



## UAS and SmallSat Weekly News

### Contents

- 2 India Makes a Giant Leap Toward BVLOS Operations
- 2 Project Xcelerate Establishes the UK's First Commercial Drone Corridor
- 3 Drones for Clean Water: Nixie Water Sampling System Brings Samples to Scientists
- 4 Autonomy breakthrough: FAA waiver issued for commercial BVLOS flights using Skydio dock
- 5 Cellular Connected Drones: Skyward Works with FAA
- 6 DOLLYWOOD DRONE LIGHT SHOW DEBUTS: WATCH IT HERE
- 6 WING'S OPENSKY APP IS AVAILABLE FOR FREE DOWNLOAD STARTING TODAY
- 7 American drone maker Skyfish secures \$20 million in Seed funding
- 8 North Dakota's BVLOS Drone Network Snags \$20-million boost
- 8 Queensland using drones to protect swimmers and sharks alike
- 9 Drone timelapse of sheep being herded in Israel is oddly captivating
- 9 These Lithuanian drones catch large ships spewing pollution
- 10 GoDrone app Issuing ATC instructions to Drone Pilots Hailed a 'Success and Milestone'
- 11 Plymouth Rock announces contract for oil & gas assets and environmental monitoring
- 12 Functional Drill to Enable Drone Integration into Emergency Response in NJ
- 13 Rotor X's quad-rotor eVTOL promises extreme efficiency and autorotation
- 13 UxS IBP: Multi-Day Maritime Demonstration for Vanilla UAS
- 14 Forget Silly String: To battle enemy drone swarms, USAF has THOR
- 15 Skyborg makes its second flight, autonomously piloting General Atomics' Avenger drone
- 16 Space Development Agency celebrates launch of its first satellites
- 16 Parrot's New Drone Sets New Standards: ANAFI Ai, 4G Connected Robotic UAV
- 17 Skyfront's Perimeter 8 Drones Can Fly as Low as Two Meters Above Ground
- 18 The Nixie Drone Water Sampling System Increases Sample Rates 75%, Reduces Costs 90%
- 18 DroneUp will assist ARC in defining performance-based regulatory requirements
- 19 Penguin B Long-Endurance VTOL Drone Released
- 20 KORE Enabled IoT Technology Powers Drones to Deliver Critical Medical Assets
- 20 Easy Aerial Launches World's First Hybrid Tethered and Free Flying Drone-In-A-Box System
- 21 Air Taxis Could Be Coming, but Not in the Way You Might Think



## UAS and SmallSat Weekly News

25Jul21

### India Makes a Giant Leap Toward BVLOS Operations Eszter Kovács JUNE 24, 2021



In a press release dated 16th of June 2021, ANRA Technologies announced that stakeholders from the India Ministry of Defense (MoD), Directorate General of Aviation (DGCA), and Ministry of Civil Aviation (MOCA) awarded final clearances to commence trials for Beyond Visual Line of Sight (BVLOS) operations in India.

As on-demand deliveries are becoming a reality in India, all regulatory approvals have been granted, and operations can begin.

According to the press release, this program has been brewing for months. An enormous amount of effort has been profuse in planning, risk assessments, air traffic control integration, training, equipment preparation, and coordination, culminating with the first flight on the 16th of June, 2021.

Out of the several selected participants in the program, ANRA Technologies has been approved by the Government of India MOCA to lead two consortia as part of this pioneering initiative. One consortium, focused on food delivery, consists of ANRA and their partners Swiggy, renowned Indian Institute of Technology, Ropar, and BetterDrones. The second consortium, focused on medical deliveries, includes ANRA and the Indian Institute of Technology and Ropar.

In a first for Indian airspace, the platform will provide execution and management of drone operations in controlled and uncontrolled airspace with seamless integration into the country's legacy Air Traffic Control systems. [https://www.commercialuavnews.com/drone-delivery/india-makes-a-giant-leap-toward-bvlos-operations?utm\\_source=marketo&utm\\_medium=email&utm\\_campaign=newsletter&utm\\_content=newsletter&mkt\\_tok=NzU2LUZXSi0wNjEAAAF93itRc0tLeCGFd91XBoyE-cYycTMjpC\\_oipVRzLPzjqsmGAB3O4qGxjtnfEtTQvnMFqnf-dlc85pzMIZD7aZPEIjff-dguws-VjCWVdZw](https://www.commercialuavnews.com/drone-delivery/india-makes-a-giant-leap-toward-bvlos-operations?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=NzU2LUZXSi0wNjEAAAF93itRc0tLeCGFd91XBoyE-cYycTMjpC_oipVRzLPzjqsmGAB3O4qGxjtnfEtTQvnMFqnf-dlc85pzMIZD7aZPEIjff-dguws-VjCWVdZw)

### Project Xcelerate Establishes the UK's First Commercial Drone Corridor JUNE 21, 2021 João Antunes

For the drone industry to reach its full social and economic potential, the government, regulators, and the industry need to work together. [BT](#), a UK's telecommunications and



## UAS and SmallSat Weekly News

network provider, claims to be bringing together world-leading drone expertise, with its secure and resilient network connectivity, to establish the UK's first commercial drone corridor in open and unrestricted airspace through Project Xcelerate. Backed by the UK Government's Industrial Strategy, the project consists of the following companies (apart from BT) who were selected by the UK Research and Innovation: [Altitude Angel](#), Angoka, [Dronecloud](#), [DroneStream](#), HEROTECH8, [SkyBound Rescuer](#), and Skyports.



Located just south of Reading, Berkshire, the new commercial drone corridor will demonstrate how using a commercial mobile network allows drones to operate safely in the same airspace as manned aviation. In summer 2021, [Project Xcelerate](#) will conduct flight trials along the **8km-long corridor** to overcome the challenge of enabling safe BVLOS flights, essential to accelerating the adoption of fully automated drones in unrestricted UK airspace. Also, the corridor will help to showcase how drones can provide value across various verticals, including healthcare through medical supply deliveries and emergency services to speed up response times while reducing costs, as well as critical infrastructure, to assess damage or maintenance requirements for critical national infrastructure.

