



UAS and SmallSat Weekly News

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Drone Soccer Tourney Kicks Off in Colorado This Weekend Jason Reagan July 28, 2021



With so many aerospace and defense companies, it is no surprise that Colorado Springs is flying high with the latest cousin of Harry Potter's high-flying Quidditch.

On July 31, the **first-ever** [drone soccer tournament](#) will kick off at the Rocky Mountain State Games, Colorado's largest multi-sport festival for athletes of all ages and athletic abilities.

According to [U.S. Drone Soccer](#), the sport is "a thrilling indoor team sport played with remote controlled hobby quadcopters that are safely enclosed in protective plastic spheres. One drone on each team is designated as a Striker that can score points by flying through the opposing goal. All other drones are defending or blocking by intentionally colliding with the opposing team. The standard playing area can fit inside a classroom – a 10'x20' netted arena."

The program began with "Wings Over the Rockies: Exploration of Flight" in May. "It's the **first** drone program I've seen that is **based in teamwork**," U.S. Air Force Maj. Kyle Sanders told Military Times. "It's spectator-friendly, and it can be an on-ramp for students into science and technology." Sanders explains the rules:

"One player per team navigates the specially-marked Striker drone to score through the other teams goal. The other players work to block either the Striker or opposing drones with full-contact collisions. The drones have a plastic exoskeleton that make them able to sustain hits from opponents. The game has a triad of three-minute periods, and team members must be able to repair their drones on the fly (literally) to continue the game. While playing, students learn real-world skills that translate into different career fields including aviation and aerospace." <https://dronelife.com/2021/07/28/drone-soccer-tourney-kicks-off-in-colorado-this-weekend/>



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Australia's new drone whale monitoring program is delivering breathtaking results

Ishveena Singh Jul. 30, 2021



Jervis Bay.

When a critically endangered southern right whale [swam into a lake](#) in Australia's New South Wales last month, it was a local drone photographer who was on hand to snag some spectacular footage of the majestic creature. And just last week, a [mom and newborn calf](#) whales were caught breaching on camera by a drone pilot off

Photos and videos like these are not something that marine scientists are able to access very often. Biologists at the NSW National Parks and Wildlife Service are absolutely gung-ho about a new research project that rallies citizen scientists to capture **headshots** whenever a right whale is spotted close to the shore. They are born with distinctive hardened skin patterns on their heads called callosities. Think of them like whale fingerprints; they can help to identify the whales individually .

The Right Whale ID project has about 20 volunteer drone pilots spread across the NSW coast. These drone pilots are well-versed in both animal protection laws and civil aviation regulations. Before being recruited to the program, these volunteers sit for an exam and answer a series of questions about the behavior of the whales they film.

It's worth noting that the southeastern Australian population of the southern right whale is highly endangered, with only 270 individuals left. Of these, only 68 are breeding females. Typically, as few as 25 to 30 southern right whales enter NSW waters every year. This year, the Right Whale ID project has already recorded five adult whales and two calves.

<https://dronedj.com/2021/07/30/australia-drone-whale-monitoring/>

Drones vs. dogs: Stress level study reveals what sheep want

Ishveena Singh Jul. 30, 2021

Many farmers these days use drones to herd sheep. But there haven't been many insights into how the sheep are interacting with the drone technology or what impact does the technology have on their welfare. And this is exactly what researchers from the University of New South Wales Canberra set out to discover.



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Heart rate is a generally accepted indicator of stress in sheep. While the resting heart rate of the animal is around 80 beats per minute, when sheep are being vigorously driven, it's common to see the heart rate go up to around 163 beats per minute on average. However, when alerted to the presence of working dogs, a sheep's heart rate can skyrocket up to 262 beats per minute as well.

And what about drones? When a loudspeaker-equipped drone initiates a sheep drive with the sound of a dog bark, flying at a height of 10 meters and at a 25 km/h, the heart rate of the animals averages around 164 beats per minute. Meaning, using drones is likely a **more ethical** way to herd sheep. As squadron leader Kate Yaxley, a visiting military fellow at UNSW Canberra and one of the lead researchers on the study, [explains](#):

*We found through this study that the sheep had higher heart rates when they're being shepherded by traditional means. So, the simple act of moving them to another paddock for food is actually putting the animal under stress. We measured the variations in their heart rates, and we found it to be **much lower when using drones** with appropriate approach speed, and that the animals actually responded to the technology. If we played certain sounds that allowed them to use their sensors, their aural and visual acuity, they moved a lot easier.*

<https://dronedj.com/2021/07/30/drones-vs-dogs-what-sheep-want/#more-63890>

Feeding fish – with a DJI Agras drone Scott Simmie Jul. 30, 2021



DJI's Agras industrial drone is intended for spraying pesticides, herbicides, and fertilizer, but has been put to other uses as well. During the early months of COVID, some of these units were deployed in China to spray disinfectant. They've also been used in anti-malarial programs to kill off mosquito larvae. But feeding fish?

That's a new one.

There's a company in eastern Iowa called [Kloubec Koi Farm](#). It is a leader in raising and selling high-quality Koi – which can fetch up to \$10,000 for more exotic varieties. It features more than 55 mud ponds, which means a *lot* of work when it comes to feeding.

