



UAS and SmallSat Weekly News

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21Aug21

Last month, three drones attacked an Israeli tanker. Here's why that's something new. James Rogers, August 19, 2021



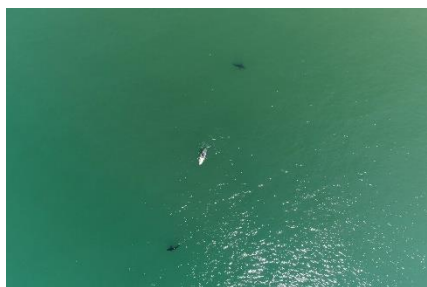
Damage caused by a drone attack July 29 on the oil tanker Mercer Street off Oman.

A [suspected piracy](#) incident off the coast of Oman last month quickly turned into an international crisis. On July 29, three armed "[suicide drones](#)" attacked the Mercer Street, an Israeli-managed commercial oil tanker. Two drones missed the tanker during an attempted first strike, but one successfully flew into the Mercer Street's bridge during a second strike that killed a British security guard and the vessel's Romanian captain

According to the [Group of Seven nations and Israel](#), the "available evidence clearly points to Iran." This assertion signals the continuation of a U.S.-Iran "[shadow war](#)" that has been simmering across the Middle East for the past two years. What is new, however, is the lethality of these attacks and the boldness with which [Iranian-made](#) armed drones were deployed against international shipping.

It's still [uncertain who deployed the drones](#): Perhaps [regional proxies](#) launched the attack, or maybe elements of the Iranian armed forces were responsible. Security analysts acknowledge that Iran has become a "[drone superpower](#)," relying on such technologies as the main way it projects power across the region. <https://www.washingtonpost.com/politics/2021/08/19/last-month-three-drones-attacked-an-israeli-tanker-heres-why-thats-something-new/>

How drones are changing our view of sharks Justine Calma@justcalma Aug 16, 2021



Two sharks and a surfer off the coast of California

A quick Google search for "sharks" drums up a sampling of headlines of recent sightings. "Leopard Sharks Return to La Jolla Waters in Doves," reads one, while another highlights a "cluster of juvenile great white sharks off Pacific Palisades coast."



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If there seem to be more shark sightings than ever, it may be thanks to drones. Drones are helping researchers dispel some misguided fears. It turns out that shark encounters aren't actually so rare. People often don't realize when there are sharks around them, drone footage shows, and much of the time the sharks don't seem to pay humans much attention.

"The technology has really revolutionized and given us a **completely different view** of sharks," says Chris Lowe, a professor of marine biology and director of the Shark Lab at California State University, Long Beach.

Lowe's research team is combing through about 700 hours of drone footage that they've either taken themselves or received from others to study shark behavior and how they react to people. In one 42-second [clip](#) taken off the coast of California, five sharks can be seen swimming next to three surfers in wetsuits. The people sit casually on their boards, legs dangling in the water, as the sharks pass them by. <https://www.theverge.com/22623363/shark-sightings-drones-us-beaches>

MissionGO Wins AUVSI Humanitarian Award for Longest UAS Human Organ Delivery Flight August 19, 2021 MissionGO



BALTIMORE, Aug. 19, 2021 (GLOBE NEWSWIRE) — [MissionGO](#), a provider of unmanned aircraft solutions, was announced as an XCELLENCE Award winner by the [Association for Unmanned Vehicles Systems International \(AUVSI\)](#) today. The entry "*MissionGO Completes Longest UAS Human Organ Delivery Flight*"

was selected from a pool of accomplished applicants in the Humanitarian category. Winners were announced today during the awards ceremony at AUVSI XPONENTIAL 2021 in Atlanta.

The award is for two successful and record-setting test flights conducted with [Nevada Donor Network](#), an organ procurement organization serving the state of Nevada. The first flight transported research corneas from Southern Hills Hospital to Dignity Health – St. Rose Dominican, San Martín Campus. The second flight delivered a research kidney from an airport to a location outside of a small town in the Las Vegas desert, the 10-mile flight marked **the longest organ delivery flight in UAS history**. <https://www.missiongo.io/missiongo-wins-auvsi-humanitarian-award-for-longest-uas-human-organ-delivery-flight/>



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Honeywell Technology for Light Drones Increases Range Threefold with Hydrogen Fuel Cells August 19, 2021 News

Honeywell Compared with traditional drones using batteries and line-of-sight radio links, drones equipped with [Honeywell's Beyond Visual Line of Sight \(BVLOS\)](#) technologies can fly farther, carry more weight, avoid hazards up to three kilometers away and stream video of their progress anywhere in the world.

THE POWER OF **CONNECTED**

Honeywell's BVLOS systems are ideal for missions where distance or terrain interfere with radio links or visual guidance. Applications include last-mile package delivery, military intelligence, surveillance and reconnaissance, pipeline and power line inspection, search and rescue, or use by first responders.

The BVLOS suite comprises: 600-watt and 1200-watt hydrogen fuel cells, RDR-84K multipurpose radar, inertial measurement units, and UAV Satcom.

The fuel cells operate **three times longer** than batteries with equivalent output. They work silently, unlike gasoline engines, and emit no greenhouse gases. Operators can refuel or swap hydrogen tanks in minutes. The phased-array radar steers beams electronically, meaning it has no moving parts and requires minimal maintenance. It also requires no heavy cooling systems.