[https://www.commercialuavnews.com/europe/project-xcelerate-establishes-the-uk-s-first-commercial-drone-corridor?utm\\_source=marketo&utm\\_medium=email&utm\\_campaign=newsletter&utm\\_content=newsletter&mkt\\_tok=NzU2LUZXSj0wNjEAAAF93itRcnTvohZYtCTTNGwUpnwtcB\\_eBv2eXjeqX7\\_Hf2lVBBJnbpsSlp-J000YHMD5uEgBrHsgjMcigxOrHtmdwP6YofZc\\_5PXBSuOPce4XQM1g](https://www.commercialuavnews.com/europe/project-xcelerate-establishes-the-uk-s-first-commercial-drone-corridor?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=NzU2LUZXSj0wNjEAAAF93itRcnTvohZYtCTTNGwUpnwtcB_eBv2eXjeqX7_Hf2lVBBJnbpsSlp-J000YHMD5uEgBrHsgjMcigxOrHtmdwP6YofZc_5PXBSuOPce4XQM1g)

## Drones for Clean Water: Nixie Water Sampling System Brings Samples to Scientists

Miriam McNabb June 24, 2021



[Reign Maker](#), a drone and data services innovation company, has developed a system using drones for water sampling. [Nixie](#), "the world's first drone-enabled water sampling and data collection system, designed to drastically increase sampling rates and accuracy while reducing the number of required field personnel and eliminating the dependence on marine vessels".

The Nixie system is designed to automate the process by using drones for water sampling and delivering the data to a central location. "The system is designed to be intuitive and straightforward to operate in the field and conforms with the United States Environmental Protection Agency standards for water sampling," says the press release.



## UAS and SmallSat Weekly News

The system uses easily available commercial drones: currently supporting the DJI [M600](#) and [M300 RTK](#) commercial platforms. Nixie uses the drones' GPS systems "to log telemetry data, including time and location coordinates, to improve each sample's chain of custody and to create historic GPS logs so Nixie can repeatedly dip into the **exact same location** to record water quality changes over time accurately." <https://dronelife.com/2021/06/24/drones-for-clean-water-nixie-water-sampling-system-brings-samples-to-scientists/>

### Autonomy breakthrough: FAA waiver issued for commercial BVLOS flights using Skydio dock [Scott Simmie](#) Jun. 24th 2021



The FAA has given the green light for BNSF Railway to remotely operate dock-based Skydio drones. The blog says "it is the first national approval of remote, dock-based operations in the United States."

Skydio has created a dock solution that can serve as a home base for a drone. It provides charging capabilities as well as a safe harbor from inclement weather. That's pretty cool. But it's also a technology that enables a wide variety of applications. These include automated inspections of construction sites and critical infrastructure, remote dispatch from across town **or across the country** – all without a human being having to physically be on site to operate the drone. The approval came today from the FAA, and we're willing to bet it will be the first of many.

Previous approvals for what many call "drone-in-a-box" solutions have been for R&D and proof-of-concept purposes. This time around, it's **for real**. BNSF will be dispatching Skydio drones from these docks for inspection purposes. We cannot emphasize enough what a step this is, as the drone sector pushes inexorably toward a future that increasingly relies on AI and automation – and less on human operators pushing sticks. Think of the doors this opens for First Responders, law enforcement, Enterprise users, researchers – the potential here is phenomenal. <https://dronedj.com/2021/06/24/autonomy-breakthrough-faa-waiver-issued-for-commercial-bvlos-flights-using-skydio-dock/#more-61317>



## UAS and SmallSat Weekly News

29Jun21

### Cellular Connected Drones: Skyward Works with FAA Miriam McNabb June 28, 2021



[Skyward](#), A Verizon company, announced a Memorandum of Agreement with the FAA to test cellular connected drones.

Skyward was [acquired by communications giant](#) Verizon in April 2017: since then, parent company Verizon has worked closely with Skyward, [utilizing their software](#) and services internally as well as supporting significant efforts to use their communications power to expand the reach of the commercial drone industry. Skyward has

been an instrumental partner in projects to expand drone communications, testing applications like [drone delivery with parent company Verizon and leading logistics supplier UPS](#).

These efforts put Skyward in a unique position to help the FAA study cellular connected drones – a tool that could help unlock “complex operations like beyond visual line of sight, universal traffic management, and one-to-many operations,” says a Skyward press release. Currently, most commercial drones use unlicensed spectrum: restricted in range and subject to interference. “Verizon’s 4G LTE nationwide coverage, provided over spectrum protected from interference, presents an enormous opportunity for drone operations,” says the press release. <https://dronelife.com/2021/06/28/cellular-connected-drones-skyward-works-with-faa/>

### South Korea’s top airline to develop propellant tank for smallsat launcher Park Si-soo June 28, 2021



Gong Byung-ho, left, chief of Korean Air Tech Center, stands with Park Jae-sung, center, chief of KARI’s Future Launcher R&D Program Office, and Han Hyun-woo, CEO of NDT Engineering and Aerospace, at Korean Air Tech Center in Daejeon, June 23.

SEOUL, South Korea — Korean Air, South Korea’s biggest airline, says it will develop common bulkhead propellant tanks for small satellite launch vehicles as part of the Ministry of Science and ICT’s “Space Pioneer” project.

The ministry plans to invest 211.5 billion won (\$186.6 million) by 2030 in the “Space Pioneer” project, which aims to strengthen the global competitiveness of the domestic aerospace industry by reducing dependence on overseas products.

With a budget of 32 billion won, Korean Air has formed an industry and academic consortium with the Korea Aerospace Research Institute, NDT Engineering and Aerospace, and Korea



## UAS and SmallSat Weekly News

Aerospace University to develop common bulkhead propellant tanks for small satellite launch vehicles by 2026.

