the traffic and get to their destinations in a fast, predictable, and affordable manner. These air taxis are called “Electric Vertical Take-off and Landing” vehicles or eVTOLs for short.

Although the company officially became Wisk in 2019 following the joint venture between Boeing and Kitty Hawk Corporation, the Wisk team has been hard at work for more than a decade and have completed more than **1,600 successful test flights** with no recorded incidents of failure. Earlier this month, Wisk unveiled their sixth generation of Cora to the world. This sixth generation of aircraft represents the **first-ever candidate for FAA certification** of an autonomous, passenger-carrying eVTOL air taxi. <https://thehill.com/changing-america/3709181-flying-robot-taxis-could-ease-traffic-problems-in-major-cities-sooner-than-you-may-think/>

Ready for lift-off: first space launch from British soil poised to make history Robin McKie Science Editor 30 Oct 2022

In a boost to a fledgling industry, UK-built mini-satellites will soon be able to begin their journey into orbit on home ground



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LauncherOne in its hanger at Newquay airport. The rocket will carry a payload of small satellites into Earth orbit.

In a few weeks, Britain will become a space power.

A [Virgin Orbit jumbo jet](#) will take off from an airport in Cornwall, carrying a rocket strapped below one wing. As the plane flies 35,000ft above the Atlantic, it will drop its

cargo, the rocket engine will be ignited, and a payload of small satellites will be hurled into Earth orbit.

The LauncherOne mission – scheduled for mid-November – is intended to be the first of [many launches from centres around the UK](#). Up to eight Virgin Orbit flights a year will eventually take off from Spaceport Cornwall, in Newquay, it is hoped – while rockets lifting off from mainland Scotland and Shetland will also carry satellites into space in the near future.

<https://www.theguardian.com/science/2022/oct/30/first-space-launch-british-history-mini-satellites-orbit?ref=biztoc.com>

LIFT announces eVTOL tours of Manhattan as early as 2023, after link-up with Charm October 27, 2022 Philip Butterworth-Hayes UAS traffic management news



Under the terms of the agreement, LIFT and Charm will establish a joint venture that will have exclusive license from LIFT to operate in the greater NYC area. The parties have agreed to a pre-order for **100 HEXA eVTOL aircraft** that they intend to deploy to multiple LIFT vertiport locations they will jointly develop in the greater NYC area over the next five

years. According to the company:

“LIFT is launching a new concept in personal aviation – anyone will be able to learn to fly its semi-autonomous eVTOL aircraft in less than an hour, and then solo pilot the **single seat**, ultralight vehicle – **no pilot’s license required**. Under FAA rules, flights are limited to uncongested flyover areas and uncontrolled airspace – so plans are in the works to develop LIFT vertiports along New York City’s many waterfront areas that provide access to the Visual Flight Rules corridor that extends up to 1,300 feet around Manhattan. Unlike most eVTOL aircraft in development today, HEXA is already approved to fly under the FAA’s Part 103 rules, and no pilot’s license is required to fly for personal, non-commercial use.”



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According to a company press release, Charm Aviation operates one of the largest helicopter fleets on the East Coast, with operations in New York, New Jersey, and Baltimore. The ownership group has a combined 40 years of experience operating helicopter fleets and has experience operating heliports in Manhattan. Public agencies like police and fire departments can also use HEXA to reduce first response time by as much as 50%. HEXA has already received its initial airworthiness certification by the USAF and is expected to be used by the military as a new manned and unmanned aerial platform. <https://www.unmannedairspace.info/latest-news-and-information/lift-announces-evtol-tours-of-manhattan-as-early-as-2023-after-link-up-with-charm/>

GA-ASI Demonstrates Air-to-Air Laser Communications INSIDE UNMANNED SYSTEMS OCTOBER 27, 2022



General Atomics Aeronautical System successfully completed an air-to-laser communication link between two company-owned King Air airplanes, technology that could be used on the company's other systems, including the new MQ-1C Gray Eagle 25M shown here.

