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10Aug19

EHang Chooses Autonomous Air Taxi Launch City Kate O'Connor August 8, 2019



China-based urban air mobility company EHang has announced that it has selected Guangzhou, China, as the first city in which it will establish a low-altitude passenger transportation network using its autonomous aerial vehicle (AAV). As part of the arrangement, EHang will work with the city government to build necessary

infrastructure, design safety rules and market entry thresholds, and set up a command-andcontrol center "to ensure that multiple AAVs flying simultaneously in the city can remain in the air in a safe and efficient manner and can swiftly respond to emergencies."

"We are very excited about exploring the various meaningful ways in which AAVs can solve some of the stressors our congested cities face," said EHang founder and CEO Hu Huazhi. "We are in conversations with other cities, not just in China, to develop safe, efficient and affordable autonomous air transportation."

EHang was selected by the Civil Aviation Administration of China as the country's pilot company for passenger AAV development in January 2019. During its first series of public preprogrammed flights in Vienna, Austria, last April, the EHang AAV carried a total of 17 passengers. According to the company, the vehicle has successfully completed more than two thousand test flights. <u>https://www.avweb.com/recent-updates/evtols-urban-mobility/ehang-chooses-autonomous-air-taxi-launch-</u>

<u>city/?MailingID=129&utm_source=ActiveCampaign&utm_medium=email&utm_content=uAvionix+Opens+Two+Ne</u> <u>w+Facilities%2C+Gulfstream+Delivers+First+G600&utm_campaign=uAvionix+Opens+Two+New+Facilities%2C+Gulf</u> <u>stream+Delivers+First+G600+-+Wednesday+August+9%2C+2019</u>

Louisiana woman shoots at small airplane, mistaking it for a drone Haye Kesteloo -

Aug. 9th 2019



A Louisiana woman shot several times at a small airplane, mistaking it for a drone. "He's coming back to taunt us," she can be heard saying in a video of the incident. The police arrested the intoxicated woman and booked her into jail.

Stacy Nguyen Rodgers, 40, from Monroe, Louisiana, fired three shots at the small airplane trying to bring it down as it flew over her property.



Rodgers confessed shooting at "the drone" with a "revolver style pistol" that was confiscated by the police. The police officers noted that she was intoxicated when booked into the local jail. Fortunately, none of the shots hit the intended target. Rodgers was arrested for "illegal use of weapons or dangerous instruments," which is a felony. She was subsequently booked into the Ouachita Parish jail. She was released on Wednesday morning on a \$500 bond.

The small airplane that Rodgers shot at was spraying for mosquitos that had formed multiple mosquito pools that had recently tested positive for the West Nile Virus. https://dronedj.com/2019/08/09/louisiana-woman-shoots-at-airplane-mistaking-it-for-a-drone/#more-18241

FAA Approves Solar Drone Flights Over Hawaiian Island Jason Reagan August 08, 2019



Japanese drone company HAPSMobile has soared into a Certificate of Authorization from the FAA to fly HAWK30, a solar-powered unmanned aircraft designed for a telecommunications platform across the stratosphere of the Hawaiian island of Lanai.

The company partners with the University of Alaska Fairbanks, which manages the Pan-Pacific UAS Test Range

Complex, and the University of Hawaii to conduct stratospheric test flights. The university applied to the FAA for the COA2 on behalf of the partnership. The team will prepare for test flights at Lanai later this year. The trio also plans to hold information sessions for community residents to discuss safety considerations. <u>AeroVironment, Inc.</u> serves as HAPSMobile's aircraft development partner.

Last year, the company formed a \$65 million joint venture with HAPSMobile. https://dronelife.com/2019/08/08/faa-approves-solar-drone-flights-over-hawaiian-island/

FlyTech UAV launches photogrammetry-based algorithm for transmission line modelling APPLICATION BUSINESS EUROPE NEWS ALEX DOUGLAS AUGUST 8, 2019



The Polish technology company FlyTech UAV recently launched long-range electric power lines modeling with fixed-wing aerial data. It has been developed to replace costly helicopter inspections. The algorithm allows for preparing the LiDARquality data with aerial imagery which dramatically reduces total

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labor costs.

FlyTech UAV's flagship is fixed-wing BIRDIE, dedicated to surveying, agriculture and power engineering.

It is equipped with a full-frame camera and PPK for survey-grade accuracy. Long flight time and unlimited cellular connectivity ensure efficient coverage.

Also, the drone recently got a VTOL update for demanding terrain conditions. https://www.commercialdroneprofessional.com/flytech-uav-launches-photogrammetry-based-algorithm-fortransmission-line-modelling/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-309500-Commercial+Drone+Professional+DNA+-+2019-08-10

12Aug19

U.S. Army Spends \$100 Million to Pick a New Drone Rich Smith Aug 11, 2019



The U.S. Army is looking for a few good drones.