In addition to avoiding other aircraft, the radar can detect obstacles, map terrain, and identify landing zones. It can act as a radar altimeter and provide mapping for alternate navigation if GPS guidance fails. https://uasweekly.com/2021/08/19/new-honeywell-technology-for-light-drones-increases-range-threefold-with-cleaner-quieter-hydrogen-fuel-cells/?utm_source=rss&utm_medium=rss&utm_campaign=new-honeywell-technology-for-light-drones-increases-range-threefold-with-cleaner-quieter-hydrogen-fuel-cells&utm_term=2021-08-20

RedTail LiDAR Systems Unveils Innovative LiDAR System for Small Drones August 19, 2021 News



[RedTail LiDAR Systems](#) today unveiled the market introduction of the RTL-450 LiDAR sensor. It incorporates a lightweight MEMS mirror and a precision navigation system to generate accurate data for aerial surveying missions. The high-resolution, three-dimensional point clouds provide operators an ability to conduct analytics of geographic and manmade features on the earth's surface.



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The RTL-450 – which is designed and assembled in the U.S. – incorporates patented LiDAR sensor technology which weighs in at just over 4 pounds and is designed to operate independently of a drone platform. The modular nature of the design facilitates integration with user selected platforms. To date, it has been integrated onto the FLIR SkyRaider, Freefly Alta-8, 4D-X6, DJI Matrice 300 and DJI Matrice 600. https://uasweekly.com/2021/08/19/redtail-lidar-systems-unveils-innovative-lidar-system-for-small-drones/?utm_source=rss&utm_medium=rss&utm_campaign=redtail-lidar-systems-unveils-innovative-lidar-system-for-small-drones&utm_term=2021-08-20

Peeved town official grabs gun, shoots drone, gets the book thrown at him Bruce Crumley - Aug. 20th 2021



A municipal commissioner in a small Tennessee town is facing multiple charges for grabbing a gun and shooting a drone above his property that annoyed him. Then he refused to give the blasted vehicle back to its owner. Is that nice?

Calhoun, Tennessee town commissioner John Walker was arrested by local police earlier this month after a complaint about his behavior. That call came from an unhappy pilot. An affidavit [reported](#) by local media states Walker “started shooting a long gun at a drone flying in the sky” from the grounds of his car towing and repair dealership (see photo). Either Walker was an iffy marksman, or drone owner Charles Dover was initially successful in dodging the salvos, because it took several blasts from the gun before buckshot met battery. The drone apparently crashed in the car lot, where Walker confiscated it and refused Dover’s demands that he return it. “According to Mr. Dover, Mr. Walker made a statement about ‘If you come on my property I’ll shoot your ass, too’.”

Police have filed charges against Walker for reckless endangerment with a deadly weapon, vandalism, and theft of property. Dover says his uncrewed aerial vehicle was actually above the Jiffy gas station across the street. How it wound up plummeting on to commissioner’s property is anyone’s guess. It’s against the law to shoot at airborne UAV, much less blast them to the ground.

Meanwhile, the Federal Aviation Administration has control of airspace above virtually all land the US, including the portion extending skyward over Walker’s business. And FAA [regulations](#) prohibit shooting guns at any aircraft, drones included – meaning Town Commissioner Walker’s manner of defending his property and privacy was a **federal crime**.



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Oops. <https://dronedj.com/2021/08/20/peevied-town-official-grabs-gun-shoots-drone-gets-the-book-thrown-at-him/#more-65710>

Oz's Swoop Aero and UK Skyports to broaden drone delivery network in Europe, Americas Bruce Crumley - Aug. 20th 2021



The move is significant in the development of both businesses. It marks a major step forward in the drone delivery activities of London-based Skyports, which in recent months has made most of [its headlines](#) through deals to build Advanced Air Mobility infrastructure and air taxi services around the world. Its expanded partnership with Swoop Aero not only promises to rapidly nurture the delivery activities Skyports had also established, but also provide its Australian associate a ready-made network in which its new line of fixed wing [Kite drones](#) can operate. The companies first joined forces in late 2020 to assist the UK's National Health Service in its COVID-19 battle, flying Swoop Aero drones to deliver medical supplies within Skyports' existing network.

The collaboration cut transport times of medical supplies to Scotland's Highlands and islands from two days by conventional options, to just 30 minutes. During the UK's second COVID wave alone, the partners saved over 11,000 hours of waiting time and made over 422 beyond visual line of sight flights, covering a total 14,000 km.

The duo now plans to broaden that service as the next-generation alternative to traditional logistics and transport services, extending them across Europe **and the Americas** as they grow. <https://dronedj.com/2021/08/20/ozs-swoop-aero-and-uk-skyports-to-broaden-drone-delivery-network-in-europe-americas/#more-65721>

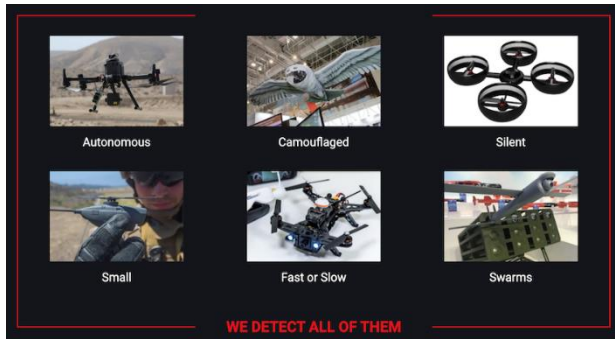
22Aug21

Noology NA enters full commercial development of Spherical View Radar for drone detection COUNTER-DRONEHEADLINE NEWS GEORGINA FORD AUGUST 21, 2021

Following successful demonstrations of its advanced bi-static radar technology in July, Florida-based startup Noology NA is proceeding with the full commercial development of Spherical View Radar. The initial batch of systems is slated to ship in January 2022.