SAN DIEGO—General Atomics Aeronautical Systems Inc. successfully completed an air-to-air laser communication link between GA-ASI's Laser Airborne Communication terminals integrated onto two company-owned King Air aircraft, the company announced Oct. 25. Laser communication is desirable for military applications because of its low probability of intercept and low probability of detection and anti-jam capability that can support much higher data rates than radio frequency systems.

"This air-to-air demonstration was a major success and marks a critical milestone for GA-ASI's Lasercom development team," said GA-ASI Vice President of Mission Payloads & Exploitation Satish Krishnan. "The success of this flight will pave the way for more opportunities to demonstrate crosslinks from aircraft to other platforms, including **unmanned aircraft**, maritime vessels and space systems."

The aircraft flew out of Montgomery Field in Kearney Mesa, California on Sept. 26 and performed the test in segregated airspace near Yuma, Arizona. During the flight test, the team maintained a link at 1.0 Gigabits per second and exchanged data, including real-time navigation, video, and voice data. <https://insideunmannedsystems.com/ga-asi-demonstrates-air-to-air-laser-communications/>



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Drones and Robots Proving Value in Energy Applications October 30, 2022 FROM HOMELAND SECURITY TODAY

Drones and robots continue to change the way we produce and consume energy. As they become more sophisticated and widespread, their impact on the industry is only going to increase. There are proven use cases, and scaling is in the works.

Drones, previously brand new to energy and stuck in proof-of-concept phase, [are now routine](#), especially for these areas:



- Methane and other emissions detection
 - Asset inspections, from flare stacks to pipelines and everything in between
 - Access to small, confined spaces like mines and inside equipment
 - Oil spill detection
 - Wind turbine inspection
- Utility line inspection and mapping
 - Subsea inspection and repair
 - And many more

Many of the drones in use today are still manned, with operators steering and maneuvering in real time. Many others—and in growing numbers—[are going uncrewed](#). Advances in automation, self-propelling, and connectivity are allowing autonomous robotics in more remote areas, doing more advanced tasks.

The automated tasks often branch off from proven operator-run tasks. Companies use piloted drones to prove effectiveness and build operating procedures and checks and balances, and then can automate from there. https://innovateenergynow.com/resources/drones-and-robots-proving-value-in-energy-applications?utm_campaign=InnovateEnergy%20Content&utm_medium=email&hsmi=231908579&hsenc=p2ANqtz--SkEPgTprqFD7MtVF9Q2Yk1lxlZBekKyXWPmMB1JlGslzySnan-vk0xTgnsrCt74oAYXCZ2VLTT_gz1dN5W5TbFD-GaA&utm_content=231908579&utm_source=hs_email



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1Nov22

Lockheed Martin invests \$100 million in Terran Orbital to expand smallsat manufacturing Sandra Erwin — October 31, 2022



WASHINGTON — Lockheed Martin is upping its stake in small satellite manufacturer Terran Orbital with a \$100 million investment that increases its total equity from 9.4% to 33.5%.

Terran Orbital announced the new investment Oct. 31. Lockheed Martin has invested in the company [since 2017](#) and selected it to produce 42 satellites for the U.S. Space Force's Space Development Agency under a [\\$700 million contract](#).

Headquartered in Boca Raton, Florida, Terran Orbital plans to spend the new funding to expand satellite manufacturing facilities in Irvine, California, and is canceling [plans to build a large factory](#) on Florida's Space Coast in partnership with Space Florida.

"This makes sense for us right now because there is an immediate demand for satellites," Terran Orbital's co-founder and CEO Marc Bell told *SpaceNews*. Building an assembly line in Florida was projected to take three years while the expansion in Irvine will only take 12 months, he said. "For me to add on to that is far easier than trying to expand on another coast."

<https://spacenews.com/lockheed-martin-ups-stake-in-terran-orbital-invests-100-million-to-expand-smallsat-manufacturing/>

AgEagle's eBee X Series Drones First to be Approved by FAA for Operations Over People October 28, 2022



[AgEagle Aerial Systems Inc.](#) announced the Company's eBee X series of fixed wing unmanned aircraft systems are the first and only drones on the market to comply with Category 3 of the Operations of Small Unmanned Aircraft System Over People rules published by the U.S. Federal Aviation Administration in March 2021.