The common bulkhead propellant tank **combines fuel and oxidizer tanks** into a single tank using the latest metal welding and insulation technology. The common bulkhead propellant tank is expected to **dramatically reduce the cost** of sending 500-kg small- and medium-sized satellites or small satellite constellations into Earth's low orbit. <https://spacenews.com/south-koreas-top-airline-to-develop-propellant-tank-for-smallsat-launcher/>

**DOLLYWOOD DRONE LIGHT SHOW DEBUTS: WATCH IT HERE** June 25, 2021 Sally French 0 News



The Dollywood drone light show had a successful debut this weekend. And even if you're not anywhere near Pigeon Forge, Tennessee, you can watch the Dolly Parton-affiliated drone light show from the comfort of your own couch. The

Dollywood team gave us some footage of the show:

Dollywood is the latest theme park to embrace Intel's drone light shows, and is hosting drone performances each evening during the park's Summer Celebration, which runs from June 25-July 31. The show uses nearly 400 of Intel's Shooting Star drones, which fly in shapes including a smiling face, a couple and a butterfly, all set to pop music. It's also integrated into a broader, more traditional fireworks show. <https://www.thedronegirl.com/2021/06/28/dollywood-drone-light-show-debuts-watch-it-here/>

**WING'S OPENSKY APP IS AVAILABLE FOR FREE DOWNLOAD STARTING TODAY** June 28, 2021 Sally French News



The ultimate drone app — made by Google-sister company Wing — is here. Wing dropped its OpenSky app on the Google and Apple app stores today, and it's free for anyone to download. With it, drone pilots can more easily carry out tons of tasks including see where they legally can and cannot fly drones, get LAANC permissions and log their flights.



## UAS and SmallSat Weekly News

The OpenSky app could very well prove to be a one-stop solution for drone pilots. The OpenSky app is available for free for download now in the Google Play and the Apple App Store, making it usable by both Android and iOS users.

**See where you can and cannot legally fly:** Many drone pilots have long struggled to understand if they [can legally fly drones in a specific area](#). The app should eliminate most of that confusing.

**Request permission from the FAA to fly in certain airspaces (around airports or major cities):** Yes, OpenSky is an FAA-approved Low Altitude Authorization and Notification Capability ([LAANC](#)) supplier. That means the app functions as a real-time authorization tool for drone flyers wishing to operate in LAANC-controlled airspaces, which include areas surrounding hundreds of airports throughout the U.S. Without an FAA-approved LAANC supplier (such as OpenSky, or other similar apps like [Aloft](#)), drone fliers would need to request authorization to operate days or weeks in advance.

**Track, manage, and log your flights and permissions to your pilot profile:** While there are already tons of [flight logging apps](#) out there, OpenSky may be the one you actually use, given its placement in the app alongside the other, aforementioned features.  
<https://www.thedronegirl.com/2021/06/29/wings-opensky-app-download/>

**30Jun21**

**American drone maker Skyfish secures \$20 million in Seed funding** Appoints Cell Tower Industry Veteran Steven Bernstein to its Board of Directors June 28, 2021 News



American autonomous drone maker Skyfish has secured over \$20 million in a venture-backed Series Seed funding led by Henry Wolfond CEO of Bayshore Capital and Steven Bernstein the Chairman of SBA Communications. “After speaking with Skyfish customers, we quickly understood that Skyfish is **unique** in the commercial drone world, producing precise ‘engineering grade’ drone enabled photogrammetry and 3D Models of infrastructure,” said Bernstein. “These are the best cell tower digital-twin models I’ve seen and could significantly enhance the industry’s inspection, measurement and mount mapping processes.” Bernstein continued, “The Skyfish, team has invented an autonomous work drone for scanning infrastructure that enables centimeter grade measurements of not only cell towers, but power lines, dams, bridges, electrical sub stations, wind turbines and airports.”



## UAS and SmallSat Weekly News

The funds are earmarked to grow customer revenue, expand drone manufacturing capacity, add to our existing talent pool. The funding comes on the heels of Skyfish being recognized as the industry leader in engineering grade photogrammetry and 3D Modelling for inspection, precision measurement and analysis of critical infrastructure.

[https://uasweekly.com/2021/06/28/american-drone-maker-skyfish-secures-20-million-in-seed-funding-appoints-cell-tower-industry-veteran-steven-bernstein-to-its-board-of-directors/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=american-drone-maker-skyfish-secures-20-million-in-seed-funding-appoints-cell-tower-industry-veteran-steven-bernstein-to-its-board-of-directors&utm\\_term=2021-06-29](https://uasweekly.com/2021/06/28/american-drone-maker-skyfish-secures-20-million-in-seed-funding-appoints-cell-tower-industry-veteran-steven-bernstein-to-its-board-of-directors/?utm_source=rss&utm_medium=rss&utm_campaign=american-drone-maker-skyfish-secures-20-million-in-seed-funding-appoints-cell-tower-industry-veteran-steven-bernstein-to-its-board-of-directors&utm_term=2021-06-29)

### North Dakota's BVLOS Drone Network Snags \$20-million boost Jason Reagan June 29, 2021



North Dakota's official, statewide drone system is growing after lawmakers recently approved a \$20 million grant.

The network, known as [Vantis](#), is the **first of its kind in the U.S.** The network uses multiple radar posts, surveillance sensors and command-and-control-radios to give drone pilots a "drone's-eye" view of their surroundings, much like being in a cockpit. Once fully operational, Vantis will allow drone pilots to follow FAA beyond-visual-line-of-sight (BVLOS) regulations more easily.

Two years ago, NPUASTS, the administrating agency of Vantis, received **\$28 million** two to launch the program. Earlier this year, Vantis [found a home](#) at its new Mission and Network Operations Center at the Grand Sky business and aviation park.

<https://dronelife.com/2021/06/29/north-dakotas-bvlos-drone-network-snags-20-million-boost/>

### Queensland using drones to protect swimmers and sharks alike Bruce Crumley Jun. 29th 2021



The Australian state of Queensland has said it's again turning to drones to ensure the safety of its beaches. But in addition to its use of craft to identify and rescue swimmers in danger of drowning, Queensland is also deploying them to protect sharks that may happen to be passing through.

Queensland's Department of Agriculture and Fisheries said Tuesday it is moving to extend trial use of drones to spot sharks at designated beaches. The measure is considered an alternative to





## UAS and SmallSat Weekly News

anti-shark nets and baited drumline traps that have proven **highly destructive** to all sorts of marine life. By demonstrating the efficiency of drones in identifying sharks and alerting swimmers to their presence, authorities and environmentalist backers hope to **end** decades of **culling campaigns** that have decimated shark populations.