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SVR is a counter-drone and UTM surveillance radar that can detect, track, and identify small, stealth, and autonomous drones even in cluttered environments.

- True spherical field of view
- Detection and tracking of small airborne targets with radar cross-section of 0.001 square meters

- The 3D target accuracy of 1 cubic meter, from 3 m to 3 km, day or night, and in all weather
- Low-Slow-Small target detection: 1.0 m above ground from 0 km/h up to 500 km/h
- Simultaneous detection and tracking of up to 100 targets with 0.5 m target separation
- Compact form factor, easy to install and safe to operate

“The rapid development of drone technologies has made counter-drone systems currently on the market **obsolete**. To ensure facilities and events’ safety, security, and privacy, we need solutions that detect all drones, with no blind spots, in and around complex infrastructure. SVR delivers this performance,” said John Isella, CEO of Noology

NA. <https://www.commercialdroneprofessional.com/noology-na-enters-full-commercial-development-of-spherical-view-radar-for-drone-detection/>

23Aug21

Switzerland “launches world first nationwide drone Network Remote Identification service” August 18, 2021 Philip Butterworth-Hayes UAS traffic management news



Swiss U-Space Implementation members, under the coordination of the Swiss Federal Office of Civil Aviation, have announced that a nationwide voluntary Network Remote Identification (NET-RID) service is now live across Switzerland.

NET-RID is a collaboration among AirMap, ANRA Technologies, Avision, Involi, OneSky, Orbitalize, Skyy Network, skyguide and Wing.

“The service complies with the U-Space Regulation 2021/664 adopted by the European Commission, which will be enforced beginning January 2023. NET-RID ensures drone operations



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are safe and compliant by enabling information sharing about those operations via the internet. SUSI members are making it possible for drone operators to easily share information about their flights with airspace authorities, law enforcement, other operators and the general public.”

With NET-RID, airspace actors in Switzerland can now see drone operators’ registration numbers and information related to their flights. Operator information is shared via the Linux Foundation’s InterUSS Platform, an open-source platform that ensures a U-Space Service Provider has obtained all relevant data from other USSPs. This allows USSPs to share information only when necessary and enables interoperability between all participants.

<https://www.unmannedairspace.info/news-first/switzerland-launches-world-first-nationwide-drone-network-remote-identification-service/>

North Carolina signs up for Virginia’s drone flight information exchange tool

August 23, 2021 Philip Butterworth-Hayes UAS traffic management news



VIRGINIA FLIGHT INFORMATION EXCHANGE:
A SINGLE AUTHORITATIVE UAS DATA SOURCE FOR THE
COMMONWEALTH OF VIRGINIA



By: Commonwealth of Virginia
Virginia Department of Aviation

The Virginia Department of Aviation has signed the North Carolina Department of Transportation Division of Aviation as the first state to collaborate, coordinate and disseminate information as a user of the Virginia Flight Information Exchange (VA-FIX), a tool that will allow state and local governments to share information among unmanned aerial systems stakeholders and address key safety and policy concerns while keeping the airspace open, secure, and

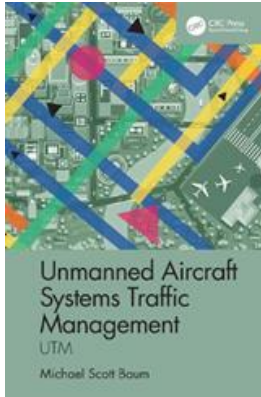
integrated with Federal Aviation Administration control of the national airspace. According to a press release:

“The Commonwealth of Virginia developed VA-FIX as a platform for state and local government agencies to publish and share Unmanned Aerial Systems advisory information with each other, UAS Service Suppliers, unmanned system operators, and the public to promote transparency and public safety. The pilot program, which launched in August 2020 and is the **first of its kind** in the industry, is evaluating the benefits of data-sharing; informing thoughtful regulation; and demonstrating a state-supported approach to UAS communications and coordination through an Authoritative Supplemental Data Service Provider.” <https://www.unmannedairspace.info/latest-news-and-information/north-carolina-signs-up-for-virginias-drone-flight-information-exchange-tool/>



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New publication, Unmanned Aircraft Systems Traffic Management August 23, 2021 Jenny Beechener Emerging regulations UTM and C-UAS market analysis



Michael S Baum is the author of a new book published by Taylor & Francis Ltd called *Unmanned Aircraft Systems Traffic Management: UTM*. The book introduces unmanned aircraft systems traffic management and how this new paradigm integrates unmanned aircraft operations into national airspace systems.

Exploring how UTM is expected to operate, including possible architectures for UTM implementations, and UTM services, including flight planning, strategic coordination, and conformance monitoring, *Unmanned Aircraft Systems Traffic Management:*

UTM considers the boundaries of UTM and how it is expected to interlace with tactical coordination systems to maintain airspace safety. The book also presents the work of the global ecosystem of players advancing UTM, including relevant standards development organizations, and considers UTM governance paradigms and challenges.

<https://www.unmannedairspace.info/emerging-regulations/new-publication-unmanned-aircraft-systems-traffic-management-utm-describes-operational-and-regulatory-environment/>

Soyuz rocket delivers in ninth launch for OneWeb August 22, 2021 Stephen Clark



Fire and exhaust from the 32 rocket engine nozzles power a Soyuz-2.1b launcher off the ground at the Baikonur Cosmodrome in Kazakhstan.

