



## UAS and SmallSat Weekly News

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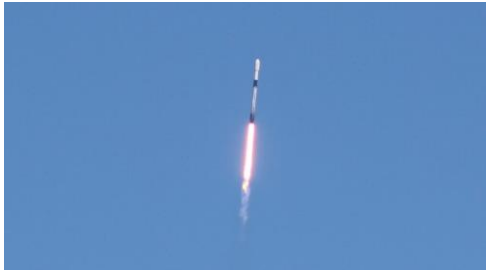
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### SpaceX launches third dedicated smallsat rideshare mission Jeff Foust — January 13, 2022



CAPE CANAVERAL, Fla. — A SpaceX Falcon 9 placed more than 100 smallsats into orbit Jan. 13 as the company accelerates the pace of its dedicated rideshare missions.

The Falcon 9 lifted off from Space Launch Complex 40 at Cape Canaveral Space Force Station in Florida at 10:25 a.m. Eastern. The upper stage reached orbit eight and a half minutes later and, after a second burn 55 minutes after liftoff, deployed its payloads into a 525-kilometer sun-synchronous orbit over the following half-hour.

The Falcon 9 first stage landed at the company's Landing Zone 1 at Cape Canaveral, the first land landing of a Falcon 9 booster since the Transporter-2 rideshare mission in June 2021. The booster was on its tenth flight, having first launched in May 2020 on the Demo-2 commercial crew mission for NASA.

SpaceX said **the launch carried 105 spacecraft**. The largest single customer, in terms of number of spacecraft, was Earth observation company Planet, which flew 44 SuperDove spacecraft. Spire had four Lemur multipurpose satellites on Transporter-3, while Kepler had three for its satellite connectivity constellation. Synthetic aperture radar companies Capella Space, Iceye and Umbra each had spacecraft on the launch as well. Unseenlabs, a French company developing a satellite system for maritime domain awareness, launched its fifth satellite, BRO-5, on Transporter-3.

There were newcomers as well. OroraTech, a German startup, launched the first in a series of cubesats equipped with thermal infrared camera intended to provide early warnings of wildfires. The company developed the satellite in cooperation with Spire.

<https://spacenews.com/spacex-launches-third-dedicated-smallsat-rideshare-mission/>



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### Fixed-wing VTOL Vetral drone aims to imitate Wingtra's success Bruce Crumley - Jan. 14th 2022



On hand in Las Vegas at CES 2022, [Vetral](#) was rolled out for pre-order last year, and is now being used by primarily industrial clients taking advantage of its [Wingtra](#)-esque operation as a fixed-wing drone with VTOL functionality. Produced by Bangkok-based HG Robotics, developers believe the craft's performance and payload versatility will eventually make it attractive to a wider selection of enterprise and agricultural operators – and perhaps even consumers hankering for vertical departure and horizontal flight.

Like the [Wingtra Gen II](#), when upright Vetral looks a bit like a bat – especially with its sharper wing angles that lend it a certain vampire vibe. Both VTOL drones stand on the ground by tail-attached stabilizers and boast roughly the same wingspan. Vetral developers believe their drone has an advantage over rivals once it has transitioned from VTOL mode to horizontal fixed-wing flight. Whereas Wingtra's cruising speed is listed at 35.8 mph, Vetral's maximum is nearly 56 mph. That **greater speed and optimized aerodynamics** of its composite body material, HG Robotics says, allow the craft to cover twice the area as other fixed winged drones during a single outing, and 14 times more than most standard VTOL rotor UAV. <https://dronedj.com/2022/01/14/fixed-wing-vtol-vetral-drone-aims-to-imitate-wingtras-success/#more-75055>

### Neuron uses Hedera secure public ledger tech to trial BVLOS drone tracking Bruce Crumley - Jan. 14th 2022



London-based navigation tech company Neuron has offered details on trials it completed in the UK last year, demonstrating its ability to successfully track drones operating beyond visual line of site (BVLOS) missions using its data secured traffic management platform.

In conducting the trials, [Neuron](#) relied on information sharing assets developed by [Hedera](#), the international public ledger made up of and governed by leading global companies. The same tech and data sharing methods that [secure](#) cryptocurrency transactions were also applied to the identity and flight information collected by drones tracked in Neuron's BVLOS tests. The objective, the company said, was to demonstrate a system whose sensors could continuously monitor UAVs on remote missions within a wider platform **overseeing all flights in the same area** – while ensuring the data security and privacy of craft and operators in it.



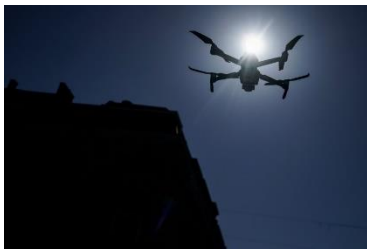
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The experiments, which took place in Scottish locales in April and October, aimed to prove the effectiveness of Neuron's use of the Hedera Consensus Service public ledger in permitting drones to be used to their fullest potential in BVLOS and other similarly restricted flight modes. <https://dronedj.com/2022/01/14/neuron-uses-hedera-secure-public-ledger-tech-to-trial-bvlos-drone-tracking/#more-75025>

16Jan22

### Cops Use Drone to Find Man Lying in Freezing Ditch Who Wandered from Hospital

LEE BULLEN, ZENGER NEWS ON 1/15/22



Derbyshire, England, police used a drone to find a confused elderly man lying in a ditch on a freezing night, six hours after he wandered out of the hospital.

