



UAS and SmallSat Weekly News

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DJI's Agras T16 Agricultural Drone Displayed at the Solomon R. Guggenheim Museum February 26, 2020 News



DJI is displaying its agricultural spraying drone, the [Agras T16 aircraft](#), in the new [Countryside, The Future](#) exhibition, now open at the Solomon R. Guggenheim Museum in New York City.

The exhibition addresses urgent environmental, political and socioeconomic issues through the lens of architect and urbanist Rem Koolhaas and Samir Bantal, Director of AMO, the think tank of the Office for Metropolitan Architecture. The exhibition investigates **radical changes** in digital technology, science, economics, geopolitics, and 21st-century commerce that are **transforming** the countryside.



“The impact of technology advancements spreads far into the countryside, creating radical changes to help the Earth thrive long into the future,” said Adam Lisberg, North America’s Corporate Communication Director of DJI. “DJI has delivered drone technology to farmers, agronomists and stewards to help manage their lands in a more efficient and environmentally

friendly way, enabling them to safely and securely deploy drone technology in their daily operations. Every day our team continues to think of ways to use our technology and improve the quality of life. We are thrilled to be a part of this unique exhibit that showcases the combination of art, science and technology.” https://uasweekly.com/2020/02/26/djis-agras-t16-agricultural-drone-displayed-at-the-solomon-r-guggenheim-museum/?utm_source=rss&utm_medium=rss&utm_campaign=djis-agras-t16-agricultural-drone-displayed-at-the-solomon-r-guggenheim-museum&utm_term=2020-02-27

Quaternium drone HYBRiX sets a new World Record with a flight of 8 hours and 10 minutes TechStartups Team FEBRUARY 28, 2020



Quaternium is the leading European brand of long-endurance multirotors. Pioneers in the drone industry since 2008, the company has created very popular multirotors and gimbals, such as the Spidex drones.

The company is located in Valencia, Spain and has



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thousands of customers in five continents.

The leader of hybrid drones, Quaternium, just broke the rules, pulverizing any previous endurance record with an astonishing flight of **8 hours and 10 minutes** non-stop. HYBRiX UAV took off at 08:52 in Valencia, Spain, and landed at 17:02 performing a stationary flight of 490 minutes. With this breakthrough, Quaternium set the **New World Record** of Endurance with the longest hybrid-drone flight on Earth. HYBRiX's flight in Spain lasted nearly one hour more than the previous flight record. <https://techstartups.com/2020/02/28/quaternium-drone-hybrix-sets-new-world-record-endurance-flight-8-hours-10-minutes/>

Decentralized, cooperative task distribution for networked UAVs Air Force

Air Force researchers have developed a collaborative task distribution and execution system for drone networks that are directly incorporated into individual agents, making standard central base stations redundant. The patent-pending **technology is available via license** agreement to companies that would make, use, or sell it commercially.



Teams of Unmanned Aerial Vehicles can cooperatively accomplish complex missions, such as surveillance and search and rescue, that often cannot be performed by a single UAV.

Air Force researchers have developed a decision-making and communication system that can be integrated directly into agents, such as UAVs, which allows them to observe the environment, monitor the operation of other agents and respond to the situation, creating a decentralized, distributed task allocations.

The system designates a leader device and X number of follower devices. The leader device has a memory store of resources, knowledge specific to the task or mission to be executed, a transceiver to send and receive data among linked agents and a processor. The processor identifies a set of available resources capable of performing the task based on information obtained from the follower agents and compares the primary resources from memory against the ones currently available to identify overlaps and gaps. The processor decides which combination of agents (drones) is most capable for the tasks and communicates that combination to the individual devices via the transceiver.

https://techlinkcenter.org/technologies/decentralized-cooperative-task-distribution-for-networked-uavs/?utm_source=uas_newsletter&utm_medium=email&utm_campaign=technology



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UNM, Sandia collaborate on project to assess threats of small unmanned aerial systems Kim Delker February 27, 2020



A group from [The University of New Mexico is working with Sandia National Laboratories robotics experts](#) on efficient ways to intercept enemy unmanned aircraft systems midflight.

Rafael Fierro, a professor in the Department of Electrical and Computer Engineering at UNM, is leading the UNM part of the project. He directs the [Multi-Agent, Robotics, and Heterogeneous Systems Laboratory](#) which has extensive experience in real-time control of unmanned aerial systems.

The Sandia group previously successfully tested their concept indoors with a **swarm** of four unmanned aircraft systems that flew in unison, each carrying one corner of a net. Acting as a team, they intercepted the flying target, **trapped it in air** like an insect caught in a web and safely lowered it to the ground.