Another 34 satellites for OneWeb's internet network successfully launched on a Russian Soyuz rocket Saturday from the Baikonur Cosmodrome in Kazakhstan, giving the UK-based company **a fleet of 288 spacecraft**.

The latest batch of OneWeb satellites, manufactured in an assembly line factory on Florida's Space Coast, took off from Baikonur aboard a Soyuz-2.1b rocket at 6:13:40 p.m. EDT Saturday. The Soyuz rocket's four kerosene-fueled boosters and core stage powered the launcher off the Site 31 complex at Baikonur with nearly **a million pounds of thrust**.

The Soyuz third stage shut down as planned more than nine minutes after liftoff and deployed a Russian-made Fregat upper stage to conduct a pair of main engine burns to reach a planned polar orbit 280 miles above Earth. The Fregat apparently completed those burns as planned,



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delivering the 34 satellites to the expected altitude.

<https://spaceflightnow.com/2021/08/22/soyuz-rocket-delivers-in-ninth-launch-for-oneweb/>

FAA audio reveals police helicopter's 100mph chase with 'super sophisticated' drone KEITH GRIFFITH FOR DAILYMAIL.COM Aug 23rd 2021



Air traffic control audio has revealed details of the highly advanced 'drone' that eluded a police helicopter in military airspace above Tucson.

The recording obtained from the Federal Aviation Administration this week by [The Drive](#) reveals the sophisticated capabilities of the drone as it ran circles around police and federal helicopters in February.

The recordings show that pilots and air traffic controllers were baffled by the drone, which they described as **'super sophisticated' and possibly satellite-controlled** and hovered over Davis-Monthan Air Force Base.

During the nearly 70-minute chase, the drone often toyed with the pursuing helicopters by hovering directly over their rotors. It eventually **exceeded the maximum flight ceiling of the helicopters**, escaping the pursuers. FBI officials told Tucson TV station KOLD that the drone 'orbited' the helicopter several times and led the copter on a circular, hour-long chase.

Dash cam video shows police chase at over 143 mph. As the chase wore on, crew members repeatedly wonder aloud why the apparent drone's battery hadn't run out of power. 'This would be **like no battery I've ever seen,**' <https://www.dailymail.co.uk/news/article-9912999/FAA-audio-reveals-police-helicopters-100mph-chase-sophisticated-drone.html?source=techstories.org>

Drone Corps: 12-Month Apprenticeship to Train Next Generation of Pilots and Technicians Miriam McNabb August 20, 2021 By Jim Magill



Seeking to meet the demand for skilled drone workers, [Drone Corps](#), a 12-month apprenticeship training program, approved by the U.S. Department of Labor, plans to launch its first class early next year. It is designed to operate for at least five years and could train as many as **1.4 million drone operations** over the life of the program.



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“We created Drone Corps to create jobs for individuals **between ages 17 and 24**,” said Jim Mikel, Drone Corps’ director general. Mikel said the program will be geared to providing a combination of virtual and hands-on training in the operation of drones.

Drone Corps has partnered with several drone-related associations and software companies, and educational institutions to provide the training. Under the program, students sign a 12-month contract to work 40 hours a week for the Drone Corps for a 12-month period. Participants get paid \$15 an hour, for the first three months, at the end of which period they are tested on the core competencies that they’ve acquired. They will be required to pass the [FAA’s Part 107 exam](#) to become licensed drone pilots. After demonstrating their mastery of the core competencies at the end of three-month period, students will receive a raise, to \$18 per hour with their pay increasing to \$24 per hour in the last three months.

Mikel said the program will prepare its graduates to be able to enter the work forces in diverse fields such as agriculture, drone deliveries, surveying, and mapping, and building and infrastructure inspection. The Department of Labor estimates that Drone Corps graduates on average will qualify for jobs paying **\$32 per hour and up**. <https://dronelife.com/2021/08/20/drone-corps-12-month-apprenticeship-to-train-next-generation-of-drone-pilots-and-technicians/>

AirData and UgCS Collaborate on New Integration Miriam McNabb August 20, 2021 by DRONELIFE Staff Writer Ian Crosby



Today, SPH Engineering, a multiproduct drone software company, and [AirData UAV](#) have announced a new integration and partnership. The duo are collaborating to offer pilots a seamless and simple way to track and manage their fleets by automatically synchronizing flight data from SPH Engineering’s [UgCS](#), a globally recognized tool for enhanced UAV mission planning and flight control software solutions, to AirData, the largest online drone fleet data management and real-time flight streaming platform.

AirData serves more than **200,000 users** with 19 million flights uploaded so far, processing an average of **20,000 flights per day**, with high-resolution data stored with each flight. The platform is used by large fleet operators around the world not only as a logbook, but also as a flight safety data analysis and crash prevention platform with maintenance, pilot tracking, and live streaming. Meanwhile, UgCS is used in more than **150 countries** in a broad range of fields, including environmental, archeological, engineering and mining, agricultural and biological. <https://dronelife.com/2021/08/20/airdata-and-ugcs-collaborate-on-new-integration/>



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24Aug21

This flying space probe will look for life around Saturn Aug. 23, 2021 Tom Metcalfe

NASA's next aerial drone will build on the success of its Ingenuity helicopter on Mars.



The hazy skies of Saturn's moon Titan are the next destination for **the growing use of flying drones to explore the solar system**. This time, scientists are preparing not to just hop but soar up to 13,000 feet and cover hundreds of miles in search of evidence of ancient microbial life.