"The man, in his eighties, was being treated for an infection in Chesterfield Royal Hospital in Calow when he left the hospital in a confused state at around 11:10 p.m. on 1 December. "[Police](#) were called by the hospital at 11:30 p.m. to say he had absconded, and they believed he had been gone around 20 minutes."

Derbyshire Constabulary said: "After almost six hours and due to the large search area involved, a request was put into the National Police Air Service to support. The aim was for the NPAS helicopter to search the area north of the hospital, as all intelligence suggested the man was somewhere in this area.

"While this was being arranged, Sergeant Kev Harrell, acting on a hunch, made the decision to use the last remaining battery to fly the drone to the south of the hospital, just in case." Sergeant Harrell said: "My heart skipped a beat when I located a heat source in a field — a heat source of a person — in a ditch behind some houses. I guided local officers in with the aid of the floodlight on the drone, and it was great news. He was found, freezing cold and clearly unwell at 5:30 am on 2 December, approximately six hours after he had walked out of the hospital.

"Medical staff later confirmed if he had not been found at that time, he would have likely died from hypothermia. It was a great effort from all involved and just goes to show the importance of having a drone readily available for deployment, and the fact that it saves lives," the police said. <https://www.newsweek.com/cops-use-drone-find-man-lying-freezing-ditch-who-wandered-hospital-1669640>



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### Censys BVLOS Waiver Applications 100% Successful: Record Continues with AECOM

Miriam McNabb January 16, 2022 by DRONELIFE Staff Writer Ian M. Crosby



Following its most recent and largest Beyond Visual Line of Sight (BVLOS) waiver approval for Architecture, Engineering, Constructions, Operations, and Management (AECOM), remote sensing solution developer [Censys Technologies](#) has continued its 100% BVLOS waiver approval rate. [AECOM](#), an infrastructure consulting firm, offers architecture and design, construction management, engineering, and environmental services within

numerous sectors including energy, healthcare, and government. The waiver team seeks to put Censys Technologies' industry knowledge and high approval rate to use as they continue to submit new waivers for future projects.

"With each approval, our waiver team becomes more confident about writing complex waivers," said Matt Nanney, AECOM's mobile technology and remote sensing manager. The AECOM team is looking to make use of this waiver for a Department of Defense wide area mapping project. The area covered in the approved submission covers 19.22 square miles, with the waiver allowing the remote pilot-in-command to fly within a 3.3 mile radius, granting seven times ROI (return on investment) per flight. <https://dronelife.com/2022/01/16/censys-bvlos-waiver-applications-have-been-100-successful/>

### Delivery drone market worth \$1.29 billion by 2028 – Meticulous Research report

January 17, 2022 Jenny Beechener UAS traffic management news



According to a new market research report titled *"Delivery Drones Market by Type (Multi-rotor, Fixed-wing, Hybrid VTOL), Payload (Less than 2 KG, 2-5 KG), Range (Less than 25 km, More than 25 km), End User (Healthcare, Retailers and E-commerce, Logistics), and Geography — Global Forecasts to 2028"*, published by Meticulous Research, the delivery drones market is expected to grow at a

**CAGR of 40%** from 2021–2028 to reach \$1.29 billion by 2028.



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The increasing demand for faster delivery, technological advancements in drones, and the growing need to reduce carbon emissions are the factors driving the growth of the delivery drone market. In addition, increasing private investments in the industry, rise in e-commerce, and rising demand for contactless delivery amidst the COVID-19 pandemic are projected to provide significant growth opportunities for the vendors operating in this market.

However, the high cost of infrastructure and limited battery life of aerial delivery drones are expected to restrain the growth of this market. In addition, stringent government regulations for UAVs and security breaches using aerial delivery drones pose a major challenge for the growth of the delivery drone market.

The market is segmented based on type, payload, range, end user, and geography. The study also evaluates industry competitors and analyzes the market at the country level.

<https://www.unmannedairspace.info/latest-news-and-information/delivery-drones-market-worth-usd1-29-billion-by-2028-meticulous-research-report/>

**US Navy tests counter drone capabilities** January 17, 2022 Jenny Beechener Counter-UAS systems and policies



A recent US Navy demonstration tested the capabilities of its fleet and installation commanders when faced with unauthorized drones over Naval Base Ventura County in Southern California. Small drones were deployed by the US Navy Target Systems Department to support threat training.

The UAS are classified by their size, range, and speed, and are broken into five groups based on those attributes. Groups 1-3 can range from over-the-counter handheld drones to medium sized drones with sensors and the capacity to deliver weaponized payloads. However, the main threat that comes from groups 1-3 is intelligence, surveillance, and reconnaissance. These drones can be difficult to detect and destroy due to their low flying altitude and small size. Group 1 drones are the greatest threat to military forces across the globe due to their unique range of capabilities as well as their relatively low cost and small size.