Securing a Part 107 certificate of waiver from the FAA is a long, arduous, and costly process for sUAS users. Now that the eBee has proven compliant with Category 3 of the rules, eBee drone operators no longer require an FAA waiver for OOP or Operations Over Moving Vehicles. This major milestone has been achieved by AgEagle following months of work, historic reliability



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review and extensive testing conducted by Virginia Tech Mid-Atlantic Aviation Partnership (“MAAP”) based on the Means of Compliance MAAP has developed, and which is accepted as proof of compliance by the FAA. https://uasweekly.com/2022/10/28/ageagles-ebec-x-series-drones-are-the-first-and-only-uavs-to-be-approved-by-the-faa-for-operations-over-people-oop-in-the-united-states/?utm_source=rss&utm_medium=rss&utm_campaign=ageagles-ebec-x-series-drones-are-the-first-and-only-uavs-to-be-approved-by-the-faa-for-operations-over-people-oop-in-the-united-states&utm_term=2022-11-01

PABLO AIR contributes to NASA demonstration project October 31, 2022 News



PABLO AIR, a member of the Born2Global Centre, announced that it will participate in a project to improve urban airspace safety hosted by the National Aeronautics and Space Administration’s Aeronautics Research Mission Directorate. This project feeds into NASA’s larger vision for Advanced Air Mobility.

The testing will happen in the **Hampton Roads, Virginia** area where NASA’s Langley Research Center is located from this October to July next year. The project will include collaboration from five companies: PABLO AIR, ResilienX, TruWeather, Spright and Longbow. PABLO AIR will install wind speed sensors on its multicopter delivery drone and collect and utilize data through the smart traffic management system.

Through this effort, PABLO AIR will help collect and analyze real-time wind speed data that significantly affects flight stability. The prediction of the wind speed model helps ensure the stability of the flight path and identifies the effect on the battery, thereby improving flight efficiency. https://uasweekly.com/2022/10/31/pablo-air-contributes-to-nasa-demonstration-project/?utm_source=rss&utm_medium=rss&utm_campaign=pablo-air-contributes-to-nasa-demonstration-project&utm_term=2022-11-01

ANAFI USA chosen for field evaluations by US Customs and Border Protection

October 31, 2022 News



The US Customs and Border Protection awarded W.S. Darley & Co to provide ANAFI USA for field evaluations to inform future Blanket Purchase Agreement procurements.

CBP intends to seek competition in future acquisitions for sUAS by competing orders among the Blue sUAS BPA holders. By acquiring Blue sUAS through the



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intended actions with each vendor, CBP will obtain operational familiarity with each sUAS which will inform capabilities of the various brand name drones in different climates, environments, operational settings, conditions, and other settings for market research and future competitive acquisitions. The BPA is worth up to **\$90 million over five years**.

https://uasweekly.com/2022/10/31/anafi-usa-chosen-for-field-evaluations-by-us-customs-and-border-protection/?utm_source=rss&utm_medium=rss&utm_campaign=anafi-usa-chosen-for-field-evaluations-by-us-customs-and-border-protection&utm_term=2022-10-31

Russia begins mass production of 'significantly cheaper' small civilian drones

Ishveena Singh - Oct. 31st 2022



In an apparent bid to reduce dependence on Chinese drones, Russia's state-owned defense contractor Almaz-Antey Concern has begun manufacturing small civilian aircraft at scale. The company says its aim is to assemble **400 drones in November, with another 1,000 units** being produced in December when the product goes on sale.

Almaz Antey's North-West Regional Center in St. Petersburg is the designated [production hub](#) for this project, which was envisioned as part of a program to diversify Russia's military-industrial complex. Almost all the components of the drone, including the carbon fiber for its body, flight controller, and software, are being produced indigenously by Almaz-Antey.

The company says the final product will be a high-performance device, boasting popular consumer drone features, but with functionality that is simple enough for even a novice user. It will be lightweight but have enough strength to withstand strong winds and extremely cold weather. Each unit will undergo rigorous quality checks before being made available to users. It will also be possible to **charge the drone from a car battery** to facilitate remote operations.