It's a major step beyond the success of NASA's [Ingenuity drone on Mars](#), and it signifies that flying robots from Earth will play an increasingly important part in the exploration of our solar system.

"Ingenuity was a technology demonstration," said Alex Hayes, an associate professor and the director of Cornell University's Center for Astrophysics and Planetary Science in Ithaca, New York. "You can now expect follow-ons to expand that technology to actual science missions that use flight."

In July, Hayes and his colleagues [detailed the scientific goals](#) of the Titan probe, called Dragonfly, which is [scheduled to launch in 2027](#) and arrive around Saturn by 2034. Its main purposes will be to look for chemical traces of microbial life on the moon and to study the "methane cycle" — a much colder analog of the water cycle here on Earth — that shapes its landscape. <https://www.nbcnews.com/science/space/flying-space-probe-will-look-life-saturn-rcna1740>

2021 DRONE USE IS STILL GROWING — AND HAVE NEARLY DOUBLED BY SOME METRICS August 16, 2021 Sally French News



By some metrics, 2021 drone use has doubled. That's a highly encouraging trend after pretty much every industry was upended by the COVID-19 pandemic. But perhaps it's the inherently distant nature of drones, or maybe it's their now proven aid to enterprise operations. Either way, 2021 drone use grew — and it grew by a lot.

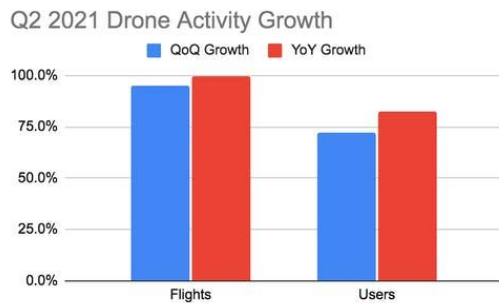
Drone software company DroneDeploy released its [Q2 State of the Industry review](#), which revealed some surprising stats about its usage data. And it sheds some insight into what the



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future holds for the drone industry. The stats for its reported come from usage data from more than 600 DroneDeploy users who span more than 40 countries and 20 industries, such as agriculture, construction or energy.

Among the most surprising stats from the Q2 State of the Industry review: DroneDeploy’s Q2 2021 flights and users nearly doubled (+99.7% for flights, +82% for users) from the same quarter last year.

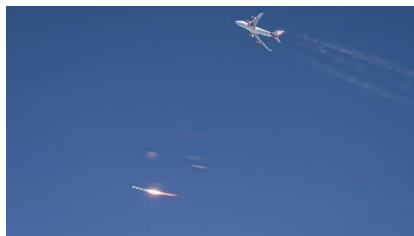


In 2020, we heard a lot about [drone delivery](#), with drones delivering everything from at-home [COVID testing kits](#) to [PPE](#) to [simple food items](#) for people who couldn’t leave their homes. But it turns out, delivery is far from the real growth driver for the drone industry.

The biggest growth leader is agriculture. Globally, agriculture usage saw 84% more flights and 49% more users in Q2 as compared to Q1 2021. The company recorded a 27% YOY increase in flights and a 17% YOY increase in users from the same quarter last year.

Within [agriculture](#), drone use ranges from using aerial footage to spot diseases or monitor crops, flying drones over fields for fertilizing, pollinating, and even using drones to [plant seeds](#). <https://www.thedronegirl.com/2021/08/24/2021-drone-use/>

Virgin Orbit successfully launches a clutch of satellites to orbit Miriam Kramer, author of Space Jun 30, 2021 - Science



Virgin Orbit launched seven satellites from three different customers to space on Wednesday.

The company's Cosmic Girl 747 carrier plane took off from California's Mojave Air and Spaceport, carrying the LauncherOne rocket loaded down with satellites under its wing. After arriving at the correct area above the Pacific coast, LauncherOne dropped from the plane and its rocket motor ignited, bringing the rocket and its payload up to orbit. The seven satellites launched Wednesday were for the company's customers: the U.S. Department of Defense, Royal Netherlands Air Force and SatRevolution.



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Historically, small satellites have been forced to hitch rides to space as secondary payloads aboard rockets launching larger satellites, leaving those customers vulnerable to the whims and schedules of the primary on the mission. Small launchers like Virgin Orbit see their value as providing a dedicated ride to these small satellites, allowing them to get to space on their own schedule. https://www.axios.com/virgin-orbit-commercial-launch-ef10cc00-cfbd-422a-bb2e-cb6aa0551eb9.html?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiospace&stream=science

The SWAT Team Drones Saving Lives: BRINC Lemur Miriam McNabb August 23, 2021



One of the best parts of going to a large drone show like [AUVSI Xponential](#) is having the opportunity to look at the amazing technology on the exhibit floor – like the SWAT team drones produced by Las Vegas-based [BRINC drones](#).

The Lemur – and the Lemur S, soft-launched at AUVSI Xponential – is a drone decked out with features that make it ideal for the purpose. It's **an indoor tactical system** meant to search structures and keep public safety, first responders, and suspects safe. During a SWAT mission, the Lemur, equipped with a specialized glass breaker, can break a window, and enter the building. Once inside, the Lemur can explore (without GPS) room by room, providing both eyes and ears to the operators. When the Lemur makes contact with a suspect, **it can perch** – on a bed, bureau, table, or wherever – **for up to 10 hours, helping SWAT teams establish 2-way communication with the suspect**. That 2-way communication is critical, BRINC Drones VP of Sales and Marketing Brett Kanda explains. “The data is remarkable about how much better the outcome is when you are able to establish two-way communication with a suspect – you have a great opportunity for a safe resolution,” he says. <https://dronelife.com/2021/08/23/the-swat-team-drones-saving-lives-brinc-lemur/>

Millennium Space in an experiment de-orbited a satellite in eight months Sandra Erwin — August 23, 2021

COLORADO SPRINGS — Boeing subsidiary Millennium Space Systems announced Aug. 23 it successfully demonstrated the use of a deployable tether to de-orbit a satellite after it completes its mission.



