



UAS and SmallSat Weekly News

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Farnborough 2022: UK reveals 'Concept V' hypersonic aircraft 18 JULY 2022 Gareth Jennings



Revealed at the Farnborough Airshow on 18 July, Concept V is part of the wider Hypersonic Air Vehicle Experimental (HVX) program being run by the Royal Air Force's Rapid Capabilities Office, the Defence Science and Technology Laboratory, and the UK's National Security Strategic Investment Fund, as well as industry partners Reaction Engines and Rolls-Royce.

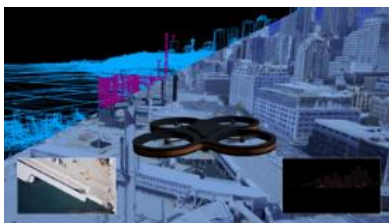
The HVX program is undertaking design work on experimental hypersonic vehicle concepts. At the Farnborough International Airshow, a single-engine hypersonic concept vehicle – 'Concept V' – has been unveiled.

As noted by Reaction Engines in its announcement, the HVX program “has been established to rapidly develop critical high-Mach/hypersonic technologies, including novel airbreathing propulsion architectures, innovative thermal management systems, and advanced vehicle concepts. A full-scale experimental engine test campaign has now commenced”.

According to the company, HVX's immediate objective is to rapidly mature technologies which can deliver a step-change reduction in the cost of developing a reusable hypersonic air vehicle. “Reaction Engines' novel precooler and Synergetic Air-Breathing Rocket Engine combined-cycle technologies are key foundations for the program. In combination with Rolls-Royce's gas-turbine technology, this brings a formidable capability to take on the challenging problems inherent with hypersonic flight.” <https://www.janes.com/defence-news/news-detail/farnborough-2022-uk-reveals-concept-v-hypersonic-aircraft>

Microsoft launches Project AirSim, a platform to accelerate autonomous flight

Jake Siegel Jul 18, 2022



Josh Riedy knew it wasn't real – that he wasn't *actually* hovering near the top of a wind turbine in North Dakota, hundreds of feet off the ground. But it didn't matter when he looked down. His stomach still dropped as if he were on a rollercoaster.



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The CEO of [Aironomy](#) was inside a digital replica of a real wind farm at the time, trailing a simulated drone through virtual reality glasses as it inspected towering turbines. His North Dakota-based company has been using these hyper-realistic simulations to train autonomous aerial vehicles that are now inspecting wind farms, surveying wildlife, and detecting leaks in oil tanks across the Midwest.

Microsoft's [Project AirSim](#) was announced today at the [Farnborough International Airshow](#). It is a new platform running on Microsoft Azure to safely build, train and test autonomous aircraft through high-fidelity simulation.

In these realistic environments, AI models can run through millions of flights in seconds, learning how to react to countless variables much like they would in the physical world: How would the vehicle fly in rain, sleet, or snow? How would strong winds or high temperatures affect battery life? Can the drone's camera see a turbine's arms on an overcast day just as well as a clear one?

Project AirSim uses Azure to generate massive amounts of data for training AI models on exactly which actions to take at each phase of flight, from takeoff to cruising to landing. It will also offer libraries of simulated 3D environments representing diverse urban and rural landscapes as well as a suite of sophisticated pretrained AI models to help accelerate autonomy in aerial infrastructure inspection, last-mile delivery and urban air mobility.

https://news.microsoft.com/innovation-stories/microsoft-launches-project-airsim-an-end-to-end-platform-to-accelerate-autonomous-flight/?mc_cid=c4ead66258&mc_eid=90f1039d7c

Swoop Aero working with US, Aussie regulators on joint drone certification Bruce

Crumley - Jul. 22nd 2022



Australian aerial logistics and drone delivery company [Swoop Aero](#) is working with its national Civil Aviation Safety Authority and the US Federal Aviation Administration in a project aiming to harmonize and streamline the remotely piloted aircraft certification process of both countries.



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The [company said](#) the objective of the effort is to structure approval systems and criteria to match each other as closely as feasible. Increased similarity will allow drone manufacturers to undertake the certification process in multiple markets at once.

Central to its involvement is Swoop Aero's automated [delivery drone](#), Kite, which is well along the FAA's certification path. The craft can transport maximum five kilo payloads over 180 km at top speeds of 200 km/h on a single charge.

Gaining both FAA and [CASA](#) certification will provide a major boost to the company's activities – and add luster to its tech and safety reputation. <https://dronedj.com/2022/07/22/swoop-aero-drone/#more-83986>

DroneUp expands Walmart drone delivery and UAV services in Arkansas Bruce Crumley - Jul. 22nd 2022



Aerial delivery and tech solutions provider [DroneUp](#) has expanded its UAV delivery operation in Arkansas with an additional station, from which it will transport orders to Walmart clients and provide UAV services to other local businesses.

DroneUp [said](#) it has **added a third site** to its [operations in Arkansas](#) with a new hub in the town of Rogers, where it will be based at Walmart's Pinnacle Hills market. DroneUp said [deliveries by drone](#) will be available from 8:00 a.m. to 8:00 p.m., seven days per week, and will spirit orders to customers in as little as **30 minutes**.