And so it came to be that the folks at the Kloubec Koi Farm got connected with [Aerial Influence](#) which does consulting, demonstrations, and sales. It focuses on the Enterprise, First Responder,



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and Agriculture sectors. Could it be done? The guys at Aerial Influence explain, in the description for the YouTube video you'll see in a moment:

We get calls every day from different businesses and organizations who want to use drones to improve the way they operate. When we got a call from the owner of the Kloubec Koi Farm in Iowa, even we were surprised when they wanted to feed their 80 acres worth of fish, using an agricultural drone. So, we packed up the truck and headed to Iowa for another adventure. Aerial Influence is run by David Plummer and his good friend Michael Ferguson.

Anyway, let's get to the video: <https://dronedj.com/2021/07/30/feeding-fish-with-a-dji-agras-drone/#more-63997>

U.S. Plans Sanctions Against Iran's Drones and Guided Missiles Ian Talley in Washington and Benoit Faucon in London July 29, 2021



Top IRGC officials unveiled a new drone called Gaza in an undisclosed location in Iran in this photo released in May by the IRGC's news service.

The U.S. plans a sanctions campaign against Iran's evolving capabilities for precision strikes using drones and guided missiles, according to U.S. officials, amid concerns over the threat these weapons represent to American and allied interests. Western security officials say they see those capabilities as a more immediate danger to Middle East stability than Iran's nuclear-enrichment and ballistic missile programs.

The U.S. [has sanctioned some of Iran's missile programs](#) in past years, but officials said that targeting Iran's procurement networks, such as providers of parts used to build the drones and precision-guided missiles, could more effectively disrupt those activities.

Top military and diplomatic officials say they have seen a major increase in the use of guided missiles and drones against U.S. forces and allies. "Iran's drones are becoming an increasing threat to our allies in the region," said another U.S. official. <https://www.wsj.com/articles/u-s-plans-sanctions-against-irans-drones-and-guided-missiles-11627556400>



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A New Report on the Su-57's Drone Sidekick Leaves More Questions Than

Answers Mark Episkopos July 28, 2021



"In order to control advanced Okhotnik drones, a two-seat command variant of Su-57 will be created," a defense industry insider source told [TASS](#). "The fighter jet, already in development, is presumed to control about four Okhotnik drones," the source added.

The brief statement provided to TASS is vague on several key points. It remains unclear if this was the plan all along, or if Sukhoi was compelled to manufacture the "command variant" only after discovering that the single-seat Su-57 model cannot accommodate the drone. This raises a separate, but no less important question: is the standard, single-seat Su-57 incapable of operating any Okhotnik drones at all?

S-70 Okhotnik-B is a flying-wing, heavy stealth combat drone, first [spotted](#) alongside a Su-57 in 2019. The Okhotnik can carry out reconnaissance and surveillance missions, leveraging its onboard sensors to feed its Su-57 mothership battlefield information through datalink. It can also reportedly strike targets with an internally stored payload, though the full extent of its weapons loadout remains unclear.

There is currently one flyable Okhotnik prototype, with three more in production and slated to undergo testing through 2023. The first Okhotnik-B units will reportedly enter service starting in 2024. <https://nationalinterest.org/blog/buzz/new-report-su-57s-drone-sidekick-leave-more-questions-answers-190678>

Oak Island drone takes dune control to new heights Lee Hinnant Jul 21, 2021



Shawn Barry is helping take Oak Island NC to new heights.

He is the town's new part-time drone pilot and can do some jobs that used to take several people and several days by inspecting and documenting infrastructure.

Town Manager David Kelly said the core purpose of the effort is to document things like town walkovers, bulkheads, the pier, buildings, and other infrastructure - such as the dunes - so the town can prove losses

from disasters and receive insurance and state and federal reimbursement when called for.



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The drone image, sent to an iPad, iPhone or larger controller, has a color overlay with an infrared imaging system for use at night making it useful for search and rescue, or for pointing out hotspots in the roof of a structure fire.

The unmanned aerial system can also carry and deliver a lifejacket, a flashlight or a radio to a person in need. Barry's license allows him to **fly it out of direct sight** and at up to 400 feet, if needed. Its range is six miles, depending on the wind, and it can fly if wind speeds don't exceed 24 mph.

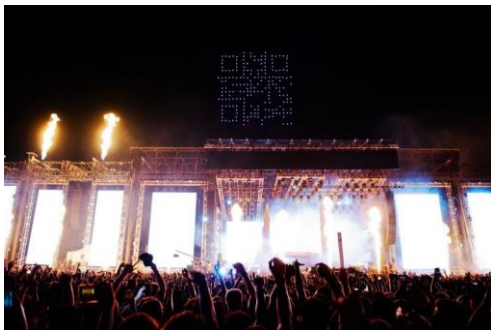
The drone also has a loudspeaker that can broadcast a pre-recorded message. Barry is experimenting with using the drone to find and warn beachgoers to stay off banned areas along the town's new, fragile dunes. In the camera, he can see people about a half-mile away and use the loudspeaker to move them along. This is a job that would take at least two or three people in separate vehicles before acquisition of the drone.

https://stateportpilot.com/news/article_74f66196-ea42-11eb-8cae-7b87a8520c06.html

FLYING QR CODE: THE NEXT STEP IN DRONE LIGHT SHOWS July 29, 2021 Sally French News

Drone light shows have become one step short of commonplace, flying all over the world this summer into the shapes of Earth at the recent [Tokyo Olympics opening ceremony](#), forming the likeness of [Baby Yoda](#) at a show promoting Disney+ or accompanying fireworks at the [Dollywood theme park's Summer Celebration](#). But here's a relatively fresh take on the drone light show: turning drones into a flying QR code.