<https://www.unmannedairspace.info/latest-news-and-information/us-navy-tests-counter-drone-capabilities-at-naval-base-in-southern-california/>





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### **Zeva eVTOL Completes First Untethered Flight** Kate O'Connor January 14, 2022 Zeva's



Zero electric vertical takeoff and landing (eVTOL) aircraft has successfully completed its first untethered test flight, according to an announcement from the Tacoma-based startup on Thursday. The vehicle made a total of **four uncrewed flights** during the test session and conducted maneuvers including a controlled hover, simulated taxi at slow speeds and limited vertical climb. Zeva says its team completed more than 50 tethered flights with the design prior to the untethered test.

"This is a huge inflection point for ZEVA as we join an exclusive set of proven flying eVTOL platforms, and a testament to the relentless hard work and ingenuity of our entire team over the past two and half years," said Zeva CEO Stephen Tibbitts. The company says the Zero "personal flying machine" will have a 50-mile range, cruise at up to 160 MPH and be small enough to "fit in a standard automobile parking space." The eVTOL, which features a flying wing airframe and eight electric motor-driven propellers, is designed for a single pilot. Zeva currently estimates the price point at under \$250,000. See the video: [https://www.avweb.com/recent-updates/evtols-urban-mobility/zeva-evtol-completes-first-untethered-flight/?MailingID=813&utm\\_source=ActiveCampaign&utm\\_medium=email&utm\\_content=Wake+Turbulence+Factor+In+Schneider+Crash%2C+Brig++Gen+Charles+McGee+Dies&utm\\_campaign=Wake+Turbulence+Factor+In+Schneider+Crash%2C+Brig++Gen+Charles+McGee+Dies-Monday%2C+January+17%2C+2022](https://www.avweb.com/recent-updates/evtols-urban-mobility/zeva-evtol-completes-first-untethered-flight/?MailingID=813&utm_source=ActiveCampaign&utm_medium=email&utm_content=Wake+Turbulence+Factor+In+Schneider+Crash%2C+Brig++Gen+Charles+McGee+Dies&utm_campaign=Wake+Turbulence+Factor+In+Schneider+Crash%2C+Brig++Gen+Charles+McGee+Dies-Monday%2C+January+17%2C+2022)

### **DRONEDEPLOY REPORTS MASSIVE 2021 USER GROWTH** January 12, 2022 Sally French



DroneDeploy says its 2021 user growth rose by 76% year-over-year versus 2020 in terms of active users, according to DroneDeploy's State of the Drone Industry Report 2022 released in January 2022. DroneDeploy builds cloud-based software for drone mapping that works on most major drones, including [DJI drones](#).

76% year-over-year growth is impressive, though it's less than the 259% enterprise user growth that [DroneDeploy reported between 2019 and 2020](#), but 2020 was certainly unprecedented. In fact, in the single year of 2020, the number of enterprise users at DroneDeploy was 1.6x more than in the years 2013 through 2019 combined. And to still have enormous growth after that is pretty eye-popping.



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But amidst the good news, DroneDeploy also laid out some challenges ahead. Those include:

**Staying up-to-date on laws:** 42% of respondents said they are having trouble keeping track of the changing laws and regulations in the drone industry

**Lack of pilots:** 24% of respondents say they're having trouble training enough pilots to keep up with demand. 20% are having difficulties finding drone service providers or eligible pilots, period.

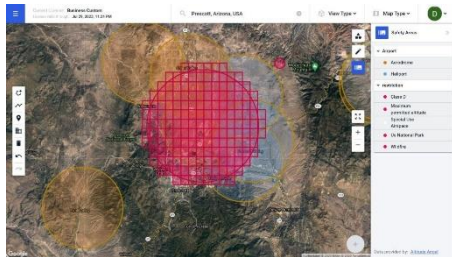
**Needing to build-in-house drone programs:** Partially in response to the aforementioned lack of pilots, 63% of respondents say they've decided to build out their own in-house drone program versus using other flight services or drone service providers. That's a notable stat, as it indicates companies are seeking to avoid outsourcing from other service providers.

But those challenges likely have a long way to go in superseding the benefits of drones.

<https://www.thedronegirl.com/2022/01/17/dronedeploy-2021-user-growth/>

## Drone Harmony raised CHF 1.5 million to accelerate autonomous flight planning

January 17, 2022 News



Drone Harmony is an industry leader in automation software for data acquisition workflows in the **commercial drone market**. The [Full-3D Flight Planning Engine](#) provides automation in flight plan generation, plan visualization and flight execution. The engine inspects [telecommunication towers](#), electric grids, [infrastructure networks](#) (railways, roads, pipelines, bridges) but also offers unique [terrain-aware surveys](#), not available anywhere else in the current market.