Though it is not yet known what each drone would cost, Almaz Antey has started to accept pre-orders for the offering, stressing that the final price will be significantly lower than typically asked by foreign counterparts. <https://dronedj.com/2022/10/31/russia-drone-production-dji-ukraine/>



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US Navy Demonstrates Tactical VTOL UAS for Future Operations Mike Ball / 25 Oct 2022



A vendor demonstrates the vertical takeoff and landing capability of a small unmanned aircraft system during a PMA-263 sponsored technical assessment Sept. 20 in California, Md.

Multiple Vertical Takeoff and Landing drone systems were tested and demonstrated by the U.S. Navy and Marine Corps Small Tactical Unmanned Aircraft Systems program team during a **two-week technical demo**. The event was attended by more than a dozen vendors, helping to inform the Navy Expeditionary Warfare community of the functions and capabilities available on the commercial market. The VTOL systems represented a wide range of configurations, including outdoor, indoor, hybrid VTOL/fixed wing, and tethered flight capability.

In partnership with the University of Maryland UAS Test Site, PMA-263's Family of Small UAS team evaluated each system against a standard test card to determine its suitability for **expeditionary combat support**. In addition to basic measurements like length, height, weight, and pack-up size, performance data was collected for ease of operation, range, endurance, audibility, electro-optical and infrared imagery quality, and other unique capabilities of each system.

"The goal was to understand what the state of the market is today," said Col Victor Argobright, PMA-263 program manager. "We want to show off what is available right now for future procurements to our Navy Expeditionary community."

https://www.unmannedsystemstechnology.com/2022/10/us-navy-demonstrates-tactical-vtol-uas-for-future-operations/?utm_source=UST+eBrief&utm_campaign=c66b876f69-ust-ebrief_2022-nov-1&utm_medium=email&utm_term=0_6fc3c01e8d-c66b876f69-111778317&mc_cid=c66b876f69&mc_eid=acabe18a61

UMILES Next and TECNALIA take to the skies again completing its second test flight November 1, 2022 News



The electric vertical take-off and landing (eVTOL) aircraft designed by UMILES Next, Concept Integrity, equipped with FlyFree technology developed by research partner TECNALIA, took to the skies successfully over Jaén today.



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Following its recent flight in Toulouse, this was the first free flight completed by the aircraft in Spain, as part of USPACE4UAM, a European demonstration project intended to safely integrate mixed operations, including manned and unmanned vehicles, into urban settings.

This is a significant milestone towards the integration of these aircraft into urban airspace, as defined by the European USPACE4UAM project, which seeks to test and demonstrate effective management of urban air traffic featuring unmanned aircraft. The Concept Integrity was flanked at the testing event by other unmanned aircraft at different layers with a view to proving that this new traffic type can be safely and seamlessly integrated into urban areas in the near future. https://uasweekly.com/2022/11/01/umiles-next-and-tecnalia-take-to-the-skies-again-completing-its-second-test-flight/?utm_source=rss&utm_medium=rss&utm_campaign=umiles-next-and-tecnalia-take-to-the-skies-again-completing-its-second-test-flight&utm_term=2022-11-01

Volocopter eVTOL air taxis get \$182 million lift toward certification Bruce Crumley - Nov. 2nd 2022



The Bruchsal-based start-up [said it had raised](#) \$182 million in a second signing of its Series E funding round. Joining its ownership group are Chinese automotive giant Geely Holding's investment unit, GLy Capital Management, and the Saudi Arabia-backed futuristic smart city Neom. In announcing the development, Volocopter said the new cash infusion will support its work to take its eVTOL VoloCity [air taxi](#) craft through the certification process and into expected operation within **two years**.

Taking a direct stake in Volocopter transforms the previous relationships both newly arrived investors had established with the company. Last year [Geely and Volocopter teamed up](#) to form a joint venture working to bring air taxis to China, the promotion of the German manufacturer's [eVTOL craft](#) being central to that. <https://dronedj.com/2022/11/02/volocopter-evtol-air-taxi/>

General Atomics Aeronautical Systems to Deliver MQ-9A Reapers to Poland

November 1, 2022 Military | News



As part of a lease agreement, Poland will take delivery of MQ-9A Reaper Remotely Piloted Aircraft from General Atomics Aeronautical Systems, Inc. (GA-ASI). The new agreement between GA-ASI and the Polish Ministry of Defence has a net value of **\$70.6 million**. MQ-9A Reapers are



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operated by the United States, the United Kingdom, France, Italy, the Netherlands, and Spain.