That's exactly what happened at this summer's Rolling Loud music festival, where musician Travis Scott had drones fly in the air during his set. But rather than fly in sync with a drone light show, per se, they operated as a flying QR code.



Hold your phone up to photograph the drones in the air, and the QR code took audiences to a [pre-save link](#) for Scott's latest single, which otherwise doesn't yet have an official release date.

"Everyone knows Travis Scott is one of the best performers in the game, but on Saturday night he took it to another level," Rolling Loud co-founder and co-CEO

Tariq Cherif said in a statement. "Dropping new music and giving fans direct access to the song



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through a drone installation is unheard of and MilkMoney and Travis made it happen,”
<https://www.thedronegirl.com/2021/07/29/flying-gr-drone-light-shows/>

The First Martian Pilot Tells What It's Like to Fly on Another World Håvard Fjær Grip AIR & SPACE MAGAZINE AUGUST 2021



Ingenuity's team celebrates the news that the helicopter completed its first flight on April 19. Håvard Grip, Ingenuity's chief pilot, is in the foreground

Being a Martian helicopter pilot means many things that are familiar to every pilot. It means being an expert on the functioning and performance of your aircraft. It means understanding how it will respond to the tiniest gust or twitch of the controls. It means keeping track of your surroundings: the terrain, the weather, the atmospheric density, where the sun is positioned in the sky. It means carefully planning the details of each flight: where to go, how high and how fast to fly, and how aggressively to maneuver.

But flying a helicopter on Mars also means something different. Those minute and precise adjustments of the controls—they are not something you're doing in the moment. They are something you did in the past. Over seven years prior to that day, I led the aerodynamic analysis and the development of Ingenuity's flight control system, writing thousands of lines of code dictating exactly how the helicopter should react to those unexpected gusts.

So, on that April morning, all I could do was wait and hope that all those painstakingly written lines of code would do the right thing. Would Ingenuity hover majestically over the Martian surface? Or would it be overpowered by the Martian winds, lose track of where it was, or prematurely think it had landed?

When data finally arrived on my computer, showing that Ingenuity had confidently executed the exact maneuvers we had sent off just hours earlier, it was **a feeling unlike any other**—the feeling of a thousand nagging worries and imagined disaster scenarios instantly evaporating. And on behalf of the team, that morning I got to complete another task familiar to every pilot: **creating the first logbook entry for an extraterrestrial helicopter flight.**
<https://www.airspacemag.com/space/first-martian-pilot-180978278/?spMailingID=45371775&spUserID=NzY1MjM2OTMxNzYS1&spJobID=2046640829&spReportId=MjA0NjY0MDgyOQS2>



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Israeli Officials Say Iran Is Behind Deadly Drone Attack on Oil Tanker Patrick Kingsley and Ronen Bergman July 30, 2021



The tanker Mercer Street in 2016 off the coast of South Africa. It was attacked Thursday night near Oman

JERUSALEM — An oil tanker managed by an Israeli-owned shipping firm was attacked on Thursday night off the coast of Oman, killing two crew members, according to the firm and three Israeli officials.

Two of the officials, who spoke on condition of anonymity to discuss sensitive military matters, said the attack appeared to have been carried out by **several unmanned Iranian drones** that crashed into living quarters underneath the ship's command center, or bridge.

The incident was apparently the latest salvo in [a maritime shadow war between Iran and Israel](#), and the **first attack known to have killed civilians**. The Israeli-owned firm, Zodiac Maritime, said that the two crew members killed were from Britain and Romania, and that on Friday afternoon the vessel was sailing under the protection of an American naval escort. A U.S. Defense Department official said that two American Navy vessels had responded to a distress call but were not escorting the ship.

The U.S. official said that American personnel had gone aboard the tanker to assist with a forensic investigation and confirmed multiple drones were involved in the attack, though it was unclear how many actually hit the ship. The official did not ascribe responsibility.

<https://www.nytimes.com/2021/07/30/world/middleeast/tanker-attack-oman.html>

Volocopter Flies 2X eVTOL Prototype at Oshkosh Mark Huber July 30, 2021



Volocopter made **the first FAA-approved flight of a manned, eVTOL aircraft in a public environment** in the U.S. during the EAA AirVenture show in Oshkosh, Wisconsin, this week. The appearance by the German company marked a declaration of its intent to enter the U.S. market with planned air taxi and freight operations

using its two-seat VoloCity, and later, the larger, longer-range VoloConnect model.



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The crewed Volocopter 2X prototype took off at 2.45 p.m. local time on Tuesday for a four-minute sortie at around 164 feet and logged speeds of 18 mph as it cruised in front of vast crowds at the Wittman Regional Airport, where AirVenture is staged each year.

Volocopter confirmed that it is also working on the four-seat VoloConnect aircraft, which is expected to fly up to around 60 miles and at speeds of 155 mph. This is expected to enter service during 2026, while the VoloCity could start commercial operations by 2024.