Drone Harmony's software as a service plans and executes more than 150,000 drone flights around the globe every year. Drone Harmony has now raised CHF 1.5 million (1 Swiss Franc=\$1.09) with Lead Investor [Spicehaus Partners AG](#), [Zürcher Kantonalbank](#) and private investors to fast-track infrastructure digitalization. "The funds will be used to further accelerate innovation in Drone Harmony's full-3D flight planning products, execute its market strategy and expand its portfolio through strategic partnerships in the drone & infrastructure digitalization space." [https://uasweekly.com/2022/01/17/drone-harmony-raised-chf-1-5-million-to-accelerate-innovation-in-autonomous-flight-planning-2/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=drone-harmony-raised-chf-1-5-million-to-accelerate-innovation-in-autonomous-flight-planning-2&utm\\_term=2022-01-17](https://uasweekly.com/2022/01/17/drone-harmony-raised-chf-1-5-million-to-accelerate-innovation-in-autonomous-flight-planning-2/?utm_source=rss&utm_medium=rss&utm_campaign=drone-harmony-raised-chf-1-5-million-to-accelerate-innovation-in-autonomous-flight-planning-2&utm_term=2022-01-17)





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### Drones at Port of Hamburg: HHLA Sky Partners Intelligent Port Infrastructure

Miriam McNabb January 17, 2022



There will soon be more working drones at Port of Hamburg, as [HHLA Sky](#) and Hamburg Port Authority (HPA) form a technology partnership. The partnership will see implementation of automated drones, expanding the HPA's efforts towards intelligent port infrastructure. "Flying, floating and self-driving robots have enormous potential, which we want to further exploit through this partnership," said Jens Meier, CEO of HPA.

HHLA Sky is a subsidiary of Hamburger Hafen und Logistik AG. The technology partnership with HPA will develop promising solutions for logistical, sensory or coordinative processes using automated drones at Port of Hamburg.

Jens Meier, Chairman of the Executive Board of the HPA: "In the event of storm surges, accidents or other unforeseeable disruptions, flying, floating or self-driving robots can be on-site considerably faster and provide high-resolution videos and pictures for an exact overview of the situation. The **time saved** can be decisive in an emergency. Furthermore, they make the maintenance and expansion of the port infrastructure significantly **more efficient** – for example, in the case of facilities that are difficult, time-consuming or dangerous to reach."

<https://dronelife.com/2022/01/17/drones-at-port-of-hamburg-hhla-sky-partners-intelligent-port-infrastructure/>

### Dallas Police increase drones in crime, emergency response Bruce Crumley - Jan. 17th 2022



The Dallas Police Department has said it will be increasing its use of drones in response to certain emergencies and criminal situations, as well as in investigations of open cases.

[Dallas police](#) officials said the expanded numbers and deployment of drones are aimed to enhance efficiency of law enforcement responses to crimes and urgent situations and provide an extra spatial buffer to keeping cops safer. Dallas Police Deputy Chief of Tactical Operations Division Mike Igo called the increased deployment of



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drones a beneficial development all around. “Implementation of these aircraft systems will provide numerous benefits to the department,” he said. “Using drones will provide critical on-scene information that will lead to keeping officers out of danger, protecting citizens lives, and providing useful information for those units tasked with investigating these crimes.”

That announcement by Dallas police brass came just three months after the department was embarrassed by a [major leak](#) of aerial surveillance footage, nearly 1.9 terabytes of which were published by a transparency advocacy group. Most of that was filmed by police helicopters. Yet the enormous volume of such video – which in some cases recorded people involved in private activities on and around their property – and its **breached security alarmed people** about the potential privacy ramifications, and inspired criticism of the spreading deployment of drones by police forces around the nation. <https://dronedj.com/2022/01/17/dallas-police-increase-drones-in-crime-emergency-response/>

### Drone Swarm Control Solution Demonstrated in DARPA Field Exercise Phoebe

Grinter / 18 Jan 2022



[Raytheon Intelligence & Space](#) has supported the fifth OFFensive Swarm-Enabled Tactics (OFFSET) Defense Advanced Research Projects Agency program field exercise.

Using integrated swarm technology developed by a Raytheon BBN-led team, a single operator successfully controlled a swarm—composed of **130** physical drone platforms and 30 simulated drone platforms—both indoors and outdoors in

an urban setting.

During the exercise, the team used a combination of commercial off-the-shelf and custom-built hardware and software to deliver swarm autonomy. This enabled a single or small group of operators to direct and manage the activities of a large swarm of autonomous air and ground vehicles with minimal training.

A key element of the program is the use of inexpensive hardware. Without the powerful computing and sensing capabilities available in larger, more expensive platforms, Raytheon BBN needed to create a broad library of simple tactic building blocks used to create plans to accomplish mission objectives. The company also designed and configured a scalable, modular,



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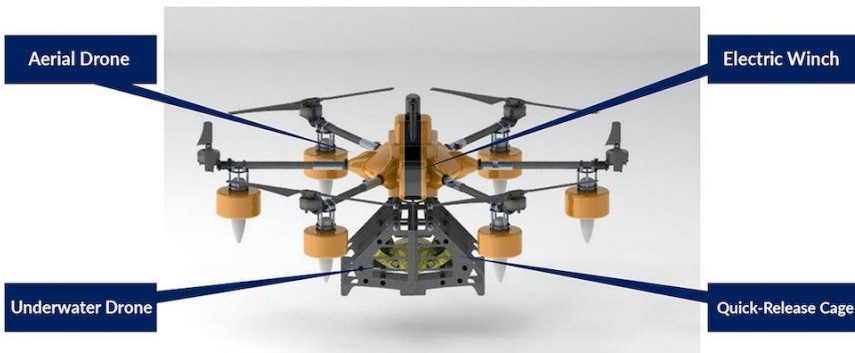
and decentralized approach to manage a variety of current and future platforms and missions. When possible, the drones **collaborate actively** to decide how to accomplish a specific mission most efficiently. [https://www.unmannedsystemstechnology.com/2022/01/drone-swarm-control-solution-demonstrated-in-darpa-field-exercise/?utm\\_source=UST+eBrief&utm\\_campaign=5899f4da27-ust-ebrief\\_2022-jan-18\\_engaged&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-5899f4da27-119747501&mc\\_cid=5899f4da27&mc\\_eid=0d642a9d48](https://www.unmannedsystemstechnology.com/2022/01/drone-swarm-control-solution-demonstrated-in-darpa-field-exercise/?utm_source=UST+eBrief&utm_campaign=5899f4da27-ust-ebrief_2022-jan-18_engaged&utm_medium=email&utm_term=0_6fc3c01e8d-5899f4da27-119747501&mc_cid=5899f4da27&mc_eid=0d642a9d48)