The company said eligible clients can place orders from the Pinnacle Hills location for drone delivery at [droneupdelivery.com](#), which serves as the base of DroneUp's simple, step-by-step system. That involves clients verifying their address is covered by the service then shopping for products they want. Once their order is complete, UAV operators secure goods in the company's patented transport and release box and pilot it to the destination.

The move marks another step in [DroneUp's rapid business](#) development – and reinforcement of its partnership with Walmart. <https://dronedj.com/2022/07/22/droneup-drone-delivery/>



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Drone travels 9.7 miles to deliver medical samples in Israel [Ishveena Singh](#) - Jul. 22nd 2022



As part of an experimental delivery project by the Israeli Innovation Authority and the Ministry of Transport, a drone was used to transport medical tests including blood, urine, and coagulation samples.

Flying approximately 9.7 miles between Hillel Yaffe Medical Center and Sha'ar Menashe Mental Health Center in Israel, the drone carried a 2.2 lb payload that contained medical samples from **30 volunteers**.

The basic idea was to figure out if the quality of the samples was compromised during the drone flight. An equal number of samples from the same volunteers were transported through a conventional motor vehicle as well. After analyzing both sets of samples, doctors determined that the **results were similar**.

Laboratory samples are often transferred between medical centers, typically by automobile. This presents the risk of travel time delaying decisions on the right treatment for patients. When scaled for routine use, the delivery of samples via drone will help speed up the flow of critical information for both the patients and the medical teams.

The delivery trial was made possible using [FlightOps](#) drone operating system. The multi-drone system allows scalability of drone operations by leveraging high levels of autonomy and cloud connectivity. <https://dronedj.com/2022/07/22/flightops-medical-drone-delivery-israel/>

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Emergency-response drones to save lives in the digital skies *Horizon Magazine* 20 July 2022 By Gareth Willmer



Uncrewed aircraft in the sky above the headquarters of the Port of Antwerp-Bruges.

In a city in the future, a fire breaks out in a skyscraper. An alarm is triggered and a swarm of drones swoops in, surrounds the building and use antennas to locate people inside, enabling



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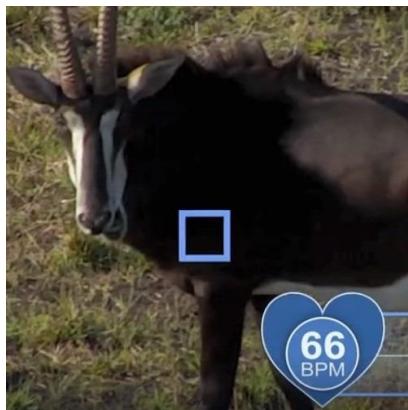
firefighters to go straight to the stricken individuals. Just in the nick of time – no deaths are recorded.

Elsewhere in the city, drones fly back and forth delivering tissue samples from hospitals to specialist labs for analysis, while another rushes a defibrillator to someone who has suffered a suspected cardiac arrest. The patient lives, with the saved minutes proving critical.

Drones have been used in search-and-rescue situations **to save more than 880 people** worldwide, [according to drone company DJI](#). Drones are also being used for medical purposes, such as to transport medicines and samples, and take vaccines to remote areas.

Drones for such uses are still a relatively new development, meaning there is plenty of room to make them more effective and improve supporting infrastructure. This is particularly true when it comes to urban environments, where navigation is complex and require safety regulations. <https://robohub.org/emergency-response-drones-to-save-lives-in-the-digital-skies/>

World First Experiment Using Drones for Wildlife Health Checks Jul 22 2022 *Laura Thomson*



University of South Australia

Danyi Wang, working under the guidance of UniSA remote sensing engineer Professor Javaan Chahl, used signal processing techniques to detect vital signs of zebra, sable antelopes, waterbucks and giraffe from drone footage.

It is believed to be **the first time** that this technique – pioneered by Prof Chahl and his team in 2019 – has been used to successfully **extract heart and breathing rates of animals filmed from a drone at long distances**. The collaboration with Thron, one of the world's most high-profile drone pilots, came about after the cinematographer read about Prof Chahl's remote sensing study with Adelaide Zoo.

Thron films across the world using specialized drones with infrared cameras, zoom lenses and spotlights to rescue animals affected by natural disasters. He spent six months in Australia in 2020 after the World Wildlife Fund hired him to find vulnerable wildlife in the wake of the country's devastating bushfires.



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That experience – as well as the world-first experiment in Malawi, Africa – features in a documentary series, aptly named *Doug to the Rescue*, which airs in more than 30 countries worldwide on the Curiosity Stream channel.

<https://www.azorobotics.com/News.aspx?newsID=13109>

25July22

Soaring Eagle’s BVLOS Waiver: 27 Linear Miles for Infrastructure Inspection

Miriam McNabb July 22, 2022 by DRONELIFE Staff Writer Ian M Crosby



Unmanned aerial vehicle (UAV) drone data collection company [Soaring Eagle Technologies](#) has been granted a Beyond Visual Line of Site (BVLOS) waiver for the inspection of up to 27 linear miles, marking **the longest distance ever approved** by the FAA for commercial infrastructure and transmission and distribution inspections.