Queensland has been a leader in experimenting with uncrewed aerial vehicles (UAV) to patrol popular beaches – and give [lifeguards](#) an effective tool in finding and helping swimmers in [potential drowning](#) situations. Last September the state also began the testing drones to identify sharks that New South Wales [initiated](#) with considerable success. Now Queensland says it will extend those trials to additional beaches from this month through October. <https://dronedj.com/2021/06/29/queensland-using-drones-to-protect-swimmers-and-sharks-alike/#more-61518>

**Drone timelapse of sheep being herded in Israel is oddly captivating** Ishveena Singh  
Jun. 29th 2021



Israel-based drone photographer Lior Patel has spent the last seven months following “sheep flow” – hundreds of sheep being herded across grasslands and roadways as fluidly as water. And he has documented the best footage in a fascinating aerial timelapse that has got the internet hooked.

While the drone timelapse is quickly going viral, the video has left the internet divided. For many, the aerial view of the woollies being rounded up is fascinating and relaxing, even zen-like.

It is especially interesting to see the sheep approach a gate in a dense, slow-moving cluster, and speed up and spread out as they pass through. To ensure that the focus remains on the sheep’s natural movements, Patel captured short, four- to seven-minute-long videos with his [Mavic 2 Pro drone](#) keeping the camera fixed at one position. <https://dronedj.com/2021/06/29/drone-timelapse-sheep-herd/#more-61514>



## UAS and SmallSat Weekly News

### These Lithuanian drones catch large ships spewing pollution Bruce Crumley Jun. 29th 2021

Since the start of 2020, large ships around the world have had to comply with lower maximum carbon and nitrogen emission levels permitted by international authorities. So what does that have to do with drones? Because they're catching violating vessels as they chug dirtily around Europe's waters.



Lithuanian [drone services provider](#) Nordic Unmanned has been using its sensor-loaded uncrewed aerial vehicles (UAV) to monitor maritime traffic in European waters, and in its home base the Baltic Sea in particular. Flying at [the behest of](#) the European Maritime Safety Agency (EMSA) since March, Nordic Unmanned's remotely piloted aircraft systems sniff out emissions of passing ships and analyze content for compliance. Those running afoul of the International Maritime Organization's lowered IMO 2020 limits for sulfur and nitrogen are reported to next ports of call for follow-up inspections.

According to Nordic Unmanned, its gas sensors have identified 10 cases of non-compliant vessels over the past three months. One violator was fined €10,000 for sulfur pollution – the **first known sanction** arising from a drone alert.

The company's emissions policing has also allowed for a significant increase in the number of ships monitored. Nordic Unmanned CEO Knut Roar Wiig says only about 25% of ships entering Lithuanian waters were checked for compliancy under the previous [inspection](#) system. Since his drones began sniffing smokestacks from above, between **70% to 80%** of entering vessels are tested.

The Schiebel drones used in the missions operate for about five hours each day. In addition to gas sensors, the craft are also fitted with cameras covering optical and infrared spectral ranges. Those readings are then communicated in real time to EMSA's data center, where potential violators are flagged. <https://dronedj.com/2021/06/29/these-lithuanian-drones-catch-large-ships-spewing-pollution/>



## UAS and SmallSat Weekly News

### GoDrone app Issuing ATC instructions to Drone Pilots Hailed a ‘Success and Milestone’ June 27, 2021 News



Air Traffic Control The Netherlands (LVNL), in cooperation with Dutch Drone Delta, has conducted a **successful** trial during which air traffic control instructions were issued to a drone pilot via the Altitude Angel GoDrone app.

The test took place in the controlled airspace around Rotterdam – The Hague Airport, and were supervised by the control tower. The aim of the test was for LVNL to gain knowledge and experience to further develop an operational UTM system for managing unmanned aircraft, which will eventually make it possible to provide an ‘air traffic control’ platform for drone operations.

The test system used in the trial was able to visualize the planned flight area, monitor the flight path of the reported drone flights in real time, issue and revoke clearances and instructions, and provide air traffic information to the drone pilot. The pilot was able to confirm the clearances and instructions via the GoDrone app. This made it possible for air traffic controllers to guide drones during their flight.

A drone transponder which transmits data to the UTM system via KPN’s 4G/5G network was also tested. The test was conducted in cooperation with Altitude Angel, the supplier of the GoDrone app, as well as Dutch Drone Delta partners ANWB, KPN and

Airhub. [https://uasweekly.com/2021/06/27/lvnl-trials-of-godrone-app-issuing-atc-instructions-to-drone-pilots-hailed-a-success-and-a-milestone/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=lvnl-trials-of-godrone-app-issuing-atc-instructions-to-drone-pilots-hailed-a-success-and-a-milestone&utm\\_term=2021-06-29](https://uasweekly.com/2021/06/27/lvnl-trials-of-godrone-app-issuing-atc-instructions-to-drone-pilots-hailed-a-success-and-a-milestone/?utm_source=rss&utm_medium=rss&utm_campaign=lvnl-trials-of-godrone-app-issuing-atc-instructions-to-drone-pilots-hailed-a-success-and-a-milestone&utm_term=2021-06-29)

### Plymouth Rock announces contract to protect oil & gas assets and environmental monitoring June 26, 2021 News



Plymouth Rock Technologies Inc is pleased to announce that the first PRT X1-H model UAS has been sold and delivered to Aardvark LLP to perform long range oil pipeline security and environmental operations in remote locations.



## UAS and SmallSat Weekly News

Alisher Valikhanov, General Director of Aardvark stated, “As one of the leading UAV service providers in Kazakhstan, we are delighted to announce the recent purchase of the new X1-H octocopter from Plymouth Rock Technologies.