### World's First Sea-to-Air Drone Released for Marine Operations Phoebe Grinter / 14 Jan 2022



Japanese telecommunications operator KDDI, commercial drone manufacturer PRODRONE, and underwater robotics firm [QYSEA Technology](#) have unveiled the **world's first** Sea-Air Integrated Drone during a flight showcase at the Hakkeijima Sea Paradise, Yokohama.

The drone aims to modernize offshore and marine operations with its intelligent capabilities, high working efficiency, and minimized manpower requirement.



The sea-to-air drone features a combination of a heavy-duty aerial drone and QYSEA's industrial-class FIFISH PRO V6 PLUS Remotely Operated Vehicle (ROV).

The technological achievement between KDDI and QYSEA has resulted in the first commercial drone capable of operating seamlessly through land, sea, and air. Through long-range mobile communications, the drone is **operated remotely** to fly to its preset route at sea. After landing at its designated location, the FIFISH ROV is released and deployed to work.

The pilot is then able to operate with the ROV from a safe working location and perform a variety of inspection, maintenance, and repair work underwater.

[https://www.unmannedsystemstechnology.com/2022/01/worlds-first-sea-to-air-drone-released-for-marine-operations/?utm\\_source=UST+eBrief&utm\\_campaign=5899f4da27-ust-ebrief\\_2022-jan-18\\_engaged&utm\\_medium=email&utm\\_term=0\\_6fc3c01e8d-5899f4da27-119747501&mc\\_cid=5899f4da27&mc\\_eid=0d642a9d48](https://www.unmannedsystemstechnology.com/2022/01/worlds-first-sea-to-air-drone-released-for-marine-operations/?utm_source=UST+eBrief&utm_campaign=5899f4da27-ust-ebrief_2022-jan-18_engaged&utm_medium=email&utm_term=0_6fc3c01e8d-5899f4da27-119747501&mc_cid=5899f4da27&mc_eid=0d642a9d48)



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### Jetson ONE Swedish EVTOL company seeks investment with 3000 purchase requests January 17, 2022 News



The Swedish eVTOL company Jetson AB ([JetsonAero.com](http://JetsonAero.com)) has sold out their entire 2022 production. Since the [official launch](#) on the 21st of October 2021, another 100 units have been sold for 2023 delivery, with over 3,000 pre-orders during the same time period.

Jetson confirmed they will be recruiting significantly in 2022 and will do its first round of external fund raising.

Jetson is currently the **only** EVTOL company on the market that can provide a **commercially available personal electric vehicle**. The demand for the Jetson ONE has been phenomenal, supporting the company's dream to 'make everyone a pilot'.

Jetson welcomes Swedish Silicon Valley entrepreneur [Rikard Steiber](#) as Senior Advisor and first external investor. Rikard Steiber will support Jetson in raising capital as the first round of external fundraising begins.

The Jetson ONE is constructed of a lightweight aluminium space frame and carbon-kevlar composite body. It is powered by eight electric motors, has a **flight time of 20 minutes**, reaching a top speed of 102 kilometres per hour (63 miles per hour). It runs on a high discharge lithium-ion battery and can carry a pilot's weight of **210 pounds** 100kg.

The first exclusive buyers can expect to receive their Jetson ONE in the Autumn of 2022. The price for the Jetson ONE is **\$92,000** with a \$22,000 deposit, book your Jetson ONE [here](#).  
[https://uasweekly.com/2022/01/17/jetson-one-swedish-evtol-company-seeks-investment-with-3000-purchase-requests-in-two-months/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=jetson-one-swedish-evtol-company-seeks-investment-with-3000-purchase-requests-in-two-months&utm\\_term=2022-01-18](https://uasweekly.com/2022/01/17/jetson-one-swedish-evtol-company-seeks-investment-with-3000-purchase-requests-in-two-months/?utm_source=rss&utm_medium=rss&utm_campaign=jetson-one-swedish-evtol-company-seeks-investment-with-3000-purchase-requests-in-two-months&utm_term=2022-01-18)



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### SpaceX launches 2,000th Starlink satellite January 19, 2022 Stephen Clark



A package of 49 Starlink satellites that rode a Falcon 9 rocket into orbit Tuesday night from Florida included the 2,000th spacecraft to launch into SpaceX's broadband internet network.