<https://www.ainonline.com/aviation-news/business-aviation/2021-07-30/volocopter-flies-2x-evtol-prototype-oshkosh>

AFRL Looking for Contractors to Build Anti-UAS High-Powered Microwave July 30, 2021 John A. Tirpak



The program will launch this fall, and AFRL wants a prototype system in 2023. The program is called “Mjolnir,” the name of the hammer wielded by the Norse god Thor. It will build on the success of an existing experimental version.

The THOR demonstrator “uses bursts of intense radio waves to disable small, unmanned aircraft systems instantly,” AFRL said. AFRL’s THOR (Tactical High-power Operational Responder) is a prototype directed energy weapon used to disable the electronics in drones and was specifically engineered to counter multiple targets—such as a drone swarm—with rapid results.

After a [two-year experiment campaign](#), the AFRL team “has learned a lot about the benefits of the technology and how it can be improved,” said Amber Anderson, THOR program manager. The Mjolnir will be the follow-on system using the same technology, with improved capability, reliability, and “manufacturing readiness,” AFRL said.

The goal is a deployable system that can be “economically produced in large numbers,” THOR deputy program manager Adrian Lucero said, and to “grow a fledgling industry that will become critically important as the U.S. strives to maintain our electromagnetic spectrum superiority,” he said. <https://www.airforcemag.com/afrl-looking-for-contractors-to-build-anti-uas-high-powered-microwave/>



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Documents Indicate How Little Officials Knew About Mysterious Drones Last

Year Michael de Yoanna 2021-07-30



Just before the coronavirus pandemic hit last year, Eastern Colorado was center stage for a kind of whodunnit. Ranchers, farmers — and even a few deputy sheriffs — described mysterious [drones](#) flying in the night skies.

A report on Unidentified Aerial Phenomena, or UAPs, released last month by national intelligence officials didn't say anything about the sightings in Colorado. So KUNC asked whether anyone ever solved the mystery about what the objects were and, if they were drones, who was flying them. The short answer: no.

This leaves U.S. Sen. Michael Bennet of Colorado “greatly concerned.” Bennet sits on the Select Committee on Intelligence, which led efforts to get the UAP report released. It describes sightings, mainly by military pilots, that some think might be advanced technology. Though that's different from the descriptions of the “drones” made by people in Colorado, both mysteries deserve answers, Bennet said. https://www.uavexpertnews.com/2021/07/documents-indicate-how-little-officials-knew-about-mysterious-drones-last-year/?utm_source=Master&utm_campaign=79d7413dde-EMAIL_CAMPAIGN_2017_12_20_COPY_01&utm_medium=email&utm_term=0_35ad7bc94d-79d7413dde-89168288

CIT and VISA Advance Unmanned Systems Technology in Hampton Road & Eastern Shore

CIT: Virginia's Center for Innovative Technology July 30, 2021



Deputy Secretary of Public Safety and Homeland Security, Shawn Talmadge, Tracy Tynan, Director of the Virginia Unmanned Systems Center at CIT and Dr. David Bowles, Executive Director of The Virginia Institute for Spaceflight and Autonomy welcome UxS Innovators.

NORFOLK, VIRGINIA July 30, 2021 /[EINPresswire.com](https://einpresswire.com/)/ The Virginia Institute for Space Flight & Autonomy and Virginia's Center for Innovative Technology have launched a program to develop a Hampton Roads-Eastern Shore **Unmanned Systems Strategic Playbook** for the continued development and expansion of unmanned ground, aerial, maritime, and space technologies.



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The announcement of the playbook and search for UxS solutions began with the Unmanned Systems Industry Engagement Summit on July 28 at Half Moone Cruise & Celebration Center at Nauticus. The workshop was conducted with support from the Office of the Virginia Secretary of Public Safety and Homeland Security. The participants, which included the U.S. Coast Guard, the Virginia Port Authority, the Center for Naval Analysis, and local public safety agencies, evaluated new autonomous technologies and determined their potential impact and effectiveness at maritime ports.

VISA is a research enterprise of the Virginia Modeling, Analysis, and Simulation Center at Old Dominion University. As the nonprofit operations arm of the Virginia Innovation Partnership Authority, CIT is the primary source for information, grants, partnerships, and seed funding for UxS in the Commonwealth.

“VISA and CIT will work together to identify promising business opportunities for innovators of unmanned technology in Hampton Roads and the Eastern Shore,” said **Tracy Tynan**, director of the [Virginia Unmanned Systems Center at CIT](#). “By working with VISA, we will capitalize on the strengths of the region to build on the Commonwealth’s industry leadership to encourage customer demand.” <https://www.einpresswire.com/article/547641982/cit-and-visa-developing-playbook-to-advance-unmanned-systems-technology-in-hampton-road-eastern-shore>

Drone Tech Market to Grow to \$54 B in the Next 4 Years: These Sectors are Leading the Way

DRONELIFE Staff Writer Ian M. Crosby July 29, 2021



The drone tech market is growing fast, and recent innovations and regulatory shifts are only speeding growth.

A [report by Andrew McWilliams](#) from BCC Research projects over 80% growth in revenue for the global drone technology market between 2020 and 2025. Sitting at \$30 billion in 2020, McWilliams expects this figure to rise to \$54.6 billion in 2025, amounting to a compound annual growth rate of **12.7%**. This projection is based on an analysis of the global market for drones and global market trends using data from 2018 and 2019. The study considers factors such as market size, market forecast, and market share. In addition to these economic trends, this report considers technological developments, government regulation and market competition, as well as regional dynamics, current industry trends, and an analysis of relevant patents.