“This addition to our ever-expanding fleet of UAVs will be used for environmental monitoring in the North Caspian Sea, as well as detailed observation and security patrols around national assets. The X1-H also enables long range autonomous missions for environmental ice flow monitoring. “This deployment of the PRT X1-H for long range, onshore and offshore capability will provide a stepping stone for PRT to enter the Oil & Natural Gas Infrastructure market. [https://uasweekly.com/2021/06/26/plymouth-rock-announces-first-advanced-uav-contract-to-protect-oil-gas-assets-and-perform-environmental-monitoring/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=plymouth-rock-announces-first-advanced-uav-contract-to-protect-oil-gas-assets-and-perform-environmental-monitoring&utm\\_term=2021-06-28](https://uasweekly.com/2021/06/26/plymouth-rock-announces-first-advanced-uav-contract-to-protect-oil-gas-assets-and-perform-environmental-monitoring/?utm_source=rss&utm_medium=rss&utm_campaign=plymouth-rock-announces-first-advanced-uav-contract-to-protect-oil-gas-assets-and-perform-environmental-monitoring&utm_term=2021-06-28)

## Functional Drill to Enable Drone Integration into Emergency Response in NJ June 26, 2021 News



Imagine a category five hurricane wreaked havoc in NJ. Before emergency responders are dispatched, a fleet of unmanned aircraft is deployed to gather intelligence, providing real-time mapping and imagery of damaged areas, evacuation routes, utility lines and even people in distress. This scenario was simulated today at the

Thunder Room, a state-of-the-art conference facility at the National Aviation Research and Technology Park, one of the sponsoring agencies for the drill, along with Cape May County and the Smart Airport Aviation Partnership. The drill was managed by American Aerospace Technologies, Inc (AATI), and many partners and participants.

“Unmanned aircraft systems (UAS) are a post-disaster force multiplier,” said David Yoel, AATI CEO. “In the aftermath of a disaster, UAS can provide critical information to first responders, accelerating response while increasing safety and effectiveness.”

The Emergency Response Exercise, led by NARTP, was conducted by private companies and local, state, and federal agencies: AeroDefense, American Aerospace Technologies, Arke Aeronautics, Atlantic Cape Community College, Atlantic City Fire Department, Atlantic City Electric, Atlantic City OEM, Cape May County OEM, Delaware River and Bay Authority, FAA SOSOC, New Jersey American Water, New Jersey Dept. of Corrections, NJ Board of Public Utilities, New Jersey Innovation Institute, New Jersey State Police, North Wildwood OEM, Salem County



## UAS and SmallSat Weekly News

OEM, Sky Scape Industries, SJ Industries, Sunhillo, and the U.S. Coast Guard SDB.

[https://uasweekly.com/2021/06/26/unmanned-aircraft-innovators-complete-functional-drill-to-enable-drone-integration-into-emergency-response-in-nj/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=unmanned-aircraft-innovators-complete-functional-drill-to-enable-drone-integration-into-emergency-response-in-nj&utm\\_term=2021-06-28](https://uasweekly.com/2021/06/26/unmanned-aircraft-innovators-complete-functional-drill-to-enable-drone-integration-into-emergency-response-in-nj/?utm_source=rss&utm_medium=rss&utm_campaign=unmanned-aircraft-innovators-complete-functional-drill-to-enable-drone-integration-into-emergency-response-in-nj&utm_term=2021-06-28)

### **Rotor X's quad-rotor eVTOL promises extreme efficiency and autorotation** Loz

Blain June 29, 2021

Arizona's Rotor X wants to step up from being the world's biggest kit helicopter manufacturer and get into the eVTOL game, and to do so, it's put forth a design it claims is "dramatically more efficient and less expensive than all other eVTOL concepts being proposed or developed today."



Its huge blades could also make it one of the safest eVTOLs in the sky, since they give it the capacity to **autorotate** in the case of motor failure.

Rotor X's design is called the RX eTransporter. It's a relatively simple quad-rotor multicopter, with a helicopter-like cabin that seats up to nine, including pilots, or carries up to 1,600 lb of cargo. These guys are not interested in the complexities of tilt-rotor design or the hover inefficiency of small-diameter rotors; this thing offers four of the biggest rotors you'll see in the eVTOL space, extended out from the cabin on long poles.

Where most transitioning vectored-thrust or lift-and-cruise eVTOLs rock a large wing for efficient forward flight, the eTransporter has a T-tail and a small top wing. This looks to us like a clever way of compensating for some of each rotor's retreating blade stall as airspeed increases, but this still won't be one of the faster air taxis in the sky. Cruise speed is listed at 140 mph (225 km/h), with a max speed "over 160 mph" (257 km/h) – vectored thrust designs are aiming at more like 200 mph (322 km/h).

The eTransporter will be among the most efficient eVTOLs on the market in a hover – indeed, Rotor X says it'll be able to hover on the spot for more than 45 minutes if necessary on a single charge. Moving through the air at speed will develop enough lift from the small wings and the body design to double its endurance figure to more than 1.5 hours, and the company is claiming a max range up to 230 miles running on battery power. That's an incredibly impressive figure for a straight-up multicopter, and a testament to just how efficiently larger rotors like this can produce lift. <https://newatlas.com/aircraft/rotor-x-evtol-rx-ettransporter/>



## UAS and SmallSat Weekly News

### UxS IBP: Multi-Day Maritime Demonstration for Vanilla UAS June 29, 2021 News

Vanilla Unmanned successfully demonstrated multi-day maritime domain awareness (MDA) operations during the Pacific Fleet's (PACFLT) inaugural Unmanned Integrated Battle Problem (UxS IBP) in April.



Vanilla's 45-hour 23 minute unrefueled flight took off from Naval Air Station Point Mugu and performed MDA tasking in coordination with manned PACFLT units. The beyond line of sight flight provided HD EO/IR video over satellite communications at ranges greater than **200 nm** from Vanilla's ground control station.

The multi-mission Vanilla took off partially fueled and returned to base on schedule with fuel reserves sufficient for nearly **doubling** the length of this MDA sortie.

The UxS IBP event also showcased Vanilla's proprietary **truck-mounted launch** and recovery system, a key enabler for runway-independent operations that has been proven in repeated off-road launches and recoveries. [https://uasweekly.com/2021/06/29/uxs-ibp-multi-day-maritime-demonstration-for-vanilla-uas/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=uxs-ibp-multi-day-maritime-demonstration-for-vanilla-uas&utm\\_term=2021-06-30](https://uasweekly.com/2021/06/29/uxs-ibp-multi-day-maritime-demonstration-for-vanilla-uas/?utm_source=rss&utm_medium=rss&utm_campaign=uxs-ibp-multi-day-maritime-demonstration-for-vanilla-uas&utm_term=2021-06-30)

### Forget Silly String: To battle enemy drone swarms, USAF has THOR Bruce Crumley

Jun. 28th 2021



Earlier this month, the Air Force unveiled its Tactical High Power Operational Responder – aka THOR – which is designed to instantly neutralize **multiple** attacking drones, including enemy swarms.