The latest Starlink mission was the **35th** dedicated Falcon 9 launch to build out the network.

The 229-foot-tall launcher lifted off from pad 39A at NASA's Kennedy Space Center at 9:02:40 p.m. EST Tuesday and climbed into moonlit sky, arcing downrange toward the southeast over the Atlantic Ocean.



*A Falcon 9 rocket transits the moon Tuesday night.*

Nine Merlin engines ramped up to full throttle, generating 1.7 million pounds of thrust, to power the Falcon 9 off the launch pad.

A high-magnification night-vision tracking camera showed the rocket's first stage shutting down its engines two-and-a-half minutes into the mission. The booster stage jettisoned moments later, and the second stage lit its Merlin engine with a puff of exhaust to continue the climb into orbit.

The first stage followed a parabolic trajectory, briefly soaring above the atmosphere beyond the edge of space before plunging back to Earth for a propulsive landing on SpaceX's drone ship "A Shortfall of Gravitas" around 400 miles southeast of Cape Canaveral near the Bahamas. The on-target landing completed the **10th flight of the booster** used on Tuesday night's mission. <https://spaceflightnow.com/2022/01/19/spacex-launches-2000th-starlink-satellite/>

### Lockheed Martin Invests In eSTOL Company Electra.aero Calvin Biesecker | January 18, 2022

Electra.aero, a relatively new company pursuing new aircraft solutions for the urban and regional air mobility markets, on Tuesday said that it has received a lead investment from Lockheed Martin for a funding round that will help it get to its first flight of a technology





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demonstrator later this year. The amount of the investment wasn't disclosed, and [Electra is still lining up additional investors](#) for its Series A funding round.



Electra, which was founded in 2020 and is **based in Northern Virginia**, is developing a full-scale hybrid-electric ultra-short takeoff and landing (eSTOL) aircraft that can transport up to 1,800-pounds of cargo or seven to nine passengers up to **500 miles**. The demonstrator aircraft will not be a full-scale model but a two-person plane to test key technologies, Robie Samanta Roy, Electra's chief operating officer, said in an emailed statement.

Last year, Electra received a contract from the [Air Force's Agility Prime initiative](#), which is investing in, and leveraging, companies in the commercial electric vertical takeoff and landing for its potential future aviation needs. "Hybrid-electric propulsion will influence every aspect of aviation," John Langford, founder and CEO of Electra, said in a statement.

<https://www.aviationtoday.com/2022/01/18/lockheed-martin-invests-estol-company-electra-aero/>

## Hamburg port partners with HHLA Sky to launch 'drones as a service' for drone operators

January 18, 2022 Jenny Beechener UAS traffic management news



Hamburg Port Authority (HPA) and HHLA Sky, a subsidiary of Hamburger Hafen und Logistik AG have agreed to a comprehensive technology partnership. Together, the companies want to make it possible to use automated drones within the port of Hamburg.

HHLA Sky has developed a control center for the operation and monitoring of drones and has introduced it on the global market. It connects the various HPA applications within the scope of the technology partnership to streamline processes that were previously labor-intensive.

Jens Meier, Chairman of the Executive Board of the HPA: "In the event of storm surges, accidents or other unforeseeable disruptions, flying, floating or self-driving robots can be on-site considerably faster and provide high-resolution videos and pictures for an exact overview of the situation. The **time saved can be decisive** in an emergency. Furthermore, they make the maintenance and expansion of the port infrastructure significantly more efficient.





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"The next phase of product development for our new 'drones as a service' product will be launched with this partnership. We will begin pilot operations this year," says Phanthian Zuesongdham, Head of Division Port Process Solutions at the HPA.

<https://www.unmannedairspace.info/latest-news-and-information/hamburg-port-partners-with-hhla-sky-to-launch-drones-as-a-service-for-drone-operators/>

### A drone tour of Shanghai's "Hanging Gardens of Babylon" building David

MacQuarrie - Jan. 19th 2022



It's officially known as the 1000 Trees building by [Thomas Heatherwick's](#) studio, but the Shanghai shopping center recalls an ancient wonder. Take a drone tour of the "Hanging Gardens of Babylon" building.

[1,000 Trees](#) looks impressive from just about any angle, but this drone tour of the building

really shows how effectively the trees crown the 1000 columns that give the building its name.



The nine-story building just opened in Shanghai, delighting residents with its greenery – as many as **100 thousand people visit daily**. There are about **70 different types of trees** sprouting from the columns, as well as an estimated quarter million other plants that keep the building looking healthy.

Architect Thomas Heatherwick told the [Dezeen](#) website, "Mixed developments with shopping and restaurants can be weirdly sterile places in spirit. To me, integrating nature is a very affordable way to get complexity and movement into the facade."

Heatherwick says placing the trees at the top of the columns makes sense because of the weight of the trees and soil. "The best possible place if you want something heavy on top [of a building], is to put it on top of the column, don't put it on the beam, then that load goes straight to the foundation," says Heatherwick. You can see the project coming together here – check out the interiors and the building at night. <https://dronedj.com/2022/01/19/a-drone-tour-of-shanghais-hanging-gardens-of-babylon-building/>



## UAS and SmallSat Weekly News

### AutoFlight starts in Europe: Airtaxi 'Prosperity I' targets certification by 2025

January 18, 2022 News



AutoFlight, the Chinese eVTOL pioneer, continues its global expansion and establishes its first location in Europe: A team led by former Airbus manager Mark R. Henning is now ramping up at Augsburg Airport in Germany. The team's first task is to achieve European Aviation Safety Agency certification for AutoFlight's airtaxi 'Prosperity I', an **electric** vertical takeoff and landing aircraft with a **range of approximately 250 kilometers**. It can comfortably seat three passengers in addition to the pilot. The certification program will begin this year, with completion expected by 2025.