This distinction cements Soaring Eagle Technologies as the United States’ leading commercial BVLOS small Unmanned Aerial System commercial service provider. This new waiver will enable safer, more effective inspections for utilities and other critical infrastructure.

The waiver’s main purpose is to allow for the inspection of transmission power lines as detailed in the FAA’s Part 107.31/33 waiver. With the authorization granted by the waiver, the remote pilot-in-command will be able to gather a unique data set. The safety component enabling the BVLOS flight range relies upon [Iris Automation’s](#) Casia detect-and-avoid system.

Granted to only those who meet criteria involving the safety standards and track record of the pilots conducting the mission, BVLOS waivers free drone pilots from the usual FAA requirement that operators maintain visual line of sight at all times with any drone they are operating. Soaring Eagle has carried out more than 60 BVLOS missions throughout the country under special government interest waivers, a higher amount than any of its competitors. At present, Soaring Eagle possesses the means to monitor up to **100 miles of electrical transmission line per day**. <https://dronelife.com/2022/07/22/soaring-eagle-bvlos-waiver/>



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Tomorrow's 'Top Gun' might have drone wingman and use AI Kelvin Chan Associated Press Jul 22, 2022



A member of the military eats an ice cream as he stands past an F15E Strike Eagle fighter jet on display at the Farnborough Air Show fair.

FARNBOROUGH, England — Maverick's next wingman could be a drone.

In the movies, fighter pilots are depicted as highly trained military aviators with the skills and experience to defeat adversaries in thrilling aerial dogfights.

The future for fighter pilots was on display this week at the Farnborough International Airshow near London, one of the world's biggest aviation, defense, and aerospace expos.

Defense contractors outlined how artificial intelligence and other technologies will be used in the newest warplanes as global military delegations browsed mockups of missiles, drones, and fighter jets. **At stake are many billions of dollars** as countries update military fleets or pump-up defense procurement budgets amid rising geopolitical tensions.

At the Farnborough show, experts said the future of air warfare is likely to be manned and unmanned aircraft working together. Technology will continue to play a bigger role in the cockpit, Raytheon executives said. Artificial intelligence will analyze reams of data from sensors placed on planes, drones, the ground or missiles flying through the air to give pilots in the sky and commanders back at headquarters a better sense of the battlefield.

<https://www.pilotonline.com/military/vp-nw-top-gun-drone-ai-20220722-6cqs4yx34nhqdjxc4p7fu7qqai-story.html>

Drone Tracking – A new Milestone for ANRA Technologies and Indian Drone Manufacturers July 24, 2022 News



ANRA Technologies, a leader in integrated airspace, mission management and delivery systems for uncrewed aircraft, along with participation from the ideaForge and Asteria Aerospace, demonstrated live tracking of drones in India's national airspace. The demonstrations showcased two options: a



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software plugin as well as a small strap-on hardware module showcasing the various approaches possible for a tracking solution. Equipped with these capabilities, drones manufactured by ideaForge, Asteria Aerospace and ANRA were connected using ANRA's SmartSkies Tracker Platform, enabling authorized users to view and track simultaneous drone operations in the National Capital Region (NCR) and Bangalore.

As part of the demonstration, a drone manufactured and operated by Asteria Aerospace in Bangalore and another drone operated by ANRA in the NCR were integrated via the software plugin. A third drone manufactured and operated by IdeaForge was integrated using a strap-on hardware module, which showcased the diversity of integration options and a tracking solution.

Each of the drones were tracked in real-time with their locations and other associated flight details available on the SmartSkies Tracker App. Drone operators were able to turn the tracking option on or off and only authorized users were able to view the tracking information.

https://uasweekly.com/2022/07/24/drone-tracking-a-new-milestone-for-anra-technologies-and-indian-drone-manufacturers/?utm_source=rss&utm_medium=rss&utm_campaign=drone-tracking-a-new-milestone-for-anra-technologies-and-indian-drone-manufacturers&utm_term=2022-07-25

EHang stages EH216 UAM demo flights in Japan ahead of Expo 2025 Bruce Crumley - Jul. 25th 2022



Leading global urban air mobility (UAM) [aircraft maker EHang](#) has completed a successful **four-city demonstration flight** tour in Japan of its EH216 to mark the 1,000 day countdown to [Osaka's Expo 2025](#), which will serve as a showcase for developing technologies set to transform daily life.

The demonstrations were intended to underline the Chinese [manufacturer's presence](#) in and [commitment to Japan](#) as major market for its autonomous craft and to continue priming the public for Expo 2025 Osaka. Organizers also plan to provide visitors a small taste of that nearing future through limited [air taxi services](#) during the event.

EHang's opening UAM demo flight was staged July 6, with the final EH216 sortie taking place July 18 to mark the 1,000-day countdown to Expo 2025 Osaka. The first was an oversea simulated sightseeing outing, with the second involving the point-to-point [air taxi](#) route. In the third trial, an EH216 flew 80 kg of cargo in a trial logistics transport run, with the last overflying the city of Oita to give spectators a view of how [next generation aerial tech](#) will allow



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commuters to leapfrog clogged streets below. <https://dronedj.com/2022/07/25/ehang-uam-216/#more-84051>

NASA seeks feedback on urban air mobility airspace research roadmap Rev 1.2

July 21, 2022 Jenny Beechener



US NASA Aeronautics Research Institute has released the UAM Airspace Research [Roadmap Rev 1.2](#). Feedback is requested by 6 September 2022. Feedback form [here](#)

The roadmap is expected to be an important tool for the execution of NASA’s research over the next ten years. It provides a basis for prioritizing and coordinating research and for integrating results for NASA’s research goals.