This test has been part of a two-year [Laboratory Directed Research and Development](#) project called Aerial Suppression of Airborne Platforms. That demonstration led to funding for three years of continued research and testing for the Mobile Adaptive/Reactive Counter Unmanned System project which will address current and future national security threats posed by small unmanned aircraft systems. <https://news.unm.edu/news/unm-sandia-collaborate-on-project-to-assess-threats-of-small-unmanned-aerial-systems>

Drones may assist emergency response to flooding in Red River Valley Adam Kurtz Feb 26th 2020



The North Dakota Department of Transportation has partnered with the Northern Plains UAS Test Site to use drones to relay information in a potential spring flood battle.

The plan is to use drones to capture still images and live video to be used by officials in determining whether or not to close a road, when to reopen one and when to conduct visual inspections of bridges, should it become necessary. "That's a big impact for the community," said Nick Flom, executive director for the UAS Test Site. NDDOT can post images or video on its social media accounts to help keep the public informed about flooded roads in hopes of keeping people from driving around barricades.



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A variety of drones could be used this spring depending on what kind of information the DOT is seeking. That could include still photos used to make a mosaic of the area to give officials a better understanding of the situation. More sophisticated drones would be used to relay real-time video. "Really what we're trying to do is give them the best tool for the job."

<https://www.grandforksherald.com/business/4969522-Drones-may-assist-emergency-response-to-flooding-in-Red-River-Valley>.

ICAO calls for innovative solutions for drone airspace management Haye Kesteloo

Feb. 27th 2020



The [International Civil Aviation Organization \(ICAO\)](#) is a UN specialized agency that was set up in 1944 to organize the administration and governance of the Convention on International Civil Aviation. The agency works with the 193 Member States and industry groups to reach consensus on international civil aviation Standards and Recommended

Practices and policies in support of a safe, efficient, secure, economically sustainable and environmentally responsible civil aviation sector. Member States implement the policies to make sure their local civil aviation operations and regulations conform to global standards, and international air travel can function safely and reliably in every part of the world. To get to a point where drones and traditional manned aircraft can operate together safely in the same airspace, [ICAO](#) now calls for innovative solutions for drone airspace management. This year the event will take place September 9-11 in Rio de Janeiro.

Drone deliveries, drone inspections and flying taxis are near term realities for societies all over the world. As the development of unmanned aircraft systems and traffic management continue to advance, governments and operators need to focus on how the next evolution of aircraft, both manned and unmanned, can safely integrate in finite airspace.

A key process informing discussions is issuing advance requests for information (RFIs) by ICAO. Deadline for RFI submissions is 17 April, and the main topic areas being targeted this year include:

- Unmanned aircraft performance requirements in a UTM environment.
- UTM system certification.
- UTM integration into airport environments and activities.

All RFI responses will be evaluated by a group of international experts, and those responsible for the best submissions will have the opportunity to present at this year's event in Rio.



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<https://dronedj.com/2020/02/27/icao-calls-for-innovative-solutions-for-drone-airspace-management-drone-enable/>

1Mar20

On a Lighter Note: How Many Drones does it take to Change a Lightbulb? Harry

McNabbon: February 29, 2020



Need a break from news about the coronavirus and the state of the world? This video answers the age old question of how many drones it takes to change a light bulb – if not why you'd think of trying it in the first place.

Video was published by TikTok and was available from memes@freememestudio

See the video at <https://dronelife.com/2020/02/29/on-a-lighter-note-this-video-answers-the-age-old-question-of-how-many-drones-it-takes-to-change-a-lightbulb/>

Images of Spring Planting in China Using Drones as Life Goes On Even with the Coronavirus Harry McNabb March 01, 2020



In a reminder that life goes on everywhere as drones are shown at work as spring planting begins in the agricultural sector of China as they continue to battle the coronavirus.



These photos show both the empty streets of a Chinese city and spring ploughing is underway in Jiangxiang Town. The town is situated by Poyang Lake, China's largest freshwater lake.

<https://dronelife.com/2020/03/01/images-of-spring-planting-in-china-using-drones-as-life-goes-on-even-with-the-coronavirus/>

2Mar20

BVLOS tests boosted by Oklahoma Center support grant February 27, 2020 Jenny

Beechener UAS traffic management news



Oklahoma State University and Vigilant Aerospace Systems are using a \$300,000 grant from the Oklahoma Center for the Advancement of

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Science and Technology to conduct beyond visual line-of-sight drone flights in a 13-mile long corridor in central Oklahoma.

According to an OSU release, OSU researchers are now evaluating radars for integration with Vigilant's air traffic display and avoidance system. The radar under evaluation has been used by the teams to detect nine different aircraft over multiple flight tests, including the most recent flight test carried out Feb. 13 to compare the radar tracking data to data being collected from other sensors. The system already uses aircraft transponder signals and drone telemetry to track aircraft overhead, but with the **addition of radar**, the system will be able to detect aircraft that have neither a transponder nor a telemetry broadcast.