As recently as a few months ago it looked like it had found the drones it was looking for, settling upon privately held Martin UAV and publicly traded **Textron** to provide "scout drones" for it to test as potential

replacements for the <u>RQ-7 Shadow drones</u> (also built by Textron, incidentally) that it has been using up till now. In March, Martin and Textron were the only two companies (out of 11 competing) to win \$99.5 million contracts to supply units to be tested as part of the Army's Future Tactical Unmanned Aerial System competition.

Late last month the Pentagon announced that two new contestants have been added to the competition: Privately held Arcturus UAV, and Textron's publicly traded rival **L3Harris**.

Textronis believed to be offering the Army its Aerosonde UAV, an 80-lb., 12-foot wingspan, catapult-launched drone with a range of 75 nautical miles.

Martin UAV will partner with **Northrop Grumman** to bid its "V-Bat," a smaller vertical launchand-landing UAV that's rated to travel 350 miles without refueling.

Arcturus will be imitating Martin with a runway-independent, vertical launch-and-landing system called the "JUMP." Arcturus's robo-plane is larger than those of any of the others bidding -- more than 18 feet in wingspan.

Finally, L3Harris is expected to offer its APEX drone, a 14-foot wingspan aircraft that launches by catapult and boasts a range of about 62 miles.

. https://www.fool.com/investing/2019/08/11/us-army-spends-100m-to-pick-a-new-drone.aspx



DARPA Autonomous Drone Swarm Program Completes Urban Field Experiments

09 Aug 2019



DARPA has announced that it has undertaken a second field experiment for its OFFensive Swarm-Enabled Tactics (OFFSET) program, during which teams of autonomous air and ground robots tested tactics on a mission to isolate an urban objective. Similar to the way a firefighting crew establishes a boundary around a burning building, they first

identified locations of interest and then created a perimeter around the focal point. OFFSET envisions large swarms of collaborative autonomous systems such as UAVs and UGVs providing critical insights to small ground military units in urban areas where vertical structures, tight spaces, and limited sight lines constrain communications and mobility. The program includes multiple "sprint" efforts, which focus on different elements of command, control, and collaboration among large numbers of vehicles and humans.

For the experiment, which took place at the Selby Combined Arms Collective Training Facility in Fort Benning, Georgia, teams undertook a complex scenario spanning two city blocks. Tasks included locating and isolating a mock city hall building, locating and securing an objective inside, and then securing the building – all while maintaining situational awareness of the surrounding area. Runs lasted up to 30 minutes each.

https://www.unmannedsystemstechnology.com/2019/08/darpa-autonomous-drone-swarm-program-completesurban-field-experiments/

Switzerland Strives to Be Global Leader in Opening Skies for Drones Andy Pasztor

Aug. 6, 2019



ZURICH—Switzerland is working on pioneering ways to handle booming drone traffic aimed at allowing unmanned aircraft to quickly operate in much more of the nation's airspace than approaches being pursued in other countries.

Backed by a fast-growing local drone industry and assisted by startup U.S. drone-services provider AirMap, Swiss authorities

are taking concrete steps to move toward integrating manned and unmanned aircraft that can fly and safely coexist in the same cramped airspace.



The lessons from the initiative are expected to promote <u>similar efforts across Europe</u>, on the <u>other side of the Atlantic</u> and parts of Asia, areas where regulators are on a <u>slower track</u> to expand drone uses.

Controllers at some sites will now be able to track some drones on a dashboard next to their existing radar screens, and drone operators, in turn, will have access to automated flight-plan approvals and updated data about nearby helicopters and piloted planes.

Skyguide, the air-traffic organization that is majority-controlled by the Swiss government, is bucking the tradition of strictly segregating drones in reserved airspace. It also has been prodding controllers to help transition to a unified traffic-control network and continues to spur development of cloud-based applications intended to encourage entrepreneurs and make Swiss skies a mecca for unmanned aerial vehicles. <u>https://www.wsj.com/articles/switzerland-strives-to-be-global-leader-in-opening-skies-for-drones-11565082120</u>

Drone Delivery Crash in Switzerland Raises Safety Concerns Brian Garrett-

Glaser August 8, 2019



Swiss Post's drone delivery service has been indefinitely suspended after a drone crashed not far from a group of kindergarten children.

The program, which ferries healthcare items like lab samples between hospitals and uses large quadrotor drones made by U.S.based Matternet, launched in 2017 and has made more than

3,000 successful deliveries to date.