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The report divides the drone tech market by both vehicle type and application. Vehicle types include unmanned ground vehicles (excluding driverless cars), unmanned surface vehicles, unmanned underwater vehicles and unmanned aerial vehicles.

<https://dronelife.com/2021/07/29/drone-tech-market-to-grow-to-54-b-in-the-next-4-years-these-sectors-are-leading-the-way/>

Defiance Ventures Announces Investment in Lucid Drone Technologies August 1, 2021 News



Defiance Ventures, the **Charlotte-based** venture builder, today announced its investment in Lucid Drone Technologies. Lucid designs, develops and manufactures autonomous drones for labor intensive applications such as commercial cleaning and spraying. All the development and manufacturing of their hardware and software is completed in house, in their Charlotte, NC headquarters.

“The Lucid team of elite engineers has developed some very impressive technology, and their drones-as-a-service model was a unique and compelling reason to get involved. When we saw what they are doing, we realized they’re far more than a drone provider; developing intelligent and autonomous flight capabilities that can be used across many applications and industries is a great way to scale beyond hardware,” said Tareq Amin, Co-Founder and Chairman of Defiance.

Currently, Lucid is focused on delivering long lasting, industrial drones with innovative in-flight technologies like predictive support to customers, primarily in the commercial cleaning industry with their C1 Cleaning Drone. Today, the C1 is enabling cleaning companies to complete more jobs in less time, while mitigating liability on job sites.

https://uasweekly.com/2021/08/01/defiance-ventures-announces-investment-in-lucid-drone-technologies/?utm_source=rss&utm_medium=rss&utm_campaign=defiance-ventures-announces-investment-in-lucid-drone-technologies&utm_term=2021-08-02

Escape into pure bliss with these gorgeous beach art drone videos [Ishveena Singh](#) Jul. 31, 2021



Jehan-Benjamin Tarain, better known as Jben, has been using the beach as his canvas since 2014. But his masterpieces are as fleeting as the tides, which is why he uses drones to immortalize them. “I was **the first beach artist ever to use a drone**,” Jben tells *DroneDJ*. “Other artists used to take pictures from cliffs.”



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Born on the southwestern coast of France, the beaches of Charente-Maritime are Jben's home turf. It's where you will find him this summer too, since travel right now is restricted. But in the pre-COVID era, Jben's work has taken him to New York, the Netherlands, England, Portugal, and Morocco too.

The 39-year-old Frenchman typically starts drawing two hours before the low tide is completely down and spends around four to five hours each on detailed designs. *The concept of beach art really appealed to me. I was flying drones before I started exploring the use of sand as a medium and I thought my drone will bring a new perspective to this kind of art.*

<https://dronedj.com/2021/07/31/jeb-beach-art-drone-videos/#more-62430>

Volansi completes first-ever autonomous ship-to-ship drone delivery Scott Simmie

Aug. 2nd 2021



[Volansi](#), one of the leading companies in autonomous, point-to-point deliveries using fixed-wing Vertical Take-off and Landing drones, is today announcing a huge milestone: It completed the first-ever autonomous drone delivery between two ships.

The cargo deliveries – there were three of them – took place July 18 off the coast of Key West, Florida. Both its VOLY 10 and VOLY 20 series of drones were involved, with two flights covering 15 nautical miles and one flight covering one nautical mile.

Volansi says this is **the first time ever** that an autonomous drone has carried out such missions, carrying cargo between two moving US government vessels. That's quite an accomplishment.

<https://dronedj.com/2021/08/02/volansi-ship-to-ship-autonomous-drone-delivery/#more-64069>

AirVenture 2021 Opener Flies The BlackFly And They're Ready To Sell You

One Paul Bertorelli July 31, 2021



Three years ago a company called Opener showed up at AirVenture with one of the weirdest flying machines ever, an E-VTOL called the BlackFly. This year at Oshkosh, they demonstrated it twice and the machine is in full production. They'll sell you one so you can fly it for yourself. No word on price, though.



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https://www.avweb.com/multimedia/airventure-2021-opener-flies-the-blackfly-and-theyre-ready-to-sell-you-one/?MailingID=680&utm_source=ActiveCampaign&utm_medium=email&utm_content=LODA+For+Four+Years%2C+Volocopter%2C+Blackfly+Fly&utm_campaign=LODA+For+Four+Years%2C+Volocopter%2C+Blackfly+Fly-Monday%2C+August+2%2C+2021

3Aug21

HYBRID GAS-ELECTRIC DRONE LAUNCHES FROM ADVANCED AIRCRAFT COMPANY August 1, 2021 Sally French News



Built by [Advanced Aircraft Company](#), the drone is a **long-endurance hybrid-electric** unmanned aircraft systems designed for commercial, defense and public safety

applications.

Even though the drone, which starts at **\$58,500**, is relatively hefty (the empty weight of the aircraft is 32 lbs), its makers claim it can be launched within four minutes.

It's called HAMR, and the hybrid model is a significant deviation from the broader drone industry. The airframe was built with composite materials, and — while the entire aircraft weight is 32 pounds — the primary structure weight is only 6.7 lbs. That all means HAMR can fly for up to **3.5 hours**, which Advanced Aircraft Company claims is **six times longer** than a conventional battery-powered multi-rotor aircraft.