Vigilant Aerospace holds an **exclusive** licensing agreement with NASA, with which it has created its FlightHorizon software, a detect-and-avoid system that collects data from sensors to create both a picture of nearby air traffic and avoidance alerts for drone pilots or autopilots. <https://www.unmannedairspace.info/latest-news-and-information/bvlos-tests-boosted-by-oklahoma-center-support-grant/>

Elon Musk tells a room full of Air Force pilots: 'The fighter jet era has passed' FEB 28 20204 [Amanda Macias@AMANDA M MACIAS](mailto:Amanda.Macias@AMANDA.M.MACIAS)



ORLANDO, Fla., — [Tesla](#) and SpaceX CEO [Elon Musk](#) predicted Friday that the future of war would be carried out by autonomous drones and **not by legacy aircraft**.

"The fighter jet era has passed," Musk said during a fireside chat with U.S. Air Force Lt. Gen. John Thompson at the Air Warfare Symposium in Orlando, Florida. "Drone warfare is where the future will be. It's not that I want the future to be – it's just, this is what the future will be," he added.

Musk also said that [Lockheed Martin's](#) F-35 fighter jet, which is the Pentagon's most expensive weapons system, should have a drone competitor. "I don't think it's good to have one provider. The competitor should be a drone fighter plane that's remote-controlled by a human, but with its maneuvers augmented by autonomy. The F-35 would have no chance against it," he wrote. <https://www.cnn.com/2020/02/28/elon-musk-says-the-fighter-jet-era-has-passed.html>

UAE's first locally-made drone unveiled at Umex Kelsey Warner February 23, 2020

Garmousha, a vertical take-off and landing drone that resembles a helicopter, was designed by Adasi, a subsidiary of Edge, in a deal with the General Headquarters of the UAE Armed Forces.



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The unmanned aircraft is designed to carry payloads of up to 100 kilograms with a range of **six hours of flight time** and 150 kilometres. The helicopter aims to provide flexibility, allowing militaries to save manned helicopters for critical missions, according to the company. The Garmousha drone can also be used to detect gas pipeline leaks, to survey infrastructure and for search and rescue operations.

The UAE is aiming to be a leader in the fields of artificial intelligence and developing applications for unmanned systems. The technology is being used across land, sea and air, for the purposes of gathering "media, monitoring, traffic regulation, urban and remote area security and forest fires", Mohammed Al Bowardi, Minister of State for Defence Affairs, said in his opening address at Umex on Sunday.

The Garmousha, named after a kind of falcon, is "one of many" drones "coming down the line" for Edge, according to the chief executive. <https://www.thenational.ae/uae/government/uae-s-first-locally-made-drone-unveiled-at-umex-1.983259>

NAV CANADA signs strategic agreement with Unifly for national UTM system

February 26, 2020 Philip Butterworth-Hayes UAS traffic management news



"The system has an intuitive user interface and will enable Canadian drone pilots to access web and mobile applications to identify safe and legal airspace, plan flights, manage operations, pilots and fleet of drones. This fully digitized system makes the process of requesting authorization to fly in controlled airspace easier and faster for qualified drone pilots. The app will also benefit airlines and general aviation pilots, as it reduces the risk of accidental drone incursions.

"As Canada's air navigation service provider, NAV CANADA has an essential role to play in developing an operating environment that supports the innovative potential of the drone industry and ensures safety across Canadian airspace. The system is designed to support current regulations for drone flights within visual line of sight. The website and mobile app will be available both in French and in English."

The system should be **up and running this year** and ultimately the goal will be to enable all drone operations – even in remote areas. In the initial stage of the project, air traffic controllers will be supported by Unifly tools to approve drone flights (if required) and monitor where



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flights are planned and where drones are flying. <https://www.unmannedairspace.info/news-first/nav-canada-signs-strategic-agreement-with-unifly-for-national-utm-system/>

Your Dreams of Flying in Your Own Personal Passenger Drone Just Got Closer to Reality Miriam McNabb March 02, 2020



TERM DEVICE
TETRA TETRA 3

Japan's team teTra, a group of aerospace professionals who came together to compete in the [GoFly Prize](#), has won the Final Flyoff for their personal flying machine design – but the big prize is still in the offing.

It may sound like a dream, but the Prize is a \$2+ million two-year competition to create “a personal flying device that can be safely used by anyone, anywhere. With Boeing as its Grand Sponsor and Pratt & Whitney as its Corporate Sponsor, The Prize will provide teams with expertise, mentorship, prizes

and global exposure as they compete to create the world's first safe, ultra-compact, urban-compatible personal flying device.”