The process begins by identifying a set of capabilities which cover the UAM airspace system. These capabilities are derived from several sources, including the global ATM Concept and the FAA’s NAS Enterprise Architecture. Each capability is then decomposed into constituent components.

The progression of the UAM airspace system is then modelled by considering the set of requirements needed to enable the operations in each UAM Maturity Level (UML). To identify the requirements set associated with each UML, candidate requirements and assumptions are identified at a high level for each capability, and then listed progressively across the UMLs. The goal of the process is to increase the traceability to research results and 523 other sources. <https://www.unmannedairspace.info/emerging-regulations/nasa-seeks-feedback-on-urban-air-mobility-airspace-research-roadmap-rev-1-2/>

New Unmanned Airspace report: UTM implementation delays threaten UAM business plans

July 22, 2022 Philip Butterworth-Hayes



The global UAS traffic management (UTM)/U-space market over the next five years (2022-2026) will be worth \$1,999 million, of which \$720 million will come from government investment in

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research and early deployment and \$1,279 million will be derived from UTM operational charges, according to *Unmanned Airspace's* latest 2022-2026 edition of its bi-annual sector survey *The market for UAV Traffic Management Services*. This is a **considerable rise** over the December 2021 survey, which forecast a \$1.37 billion market for 2021-2025.

But the report notes that only two nationwide UTM programs were launched in the first six months of 2022. "This is surprising, given the January 2023 date for European Union U-space regulation to be in place," said Butterworth-Hayes. "But a number of factors have slowed down deployment of UTM technologies, including budgetary constraints following the Covid pandemic, a lack of clarity of granular detail in the proposed regulations and continuing confusion around the business case for UTM technology suppliers and service providers"

A detailed breakdown of contents and some sample pages can be found here:

<https://www.unmannedairspace.info/wp-content/uploads/2022/07/Unmanned-airspace-forecast-report-Edition-5.1.sample-pages.pdf>

The study takes a high-level view of the drone sector and aligns this with a bottom-up, country-by-country analysis of planned UTM system procurements.

<https://www.unmannedairspace.info/news-first/new-unmanned-airspace-report-delays-to-utm-implementation-threaten-uam-business-plans/>

Airbus plans connectivity business using Zephyr high-altitude drone Jul2022 By John Walton_



Airbus is planning to use its uncrewed aerial system drone Zephyr as the technology springboard into a new connectivity business spanning both ground and inflight technology. Zephyr, a long-duration solar-electric aircraft, has a loiter time at altitudes roughly double those of commercial air routes, making it well suited for inflight connectivity.

Cost is a key benefit: drones based on the Zephyr platform can take off from existing runways and be swapped out for easy maintenance or a change of payload as and when required.

The latest Zephyr test aircraft is continuing an exceedingly long flight over the southwestern US, approaching **forty days**, and has achieved altitudes above 76,000 feet at its highest point. The 165lb aircraft enables a variety of payloads to be carried on board.



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Intriguingly, Airbus is proposing direct cellular communication from the cabin environment upwards to the loitering platform.

“At 65,000 feet],” Halawi says, “you can communicate directly with a smartphone, and that’s the biggest advantage over satellite.” <https://runwaygirlnetwork.com/2022/07/airbus-connectivity-business-zephyr/>

26July22

Fully Autonomous Industrial Drone Inspection System Launched Sarah Simpson / 26

Jul 2022



GDU Tech Co., Ltd. has unveiled the S400 quadrotor drone and K01 automatic docking station. Designed for totally unmanned flight, **without reliance on drone pilots** for flight control, maintenance and recharging, GDU-Tech aims to tackle current limitations in technology training, personnel cost, and management that are restricting the expansion of drone use in industrial sectors.

GDU’s R&D director, Xue Yuan, elaborated on six advantages of the S400:

- The drone can be used as a signal relay to expand the scope of operation under weak or no signal circumstances
- Omnidirectional obstacle avoidance using millimeter wave radar perception
- 63-minute endurance facilitates a wider range of operations
- 1K ultra-HD infrared thermal camera with 1280*1024 pixel resolution
- Quadra-sensor camera with computing power that can greatly enhance operational speed and accuracy of target recognition
- The unit is easily portable and can be folded into a backpack

The two highlights of the K01 automated docking station are the integrated design with the S400 drone and the snow and freezing rain proof rolling hatch cover, broadening application scenarios. The whole machine is capable of operating from -35°C to +35°C. Equipped with a weather station and internal and external cameras, the application can achieve **24-hour** remote real-time monitoring. https://www.unmannedsystemstechnology.com/2022/07/fully-autonomous-industrial-drone-inspection-system-launched/?utm_source=UST+eBrief&utm_campaign=c0d4e40b7e-ust-ebrief_2022-jul-26&utm_medium=email&utm_term=0_6fc3c01e8d-c0d4e40b7e-119747501&mc_cid=c0d4e40b7e&mc_eid=0d642a9d48



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Eutelsat and OneWeb agree multi-orbit merger plan Jason Rainbow — July 25, 2022



Eutelsat headquarters are in Paris, France.