MQ-9A Reaper has endurance of over 27 hours, speeds of 240 KTAS and can operate up to 50,000 feet. It has a 3,850-pound payload capacity that includes 3,000 pounds of external stores. It provides a long-endurance, persistent surveillance capability with Full-Motion Video and Synthetic Aperture Radar/Moving Target Indicator/Maritime Radar. An extremely reliable aircraft, MQ-9A Block 5 is equipped with a fault-tolerant flight control system and triple redundant avionics system architecture. https://uasweekly.com/2022/11/01/general-atomics-aeronautical-systems-to-deliver-mq-9a-reapers-to-poland/?utm_source=rss&utm_medium=rss&utm_campaign=general-atomics-aeronautical-systems-to-deliver-mq-9a-reapers-to-poland&utm_term=2022-11-02

RigiTech trials BVLOS medical drone delivery over Lake Geneva Bruce Crumley - Nov. 1st 2022



Swiss drone manufacturer and services company RigiTech has continued pushing the boundaries of its activities by staging a long-distance [beyond visual line of sight](#) (BVLOS) [aerial delivery](#) over Lake Geneva, linking two medical labs.

The [RigiTech medical BVLOS delivery](#) flight builds on years of short-distance UAV transport trials by [Switzerland](#)'s postal service that were suspended following crash incidents. The company said its round-trip was among the longest ever operated in the country and marked a rare aerial crossing of Lake Geneva. By linking laboratories in Cologny and Coppet, meanwhile, the RigiTech Eiger craft became the first to make a jaunt between two different Swiss cantons over water.

The route above the lake vastly decreased the number of people and vehicles overflown by the UAV. But preparing for the [BVLOS](#) delivery of the drone's medical payload **took months of planning** by RigiTech alongside local, cantonal, and federal authorities – including Switzerland's regulator and air traffic controllers at Geneva's airport. Precautions to protect local fauna were also required, as was close interaction with Swiss maritime officials to minimize the number of boats sailing beneath the flight path.

But the work was worth it for RigiTech, which views the fast, efficient [BVLOS performance](#) of delivery drones to be a key asset in improving the medical treatment people across Europe and the world will receive. <https://dronedj.com/2022/11/01/rigitech-bvlos-medical-drone/>

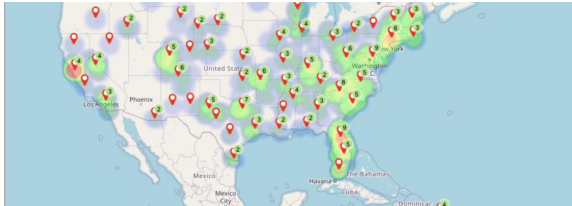


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FC LAANC REQUEST PROCESS MIGHT REQUIRE SOME FURTHER COORDINATION OF ITS OWN

October 27, 2022 Sally French



“FC” stands for further coordination, and it’s a special type of LAANC request for some drone pilots who need to fly higher than what’s legal for everyone else.

But first comes another acronym alert: LAANC. LAANC is short for ‘Low Altitude Authorization and Notification Capability.’ While pre-LAANC, you had to go through an onerous process to get approval to fly in controlled airspace, such as within five miles of an airport, LAANC now makes it far easier. You simply download an app from a registered service provider, register an account, and input your flight plans. Most flights get near-instant approval to fly in approved airspace.

But there is one specific type of flight that requires further coordination. It’s called an FC LAANC, and it’s available for pilots who have a Remote Pilot Certificate, meaning they have clearance under FAA Part 107 to fly drones for commercial purposes. If you have a Part 107 Remote Pilot Certificate, you can put in an FC LAANC request, which enables pilots to request authorization above the pre-approved ceilings, such as requesting to fly up to 100ft in a 0ft grid. <https://www.thedronegirl.com/2022/11/03/fc-laanc-aloft/>

DARPA Wants to Put Satellites Where Other Spacecraft Go to Die

November 2, 2022 Caleb Harshberger

Bloomberg Government

The Pentagon’s research and development agency is exploring the upside of satellites at a range most space companies aim to avoid.