Now, the GoFly Prize has announced that teTra Aviation has won the \$100,000 Disruptor Award at the Final Fly-Off held at Moffett Federal Airfield at NASA's Ames Research Center – a successful conclusion to the team's two years of research. Nobody has yet won the \$1 million Grand Prize – but that award is coming in “the near future.”

<https://dronelife.com/2020/03/02/your-dreams-of-flying-in-your-own-personal-passenger-drone-just-got-closer-to-reality/>

FlytWare Autonomous Drones at Modex 2020 for Inventory Scans February 29, 2020



The FlytWare aerial inventory solution featuring autonomous drones will be showcased, live, at MODEX 2020. Visitors can stop by Booth # 1409 to learn how facilities have started deploying inventory drones in their distribution centers and warehouses.

FlytWare uses off-the-shelf drone hardware, AI/ML, machine vision and robotics to automatically scan front-facing barcodes on one-deep pallets stored in racks. Offered as a SaaS solution, it adapts to a variety of case/pallet storage formats, barcodes, QR codes, and inventory counting processes. With successful deployments in aisles as narrow



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as 6 feet and racks taller than 32 feet at sites in Dallas, LA and Madrid, FlytWare is being readied for production deployments starting Q2.

MODEX 2020 is a supply chain industry trade show, featuring nearly a thousand solution providers. It will be held at the Georgia World Congress Center in Atlanta March 9 to 12, 2020. Attending the conference and visiting the exhibits is free. You can register

here: <https://www.modexshow.com/register.aspx?ref=attendees>.

https://uasweekly.com/2020/02/29/flytware-autonomous-drones-at-modex-2020-for-inventory-scans/?utm_source=rss&utm_medium=rss&utm_campaign=flytware-autonomous-drones-at-modex-2020-for-inventory-scans&utm_term=2020-03-02

Drone Delivery Canada Announces Robin XL with Automatic Cargo Deployment

February 29, 2020 News



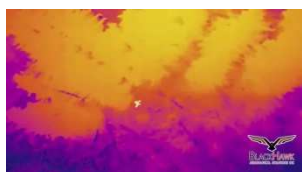
The Robin has a lifting capability of 25lbs, a travel range of 60km and is designed for harsh climates. It has an electric power plant, a payload capacity of 25lbs and a range of 60km.

“Our engineering team has been working alongside various commercial partners and clients to develop the Robin to satisfy their commercial requirements,” stated Paul Di Benedetto, CTO at Drone Delivery Canada. The Robin XL will also feature the option to have **automatic cargo deployment**, no longer requiring a handler to remove the cargo upon arrival. The Robin will be able to release the cargo at its drop off location and return to its originating point. The requirement for a cargo handler at the receiving side will no longer be required.

Commercial testing will be conducted in Southern Ontario, and the Company looks to announce commercial routes for the Robin in Q2, 2020. https://uasweekly.com/2020/02/29/drone-delivery-canada-announces-its-robin-xl-with-automatic-cargo-deployment-capabilities/?utm_source=rss&utm_medium=rss&utm_campaign=drone-delivery-canada-announces-its-robin-xl-with-automatic-cargo-deployment-capabilities&utm_term=2020-03-02

Drones for GOOD International launched on Facebook + Missing person story

Haye Kesteloo Feb. 28th 2020



To help spread the news of drones doing good and helping our society a [new Facebook group](#) has recently been launched by L.

Donauer. *DroneDJ* was one of the first members to come on board and help push this initiative. Throughout the year stories of drones doing



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good will be posted on this page, and once a year, a special event will be organized to promote **Drones for GOOD**. This year that day will be June 7th. **Please be sure to check out, like, share and follow [this page on Facebook](#) and support it if you feel the same way we do, that drones can make a difference for the better and make our world a better place!**

Here's one example story of how unmanned aircraft can make a difference. Mat Matthews from [BlackHawk Aeronautical solutions Inc.](#) tell us about how he used his drone to find a missing person:

I was asked to assist with a missing person. This individual had been missing for almost 24 hours. Trucks, quads and over 25 people searched all day with no luck. One of the individuals in the party knew of me and called to ask if I could help. After consulting with the team, I was able to eliminate areas of the search where they had already invested a lot of time and build a flight path that captured more hard-to-reach areas.

It was getting dark so I threw some additional strobes on for visibility and launched my drone. I had just completed 3 passes, and on the 4th (also after seeing lots of deer and rabbits), I stumbled across something that made me stop my flight. I lowered my drone from 300' to about 100' AGL and I saw movement. The person on my screen was the one they were searching for. I let the drone hover and guided the party out via radio into a thick area of the woods until they found the person. It was a very happy and proud moment for all of us. Total time from lift off to discovery: **6 minutes**. Pretty awesome, considering the time and resources that went into the search before I arrived. <https://dronedj.com/2020/02/28/drones-for-good-international-launched-on-facebook/#more-24619>

Drones deliveries are coming to Dublin in the near future Josh Spires Mar. 2nd 2020



Manna [drone delivery](#) has partnered with Just Eat food delivery platform to bring deliveries to the people of [Dublin](#). Manna's drones will first be delivering ice cream from Ben & Jerry's and premium Thai food from Camile Thai.