Developed by the Air Force Research Laboratory, the electromagnetic weapon has successfully zapped hundreds of hostile uncrewed aerial vehicles

in test battles. Once approaching craft is identified, THOR generates a powerful microwave field that wrecks the internal electronics systems of enemy drones before they can get too near.

THOR is a significant departure from – and valuable addition to – existing techniques of combatting small, weaponized drones. Most systems rely on lasers or ballistics that, while efficient against isolated craft, can be overrun by larger groups of hostile UAVs. The same limitation applies to the mobile weapon the Air Force introduced earlier this month that hog-



## UAS and SmallSat Weekly News

ties targets with [wads of Silly String](#) material. THOR, by contrast can whack **an entire cloud** of them **in a single blow**.

“The system uses high power microwaves to cause a counter electronic effect,” an AFRL fact sheet says. “A target is identified, the silent weapon discharges in a nanosecond, and the impact is instantaneous.”

The entire system fits inside a single 20-foot metal cargo container and can be transported in a C-130 military plane. From the minute it arrives in the zone to be defended, it can be set up by two people inside three hours.

While adaptable and easy to use, however, THOR isn’t cheap. The system cost \$15 million to develop, and each unit runs \$10 million. The AFRL says THOR’s dead-drone-per-shot ratio can make it as affordable as laser or ballistic options. <https://dronedj.com/2021/06/28/forget-silly-string-to-battle-enemy-drone-swarms-usaf-has-thor/#more-61437>

**1Jul21**

### **Skyborg makes its second flight, autonomously piloting General Atomic’s Avenger drone** Valerie Insinna 17 hours ago



*A General Atomic MQ-20 Avenger unmanned vehicle returns to El Mirage Airfield, Calif. June 24, 2021. The MQ-20 successfully participated in Edwards Air Force Base’s Orange Flag 21-2 to test the Skyborg Autonomy Core System.*

WASHINGTON — The Air Force conducted a second flight test of the robot pilot known as Skyborg which autonomously flew a General Atomic MQ-20 Avenger drone June 24. The event comes about two months after [the first flight of Skyborg autonomy core system](#) aboard the Kratos UTAP-22 Mako, and proves that the system can be used to **pilot multiple types** of unmanned aircraft.

“Flying the Skyborg ACS on platforms from two different manufacturers demonstrates the portability of the government-owned autonomy core, unlocking future multi-mission capabilities for the Joint Force,” said Maj. Gen. Heather Pringle, commander of Air Force Research Laboratory.



## UAS and SmallSat Weekly News

With Skyborg, the Air Force hopes to eventually field [an expendable loyal wingman-style drone](#) that can accompany manned tactical jets into battle, taking on missions that may be too dangerous for human fighter pilots.

<https://www.defensenews.com/unmanned/2021/06/30/skyborg-makes-its-second-flight-this-time-autonomously-piloting-general-atomics-avenger-drone/>

### Space Development Agency celebrates launch of its first satellites Sandra

Erwin June 30, 2021



*A SpaceX Falcon 9 rocket launched the Transporter 2 rideshare mission with 88 small satellites June 30, 2021 from Cape Canaveral, Florida*

WASHINGTON — The Defense Department’s space agency on June 30 hailed the deployment of **its first missions** which flew to orbit on a [SpaceX rideshare](#) carrying **88 small satellites**.

“Today’s missions will provide real-world data that we can use to verify our engineering assumptions and space-qualify a significant emerging technology,” Derek Tournear, director of the Space Development Agency said in a statement after SpaceX confirmed the agency’s payloads successfully separated.

[SDA’s missions on Transporter-2](#), estimated to cost \$21 million, include two pairs of satellites to demonstrate the performance of optical communications terminals in low Earth orbit, and one to demonstrate on-orbit data processing. These are the agency’s first in-space experiments since it was established in 2019. SDA plans to deploy a network of satellites in low Earth orbit for military communications and for missile defense. The first batch of satellites is scheduled to launch in late 2022. <https://spacenews.com/space-development-agency-celebrates-launch-of-its-first-satellites/>

### Parrot’s New Drone Sets New Standards: ANAFI Ai, 4G Connected Robotic UAV

Miriam McNabb June 30, 2021



[Parrot’s new drone](#) breaks new ground: the ANAFI Ai is **the first 4G** connected, robotic UAV – inspired by nature’s best flyers.

In an interview with Parrot’s Martin Line, UX and Marketing Director, the company’s pride in this newest offering is evident:





## UAS and SmallSat Weekly News

and they have good reason to be excited. The ANAFI Ai is the first commercial drone to be 4G connected, and it comes equipped with a stereo camera that works like a flying insect's eyes – **to see and avoid anything in its flight path.**

Parrot's new drone uses 4G as the primary data link between drone and operator. This is a game changer for flight beyond visual line of sight, as the drone can stay connected even when it flies behind a building or other obstacle. The Secure Element embedded in the drone and its Skycontroller 4 protects the integrity of the software – and ensures the privacy of the data. The 4G link between the drone and the user's phone is encrypted.

<https://dronelife.com/2021/06/30/parrots-new-drone-sets-new-standards-anafi-ai-4g-connected-robotic-uav-dronelife-interview/>

### **Skyfront's Perimeter 8 Drones Can Fly as Low as Two Meters Above Ground** João Antunes July 1, 2021



Skyfront, a manufacturer of long-endurance hybrid-electric drones, has updated its Perimeter 8 drones to enable autonomous long-range terrain-following capabilities with the help of **ground-penetrating radars and airborne magnetometers.**

Holding the [world record for a multirotor drone flight time](#) of **13 hours and 4 minutes**, Skyfront's [Perimeter 8](#) was designed to fly for hours and carry large payloads in a wide range of operating conditions. As an eight-rotor drone equipped with the company's proprietary fuel-injected G2K hybrid-electric power source, which converts gasoline into electricity in-flight, the Perimeter 8 can carry up to a maximum of 17 lb. payload capacity for 1 hour, or 11lbs for 2 hours flight time, within a flight range of 110 miles.