The drone has been in development for four years. The company was founded by former NASA aerospace engineer and military veteran Bill Fredericks. Fredericks graduated from Purdue University with a degree in Aeronautical Engineering and is also a former artillery officer in the United States Marine Corps.

Along with the release of its drone, Advanced Aircraft Company announced a **\$850,000 funding round** that brings its total funding to just over **\$2 million**. The new capital will be used to scale up manufacturing, accelerate research and development, expand its team, and focus on international growth. The company is headquartered in Hampton, Virginia, one of a growing list of promising, [American-made drone companies](#).



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The drone launches today, but it's not actually that new. HAMR has been in use by select customers for the past year, with the company now accepting production orders from the general public. Though, don't expect to buy this drone at Best Buy. You'll have to [purchase it directly](#) from them, and your purchase will include on-site training.

<https://www.thedronegirl.com/2021/08/03/hybrid-drone-advanced-aircraft-company/>

Bell Unveils New High-Speed Vertical Take-Off and Landing Concepts for Military Application August 2, 2021 Military News



Bell Textron Inc., a Textron Inc. (NYSE: TXT) company, unveiled design concepts for new aircraft systems for military applications which would use Bell's High-Speed Vertical Take-Off and Landing (HSVTOL) technology as the company continues its innovation of next generation vertical lift aircraft.

Bell's HSVTOL design concepts include low downwash hover capability, jet-like cruise speeds over 400 kts, true runway independence and hover endurance, and scalability to the range of missions from **unmanned** personnel recovery to tactical mobility.

https://uasweekly.com/2021/08/02/bell-unveils-new-high-speed-vertical-take-off-and-landing-design-concepts-for-military-application/?utm_source=rss&utm_medium=rss&utm_campaign=bell-unveils-new-high-speed-vertical-take-off-and-landing-design-concepts-for-military-application&utm_term=2021-08-03

French vineyard revolution: Wine producers use drones to battle grape-rotting mildew Bruce Crumley Aug. 3rd 2021



Several hill-growing vineyards are flying drones to battle the blight of mildew which can destroy budding grapes (and thereby leave tradition-loving wine drinkers very dry).

The race to dispatch UAVs among elevated vines is on for two different reasons. The first is to obtain clear evidence the craft offers an improvement over manual spraying by workers lugging 30 kg. vats of anti-mildew agent up and down steep hills. That data will be handed over to sympathetic legislators from wine-producing regions, who promise to further liberalize drone use by vineyards once the testing waiver expires. The second driver has been the miserably wet and



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relatively cool temperatures across France this summer, whose dampness has vastly increased the threat of vine rotting mildew.

And so drones have been dispatched on an **urgent dual mission**. According to [reports](#), Alsace, Champagne, Beaujolais, and Ardèche vineyards participating in authorized trials are cheering the advantages of using UAVs over humans. While the latter typically requires between three and six hours to spray 2.5 acres of vines, drones have covered the same area in one or two – depending on whether the pilot is assisted by someone refilling the reservoir.

<https://dronedj.com/2021/08/03/french-vineyard-revolution-wine-producers-use-drones-to-battle-grape-rotting-mildew/>

Drones in effort to understand declining golden eagle populations Bruce Crumley - Aug. 3rd 2021



Though thankfully not yet endangered, the protected raptors have experienced drops in their numbers over the past decade. Those have been driven by threats from ever-advancing human presence and activity as well as disease surges that periodically decimate principal prey like jackrabbits. To gain greater insight into the

phenomenon, a public-private partnership is using **drones to identify golden eagle nests** tucked into sheer cliff faces, then monitor hatchlings for clues behind their diminishing life expectancy.

The collaboration matches conservation group [Hawkwatch International](#) with federal, state, and military actors in a collective effort to improve the survival rates of younger birds. After searching known nesting areas, patrols pilot drones up the side of cliffs for visual evidence of golden eagle presence. When those feeds come back positive, teams access the nests in the least dangerous manner possible – usually rappelling down the faces – and bring back any chicks they find. Unfortunately, many of those hatchlings are already dead. Those still alive, however, are given a quick checkup, tagged with a GPS transmitter, then returned to their nest for monitoring.

The drone-GPS operation has been carried out on scores of young golden eagles since it began in 2013, but the data produced hasn't been very encouraging. Though the species has a relatively long life span – the oldest among them known to have reached 31 years of age – the early months and years are proving critical to its overall survival. The average golden eagle doesn't start reproducing before five- or six-years old, and many perish before then.



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The program, however, doesn't seek to directly intervene to save younger eagles. Instead, it tries to collect data on their behavior, gain insight and experience that will be useful in the future, and propose ways recurring threats to the species can be reduced. And in those aspects, it has been fruitful indeed. <https://dronedj.com/2021/08/03/drones-in-effort-to-understand-declining-golden-eagle-populations/#more-64178>

4Aug21

Verizon launches Robotics Business Technology to Expand Drone and Robotics Solutions August 2, 2021 Verizon Connect



Verizon has announced the formation of Robotics Business Technology to expand enterprise solutions for aerial (drones) and ground robotics. Robotics Business Technology includes Skyward, Verizon's drone management company, incubed IT, a leading developer of software for autonomous mobile robots recently acquired by Verizon, and a team focused on automating command and control of robots on Verizon's 5G Ultra Wideband network.