The company will be using its logistics platform "in-a-box" in a pilot program with the University College of Dublin and promises deliveries within three minutes. Manna's custom-developed drone can deliver from restaurants to homes at an altitude of 80 meters and a flight speed of 80 kph.



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The MNA-1090 is a quadcopter configuration with two motors on each arm. It also has a rear opening door positioned above the propellers to allow for easy handling of deliveries. The drone is also equipped with a backup battery system and two parachutes in case something doesn't go according to plan. <https://dronedj.com/2020/03/02/drones-deliveries-dublin-near-future/#more-24642>

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NASA Langley accepting applications for \$20k UAV competition APPLICATION

BUSINESS NEWS UNITED STATES ALEX DOUGLAS MARCH 3, 2020



Applications are now being accepted for NASA Langley's Safeguard with Autonomous Navigation Demonstration (SAND) Challenge.

The SAND Challenge will be an opportunity for small businesses to compete in an autonomous unmanned aerial vehicle competition for a \$20k prize under the **America Competes Act**.

The challenge will address some of the safety critical risks associated with flying unmanned aerial vehicles in the national airspace system such as flight outside of approved airspace, unsafe proximity to people or property and critical system failure. NASA Langley's patented Safeguard technology will be used to help small business competitors mitigate such risks while they complete a set of complex mission profiles.

Safeguard is a verified and validated independent system originally designed to monitor off-the-shelf UAV systems and if necessary, physically prevent the vehicles from entering no-fly zones or leaving approved airspace. For this competition, it will be configured to warn competitors (and auto-pilots) of impending excursions (or violations) while also objectively measuring performance with respect to the rules of the competition. The SAND Challenge will be held in August of 2020 in Hampton, Virginia. https://www.commercialdroneprofessional.com/nasa-langley-accepting-applications-for-20k-uav-competition/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-325018-Commercial+Drone+Professional+DNA+-+2020-03-03



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Analysis Puts Remote ID for Drones Costs 9X Higher than FAA Estimate

DJI Urges FAA to Reconsider Miriam McNabbon: March 03, 2020



The comment period for the [Remote ID for Drones NPRM](#) closed yesterday. There were more than [50,000 comments](#) posted on the NPRM including an 89 page comment by the world's leading drone manufacturer, DJI. While DJI has been active in developing and implementing technology that could simplify Remote ID for users, the company fears that the rule's requirements place an unreasonable burden on all stakeholders, from manufacturers to individual pilots to industrial clients, who will end up shouldering the costs of a burdensome solution.

In a press release issued today, DJI says that an independent economic study finds that costs of compliance with the proposal far exceed the FAA's estimate – and in fact are **9 times higher**. DJI is urging the FAA to take the comments into consideration and reconsider the rule. <https://dronelife.com/2020/03/03/analysis-puts-remote-id-for-drones-costs-9x-higher-than-faa-estimate-dji-urges-faa-to-reconsider/>

Citadel seals deal on \$9.2m worth of C-UAS orders APPLICATION COUNTER-DRONE INTERNATIONAL NEWS UNITED STATES ALEX DOUGLAS MARCH 3, 2020



Commenting on the work it has done and is doing, the company's CEO explained how the business hopes to continue heading in the same direction.

Christopher Williams explained: "Drones are an asymmetric threat that requires unprecedented speed for innovation. Citadel's AI-capabilities and responsiveness give customers a cost-effective option that addresses a very large portion of the sUAS threat."

As new drones are released to the market, Titan Systems receives new software to address the new threats. If Titan's AI algorithms do not detect the threat right away, the company explained that it can deliver an end-to-end capability in 72 hours for most drones and less than 4 weeks for the most complex drone signals. https://www.commercialdroneprofessional.com/citadel-seals-deal-on-9-2m-worth-of-c-uas-orders/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-325018-Commercial+Drone+Professional+DNA+-+2020-03-03



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Drones deployed in bid to tackle Queensland's rogue crocodiles March 2, 2020 ABC Far North Mark Rigby

The technology has been added to the decades-old arsenal of baited traps, nooses and harpoons that the state's environment department uses to deal with targeted animals.

Senior wildlife officer Dr Matt Brien said the drones took advantage of saltwater crocodiles' instinct to attack anything moving on the water's surface. "Using a drone, wildlife officers skim a baited noose along the water's surface near the target crocodile," he said.