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The company in November launched an experiment called [Dragracer](#) aboard a Rocket Lab Electron rocket. Two identical cubesats were deployed. One had a 70-meter long drag tape made by Tethers Unlimited and the other did not. **The satellite with the drag tape burned upon reentry to Earth's atmosphere after eight months.** The satellite without tape will naturally de-orbit which is estimated to take **at least seven years.**

Tethers' tape creates additional surface area that interacts with the Earth's atmosphere to create drag, which draws satellites back to Earth faster. The tape is deployed when a satellite is ready to de-orbit. Patrick Kelly, Dragracer program manager at Millennium Space, said the tape weighs less than 1 kilogram and requires very little power to activate. The experiment showed the technology works and could help relieve congestion in low Earth orbit where thousands of satellites will launch over the next decade. <https://spacenews.com/millennium-space-in-an-experiment-de-orbited-a-satellite-in-eight-months/>

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Drone Operations Collaborative helps utilities respond to disasters August 24, 2021 News



Beyond the Drone announces the launch of the Drone Operations Collaborative, "the DOC," a comprehensive inspection solution for utility companies needing to manage, assess, and report conditions during emergency events. The DOC provides the personnel and software to help utilities mobilize and respond more quickly when time matters most.

The DOC is a collaboration among Futura Systems, Asymmetric Unmanned, and Beyond the Drone. Each company contributes essential personnel and technology to support the utility mission and respond to storms and emergencies.

The DOC solution is comprised of four elements: 1) An Airboss to help deconflict the airspace, meet FAA regulations and manage flight operations of multiple simultaneous missions. 2) Assessment and geospatial tools that help understand the condition of assets and the location and scale of damages. 3) The Utelinspect software solution to connect the flight and inspection



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operations and to streamline the process of reporting and responding to critical areas of need.

4) Standby onsite and remote drone inspection crews and equipment, and administrative personnel to help where and when needed. https://uasweekly.com/2021/08/24/drone-operations-collaborative-doc-is-a-turnkey-emergency-inspection-package-to-help-utilities-respond-to-disasters/?utm_source=rss&utm_medium=rss&utm_campaign=drone-operations-collaborative-doc-is-a-turnkey-emergency-inspection-package-to-help-utilities-respond-to-disasters&utm_term=2021-08-24

Walmart delivery drones will fly for non-Walmart retailers under GoLocal platform Ishveena Singh - Aug. 24th 2021



The just-announced Walmart GoLocal platform will see the retailer offer its existing network of drones, autonomous vehicles, and market fulfillment centers to businesses across the United States. Walmart's push into home delivery services began three years ago, with the retailer accelerating the development of the service significantly in the wake of the coronavirus pandemic.

Walmart says its GoLocal delivery service will be able to handle everything from power tools to kiddie pools. The white-label delivery service will give precedence to the client's branding while serving a variety of use cases: scheduled, unscheduled, and express delivery windows.

Whenever a customer would place an order with a business using the GoLocal delivery service, Walmart would be notified. Depending on the agreement with the retailer, Walmart would dispatch a driver/drone/autonomous vehicle to deliver the item, while capturing the delivery experience feedback, if any.

Walmart plans to leverage the platform provided by its **partner company DroneUp**, a nationwide drone services provider that has more than 10,000 Federal Aviation Administration certified pilots in its network.

Walmart has already trialed deliveries of at-home COVID-19 self-collection kits with **DroneUp** and is looking to begin drone delivery services for other goods from its store in Bentonville, Arkansas. <https://dronedj.com/2021/08/24/walmart-delivery-drone-golocal/>

Pharmacy Drone Delivery: Flyby Guys Lead Pilot Project in Helsinki DRONELIFE Staff Writer Ian M. Crosby August 24, 2021

International drone services company [Flyby Guys](#) lead a pilot program in pharmacy drone delivery in Helsinki this week.



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In Helsinki, a new method for the transportation of pharmaceutical products to customers will be tested. In a pilot spanning a week, select products from the Lauttiksen Apteekki pharmacy, located in Lauttasaari, Helsinki, will be delivered via drone to neighboring Jätkäsaari, located **2km** away. The aim of the pilot is to gather experience in the suitability of drones for the transport of pharmacy products and to test the new service concept with customers.

Stephen Sutton, the Managing Director for Flyby Guys, will be operating as Pilot in Command for the duration of the trial period, and is hoping for a successful trial, not only in terms of the delivery process itself, but also in [social acceptance](#) from the people living in the area.

The flights are scheduled from the 23th to 29th of August. The pharmacy products ordered by the customer will be packed in temperature-controlled packaging which are then flown from Lahnalahdenpuisto in Lauttasaari to Saukontori in Jätkäsaari. The customer will then be able to pick up their order from Saukontori, where the drone landing point is located. By limiting the number of deliveries per day to a maximum of 7, weather conditions permitting, the delivery pilot will also ensure that the noise levels produced by the flight will not impact the local bird life. <https://dronelife.com/2021/08/24/pharmacy-drone-delivery-flyby-guys-lead-pilot-project-in-helsinki/>

Stingray tanker aces Hawkeye refueling test News Pearl August 19, 2021 in Travel Ideas



Boeing's MQ-25 Stingray unmanned tanker has completed its second in-flight refueling, this time supporting a US Navy Northrop Grumman E-2D Advanced Hawkeye.