Using [Ainstein's](#) active RADAR sensors, the Perimeter 8 responds to the terrain by automatically calculating and adjusting flight altitude based on a continuous stream of incoming measurements. Together with [SPH Engineering's](#) UgCS mission planning software, the RADAR sensors allow the drone to visualize complex trajectories in rugged terrain before takeoff and course-correct in real-time while flying as low as two meters above ground. Additionally, the sensors can operate in hot temperatures and over water, an advantage over traditional LiDAR-based terrain sensors, which typically fail in the same conditions.

The Perimeter 8 is quite a versatile drone and has been used in various types of tests and missions including the [resupply of a US Navy Submarine from another moving ship](#) and



## UAS and SmallSat Weekly News

the [integration of a Synthetic Aperture RADAR](#) to provide intelligence, surveillance, and reconnaissance capabilities in land and maritime domains. Combined with [Geometrics'](#) MagArrow airborne magnetometer, the new Perimeter 8's low-altitude terrain-following capabilities allow the drone to detect improvised explosive devices, conduct resource exploration, discover unexploded ordnance, and find oil wellheads worldwide.

[https://www.commercialuavnews.com/surveying/skyfront-s-perimeter-8-drones-can-fly-as-low-as-two-meters?utm\\_source=marketo&utm\\_medium=email&utm\\_campaign=newsletter&utm\\_content=newsletter&mkt\\_tok=NzU2LUZXSioWnJEAAAF-AjXQqaXAnVVA7K2idtMzsHxQWvVIgJR2gaLCdWulaEi5zihVFNVJWlxp82OvNcm-ikUCFwDd5eyvvhHEyXtXO1uB5cidYLI7g2ZAKOT9cZkxwQ](https://www.commercialuavnews.com/surveying/skyfront-s-perimeter-8-drones-can-fly-as-low-as-two-meters?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=NzU2LUZXSioWnJEAAAF-AjXQqaXAnVVA7K2idtMzsHxQWvVIgJR2gaLCdWulaEi5zihVFNVJWlxp82OvNcm-ikUCFwDd5eyvvhHEyXtXO1uB5cidYLI7g2ZAKOT9cZkxwQ)

### **The Nixie Drone Water Sampling System Increases Sample Rates 75%, Reduces Costs 90%** JUNE 25, 2021 Danielle Gagne



With the Nixie attachment, which is secured to the bottom of a drone via a clamp (see video), sampling rates were shown to increase by 75% while reducing costs by 90%.

“The New York City Department of Environmental Protection alone collects 14,000 water quality samples a year, collecting 30 samples a day using boats, captains, and a crew of three at an average cost of **\$100 per sample**,” said Jessica Chosid, Founder and CEO of Reign Maker. “With Nixie, a crew of two can collect 120 samples in the same seven-hour shift, at a cost as low as **\$10 per dip**.”

Because drones are also collecting important time and location data, Nixie can sync with the drone and automatically log each sample, maintaining chain of custody and keeping historic GPS logs for accurate repeat sampling over time.

[https://www.commercialuavnews.com/forestry/nixie-drone-mounted-water-sampling?utm\\_source=marketo&utm\\_medium=email&utm\\_campaign=newsletter&utm\\_content=newsletter&mkt\\_tok=NzU2LUZXSioWnJEAAAF-AjXQqa81tcqzL-bzyWK1vuwgo2DqACo-8RV-0Ji0b1wYNGEMcNI4bKeEvysl72t1tQD8QPmSC3Bf3\\_xiy0SHYP\\_f9IB2PMGirZZVHdd7Q8h7A](https://www.commercialuavnews.com/forestry/nixie-drone-mounted-water-sampling?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=NzU2LUZXSioWnJEAAAF-AjXQqa81tcqzL-bzyWK1vuwgo2DqACo-8RV-0Ji0b1wYNGEMcNI4bKeEvysl72t1tQD8QPmSC3Bf3_xiy0SHYP_f9IB2PMGirZZVHdd7Q8h7A)

### **DroneUp will assist ARC in defining performance-based regulatory requirements**

**Virginia Beach, Virginia, June 22, 2021** – Today, [DroneUp](#), announced that they had been selected to sit on The Federal Aviation Administration’s Beyond Visual Line of Sight Aviation



## UAS and SmallSat Weekly News

Rule Making Committee (ARC) to participate in the development of beyond line of sight drone flights.



*John Vernon, DroneUp's Chief Technology Officer (CTO), will represent DroneUp on the ARC.*

Announcing a [Walmart investment](#) last week, DroneUp will develop a scalable drone delivery solution for the global retailer, enabling real-world and practical applications that drive widespread adoption. Leveraging their expertise with UAS technology and logistics, DroneUp will assist ARC in defining performance-based regulatory requirements to standardize safe, affordable, and sustainable BVLOS drone operations at scale.

The ARC represents a collaboration between regulators and UAS industry experts who will provide BVLOS recommendations to the FAA within the next six months. At a minimum, the ARC's recommendations must address long-line linear infrastructure inspections, industrial aerial data gathering, small package delivery, and precision agriculture operations, including crop spraying. [The action memo](#) for the charter details the purpose, background, objectives, tasks, procedures, operations, public record and participation, and duration of the charter. Amy Wiegand | 757.657.4886 | [amy.wiegand@droneup.com](mailto:amy.wiegand@droneup.com)

### **Penguin B Long-Endurance VTOL Drone Released** 30 Jun 2021 Mike Ball



VTOL aircraft.

[UAV Factory](#) has announced the launch of the [Penguin B VTOL](#), a long-endurance drone for commercial, military and academic applications that combines the large payload capacity, endurance, and power of the original Penguin B UAV with the versatility and operational practicality of a

The aircraft wingspan has been increased to 12.8 ft, enhancing flight endurance to over **8 hours** and supporting a combined payload and fuel capacity of 25.8 lbs. The composite design of the wing has also been optimized to maintain structural rigidity while remaining lightweight. The aircraft is equipped with ultralight carbon-fiber landing gear struts to maximize flight endurance while producing minimal drag. Routine takeoff and landing can be performed in 30 knot winds and operations can be conducted in extreme temperatures ranging from 4°F to 122 °F.