A January emergency landing onto Lake Zurich put the delivery service <u>on hold until April</u>; this was found by the Swiss Transportation Safety Investigation Board (STSB) to likely be the result of a short circuit interrupting the power supply to the GPS, for which Matternet made modifications to increase redundancy, and service was restored in April.

After this first incident, <u>the STSB noted</u> that the "drone's safety mechanisms worked flawlessly: as intended in such cases, the drone initiated the emergency landing itself. To do so, the drone stops its rotors and opens its parachute. The drone glides downwards, emitting a high-pitched whistling sound and using bright blinking lights to attract attention."

But in the case of the latest crash, which happened in May — just a month after the drone delivery service started back up — a yet-to-be-identified flight issue caused the drone to deploy its emergency parachute two minutes after launch, but the single tether connecting the parachute to the drone got caught on a sharp part of the drone and broke, causing the 22-pound quadrotor to crash uncontrolled into a wooded area near Zurich University.



Swiss Post has asked Matternet to urgently implement a number of safety mechanisms to reinforce its drones' parachute system, which the company is working on. Its full statement, given to *Spectrum IEEE*, <u>can be found here</u>. <u>https://www.aviationtoday.com/2019/08/08/drone-delivery-crash-in-switzerland-raises-safety-concerns/</u>

13Aug19

200 Teams. 10,000 Engineers. A 500,000 RMB Prize. Inside DJI's RoboMaster Competition staff August 12, 2019

August 12, 2019 – RoboMaster, an annual robotics competition for aspiring young engineers and university students, concluded its 2019 competition in Bao'an Stadium in Shenzhen, China. The winning team from T-DT Northeastern University, took home the gold trophy along with RMB 500,000 as the grand prize. Close to 200 teams consisting of 10,000 young engineers from around the world signed up for the 2019 RoboMaster competition season, with 32 teams battling it out in the final tournament.



Team from Northeastern University wins the first prize RoboMaster is sponsored and supported by DJI, the world's leader in civilian drones and aerial imaging technology. The competition requires teams of aspiring engineers to design and build next-generation robots to compete for supremacy on a battlefield the size of a basketball court.

By combining innovative engineering, gameplay, and entertainment into an action-packed event, RoboMaster has become an anticipated robotics competition for young engineers and roboticists around the world. The final competitions were aired on <u>Twitch.tv</u>, bringing this electrifying event online to global audiences. More than 1.95 million online viewers tuned in from over 15 countries.



Aerial from Northeastern University

Coming in second place is the team from Shanhai Jiao Tong University, and in third place University of Electronic Science and Technology of China, receiving RMB 300,000 and RMB 100,000 respectively. Other participants that competed in RoboMaster 2019 included teams from

the South China University of Technology, Virginia Polytechnic Institute and State University, University of Washington, to name a few. Teams participating in this year's competition



included students from Mainland China, the United States, Canada, Japan, and Hong Kong. https://dronelife.com/2019/08/12/200-teams-10000-engineers-a-500000-rmb-prize-inside-djis-robomastercompetition/

Bad Guys Will Have to Look Up: N.D. Sheriff's Department Protects and Serves

with Drones Miriam McNabb August 12, 2019



Burleigh County in North Dakota covers a lot of territory. Containing the state's capitol, Bismarck, the county has a population of more than 81,000 people – and covers an area of over 1,600 miles. To serve that area, the Burleigh County Sheriff's Department has been innovative in adopting new technologies – including drones.

The Sheriff's Department currently operates 5 drones. They are used for accident reconstructions, allowing crashes to be documented effectively and roads cleared quickly. They're used in search operations for missing people. They're used to help officers track down fleeing suspects; and they're used to document crime scenes for investigations and prosecutions.

With its large land area, sparse population, and economic centers of agriculture and oil, drones have a lot to offer North Dakota – and the state has been active in working to advance the technology. As part of the North Dakota Department of Transportation UAS Integration Pilot Program, the Burleigh County Sheriff's Department has now received a federal waiver to routinely fly drones over people, allowing them to utilize the technology in more situations. Burleigh County is only the second county law enforcement agency in the nation to receive the waiver, and the first in the state of North Dakota. <u>https://dronelife.com/2019/08/12/bad-guys-will-have-to-look-up-n-d-sheriffs-department-protects-and-serves-with-drones/</u>

NASA keen to learn more about safe drone flight in urban areas APPLICATION BUSINESS NEWS UNITED STATES ALEX DOUGLAS AUGUST 12, 2019



As NASA continues the final stage of testing for its UTM platform, the agency is inviting media to Corpus Christi, Texas. It hopes the event on August 15 can allow it to learn more about what it takes to fly drones safely in urban areas.