TAMPA, Fla. — Eutelsat and OneWeb said July 26 they have agreed a plan to merge their businesses to create a global multi-orbit satellite broadband operator.

The deal would combine France-based Eutelsat's satellite fleet in geostationary orbit (GEO) with British startup OneWeb's constellation in low Earth orbit (LEO). Eutelsat already owns 23% of OneWeb and has been [building a position](#) in the startup to strengthen connectivity services amid a gradual decline in its satellite TV business.

The combined company would be “**the first** multi-orbit satellite operator offering **integrated GEO and LEO solutions**,” Eutelsat said, targeting a satellite connectivity market projected to be worth \$16 billion by 2030.

A satellite fixed in GEO can provide more capacity to a specific region than non-geostationary satellites in a mega constellation that has to serve the entire globe. Constellations closer to the Earth, however, promise low-latency solutions that can integrate with terrestrial infrastructure more effectively. <https://spacenews.com/eutelsat-and-oneweb-discussing-multi-orbit-merger-plan/>

Consortium in Scotland gets funds for medical drone delivery network Bruce

Crumley - Jul. 26th 2022 8:



The Care and Equity – Healthcare Logistics UAS Scotland ([CAELUS](#)) consortium said it has obtained an additional **\$12.1 million** in finances from the UK's drone tech promotion agency to continue work on a UAV [medical delivery network](#). Those funds from the UK Research and Innovation's Future Flight Challenge

program follow an earlier **\$1.7 million** the group of 16 partnered organizations had obtained for the project. Its goal is to fly essential medicines, blood products, and critical supplies between hospitals, laboratories, distribution centers, and even individual medical offices [across Scotland](#).



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Among CAELUS partners are the University of Strathclyde, UK air traffic control service providers NATS, and Scotland's National Health System. The consortium also involves an array of drone companies – both large and small – that have been developing a specialized drone to operate the [medical delivery network](#). Members have also been preparing designated takeoff and landing stations – some of which will eventually be located in many of [Scotland's remote](#) and under-served communities.

With finances secured, [CAELUS](#) will shift into a second phase of preparing the future aerial transport system and planning the kind of flight modes required for relatively long hauls. The consortium operates under the aegis of AGS, which owns and manages airports in Aberdeen, Glasgow, and Southampton. Also involved in the program is vertiport construction and drone delivery specialist Skyports, which will help oversee testing of beyond visual line of sight flights starting in 2023. <https://dronedj.com/2022/07/26/scotland-medical-drone-delivery/>

27 July 22

7 BIGGEST CONCERNS AMERICANS HAVE WITH DRONE DELIVERY July 25, 2022 Sally French



A couple weeks back, we talked about how much Americans would be willing to pay for drone delivery (52% said they wouldn't pay extra), according to a [survey conducted on behalf of online shopping customer Smarty](#).

Auterion, a drone software company, released its 2022 "Consumer Attitudes on Drone Delivery" report, which polled more than **1,000 consumers** across the U.S. around their attitudes on drone delivery.

And while Auterion's survey certainly asked respondents about cost, perhaps the most interesting aspect of the survey was the other reasons Americans give as to why they are dubious of drones. The survey found that **58% of Americans favor** the idea of drone deliveries. But even still, there are many concerns Americans have around the viability of drones. They are (sorted from most to least concerning):

1. The drone will break down and they won't get their items (43%).
2. That the drone will deliver my items to the wrong address (39%).
3. If something happens to the drone, I won't get a refund (38%).



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4. That my items will get ruined by the travel (37%).
5. That my items will be left unattended making stealing easier for porch bandits (35%).
6. That the sky will be cluttered with ugly/noisy technology (32%).
7. Distress about not having human interaction with their delivery person (19%).

The survey was commissioned by Auterion from Los Angeles-based market research firm Propeller Insights of 1,022 adults, distributed across all age groups, genders and parts of the country. This survey was conducted in May of 2022. <https://www.thedronegirl.com/2022/07/27/7-biggest-concerns-americans-have-with-drone-delivery/>

CAS Space puts six satellites in orbit with first orbital launch Andrew Jones — July 27, 2022



Liftoff of CAS Space's first Lijian-1 solid rocket from the desert spaceport of Jiuquan on July 27, 2022. Credit: Chinese Academy Sciences (CAS)

HELSINKI — Chinese launch services provider CAS Space successfully placed six small satellites in orbit early Wednesday with the first launch of the Lijian-1

solid rocket.

The four-stage Lijian-1 (ZK-1A) rocket lifted off from an erector-launcher at the Jiuquan Satellite Launch Center at 12:12 a.m. Eastern. Launch success was [confirmed](#) by China's official space publication within an hour of liftoff.

The rocket had a take-off weight of 135 tons, a total length of 30 meters, a core stage diameter of 2.65 meters, a fairing diameter of 2.65 meters and can carry 1,500 kilogram of payload into a 500-kilometer sun-synchronous orbit, [according](#) to the Chinese Academy of Sciences.