"When the crocodile grabs the moving bait and attempts to eat it, the noose locks onto the animal's top jaw and the rope is released from the drone.

"The drone is flown back to its launch point and a float attached to rope allows wildlife officers on a boat to find the rope and retrieve the crocodile."

A drone was deployed over Innisfail's Johnstone River in August last year, with a targeted crocodile captured within **15 minutes** of the drone's launch. Baited traps can take up to two weeks to catch a problem animal, if at all.

"Inspections of the top jaws of crocodiles captured during the research program showed the noose caused the animals no abrasions or bruising," he said.



"This method provides researchers and wildlife managers with an innovative, non-lethal, humane and efficient way of removing wary and hard to capture crocodiles from the wild."

<https://www.abc.net.au/news/2020-03-03/queensland-deploys-drones-to-capture-problem-crocodiles/12020056>

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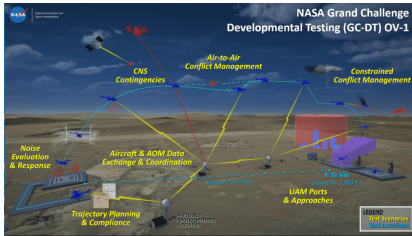
NASA Signs 17 Space Act Agreements for Urban Air Mobility Grand Challenge

Brian Garrett-Glaser March 3, 2020

Seventeen companies have signed Space Act Agreements with NASA to participate in the agency's first [Urban Air Mobility Grand Challenge](#), a series of technology demonstrations meant to test the readiness of vehicles and systems intended for use in low-altitude, urban airspace.



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Joby Aviation was the only company selected to provide a vehicle to fly in the initial event, termed the Grand Challenge Developmental Test by NASA, set to take place later this year. It is meant as a preparatory event for the first official Grand Challenge event slated for fiscal year 2022.

Five other companies — Bell, Boeing, NFT, Prodrivity and Zeva — were selected to participate in the “vehicle provider information exchange,” providing the agency with information about their aircraft with the intent of participating in GC-1.

Joby, Bell and Boeing are part of Uber Elevate, the rideshare giant’s UAM development ecosystem that includes Hyundai and other electric VTOL aircraft developers. Uber, which has previously participated in a number of NASA projects related to unmanned traffic management, was one of 11 companies selected as developmental airspace simulation partners to test their UAM traffic management services; others include AirMap, General Electric subsidiary AirXOS, ANRA Technologies, ARIC, and OneSky Systems.

“Uber Elevate’s Airspace Simulations will unlock when, where, and how we safely operate eVTOLs in an urban environment on the Uber platform,” said Tom Prevot, director of engineering for airspace systems at Uber Elevate. “The NASA UAM Grand Challenge will allow us to put our airspace integration technologies to the test, which we are proud to do alongside our vehicle partners.” <https://www.aviationtoday.com/2020/03/03/nasa-signs-17-space-act-agreements-urban-air-mobility-grand-challenge/>

Sandia Labs field tests drone interception technology Brett Luna March 02, 2020

ALBUQUERQUE, N.M.— Aircraft threats in the sky come in all shapes and sizes and scientists at Sandia Labs are developing technology to catch one of the most difficult threats—drones.

For the last few years, robotic experts at Sandia Labs have been developing a way to become smarter than drones, or unmanned aircraft systems. Their method is to identify, track and capture those unwanted visitors from above. What the experts have developed is currently being field tested.



The first and perhaps most challenging step is detection. By using onboard aircraft sensors, researchers are able to get a better picture of what is going on in a specific area.

The next step is interception, which involves a swarm of drones



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catching the unauthorized drone with a **net**. "They all have onboard computers, they all have onboard sensing, they all communicate with each other and figure out where they are and what they're doing. The applications of the new technology are endless, but the main application is public safety. See the movie at: <https://www.kob.com/albuquerque-news/sandia-labs-field-tests-drone-interception-technology/5662632/>

SkyX secures capital investment from DRONE FUND APPLICATION BUSINESS

FINANCIAL ALEX DOUGLAS MARCH 4, 2020



This marks SkyX's third capital raise since the company was founded in 2015.

Commenting, Didi Horn, SkyX founder and CEO, said: "DRONE FUND has a firm grasp on the vast potential of drone technology for industries worldwide, their endorsement of SkyX's technology with this capital raise is

yet another affirmation of the work we are doing.

"Demand from the market is exceeding even the lofty expectations that we set for ourselves, and this investment will support us through the growth phase we're undergoing. The investment community is seeing the long-term value in our offering and with this new investment, SkyX will achieve eight-figure revenue by the end of the year and expand its sales and marketing team into new markets in Asia, the Middle East and Africa."

https://www.commercialdroneprofessional.com/skyx-secures-capital-investment-from-drone-fund/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-325136-Commercial+Drone+Professional+DNA+-+2020-03-04

UAVOS and KACST put R&D effort into new flight control system NEW PRODUCTS

NEWS ALEX DOUGLAS MARCH 4, 2020



The Flight Control System is designed to fit and leverage multi-mission, multi-domain UAV platforms.