A growing team will work at the R&D and certification center in Augsburg. AutoFlight plans to establish additional locations for test and demonstration flights across Europe. 'Prosperity I' is the company's first manned aircraft. Previously, the company's focus was on **unmanned cargo drones**.

AutoFlight is one of the earliest tech companies **in China** to make autonomous eVTOL, including large payload logistics and autonomous unmanned aerial vehicles (UAVs). Logistics UAVs were introduced first. AutoFlight completed more than 10,000 takeoffs and landings in adverse weather conditions. The company is now ready to build its people carrier 'Prosperity I' and will show the progress made in its transition tests in a few weeks.

[https://uasweekly.com/2022/01/18/autoflight-starts-in-europe-airtaxi-prosperity-i-targets-certification-by-2025/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=autoflight-starts-in-europe-airtaxi-prosperity-i-targets-certification-by-2025&utm\\_term=2022-01-19](https://uasweekly.com/2022/01/18/autoflight-starts-in-europe-airtaxi-prosperity-i-targets-certification-by-2025/?utm_source=rss&utm_medium=rss&utm_campaign=autoflight-starts-in-europe-airtaxi-prosperity-i-targets-certification-by-2025&utm_term=2022-01-19)

20Jan22

### DMI, Iris Automation, Drones America partner for hydrogen-powered BVLOS missions

Bruce Crumley - Jan. 19th 2022



Iris Automation, Doosan Mobility Innovation ([DMI](#)), and Drone America have formed a partnership combining their respective strengths in the common objective of bringing safe, automated, long-range beyond visual line of sight (BVLOS) drone operations closer to everyday reality.



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The initiative assembles the [Casia](#) detect and avoid technologies of Reno-based Iris Automation with the greater flight capacity that hydrogen cells produced by South Korean DMI afford drones, compared to lithium-ion batteries. Rounding those assets out is [Drone America's](#) experience providing vehicles, tech, and services that enable greater flight autonomy for larger UAVs used by first responders and for deliveries, inspections, and infrastructure surveys.

"Shaping the future of commercial BVLOS is not always about one person, but about the team that makes everything happen," says Drone America president Mike Richards of the tie-up with DMI and Iris Automation. "From design, engineering, and production to flight services, certification, and training, everyone here represents the very best at what they do."

Drone America will develop a fleet of certified UAVs weighing 55 lbs. or more and capable of undertaking a range of automated enterprise and public service missions. Those will be designed to operate using DMI's emission-free, longer-range hydrogen cells, which can currently fly craft **over two hours** – more than double what most lithium-ion drone batteries can. Iris Automation's Casia system will allow those craft to see and react to their surrounding environments, enabling real time airspace awareness onboard during BVLOS flights.

<https://dronedj.com/2022/01/19/dmi-iris-automation-drones-america-partner-for-longer-hydrogen-powered-bvlos-missions/#more-75297>

### CEO of AIR Talks eVTOLs for Personal Flight Jessica Reed | January 19, 2022



*AIR has already received pre-orders for more than 50 units of its AIR ONE eVTOL.*

The electric vertical take-off and landing (eVTOL) developer AIR unveiled its AIR ONE vehicle and began taking pre-orders in October 2021. In an interview with *Avionics International*, CEO and co-founder Rani Plaut discussed the company's approach to designing its personal aerial vehicle and achieving FAA certification by **the end of 2023**. AIR [has already received pre-orders for over 50 units](#). The functional prototype is set to take off in the next 4–6 weeks.

AIR has worked to differentiate the AIR ONE from other players in the eVTOL market as a vehicle intended for personal use.



The key features of AIR's eVTOL are practicality, affordability, safety, and ease of handling. The range is over 100 miles, and units are priced at \$150,000 each. CEO and co-founder Rani Plaut describes the

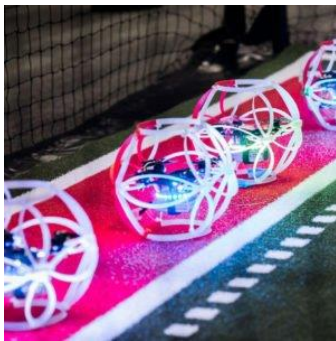


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aircraft's "extreme simplicity and high redundancy that creates a very high level of safety and very easy handling. If I train you, within an hour you will be able to operate it. You are truly enveloped in our software and are very safe."

AIR's vision is to bring its vehicle to the mass market, producing and selling thousands of units each year. <https://www.aviationtoday.com/2022/01/19/ceo-air-talks-evtol-personal-flight/>

**New Co-Ed Sport: U.S. Drone Soccer Leagues Launched Today [VIDEO]** Miriam McNabb January 19, 2022



U.S. Drone Soccer Leagues Launch today with a kickstarted campaign to fund aviation education in Colorado, New York, and Ohio.