As a part of New Business Incubation, this new unit will focus on creating integrated solutions that incorporate Verizon's 5G and mobile edge compute (MEC) capabilities to help enterprise customers deploy, **manage and scale mixed fleets** of aerial and ground robotics.

"Enterprises in many industries are adopting drones and ground robots to gather data, survey and monitor infrastructure, and automate logistics operations," said Mariah Scott, Head of Robotics Business Technology. "By integrating these fleets with one operational platform, and leveraging Verizon's connectivity solutions, businesses can speed up time to insight, increase automation of their operations and deliver greater value."

Robotics Business Technology will provide connected robotics solutions to existing and future customers for indoor and outdoor use cases in manufacturing and logistics, commercial construction, oil and gas, energy and utilities, the public sector, and media.

http://www.innovationamerica.us/in-the-news/innovation-daily-99998/75622-verizon-launches-robotics-business-technology-to-expand-drone-and-robotics-solutions-for-construction-pros?utm_source=innovation-daily---your-daily-newsletter-highlighting-global-innovation-news-and-trends&utm_medium=gazetty&utm_campaign=08-04-2021



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Wingcopter's New Partnership to Launch Nationwide Medical Drone Delivery

Network Jason Reagan August 03, 2021



A partnership between German drone manufacturer Wingcopter and air medical service provider Air Methods may soon launch **the first drone based, healthcare-specific delivery network across the United States.**

Dubbed Spright, the network would battle the lack of immediate or timely access to healthcare resources such as blood, medicines, diagnostics and small medical devices. Air

Methods will deploy fleets of Wingcopter's new flagship delivery drone, the Wingcopter 198, and integrate them into the company's existing infrastructure of more than 300 bases serving **hundreds of hospitals across 48 states** in predominantly in **rural areas.**

"The COVID-19 pandemic exacerbated some of the real challenges in our health care system creating an opportunity to find better solutions to extend access to healthcare, especially in rural America," Air Methods CEO JaeLynn Williams said. "We see Spright serving a vastly underserved market and playing a huge role in a future full of better outcomes for everyone."

Spright is scheduled to take off **this fall** by partnering with Hutchinson Regional Medical System in **Kansas** with the launch of a pilot project using Wingcopter's delivery drones. The drones' tilt-rotor technology facilitates vertical take-off and landing with forward flight over ranges of up to 68 miles with a maximum speed of 90 mph and payloads of up to 13 pounds.

<https://dronelife.com/2021/08/03/wingcopters-new-partnership-to-launch-nationwide-medical-drone-delivery-network/>

FAA Awards Nearly \$2 Million to Embry-Riddle Drone Safety Project

Michaela Jarvis Jul 29, 2021



As the Federal Aviation Administration (FAA) develops policies to safely integrate unmanned aircraft systems, or drones, into the National Airspace System (NAS), Embry-Riddle Aeronautical University will be providing critical data to achieve that goal, having been awarded \$1,877,000 for a research project that will involve Dr. Ryan Wallace,



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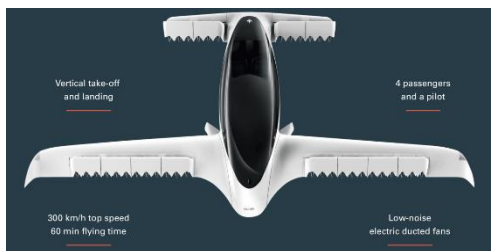
associate professor of [Aeronautical Science](#), and 11 other Embry-Riddle faculty members.

“This research project seeks to close the data gap by collecting empirical sUAS traffic data to aid the FAA in forecasting, planning, risk assessments and estimating compliance rates to existing and future regulations,” Wallace said.

The award for the project is being administered through the FAA’s [Alliance for System Safety of UAS through Research Excellence](#), a program known as ASSURE, which involves Embry-Riddle and other universities. The sUAS traffic **data will be collected by detection sensors** at locations throughout the National Airspace System, according to the project proposal, both to monitor the effectiveness of existing sUAS regulations and to identify and assess future aviation risks. Its analysis will be important in the development of policies and regulations for sUAS in such applications as package delivery, unmanned traffic management and future Unmanned Air Mobility plans.

Although Embry-Riddle will be leading the project, two other institutions will participate: Kansas State University and Wichita State University. [https://news.erau.edu/headlines/faa-awards-nearly-\\$2-million-to-embry-riddle-drone-safety-project](https://news.erau.edu/headlines/faa-awards-nearly-$2-million-to-embry-riddle-drone-safety-project)

Germany’s Lilium strikes \$1 billion eTVOL deal with Brazil’s Azul airline Bruce Crumley Aug. 4th 2021



The crux of the accord calls for Azul to purchase, operate, and maintain 220 [Lilium](#) eTVOL planes in a new network in which both companies will participate. That structure, whose launch is planned for **2025**, calls for Azul to use its traditional airline experience to run the e-flight service, and Lilium to provide aircraft health monitoring platform, new batteries, and custom replacement parts.

Central to the new cobranded Brazilian electric plane company will be Lilium’s 7-Seater Jet, an emissions-free craft designed for regional routes between 40 kilometers and 200 kilometers, flying at top speeds of 175 mph. Given its homefield experience and advantage, Azul will play an active role in helping Lilium obtain certification in Brazil and clear other regulatory hurdles. Lilium officials called the partnership ideal for ushering future AAM travel to Brazil and the wider region by a well-known air transport player like Azul.