The six satellites, some developed by the Innovation Academy for Microsatellites under the Chinese Academy of Sciences, were described vaguely for conducting research in space technology, atmospheric density measurements, quantum key distribution experiments and electromagnetic tests, according to Chinese state media. <https://spacenews.com/cas-space-puts-six-satellites-in-orbit-with-first-orbital-launch/>



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Orbital UAV signs \$3.5M contract with Singapore Defense customer July 26, 2022



The second stage engineering contract follows the initial engine design, development and integration contract signed in 2020 and the successful delivery and acceptance of three prototype engine systems delivered across 2021.

Orbital UAV signed a Memorandum of Understanding and initial contract with its Singapore-based customer in March 2020 for the design, development and production of multi-fuel UAV engines. Both parties have now agreed on terms and conditions for the next phase of the program.

The Design & Development and Verification & Validation contract will see Orbital UAV conduct further engineering work and deliver three additional prototype engine systems during the financial year 2023.

Subject to the successful delivery and acceptance of the work, the parties have agreed on a timeline for the delivery of production-quality engine systems beginning in the financial year 2024. https://uasweekly.com/2022/07/26/orbital-uav-signs-3-5m-contract-with-singapore-defence-customer/?utm_source=rss&utm_medium=rss&utm_campaign=orbital-uav-signs-3-5m-contract-with-singapore-defence-customer&utm_term=2022-07-27

28July22

Drones in Oil and Gas: American Robotics Reveals New Features Miriam McNabb July 27, 2022 by DRONELIFE Staff Writer Ian M Crosby



[American Robotics](#) has announced the addition of new capabilities to its autonomous Scout System drone to allow visual inspections of oil and gas facilities to be carried out **autonomously**.

The newly added high-resolution RGB and thermal camera payloads, set for release in Q3 2022, will enable routine, high-value inspections of upstream and midstream oil and gas assets.

The Scout System's new RGB and thermal camera features provide oil and gas customers with the ability to conduct regular inspections of assets like pumpjacks, heater treaters, tanks, flare stacks, pipes, pumps, and electrical infrastructure, while also cutting down on operating costs. The system's improved imaging



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abilities will serve to assist in protecting the environment with recurrent, automated inspections, as well as expedite the digitization of physical assets via imaging and artificial intelligence to determine issues with critical infrastructure.

There are more than 900,000 oil & gas well pads and upwards of 500,000 miles of pipeline in just the United States, all of which requires regular inspection and monitoring. American Robotics anticipates a global TAM value of **\$22 billion for the drone-in-a-box market in the oil and gas sector**. <https://dronelife.com/2022/07/27/drones-in-oil-and-gas-american-robotics/>

Experimental Zephyr drone sets new record for uncrewed flight duration Brett Tingley 27July22



An experimental aircraft tested in conjunction with the United States Army has been in the air above the Sonoran Desert for **42 days, breaking its own record** for longest uncrewed flight.

The solar-powered, high-altitude Airbus Zephyr S took off from the U.S. Army's Yuma Proving Ground on June 15, 2022 and has since been flying patterns over the Yuma Test Range and Kofa National Wildlife Refuge.

The flight has now broken [Zephyr's previous record](#) of 25 days, 23 hours that it set in August 2018. The latest flight has seen Zephyr reach a number of additional milestones including its first flight over water, first flight into international airspace, the longest continuous flight while being controlled through [satellite](#) communications, and the farthest flight from its launch point, according to a U.S. Army [statement](#).

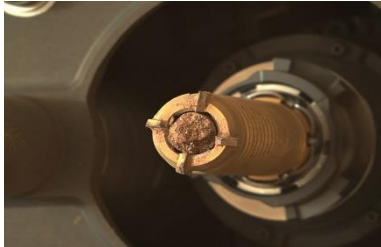
Zephyr features a narrow, almost skeletal-looking fuselage and wings boasting a wingspan of 82 feet. Despite its large size, the drone is made from lightweight carbon fiber composites, bringing its overall weight down to just 165 pounds. storage system, Airbus claims Zephyr's in-flight operation is completely carbon neutral.

Zephyr can carry a wide range of payloads of up to 50 pounds including optical, infrared, LIDAR and hyperspectral sensors, radar and synthetic aperture radar, and even early warning systems. Because the drone operates at altitudes of around 70,000 feet, it can observe an area on the ground measuring 12 by 18 miles. <https://www.space.com/airbus-zephyr-drone-long-endurance-flight-record>



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NASA to launch 2 more choppers to Mars to help return rocks MARCIA DUNN yesterday



This photo provided by NASA shows a rock collected by the Perseverance rover on Mars.

CAPE CANAVERAL, Fla. (AP) — NASA is launching two more mini helicopters to Mars in its effort to return Martian rocks and soil samples to Earth.

Under the plan announced Wednesday, NASA’s Perseverance rover will do double duty and transport the cache to the rocket that will launch them off the red planet a decade from now.