U.S. Drone Soccer may be one of the coolest sports in the world – and gives kids ages 12 and up their first experience in aviation, creating a pathway for aerospace careers.

With classroom lessons and after school drone soccer leagues for grades 6-12, drone soccer is the recognized as an international sport by the World Air Sports Federation (FAI). Drone Soccer will be demonstrated at the World Games held in Birmingham, Alabama in July of 2022.

*The game of Drone Soccer is played with flying quadcopters in protective exoskeletons designed for collisions. Five-player teams fly inside a netted arena where they ram and block the opposing team to prevent them from scoring. Students who compete during the academic year must first learn to build, program, and repair their drones as a team.*



It has taken more than a year of testing with students and teachers to develop a drone that can withstand the abuses of the sport – and meet the needs of a modern classroom – but the Saker DS200 "Bantam" Drone Soccer Ball is ready to take the field. "It is affordable, durable, and easily repairable with simple tools," says

the press release. Student leagues and tournaments will take place in Colorado, Ohio, and New York this year, and the first national tournament will be held in Denver, Colorado on April 30th, 2022. <https://dronelife.com/2022/01/19/this-new-co-ed-esport-shoots-for-big-goals-u-s-drone-soccer-leagues-launched-today-video/>





## UAS and SmallSat Weekly News

**FlyBy Guys Expand to Dubai: Drone Expertise Going Global** Miriam McNabb January 19, 2022 by DRONELIFE Staff Writer Ian M. Crosby



Finnish drone consultancy [Flyby Guys](#) has announced the signing of a strategic long-term agreement with UAE-based companies [Seattle Project Management Services Co. LLC](#), and Global Communication Group DWC-LLC for the creation of a joint Company called “Flyby Guys MENA”. The **joint company, based in Dubai**, UAE, aims to bring world-class domain expertise in UAV, AI, and Robotics to the region, while taking advantage of Dubai’s strategic location.

Based in Helsinki, Flyby Guys OY are specialists in drone deliveries, Drone Light Show operations, consulting and Industrial UAV Services. A recognized industry leader and international consultant to several government bodies, Flyby Guys has pledged to lend its global experience in large scale operations and technologies as a contribution to the Joint Venture’s activities.

Stephen Sutton, CEO of Flyby Guys OY, said “We’ve been extremely successful executing several high-profile Drone Light Shows globally for our multinational partners and government customers here in the region, and it makes sense to build on that success by expanding into the Middle East through Dubai.” <https://dronelife.com/2022/01/19/flyby-guys-expand-to-dubai-drone-expertise-going-global/>

**21Jan22**

**Virgin Orbit California rocket launch paves way for UK lift-off** Stuart Clark Fri 21 Jan 2022



Virgin Orbit has conducted its third successful commercial launch using a rocket strapped to the left wing of a modified 747 aircraft. The flight took off on 13 January from the Mojave Air and Space Port, [California](#), at 1339 PST. It then flew to the launch site above the Pacific, about 50 miles south of California’s Channel Islands. Virgin Orbit’s LauncherOne rocket weighs about 26 tons.



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Once the aircraft, named Cosmic Girl, was in position and final checks were complete, the rocket was released from the wing. Five seconds later, it ignited and climbed out of the Earth's atmosphere. About 55 minutes later, the **seven small satellites** in its nose cone were deployed into orbits approximately 310 miles in altitude and inclined to the equator by 45 degrees.

The satellites are mostly experimental devices to test novel communication, navigation, and propulsion techniques, detect space debris and monitor agriculture on the Earth. Four have been flown as part of the US military's Space Test Program. The other three are from commercial enterprises. In light of this success, Virgin Orbit plans five more launches this year, including two in summer that will take off from Newquay airport in [Cornwall, England](#).

<https://www.theguardian.com/science/2022/jan/21/virgin-orbit-california-rocket-launch-paves-way-for-uk-lift-off>

## Urban-Air Port Funded by Hyundai's Supernal: Integrating AAM into Transit Networks

Miriam McNabb January 20, 2022 by DRONELIFE Staff Writer Ian M. Crosby



Today, British start-up [Urban-Air Port Ltd](#) (UAP) revealed that it has acquired funding from [Supernal](#) (formerly the Urban Air Mobility Division of Hyundai Motor Group) to carry out the companies' shared goal of assimilating advanced air mobility (AAM) into existing transit networks. The funding will go towards UAP's undertaking to develop **200 vertiport sites worldwide** over the course of the next five years.

UAP's vertiport sites will grant the infrastructure necessary to prepare for the mass adoption of eVTOL aircraft like cargo drones and air taxis. Air-One, the world's first fully operational hub for eVTOLs, will open for public visitation this coming **April** in Coventry City Centre. The demonstration will showcase AAM's ability to help unlock the potential of sustainable mobility, as well as how the industry will work to help reduce congestion, cut air pollution, and decarbonize transport.

This landmark investment marks the **first time** a major eVTOL company has invested in an AAM ground infrastructure developer. <https://dronelife.com/2022/01/20/urban-air-port-funded-by-hyundais-supernal-integrating-aam-into-transit-networks/>