"During the **6h** flight, Navy E-2D pilots from Air Test and Evaluation Squadron VX-20 approached T1, performed formation evaluations, wake surveys, drogue tracking and plugs with the MQ-25 test asset at 220kt and 10,000ft," the US Naval Air Systems Command says. The 18 August sortie was conducted from MidAmerica airport in Mascoutah, Illinois.

Dave Bujold, Boeing's MQ-25 program director, says "These historic refueling flights provide an incredible amount of data we feed back into the MQ-25 digital models to ensure the aircraft we're producing will be the navy's game-changer for the carrier air wing."



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The USN recently conducted a simulation-based exercise with MQ-25 operations being controlled by an E-2D acting in a so-called “king tanker” monitoring role. This involved the Hawkeye crew controlling the tanker’s orbit station, flightpath and aerial refueling store payload. Meanwhile, the airframer says manufacturing activities are under way on “the first two of **seven MQ-25 test aircraft** and two ground test articles currently under contract”.

<https://africapearl.com/2021/08/19/stingray-tanker-aces-hawkeye-refuelling-test-news.html>

World’s First 5G & AI-Enabled Industrial Drone Platform Unveiled 19 Aug 2021

Phoebe Grinter



The Qualcomm Flight RB5 5G Platform condenses multiple technologies into one drone system to support evolving applications and new use cases in sectors including film and entertainment, security and emergency response, delivery, defense, inspection, and mapping.

The Qualcomm Flight RB5 5G Platform’s high-performance and heterogeneous computing at ultra-low power consumption provides power efficient inferencing at the edge for AI and Machine Learning enabling **fully autonomous** drones. In addition, camera capabilities deliver premium image capabilities.

With 5G and Wi-Fi 6 connectivity, this platform enhances flying abilities Beyond Visual Line-Of-Sight to support safer, more reliable flight. The platform is equipped with a Qualcomm Secure Processing Unit to support cybersecurity protections.

Qualcomm Technologies is working with Verizon to complete **network testing** of the Qualcomm Flight RB5 5G Platform for the Verizon 5G network.

https://www.unmannedsystemstechnology.com/2021/08/worlds-first-5g-ai-enabled-industrial-drone-platform-unveiled/?utm_campaign=Energy%20Drone%20%26%20Robotics%20Coalition%20Content&utm_medium=email&_hsmi=152704814&_hsenc=p2ANqtz-8800g0J3Dwx7NS-96m_NOGmsh4Cgpkj_kBNZYs4F_sjCGWOtW4HjL1TqHCRXrXKcm9zVPH_o0aAVqzd71hTBRTpxZCwg&utm_content=152704814&utm_source=hs_email

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UPS Flight Forward and Matternet M2 Drones Deliver COVID-19 Vaccines Miriam

McNabb August 25, 2021 by DRONELIFE Staff Writer Ian Crosby

Atrium Health Wake Forest Baptist Delivers COVID-19 Vaccines by Drone: UPS Flight Forward and Matternet M2 Deliver Drone



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[Atrium Health Wake Forest Baptist](#) and its enterprise [iQ Healthtech Labs](#), established by the [Innovation Quarter](#), are elevating COVID-19 vaccination efforts with drone deliveries. The first COVID-19 vaccine drone delivery program in the country, this new initiative – managed by UPS Flight Forward and its specially trained operators— expands Atrium Health Wake Forest Baptist’s existing drone program. As one of the first health care institutions in the country to

receive the Pfizer COVID-19 vaccine via UPS in 2020, Atrium Health Wake Forest Baptist has **provided nearly 100,000 total COVID-19 vaccinations to date.**

When in transit, the Matternet M2 drone is equipped with a special cargo box that contains Cold Chain Technologies’ PCM Gel solution, a CDC compliant temperature-sensitive packaging mixture that maintains the COVID-19 vaccine at 2 to 8 degrees Celsius, as well as a device that monitors the vaccine’s temperature. <https://dronelife.com/2021/08/25/ups-flight-forward-and-matternet-m2-drone-deliver-covid-19-vaccines/>

DHS, CBP to Deploy Planck-Built Small UAS For Additional Test & Evaluation Carol Collins August 25, 2021 Contract Awards, News



San Diego-based autonomous drone maker [Planck Aerosystems](#) has received a **\$500,000** grant to help the Department of Homeland Security deploy a small, unmanned aircraft system in a controlled environment for testing and

evaluation.

DHS said Tuesday that Customs and Border Protection agents will use Planck-built sUAS, along with launch-and-recovery equipment, in maritime scenarios and other possible operational settings under a [Silicon Valley Innovation Program Phase 5](#) agreement with the company.

Planck fine-tuned its technology in the earlier stages of development to incorporate comments and requirements from CBP regarding system features such as navigation, target detection, geolocation, and “wingman” capability. The system autonomously launched and landed a drone **from a moving vehicle** as part of a test conducted in the fourth phase of SVIP.



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The award given to Planck is part of CBP's collaboration with DHS' science and technology directorate to provide border patrol agents rugged and mobile platforms designed to increase their situational awareness in real-time. <https://www.executivegov.com/2021/08/planck-gets-dhs-svip-phase-5-award-to-deploy-small-uas-for-test-and-evaluation/>

HOW GERMANY AND SWITZERLAND BECAME HOT HUBS FOR THE DRONE INDUSTRY August 18, 2021 Sally French Projects



Expect “Made in Germany” or “Made in Switzerland” to grace more drones in the future as both countries lead the pack when it comes to receiving some of the most investment capital of any countries, developing world class technology and playing host to top-tier drone companies.