Companies can’t launch the same spacecraft in “very low Earth orbit,” or VLEO, that they do in other orbits, leaving a gap in development about 250 kilometers deep. The Defense Advanced Research Projects Agency’s goal is to spur new ideas and technology from the private sector.

DARPA defines very low Earth orbit as **anything below 450 kilometers**. The lower limit is around 200 kilometers, according to senior analyst Caleb Henry at space analytics firm Quilty Analytics.



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In documents for an upcoming contract, DARPA says VLEO's proximity to Earth offers benefits worth exploring, including better imaging performance and more accurate geospatial positioning systems.

If sensors and cameras perform better at altitudes closer in than "low Earth orbit," DARPA wants spacecraft that can operate there.

A classified event for prospective vendors on the [Daedalus program](#) Nov. 7 will likely provide more insight into the agency's expectations for its three-phase research and development contract. <https://about.bgov.com/news/darpa-wants-to-put-satellites-where-other-spacecraft-go-to-die/>

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Aurora Flight Sciences Announces New Fixed-Wing eVTOL Small UAS November 2, 2022 News



Aurora Flight Sciences, a Boeing Company, has released its latest small UAS product, the Skiron Expeditionary sUAS, or SKIRON-X. This Group 2 unmanned aircraft system (UAS) combines the simple operation of an electric vertical take-off and landing configuration with the longer range and endurance of a fixed-wing design.

With an EO/IR camera that provides excellent ground resolution, a low noise signature, and a military-grade radio, SKIRON-X is well suited for airborne intelligence, surveillance, and reconnaissance missions. For operations requiring a variable or custom payload, SKIRON-X has a modular nosecone design enabling quick payload swaps and custom integrations.

SKIRON-X operations are quick to train, and user-friendly mission planning software makes it easy to implement mission changes, even during flight. It takes 15 minutes from setup to launch and 10 minutes to pack out. The air vehicle is FAA PART 107 compliant, providing flexibility to fly in more areas for testing, training, and data collection.

https://uasweekly.com/2022/11/02/aurora-flight-sciences-announces-new-fixed-wing-evtol-small-uas/?utm_source=rss&utm_medium=rss&utm_campaign=aurora-flight-sciences-announces-new-fixed-wing-evtol-small-uas&utm_term=2022-11-03



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Arabian Development & Marketing Inks Deal with Sabrewing for 53 Air Cargo

Drones November 3, 2022 News



In a joint announcement today between Arabian Development and Marketing Corporation (ADMC) and Sabrewing Aircraft Company, Inc., the two companies stated that ADMC had ordered 53 of the record-breaking heavy-lift cargo uncrewed aerial vehicle. This event comes on the heels of Sabrewing's Rhaegal-A "Alpha" aircraft's **first world record breaking flight**.

This September, Sabrewing announced it had flown its first flight with a record-breaking **829-pound payload** – the most for any commercial cargo UAV. According to De Reyes, the Rhaegal-A has continued to fly and lift heavy payloads as part of its final development program.

ADMC currently has **128 orders** for Sabrewing's Rhaegal-B "Bravo" aircraft, that can lift 5,400 pounds vertically and up to **10,000 pounds** conventionally. Both the "Alpha" and "Bravo" models can take off vertically. They are **the only cargo UAV capable** of taking off both vertically and conventionally (as a fixed-wing aircraft). https://uasweekly.com/2022/11/03/arabian-development-marketing-company-inks-deal-with-sabrewing-aircraft-to-purchase-53-rhaegal-a-vtol-air-cargo-drones/?utm_source=rss&utm_medium=rss&utm_campaign=arabian-development-marketing-company-inks-deal-with-sabrewing-aircraft-to-purchase-53-rhaegal-a-vtol-air-cargo-drones&utm_term=2022-11-04