This test will focus on drone operations at altitudes between 200

and 400 feet within a dense city environment. The Corpus Christi activities will test new ways to





address the hurdles using the NASA platform and technologies onboard the participating drones.

Since 2015, NASA has worked on creating research platforms that can manage drone traffic safely. It has a long-standing partnership with the FAA and help from industry partners, the goal is to understand how a nationwide system for drones can safely integrate remotely-piloted aircraft into low-altitude airspace. <u>https://www.commercialdroneprofessional.com/nasa-keen-to-learn-more-about-safe-drone-flight-in-urban-</u>

areas/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-309579-Commercial+Drone+Professional+DNA+-+2019-08-12

VTOL Drone Conducts 51 Mile BVLOS Utility Inspection 12 Aug 2019



<u>Censys Technologies</u>, a manufacturer of commercial UAS for surveying, inspections and mapping, has confirmed that the Sentaero v2VTOL has successfully completed a 51-mile BVLOS utility inspection in just six hours, to identify damage to critical infrastructure caused by Hurricane Barry.

After Hurricane Barry made landfall in Louisiana on July 13th2019, 25.5 miles of critical infrastructure 500kV power lines needed to be inspected quickly. Soaring Eagle Imaging (SEI), a professional aviation organization that conducts aerial drone inspections for a range of enterprise clients, was

contracted by a major Louisiana energy provider to carry out power line inspections.

With over 30,000 manned aviation hours to accompany their 3,000+ UAS hours, SEI has been granted 17 previous emergency Beyond Visual Line of Sight (BVLOS) waivers.



Once it was determined that safe flights could be conducted, SEI began BVLOS flights using Censys Technologies' Sentaero v2VTOL with no remote visual observers. This enabled identification of the scope of damage to power lines and corresponding locations, helping facilitate swift repairs.

https://www.unmannedsystemstechnology.com/2019/08/vtol-drone-performs-51-mile-bvlos-utilityinspection/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=ba64f2ff0eeBrief_2019_Aug-13&utm_medium=email&utm_term=0_6fc3c01e8d-ba64f2ff0e-111778317_





The <u>Safeguard with</u>

<u>Autonomous Navigation Demonstration</u> (SAND) is an opportunity for small businesses to compete in an autonomous unmanned aerial vehicle competition to help NASA address safety-critical risks associated with flying UAVs in the national airspace such as: flight

outside of approved airspace, unsafe proximity to people or property, and critical system failure.

The competition will demonstrate NASA technologies designed to assure safe operations of autonomous vehicles, promote public confidence in increasingly autonomous commercial operating capabilities, create opportunities for collaboration and facilitate community wide learning while capturing public imagination.

NASA Langley's patented Safeguard technology will fly onboard the competitor's vehicle while navigating the competition course. It is NASA's geo-fencing technology that independently monitors vehicle position and speed. It is designed to supersede or override non-standardized manufacturer UAV geo-fencing technology to ensure the UAV operates only within approved airspace. The SAND challenge will demonstrate autonomous surveillance of a post-natural disaster scenario amidst critical infrastructure while also demonstrating the utility of Safeguard to provide the safety assurance necessary to allow these autonomous operations to take place.

Learn more about the SAND Challenge by visiting: sand2020.nianet.org or nasa.gov/sand.

DJI's White Paper Delves into North Carolina's Drone Success Malek Murison August 13, 2019



The state of North Carolina has set the standard for the integration of drone operations across public sector applications. As well as establishing a statewide drone collaboration program led by the N.C. Department of Transportation's Division of Aviation, the DoA has a working group dedicated to introducing drone programs to other government departments.

North Carolina's drone programs have covered a number of state-level operations. The most notable being the Hurricane Florence disaster response, relief and reconstruction in 2018.



This week DJI published a white paper titled, 'Drones in Government Work', exploring how the technology was used and how different public-sector bodies in N.C. built a collaborative drone program.



In 2018, dramatic footage captured by drones flown by several North Carolina agencies emerged showing devastation across the state as Hurricane Florence made land. Fifteen drone teams from seven different agencies flew over the affected areas. Over 8,000

videos and images detailed flooded roadways, damaged towns, washed-out bridges and more. These missions also provided the data needed to guide response and recovery efforts.