If Perseverance breaks down, the two helicopters being built and launched later this decade would load the samples onto the rocket instead. They will be modeled after NASA’s successful Ingenuity, which has made 29 flights since arriving with Perseverance at Mars early last year. The chopper weighs just 4

pounds. The new versions would have wheels and grappling arms. <https://apnews.com/article/astronomy-space-launches-exploration-technology-science-6b384ffdcdeb62aea74662ecf21a9588>

Taiwan fails to report PLA drone’s 1st island-circulating flight, ‘reflects great vulnerability’ [Liu Xuanzun](#) Jul 27, 2022



A TB-001 Twin-Tailed Scorpion armed reconnaissance drone is on display at an unmanned intelligent equipment exhibition organized by PLA Joint Logistics Support Force in early 2022.

After the Japanese Defense Ministry spotted an armed reconnaissance drone of the Chinese People’s Liberation Army (PLA) flying above waters to the east side of the island of Taiwan on Monday, Taiwan media reported that the PLA aircraft made a full circle flight around the island for the first time.

Chinese mainland analysts said on Wednesday that Taiwan’s defense authority’s failure to report the drone’s activity exposed the island’s defense vulnerabilities against drones, a



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vulnerability the PLA can abuse in a possible cross-Straits conflict.

A TB-001 drone of the PLA flew to the eastern side of the island, crossed the Bashi Channel and continued to fly along the alleged median line of the Taiwan Straits. The drone made a clockwise circle around the island on Monday, the first day of Taiwan's annual Han Kuang military drills, media on the island reported on Tuesday.

<https://www.globaltimes.cn/page/202207/1271535.shtml>

CUAS of drones intercepting drones tested in Czech Republic July 28, 2022 News



The AUDROS system, which enables drones to intercept foreign drones in a net, has been successfully tested in the Czech Republic. Contrary to competing systems – based on shooting down or electrically paralyzing the enemy – the AUDROS solution ensures full safety of people and property on the ground after the annihilation of a flying intruder.

The Eagle One drone designed by Fly4Future was used in the tests carried out in the Czech Republic. Upon detecting an unwanted intruder in the sky, the autonomous drone takes off from the docking station. After approaching a foreign drone, Eagle One releases a special net from the chassis in which it catches the enemy. Thanks to this solution, the AUDROS system ensures full safety for people and property on the ground after the annihilation of a flying intruder.

The mission can continue without having to land after the first capture. If the system detects a second alien UAV, the hunter drone can intervene immediately. The autonomous system is equipped with artificial intelligence that controls and manages the system. Thanks to this, the need for human intervention is minimal.

The basis for the AUDROS system is the docking station of the Polish company Dronehub, in which the drone is permanently placed. Thanks to the advanced technology used in the hub, the drone remains ready to take flight, and after its completion, the used battery is autonomously connected to charging. Thanks to this, the unmanned aerial vehicle can carry out flights **in a continuous mode**, without the need to involve the operator to replace the battery.

<https://uasweekly.com/2022/07/28/cuas-of-drones-intercepting-drones-tested-in-czech->



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[republic/?utm_source=rss&utm_medium=rss&utm_campaign=cuas-of-drones-intercepting-drones-tested-in-czech-republic&utm_term=2022-07-28](https://www.axcelinnovation.com/news/republic/?utm_source=rss&utm_medium=rss&utm_campaign=cuas-of-drones-intercepting-drones-tested-in-czech-republic&utm_term=2022-07-28)

GA-ASI SeaGuardian Supporting RIMPAC 2022 July 27, 2022 Military | News



An MQ-9B SeaGuardian[®] Unmanned Aircraft System from General Atomics Aeronautical Systems, Inc. (GA-ASI) is under contract with the U.S. Navy to support the **Rim of the Pacific** (RIMPAC) 2022 exercise. RIMPAC, the world's largest international maritime exercise, started in late June and continues until early August in Hawaii and Southern California operations areas.

GA-ASI's SeaGuardian is the first UAS that offers multi-domain Intelligence, Surveillance, Reconnaissance and Targeting as an internal payload that can search the ocean surface and the depths in support of Fleet Operations. The UAS is also providing real-time ISR data feeds to the U.S. Pacific Fleet Command Center using Signals Intelligence and video.

As of July 25, 2022, **11 flights totaling over 80 hours** have been flown showcasing operational payloads which include Electronic Intelligence, Communication Intelligence, Automatic Identification System, Anti-Submarine Warfare monitor and control of sonobuoys, GA-ASI developed Lynx[®] Multi-mode Maritime Radar, Electro-Optical/Infra-Red imaging system and Link 16.

It can pass real-time sensor data directly to the Fleet through Link 16 and satellite feeds to the shore-based command and intelligence centers. During RIMPAC, the MQ-9B has effectively passed ISR&T information to various surface and air units, such as the USS ABRAHAM LINCOLN, Guided Missile Destroyers, Littoral Combat Ships, frigates, patrol boats, P-8s, P-3s and a litany of other U.S. and foreign units taking part in the exercise. https://uasweekly.com/2022/07/27/ga-asi-seaguardian-supporting-rimpac-2022/?utm_source=rss&utm_medium=rss&utm_campaign=ga-asi-seaguardian-supporting-rimpac-2022&utm_term=2022-07-28