A variety of high-performance gyro-stabilized EO/IR payloads can be fitted, the most advanced of which is the 7-inch Epsilon 180 gimbal, with 40 microradian jitter, a powerful MWIR with



## UAS and SmallSat Weekly News

continuous optical zoom and cooling capabilities, and a long-range 4K daylight camera. Smaller payloads such as the Epsilon 140 series, can be factory installed. The aircraft is also available without a payload, allowing integrators to combine various custom payloads via an interchangeable payload tray. <https://www.unmannedsystemstechnology.com/2021/06/penguin-b-long-endurance-vtol-drone-released/>

### **KORE Enabled IoT Technology Powers Drones to Deliver Critical Medical Assets**

June 30, 2021 News



[KORE](#), a leader in Internet of Things (“IoT”) solutions and Connectivity-as-a-Service, will showcase Australian drone-powered logistics company Swoop Aero to transport COVID-19 vaccines into isolated areas of the world. KORE representatives will be attending Mobile World Congress and showcasing the solution during a private presentation with the King of Spain.

Swoop Aero enables the reliable transport of medical commodities, including early pathology samples, diagnosis kits, antiretroviral therapy medication and vitamins across Malawi, the Democratic Republic of Congo, Mozambique as well as Australia, the United Kingdom and the Pacific. This effort supports the respective Ministries of Health in delivering medical supplies to hard-to-reach areas.

“We’re living in the most technologically advanced society of all time,” said KORE President and CEO Romil Bahl. “I’m grateful every day that the IoT connectivity and solutions we provide are being used so that people in the remotest parts of the world are not forgotten or overlooked. Medical caregivers rely heavily on Swoop Aero’s ability to consistently transport the medicine that doctors and nurses need to care for citizens living in remote locations. Failure is not an option.” [https://uasweekly.com/2021/06/30/kore-enabled-iot-technology-powers-drones-to-deliver-critical-medical-assets/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=kore-enabled-iot-technology-powers-drones-to-deliver-critical-medical-assets&utm\\_term=2021-07-01](https://uasweekly.com/2021/06/30/kore-enabled-iot-technology-powers-drones-to-deliver-critical-medical-assets/?utm_source=rss&utm_medium=rss&utm_campaign=kore-enabled-iot-technology-powers-drones-to-deliver-critical-medical-assets&utm_term=2021-07-01)

### **Easy Aerial Launches World’s First Hybrid Tethered and Free Flying Drone-In-A-Box System** June 30, 2021 News



[Easy Aerial](#), a leading provider of autonomous drone-based inspection, monitoring and surveillance solutions for commercial, government, and military applications, today announced the launch of its groundbreaking [Raptor](#) drone.

Innovation | Charlottesville and Portsmouth, VA  
[robert.rea@axcel.us](mailto:robert.rea@axcel.us) | 757-309-5869 | [www.axcelinnovation.net](http://www.axcelinnovation.net)



## UAS and SmallSat Weekly News

This unique drone-in-a-box solution is the **first of its kind** to offer operators the option to fly tethered or untethered, and the ability to untether during flight.

The Raptor predominantly operates in tethered mode for prolonged situational awareness or persistent surveillance, providing a continuous data and video feed to field personnel or the command center. Following a command from an operator, a triggered alarm, or if the onboard sensors identify a pre-selected object, the tether is released, descends via parachute, and is spooled back into its ground station. The Raptor then continues a free-flight autonomous or manually operated pursuit mission. Upon completing its objective, or if the onboard batteries run low, the system will automatically return for a precision landing in the Easy Guard, even if the ground station has moved to a new location.

The Raptor's hybrid system makes it well-suited for long-range overwatch or surveillance missions, day and night, even in extreme weather conditions. In free-flight mode, the system can fly up to 12 miles at speeds more than 60 MPH with a maximum 4.5lb payload capacity. In addition, the system supports a wide range of optical and thermal sensors to meet any specific operational requirement. [https://uasweekly.com/2021/06/30/easy-aerial-launches-worlds-first-hybrid-tethered-and-free-flying-drone-in-a-box-system/?utm\\_source=rss&utm\\_medium=rss&utm\\_campaign=easy-aerial-launches-worlds-first-hybrid-tethered-and-free-flying-drone-in-a-box-system&utm\\_term=2021-07-01](https://uasweekly.com/2021/06/30/easy-aerial-launches-worlds-first-hybrid-tethered-and-free-flying-drone-in-a-box-system/?utm_source=rss&utm_medium=rss&utm_campaign=easy-aerial-launches-worlds-first-hybrid-tethered-and-free-flying-drone-in-a-box-system&utm_term=2021-07-01)

**2Jul21**

**Air Taxis Could Be Coming, but Not in the Way You Might Think** Jon Sindreu July 1, 2021

Many startups trying to develop air taxis are focused on urban areas, but the technology could be a much better fit for **short flights between cities**



*A rendering of the seven-seat Lilium Jet at a vertiport.*

Air taxis evoke scenes from “The Jetsons” and “Back to the Future II,” in which workers fly through futuristic cities on their commutes. The reality could end up having more in common with modern-day helicopters and regional planes.

In recent months, the top four startups dedicated to electric vertical-takeoff-and-landing vehicles, or eVTOL, have been [taken public by special-purpose acquisition companies](#). California-based Joby Aviation and Archer were the first to announce deals earlier this year,



## UAS and SmallSat Weekly News

followed by Germany's Lilium and, a few weeks ago, Britain's Vertical Aerospace. All plan to start services around 2024 by both building and operating aircraft, which would be a very unusual business model in the transportation industry.

Becoming the [Boeing](#) or [Airbus](#) of air taxis will be hard enough. As analysts at Cowen point out in a new report, the four startups expect to make almost 4,000 vehicles in 2027, which is more than all the commercial jets, business planes and helicopters manufactured in 2018, the peak year. Also, they have a high certification bar to clear.

However, it is the second part of the business plan—taking on Uber and [Lyft](#)—that really defies precedent. [https://www.wsj.com/articles/air-taxis-could-be-coming-but-not-in-the-way-you-might-think-11625135586?mod=itp\\_wsj&ru=yahoo](https://www.wsj.com/articles/air-taxis-could-be-coming-but-not-in-the-way-you-might-think-11625135586?mod=itp_wsj&ru=yahoo)