North Carolina's Drone Framework is a layered program of deployment, public education and outreach. The network is made up of small local police and fire departments, state-level departments and educational institutions, such as North Carolina State University and the North Carolina Public Safety Drone Academy. You can download the full whitepaper <u>here</u>. <u>https://dronelife.com/2019/08/13/djis-white-paper-delves-into-north-carolinas-drone-success/</u>

Atmos UAV Integrates MicaSense Precision Agriculture Payload 13 Aug 2019



<u>Atmos UAV</u>, a manufacturer of UAS (unmanned aerial systems) for mapping and surveying, has announced that it has expanded its payload options with the new <u>MicaSense</u> sensor, Altum. It integrates a radiometric thermal camera with five highresolution narrow bands, producing thermal, multispectral and high-resolution imagery in one flight.

Marlyn, the fixed-wing VTOL surveying platform developed by the company, is now the only drone in its class capable of carrying this new high-end sensor. Altum captures calibrated data that can be used in phenotyping, crop health mapping, water stress analysis, leak scouting, fertilizer management, zone mapping and disease identification.

To allow the data analysis to be absolute rather than relative, the new integration includes the next-generation light sensor DLS 2 for irradiance and sun angle measurements. It improves radiometric accuracy while reducing processing time.

https://www.unmannedsystemstechnology.com/2019/08/atmos-uav-integrates-micasense-precision-agriculturepayload/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=ba64f2ff0eeBrief_2019_Aug-13&utm_medium=email&utm_term=0_6fc3c01e8d-ba64f2ff0e-119747501_



DroneResponders expands offering with new Technical Experts Program

APPLICATION BUSINESS EMERGENCY SERVICES NEWS UNITED STATES ALEX DOUGLAS AUGUST 13, 2019



Speaking at the North Carolina Drone Summit, DroneResponders director Charles Werner announced the creation of the TEP to a crowd of public safety and drone industry professionals. He said the TEP will start off with more than 50 Technical Experts who have committed to serve and are in the process of being activated on the DroneResponders

website and discussion forum.

The Technical Experts will cover topics surrounding public safety UAS operations such as active shooter situations, beyond visual line of sight operations, emergency airspace authorizations, and HAZMAT responses. The responsibilities of the TE's will include participation in the discussion forums, news blog, webinars, events and other activities as their schedules permit.

We expect the DroneResponders Technical Experts to become the rock stars of the public safety UAS sector. Public safety agencies have a long tradition of helping one another, and the DRONERESPONDERS program will carry that legacy forward.

https://www.commercialdroneprofessional.com/droneresponders-expands-offering-with-new-technical-expertsprogram/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-309715-Commercial+Drone+Professional+DNA+-+2019-08-13

14Aug19

Flytrex and Causey Aviation secure FAA nod for Californian drone food delivery

BUSINESS DELIVERY FAA HEADLINE NEWS REGULATION ALEX DOUGLAS AUGUST 14, 2019



As part of the FAA's UAS Integration Pilot Program and in partnership with the North Carolina Department of Transportation, Causey Aviation, the Town of Holly Springs, and Kite Realty Group Trust, Flytrex will soon begin its on-demand, unmanned food delivery via commercial drones for local residents.

The announcement comes in the wake of the recent validation of Flytrex's self-triggered parachute recovery system by NUAIR, according to standards set by the FAA and the American Society for Testing and Materials.



According to the approved proposal, Flytrex drones will operate along one predetermined delivery route, connecting a distribution center at Holly Springs Towne Center, a shopping destination owned and operated by Kite Realty Group, with a single delivery point: Ting Park, a nearby outdoor sports and recreation hub.

The flight route crosses over Route 55, and will fly primarily over unpopulated areas, avoiding flights over adjacent neighborhoods. <u>https://www.commercialdroneprofessional.com/flytrex-causey-aviation-secure-faa-nod-for-californian-drone-food-delivery/</u>

Lacuna Space aims to ride IoT wave with a 32-cubesat constellation Caleb

Henry August 13, 2019



WASHINGTON — Lacuna Space CEO Rob Spurrett says he's well aware his 3-year-old startup is part of a cresting wave of Internet of Things ventures seeking to deploy constellations of cubesats to connect a world awash in smart devices.

At least 16 companies are targeting the IoT market with smallsats, according to NSR analyst Alan Crisp, ranging from startups like Fleet and Kepler Communications to heavyweights like Eutelsat.

"We've always been of the view that IoT is going to be a very low-cost application," he said. To find the lowest cost system, Lacuna Space expects to have launched four different prototypes by the end of the year. A second prototype from British startup In Space Missions is booked to launch on a Rocket Lab Electron mission. A third from Open Cosmos is scheduled to launch on an Arianespace Soyuz, followed by a fourth prototype from NanoAvionics paired with another PSLV. All three will have their own buses.