<https://dronedj.com/2021/08/04/germanys-lilium-strikes-1-billion-etvol-deal-with-brazils-azul-airline/#more-64320>



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This tiny drone can pollinate crops to help overworked bees Ishveena Singh Aug. 4th 2021 @IshveenaSingh



About two-thirds of the crops that feed the world rely on pollination by bees and other insects. Without them, we'd be looking at an agricultural doomsday scenario. And this is exactly what a University of Maryland professor wants to avoid – with the help of an army of tiny drones.

Yiannis Aloimonos is developing RoboBeeHive, an artificial beehive that would house a bunch of small drones within a bigger, arm-length drone. This beehive will be able to attach itself to a tree, opening up to unleash a swarm of tiny drones.

The drones use artificial intelligence to autonomously navigate and avoid obstructions — animals, trees, or other drones busy spreading pollen — as they carry pollen between plants that stick to simulated bee fur. And if the weather takes a turn for the worse, a message from the “hive” calls them back.

These pollinator drones use what's known as “active perception.” Meaning, like busy bees, they're in constant motion to gain a better understanding of their surroundings and move autonomously. Nitin Sanket, a graduate student working with Aloimonos, says we want them to be as autonomous as possible; it makes it cheaper, faster and more efficient in every way.

<https://dronedj.com/2021/08/04/drones-pollination-bees/#more-64291>

5Aug21

US Navy awards Skydweller \$5m to demo its solar-powered, long-endurance

UAV Pearl August 4, 2021



The company declines to comment on the demonstration's objectives but says on 4 August that it is working with the service to develop key performance parameters.

A site has yet to be selected for the effort, which is planned to take place between the fourth quarter of 2021 and the second quarter of 2022.



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Skydweller is a US-Spanish startup that uses technology developed for the experimental Solar Impluse 2, a manned solar-powered aircraft that circumnavigated the Earth over the course of 2015-2016. The company acquired the right to use the technology in 2019.

The Skydweller UAV, which does not yet have a formal name, first flew in December 2020.

“Since, we have had multiple flight tests with incremental advancements towards autonomous flight,” says the company. Skydweller says its aircraft could fly for **30-90 days, depending on its mission’s latitude**, which determines the intensity of sunlight and the amount of power that can be generated by its solar panel lined wings.

The aircraft is designed to operate at altitudes between 30,000-45,000ft. Its maximum payload will be up to 800lbs. The aircraft has a **236ft wingspan** and weighs 2,495kg.

<https://africapearl.com/2021/08/04/us-navy-awards-skydweller-5m-to-demo-its-solar-powered-long-endurance-uav-news.html>

6Aug21

The First 4G LTE Connected Drone Hits the Market: Parrot, Verizon, and Skyward

Miriam McNabb August 04, 2021



The [Skyward Connected Drone Solution](#), with Parrot’s ANAFI Ai, will be available in the second half of 2021 through Skyward.

ANAFI Ai features autonomous photogrammetry, an open source app, new levels of security, and obstacle avoidance. It is also “the **first and only** off-the-shelf drone **to connect to Verizon’s 4G LTE network.**”

“Verizon 4G LTE connectivity is provided **exclusively** to [Skyward](#) subscribers at no additional cost. The Skyward Connected Drone Solution gives enterprises one complete experience for planning, flying, data transfer and processing data.”

“Parrot ANAFI Ai’s embedded Secure Element secures the 4G LTE link between the drone and the user’s device. Parrot’s streaming software is adapted to the 4G situation to optimize the definition and frame rate to the network quality,” says the announcement.

When Parrot ANAFI Ai pilots subscribe to a paid account – or a free trial – of the [Skyward](#) Connected Drone Solution, they can not only utilize Skyward’s airspace and fleet



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management tools but also transfer data during flight over 4G LTE - which means faster, more seamless live video streaming and data transfer. Users don't have to subscribe separately to a wireless service.

Once activated through Skyward, Verizon 4G LTE connectivity provides a seamless backup connection to the flight controller in case of interference or interruption. It paves the way for near real-time data transfer, remote deployment, and Beyond Visual Line of Sight flight operations — which are allowed today with a waiver from the FAA.

<https://dronelife.com/2021/08/04/the-first-4g-lte-connected-drone-hits-the-market-parrot-verizon-and-skyward/>

Advanced Technology Aerial Firefighting: The Dawn of Drones Podcast Miriam McNabb August 05, 2021



Don't miss next week's episode of the Dawn of Drone Podcast series. Right now, aerial firefighting is more important than ever to communities around the world.

Join Dawn and Guests Todd Spain, Executive Director of The Advanced Mobility Collective and Ben Miller, Director of Colorado's Center of Excellence (COE) for Advanced Technology Aerial Firefighting during the next episode of the Dawn of Drones podcast on **Wednesday Aug 11th, 11 am ET** right here at DRONELIFE.

This episode's sponsor, The Collective is a nonprofit global network of companies and experts bringing new mobility services to life in healthcare delivery and disaster management and recovery, including wildland fires. The Collective works with the COE to drive technological advancements that improve firefighting practices and influence innovation across the public safety community. <https://dronelife.com/2021/08/05/advanced-technology-aerial-firefighting-the-dawn-of-drones-podcast/>