Both companies detailed how the experience and knowledge the R&D partners have shared, resulted in the creation of a Saker-1B Medium Altitude Long Endurance (MALE) UAS.



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The specifications of the UAV system have been confirmed by more than 500 hours of day and night test missions under various weather conditions. A total of **1000 hours** of take-off and landing tests were successfully performed. The long endurance flights lasted up to **19 hours**. The UAV is equipped with satellite communication data link for Beyond Line of Sight operation.

UAVOS CEO and lead developer, Aliaksei Stratsilatau, said: “We’re excited to work with KACST, a world-class organization in science and technology, fostering innovation and promoting a knowledge-based society in the Kingdom of Saudi Arabia.”

https://www.commercialdroneprofessional.com/uavos-and-kacst-put-rd-effort-into-new-flight-control-system/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-325136-Commercial+Drone+Professional+DNA+-+2020-03-04

5Mar20

Drones used on Kangaroo Island for wildlife search and rescue Josh Spires Mar. 4th 2020



Drones are being used on Kangaroo Island, [Australia](#) by the Humane Society International to help with the [search and rescue](#) efforts taking place for the wildlife injured in the recent bushfires that swept the country. The drones are equipped with infrared cameras, [zoom lenses](#), and spotlights for finding the animals, no

matter what the condition.

Douglas Thron told [The Islander](#), the drones he is using are equipped with an infrared camera, a 180x zoom lens, and a spotlight to help distinguish animals in the wild. “I recommend infrared drones with spotlights as essential parts of the animal rescue tool kit. This technology can shave countless hours of searching on the ground. Time is precious for these animals as they frequently die before they can be reached.”

Drones have been used throughout the recovery process from the recent bushfires that burned much of eastern Australia. The Ripper Rescue Alliance, the company behind the Westpac Little Ripper drone has been [completing search and rescue missions](#) on mainland Australia for over a month now, saving injured and starving animals. Professor Joe Dong is looking at using drones as a system to [detect early signs of bushfires](#) utilizing various sensors to check for signs that



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suggest the conditions are perfect for a bushfire to start. <https://dronedj.com/2020/03/04/drones-kangaroo-island-wildlife-search-rescue/#more-24751>

This is Cool: Math Experts Use Drones to Show it's Possible to 'See' Perfectly Using Sound

Miriam McNabb March 05, 2020

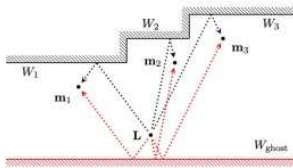


West Lafayette, IN, March 4, 2020 — As the industry for self-driving cars, robots and other unmanned vehicles quickly evolves — and engineers work to overcome the limitations of sensors that use visual, infrared or thermal information — math experts at Purdue University and the Technical University of Munich have proven there's another, equally viable solution: using sound.

Mireille "Mimi" Boutin, associate professor of mathematics at Purdue University, and Gregor Kemper, professor of algorithmic algebra at Technical

University, found that a drone equipped with four microphones and a loudspeaker can precisely reconstruct the wall configuration of a room by listening to echoes, similar to how bats use echolocation to orient themselves.

Their work is significant because it demonstrates the feasibility of using sound for navigation in unmanned systems, leading to many potential applications such as cars, drones, underwater vehicles or even devices that people can carry, such as a smartphone.



The research done by Boutin and Kemper — published in the current issue of [*SIAM Journal on Applied Algebra and Geometry*](#) — is based on four microphones arranged in a rigid, non-planar shape that measure sound emitted by a loudspeaker. When a microphone hears an echo, the time difference between the moment the sound was produced

and the time it was heard is recorded to show the distance traveled by the sound after bouncing on a wall. Their novel method — called echo sorting — accurately determines which distance corresponds to which wall, ensuring that all walls that are heard are truly there and removing the phenomenon of ghost walls.

“Our algorithm shows that sound adds a level of reliability to existing approaches and therefore engineers should consider pursuing their work to build navigational systems that listen,” she said. <https://dronelife.com/2020/03/05/this-is-cool-math-experts-use-drones-to-show-its-possible-to-see-perfectly-using-sound/>



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Drones with 'detect and avoid' tech tested in Blacksburg, Virginia Haye Kesteloo

Mar. 4th 2020



One of the unmanned aircraft is a fixed-wing, NASA-operated Tempest drone. The other one is a more traditional quadcopter carrying a special box. The two drones are set on a collision course, but before actually colliding, the quadcopter should autonomously detect and avoid the fixed-wing drone.