Lacuna Space, in contrast to some of its competitors, aims to operate satellites that can directly pick up signals from LoRa-standard IoT sensors instead of having the signals transferred to a dish and amplified to reach space. Spurrett said this approach means Lacuna Space doesn't have to build custom user terminals, but can rely on already fielded equipment. https://spacenews.com/lacuna-space-aims-to-ride-iot-wave-with-a-32-cubesat-constellation/

Why Drone Delivery of Food is Actually Important (Beyond Hot Wings) Miriam McNabb August 14, 2019



Yesterday, Israeli-based drone delivery firm <u>Flytrex</u> and North Carolinabased charter flight company <u>Causey Aviation</u> announced that they have

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received FAA Approval to begin food delivery by drone in North Carolina. And while grocery or restaurant delivery may not be lifesaving missions, they are critical to the drone industry.

The FAA approval is for both the drone company Flytrex and a drone services company Causey Aviation. (The company now has a new website and a subsidiary name in addition to its charter services site – <u>Causey Aviation Unmanned, Inc.</u>). CAU's value to the project is that they have been safely operating a professional aviation service for more than 50 years in the manned aircraft space – which makes them uniquely qualified to establish the safety standards and operational procedures to integrate into the airspace. Flytrex has developed a self-triggered parachute recovery system that meets the ASTM standards. <u>https://dronelife.com/2019/08/14/why-drone-delivery-of-food-is-actually-important-beyond-hot-wings/</u>

15Aug19

FAA Approves Kansas for First BVLOS Drone Flight Jerry Siebenmark August 14, 2019



The first-ever beyond-visual-line-of-sight (BVLOS) drone operation using only onboard detect-and-avoid systems in the U.S. will be conducted in Kansas following just-received FAA approval, the Kansas Department of Transportation announced today. It won't require visual observers or ground-based radar.

A collaboration between Kansas State University Polytechnic Campus, electric utility Westar Energy, Iris Automation and KDOT, the operation will involve a drone flying a nine-mile track evaluating technologies for inspecting power lines in rural Kansas. It is hoped it will be the first step in allowing routine commercial infrastructure inspection across the state.

Kansas officials credit the state's participation in the FAA's Unmanned Aircraft Systems Integration Pilot Program for approval to conduct the flights. "The UAS industry has worked over 10 years to demonstrate the most significant commercial benefit of drone operations within the United States," said KDOT director of aviation Bob Brock. "We are proud of the joint state, university and industry team effort that made this landmark decision possible."

K-State Polytechnic's Applied Aviation Research Center will oversee training and flight operations with a cross-functional team from the 31-member KDOT IPP team. Flights will take place over the next few months. <u>https://www.ainonline.com/aviation-news/business-aviation/2019-08-14/faa-approves-kansas-first-bvlos-drone-flight</u>





UC Berkeley Researchers Say Drone Could Fly for Days with New PV Engine Betsy

Lillian August 14, 2019



Graphite ribbon (glowing bar) heating the thermophotovoltaic cell sitting under it

UC Berkeley researchers have claimed a new record in photovoltaic efficiency, an achievement they say could lead to an ultra-light engine that could power drones for days.

For the past 15 years, the efficiency of converting heat into electricity with thermovoltaics has been stalled at 23%. However, the researchers say they have now raised the efficiency to 29% and are now aiming to reach 50% efficiency.



A drone flying by UC Berkeley's Campanile

This finding builds on work published in 2011 which found the key was not absorbing more photons (light) but emitting them. By adding

a reflective mirror on the back of a photovoltaic cell, they broke efficiency records. The mirror creates a dense infrared luminescent photon gas within the solar cell that adds voltage.

Recently, the team recognized that this mirror could serve double duty. It solves one of the biggest challenges in thermophotovoltaics: how to exploit the thermal (heat) photons that have too little energy to produce electricity. The mirror can reflect those small photons to reheat the thermal source, providing a second chance for a high energy photon to be created and generate electricity. This phenomenon leads to unprecedented efficiency.

"Just by increasing the reflectivity, we will get 36 percent efficiency. By making other tweaks to the cell, we know we can get to 50 percent efficiency," says Zunaid Omair, a graduate student researcher and first author on the paper. <u>https://unmanned-aerial.com/uc-berkeley-researchers-say-drone-could-fly-for-days-with-new-pv-engine?utm_medium=email&utm_source=LNH+08-15-2019&utm_campaign=UAO+Latest+News+Headlines</u>

NASA, Lone Star UAS Conducting Drone Traffic Management Tests Betsy Lillian August 14, 2019

The Texas A&M University-Corpus Christi Lone Star UAS Center of Excellence & Innovation is currently conducting demos of its NASA Unmanned Traffic Management project.

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The tests commenced on Monday and are expected to be completed on Aug. 23. This project is the culmination of nearly <u>five years of</u> <u>research</u> by NASA and Lone Star UAS for the purposes of safely integrating unmanned aircraft systems into the National Airspace System.