CAREER SWITCH? HERE'S WHERE THE DRONE JOBS ARE July 22, 2022 Sally French

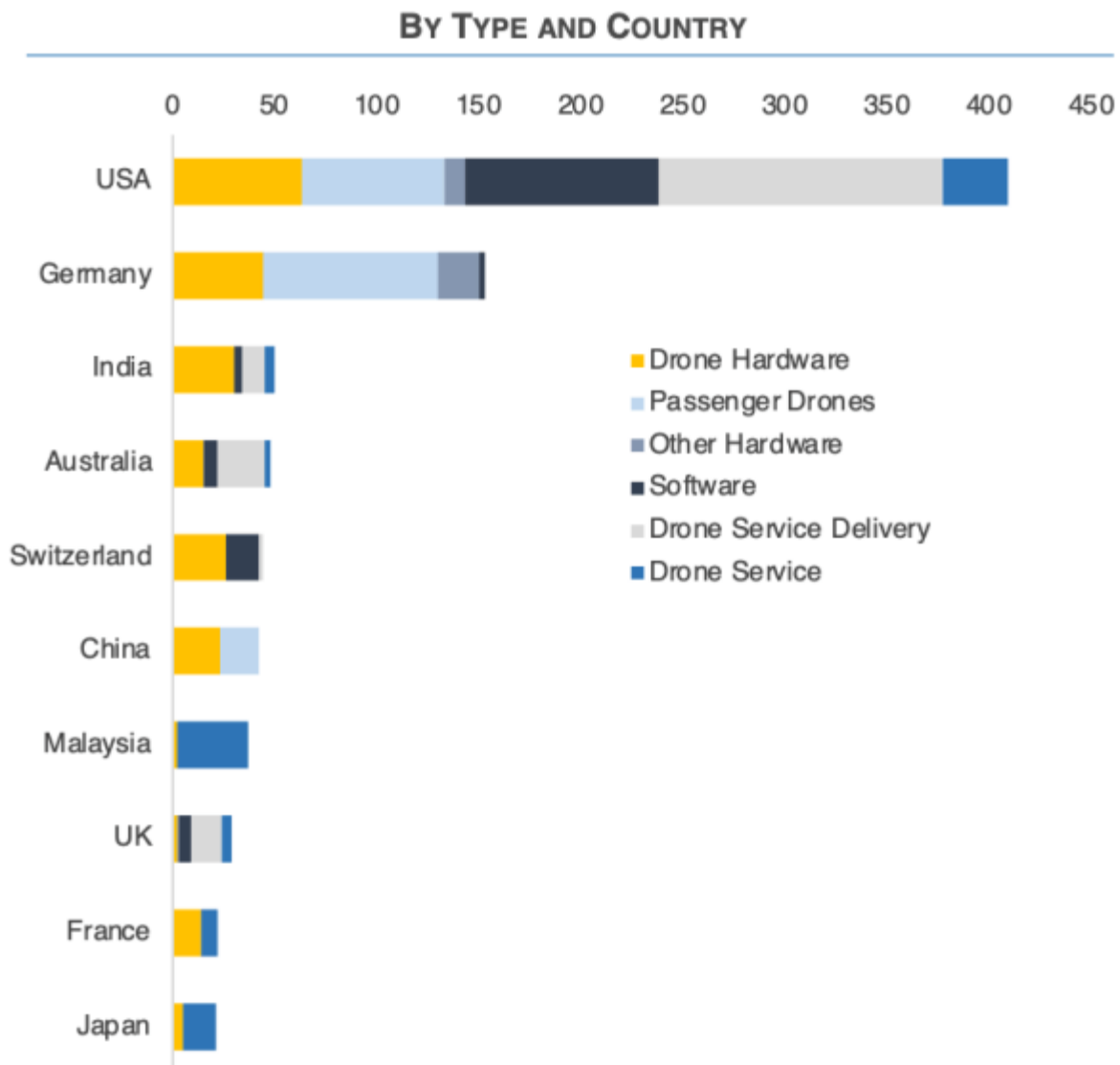
Amid soaring inflation, fears of a recession, and mass layoffs in other industries including crypto and real estate, the drone industry is going strong — and it's hiring in droves. Drone jobs might not be as hard to come by as one might think.



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There are well over a thousand job openings in the drone industry, and many are located in the U.S. That's according to a fresh analysis from the good folks over at [Drone Industry Insights](#), a drone analytics firm based in Germany that tracks figures related to all aspects of the drone industry, from market share to investment funding.

Drone Industry Insights scoured job sites including LinkedIn, Indeed, StepStone and individual company career pages between April and May 2022, and found a total of 1,004 open positions, spread across 94 drone-related companies worldwide.



Courtesy of Drone Industry Insights



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There are all sorts of drone companies. Some build them, while others fly them. Even others build tools to help people fly them. To find out which types of drone companies have the most job openings, Drone Industry Insights broke them down by sector, and here's what it found:

- 46% of job postings are by drone hardware manufacturers (461 total job openings)
- 37% of job postings are by drone service companies (374 total job openings)
- 17% of job postings are by drone software companies (169 total job openings)

Hardware companies dominate for job openings. But job openings for drone service companies are also high — and growing. For example, a [\\$42 million Wingcopter funding round](#) is set to drive huge growth for the company both in enabling new projects — and enabling hiring to execute those projects. The company said it plans to hire about 80 new employees because of its new funding, which would nearly double the size of the company.

<https://www.thedronegirl.com/2022/07/29/career-switch-heres-where-the-drone-jobs-are/>