Drone analytics firm [Drone Industry Insights](#) (which itself is based in Germany) compiled data around the two countries’ drone market size, number of drones out there, and total investment funding to paint a picture of two thriving countries when it comes to drone innovation.

A huge component of Germany’s success is that the country simply has a critical mass of drones in the air with an estimated **430,700** drones in the hands of pilots. About 11% of those drones are commercial drones, but those commercial drones account for 87.86% of the total drone-related revenue in the country.

The story is even wilder in Switzerland, which has more drones per person than Germany. There are an estimated **56,000** drones out there in Switzerland, which is a significant percent given the country’s population is only about 8.5 million. And much of that is commercial drone use, which accounts for 96.64% of the country’s drone-related revenue.

Businesses within both countries have done an excellent job piquing investor interest, with Germany receiving a total of \$747 million in investor funding since 2012. And despite Switzerland’s small size, the country has received \$215 million in investor funding since 2010. When judging it per capita, Switzerland is number one in Europe. All that funding means, as of summer 2021, investors value the German drone market at \$996 million, while the Swiss drone market is worth \$476 million. Germany’s drone industry is expect to see a compound annual growth rate of 14.5%, while Switzerland is expected to grow at 10.6%.

<https://www.thedronegirl.com/2021/08/26/germany-switzerland-drone-industry/>



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The Legacy of Afghanistan Is A Future of Drone Wars David Hambling Aerospace & Defense Aug 17, 2021

While the big drones have garnered all the media attention, in the longer run, smaller drones may have more impact.



The [RQ-11 Raven](#) is a hand-launched, battery-powered drone weighing about four pounds. Initially used by Special Forces, it provides troops on the ground with their own aerial reconnaissance. Soldiers [quickly recognized its value](#) for protecting perimeters, guarding convoys and patrols, directing mortar fire and scouting possible enemy positions.



Raven operators had the experience of observing opponents while being helpless to strike them. A [solution emerged](#) in the late 2000s in the form of the [SwitchBlade](#). Produced by AeroVironment — the maker of the Raven and using much of the same technology — this is a tube-launched kamikaze drone with a small explosive warhead.

Meanwhile, insurgents have started to use drones of their own, modifying consumer drones as grenade-dropping bombers. While the tactic was pioneered by ISIS in Iraq in 2016, by late 2020 the Taliban were also [using improvised attack drones](#) in what the New York Times described as a [‘worrisome shift.’](#)

Afghanistan may be remembered as **the first true drone war**. And in future wars, even counterinsurgencies, there will be drones on both sides.

<https://www.forbes.com/sites/davidhambling/2021/08/17/the-legacy-of-afghanistan-is-a-future-of-drone-wars/?sh=1ae84fe0210f>

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Viral drone video captures farmer’s last goodbye to aunt Ishveena Singh - Aug. 26th 2021

When COVID-19 restrictions prevented Australian farmer Ben Jackson from attending his beloved Aunt Deb’s funeral, he decided to honor her memory with a novel tribute: **a heart made of sheep.**

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When Deb died after a two-year fight with cancer, Jackson was locked down at his farm in New South Wales, some 270 miles away. Feeling hopeless and helpless, for “there was no way I could get up there and see her, say cheerio, or go to the funeral,” Jackson decided to use his flock of sheep to form a massive heart, which, he insists, “in all earnest, pales in

comparison to hers.”

The trick was to lay out the grain that sheep feed on in an outline and release the sheep into the paddock. But it took Jackson a few tries to nail the shape of the heart. After three or four attempts, Jackson was ready to get his “sheep art” filmed by a drone. He sent the video to relatives ahead of his aunt’s funeral on Monday, who then played a Simon and Garfunkel classic, *Bridge Over Troubled Water*, over the video and a picture gallery. It was very lovely to have it as part of a sendoff. It was certainly something that she would have loved and absolutely cherished. Let’s watch the video: <https://dronedj.com/2021/08/26/heartwarming-drone-video-sheep-heart/#more-66005>

Drone Inspections for Wind Turbines in as Little as 15 Minutes Miriam

McNabb August 26, 2021 By Jim Magill



Using artificial intelligence enabled drones and software, Nearthlab, a South Korea-based start-up company hopes to carve out a niche for itself in the rapidly growing global wind turbine inspection market.

“Amid the green energy boom, drone inspection has become a favorable option for the owners and operators of wind farms,” Jay Choi, Nearthlab’s CEO and co-founder, said in an interview.

With its autonomous drones, Nearthlab can conduct a drone inspection for a wind turbine in around **fifteen minutes**, far less time than that required for other inspection methods. The drone’s AI software allows the unmanned aerial vehicle to recognize the shape and position of the turbine’s blades and calculate the optimal flight path to conduct the inspection.

“Using computer vision and AI software, the drone consistently flies along the blade while maintaining a close and constant distance to capture the smallest details,” Choi said. During its



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flight, the drone collects data and takes high-resolution photos. Then it uploads the information package to a data management platform for analysis.

Once the data is received, the data management platform's AI software will analyze it to detect any potential damages to the blades, and if it finds any defects, the software will accurately determine the size and location of the damage. <https://dronelife.com/2021/08/26/drone-inspections-for-wind-turbines-in-as-little-as-15-minutes-korean-drone-software-company-nearthlab/>