As part of the event, Lone Star UAS, in conjunction with the City of Corpus Christi, the Police Department, the Fire Department, the Port and the airport, will be flying aircraft in and around the downtown area.

On Thursday, NASA has invited media to learn more about what it takes to fly drones safely in urban areas. This testing will focus on operations at altitudes between 200 and 400 feet within a dense city environment. Along with larger populations, city landscapes present unique challenges to drone traffic management. This includes more obstacles to avoid, specific weather and wind conditions, reduced lines of sight, reduced ability to communicate by radio and fewer safe landing locations. The Corpus Christi activities will test new ways to address these hurdles using NASA's platform and technologies onboard the participating drones. https://unmanned-aerial.com/nasa-lone-star-uas-center-conducting-uas-traffic-management-tests?utm_medium=email&utm_source=LNH+08-15-2019&utm_campaign=UAO+Latest+News+Headlines

Kansas Sheriff's Office Expanding Drone Use to Deter Criminal Activity Betsy Lillian

August 14, 2019



Since 2017, the Shawnee County Sheriff's Office in Kansas has seen a 21% increase in crimes involving burglaries, thefts from vehicles and thefts of motor vehicles. As part of Sheriff Brian Hill's initiative to decrease these burglaries and thefts, the sheriff's office is <u>developing</u> a new drone

initiative. The sheriff has been using drones to map crime scenes and aid in search-and-rescue efforts. Now, it is expanding the program to assist in deterring criminal activity.

The unmanned aircraft would be used over public roadways and public pathways in neighborhoods that have experienced higher rates of these crimes. They would be flown during peak times of criminal activity, based on crime data.

The sheriff's office has set up several public engagement meetings this month to discuss the new drone initiative. Shawnee County, the third-largest county in Kansas, is home to the state's capital city, Topeka. <u>https://unmanned-aerial.com/kansas-sheriffs-office-expanding-drone-use-to-deter-criminal-activity?utm_medium=email&utm_source=LNH+08-15-2019&utm_campaign=UAO+Latest+News+Headlines</u>

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N.D. Sheriff's Department Approved for UAS Flights Over People Betsy Lillian August 9, 2019



The Burleigh County Sheriff's Department in North Dakota has received a four-year waiver from the Federal Aviation Administration to operate unmanned aircraft systems over people. The department claims to be the first law enforcement agency in the nation to receive a waiver to routinely conduct UAS operations over people using a

drone. It will use a DJI Mavic 2 UAS equipped with a ParaZero SafeAir parachute recovery system.

The FAA approved the operations as part of North Dakota's participation in the federal <u>UAS</u> <u>Integration Pilot Program</u>. The North Dakota Department of Transportation <u>also recently</u> <u>received</u> the same waiver.

"ParaZero is thrilled to supply Burleigh County's Sheriff Department with the <u>ASTM-compliant</u> <u>SafeAir Systems</u> that they need for their operations under this waiver," comments Avi Lozowick, vice president of policy and strategy at ParaZero. "The department says the waiver will enhance public safety efforts not only in Burleigh County but also statewide. The agency currently has five drones. <u>https://unmanned-aerial.com/n-d-sheriffs-department-approved-for-uas-flights-</u> over-people?utm_medium=email&utm_source=LNH+08-15-2019&utm_campaign=UAO+Latest+News+Headlines

Taking Drones in Agriculture to the Next Level: the SmartFruit Project Miriam McNabb August 15, 2019



Food security is a global problem that requires a global solution. An international group of researchers led by Dr. Stanley Best, Director Nacional Programa Agricultura de Precisión of INIA Quilamap in Chile, is tackling one aspect using a system of autonomous drones: specifically, a DJI prosumer drone with a Heisha autonomous drone charging system.

The "SmartFruit" project is a large undertaking: one that will examine areas of precision agriculture including remote sensing, phenotyping, proximal sensing development and robotics. INIA de Chile has partnered with the University of Talca and the University of Maule to create a special research center.





One of the new center's projects is an automated orchard monitoring system which will allow researchers to gather aerial data from the field while operating and analyzing the data in the lab. The team will establish a network of <u>drone charging</u>

<u>stations</u> through wireless internet connections and integrate the network with an existing satellite remote sensing system. That will allow all of the survey, data collection and analysis to be remotely operated and managed from the central laboratory – located more than a hundred miles from the field.