David Zarley writes for FreeThink: "Two drones whine through the air, headed at each other — and at the same altitude. A head-on collision is imminent. One is a NASA-operated Tempest drone. The other is a quadcopter carrying a box that looks like a router. That box is key to solving one of the most vexing issues of drone flight. The FAA requires all vehicles in the sky to be able to see and avoid other vehicles.

John Coggin is the chief engineer at Virginia Tech's Mid-Atlantic Aviation Partnership (MAAP), working with NASA to develop detect-and-avoid ability for drones. "Cooperative traffic" is broadcasting a signal at all times, making it easier to avoid; MAAP focuses on the **non-cooperative**, the vehicles that are not announcing their presence. And those vehicles all look different on radar, sound different and move in different ways. There are three leading candidates for sensing "intruders" into a drone's airspace, Coggin says: radar, auditory sensors, and computer vision. All have their advantages and drawbacks.

Detecting an intruder into a drone's airspace is only half the battle, of course. The drone must have the ability to safely get out of the way and resume its flight." You can read the entire article [here](#) and also find more info [here](#). <https://dronedj.com/2020/03/04/drones-with-detect-and-avoid-tech-tested-in-blacksburg-virginia/>

6Mar20

AOPA TO FAA: LEAVE ROOM FOR LOW-RISK DRONE OPS REMOTE ID POSES

PROBLEMS AS PROPOSED March 2, 2020 Jim Moore

Tracking drones will make the airspace safer, but the FAA does not need to sacrifice the freedom to fly in the interest of public safety when both can be achieved simultaneously, AOPA said in formal comments responding to a notice of proposed rulemaking that has drawn a huge response.



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More than [30,000 comments](#) were submitted before the March 2 deadline to opine on the [FAA's proposed rules](#) written to ensure that virtually all unmanned aircraft can be tracked and identified. AOPA has long supported safe integration of drones into the National Airspace System, and has worked for years with fellow stakeholders to safely advance the technology.

“Since 1939, AOPA’s mission has been to protect the freedom to fly while keeping aviation safe, fun and affordable,” AOPA Director of Regulatory Affairs Chris Cooper wrote in [AOPA’s formal comments](#) submitted March 2. “We realize the importance of supporting the development and safe integration of the UAS industry. Integration of unmanned aircraft will enable humanitarian, public safety, and commercial applications of this technology. This will, in turn, create many future career opportunities for the next generation of pilots and other aviation professionals who are inspired by flight early in their lives. Whether manned or unmanned, our mission remains the same: to advocate for policies and rules that grow and protect the freedom to fly.”

AOPA strongly supports the concept of RID, Cooper continued. However, the world’s largest aviation membership association (whose members collectively own, lease, and operate more than 85 percent of all GA aircraft in the United States, with tens of thousands of drone pilots among our ranks) made specific recommendations to eliminate unnecessary costs and burdens that would sacrifice individual freedoms without enhancing safety or security.

https://www.aopa.org/news-and-media/all-news/2020/march/02/aopa-comments-on-remote-id?utm_source=epilot&utm_medium=email

How Drones Are Helping To Prevent Coronavirus Spreading Jess Brown March 6, 2020



Coronavirus has now spread across the world. It is contagious and hard to contain, which means that it’s safer for many human-to-human interactions to be done **remotely**. China is deploying drones and robots to remotely disinfect hospitals, deliver food and enforce quarantine restrictions as part of the effort to fight the virus.

Drones Delivering Light. Drones have been used to hover over the construction sites for two emergency hospitals being built in Wuhan and provide light for construction staff that were working through the night. One hospital was built in just nine days.



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Drones Delivering Medical Supplies. Quarantine restrictions have impacted normal supply routes along road, rail or water. A technology company called [Antworks](#) has therefore used a drone to transport medical supplies and patient samples from the People’s Hospital of Xinchang County, and a local disease centre. Antwork’s parent company [Terra Drone](#) has said that using a drone was 50% faster than roads and helped cut the risk of spreading the disease.

Drones Disinfecting Affected Areas. [DJI](#) has pledged \$1.5 million in aid to help contain the outbreak. The company has also adapted its Agras series of agricultural spraying drones to spray chlorine or ethyl alcohol – based disinfectant in potentially affected areas. DJI has already sprayed disinfectant in over 3 million square meters in Shenzhen and helped 1,000 counties to adopt its spraying method.

Taking Temperatures Remotely With Thermal Drones. Drones are also being outfitted with thermal cameras and are being used to monitor body temperatures, allowing medical staff to identify new potential cases without having to touch those who may be infected.

<https://www.coverdrone.com/how-drones-are-helping-to-prevent-coronavirus-spreading/>