It's a project with far-reaching potential impact for large growers around the globe and will allow researchers to gather much more data to make strategic growing decisions. The project is also supported by Asia Pacific Economic Cooperation because of its potential benefits. https://dronelife.com/2019/08/15/taking-drones-in-agriculture-to-the-next-level-the-smartfruit-project/

DJI and SkyPixel Launch Short Film Contest Malek Murison August 15, 2019

SkyPixel and DJI are launching a \$50k short film contest. The competition calls for 3-minute entries from gimbal users across three different categories. Entrants can use any gimbal or camera products, including DJI's Osmo and Ronin series.



Since its inception in 2014, the SkyPixel platform has become a hub for aerial photographers and content creators from more than 140 countries. The platform's previous contests have received over 150,000 submissions.

Much like those previous events, the Short Film

Contest announced today invites users to submit their best work across three storytelling categories. For this contest, those are 'Big Moments Start Small,' 'Make Your Move' and 'Adventure Starts With You.'

Big Moments Start Small: Create a video showcasing the small, lightweight design of your camera device and your best cinematic scenes.

Make Your Move: Create a video showcasing the stabilized footage from your device. *Adventure Starts With You:* Create a short, cinematic narrative film to showcase your creative skills and visual effects.

There is no restriction on the type or brand of equipment participants use. And you can submit as many videos as you like.



The 2019 SkyPixel Short Film Contest will accept entries from August 15, 2019 to October 14, 2019. There'll be a total of 100 winners announced on October 31. The prize pool is worth a total of \$48,600/€43,700 and you can see a full breakdown of what you could win, <u>here</u>.

Want to give it a shot? You can submit your 3-minute clips at any time up to October 14. Winners will be announced on Halloween. <u>https://dronelife.com/2019/08/15/dji-and-skypixel-launch-short-film-contest/</u>

Walmart Files Patent for Blockchain-Backed Drone Communication William Foxley Aug 15, 2019



Walmart filed for an application entitled "Cloning Drones Using Blockchain" in January 2019 with the United States Patent and Trademark Office publishing the <u>patent</u> on August 1. The patent for an unmanned aerial vehicle (UAV) blockchain-based coordination

system was published the same day as Walmart's digital currency patent application.

According to the patent, blockchain technology is used to transmit information, like drone identification numbers, flight heights, flight speeds, flight routes, battery information, or loading capacity to other drones. Information can be shared based on the intermediate location between drones.

The benefit of blockchain technology, the patent claims, lies in data integrity: "A blockchain ledger may store any kind of information that may be stored in any other format or medium, for example, a large list of instructions of different types, navigational information and maps. In such a way, a same software profile may be deployed across the cloned drones."

The application joins a host of other UAV applications by the commerce giant with most describing a delivery service. <u>https://www.coindesk.com/walmart-files-patent-application-for-blockchain-backed-drone-communication</u>

Colorado Farmer Uses Drones to Maximize Yield Associated Press - @inquirerdotnet AP August 15, 2019

A drone soared over a blazing hot cornfield in northeastern Colorado on a recent morning, snapping images with an infrared camera to help researchers decide how much water they would give the crops the next day.



After a brief, snaking flight above the field, the drone landed and the researchers removed a handful of memory cards. Back at their computers, they analyzed the images for signs the corn was stressed from a lack of water.



In this Thursday, July 11, 2019, photograph, United States Department of Agriculture Kevin Yemoto, left, an engineering technician, joins Huihui Zhang in setting up a drone for a flight over a research farm northeast of Greeley, Colo. as Kendall DeJonge, also of the USDA, looks on. Researchers are using drones carrying imaging cameras over the fields in conjunction

with stationary sensors connected to the internet to chart the growth of crops in an effort to integrate new technology into the age-old skill of farming.

Remote sensors measure soil moisture and relay the readings by Wi-Fi. Cellphone apps collect data from agricultural weather stations and calculate how much water different crops are consuming. Researchers deliberately cut back on the water for some crops, trying to get the best harvest with the least amount of moisture, a practice called deficit irrigation.

In the future, tiny needles attached to plants could directly measure how much water they contain and signal irrigation systems to automatically switch on or off.

https://usa.inquirer.net/37041/colorado-farmer-uses-drones-to-maximize-

yield?mkt_tok=eyJpIjoiTTJJME9EbGpPV0kxTWpjeiIsInQiOiJPYklcL0x1aWpaOTNhOWdKTjFRWDFBNzJhMHN4UVduY U1kYWpITFZINTY0M0FqR29xbkl3NFRBSHJjcnN6TWIReUFMOG9ERFIraEUrdVdIZTZ3dDhWeXFDNkhQOHJNUEhIZXJR K3RmNFNoU2w5ZTZQMW1pREJtVVJYeIV5VFIURHgifQ%3D%3D

DroneUp Awarded First Multi-State Contract Providing Public Sector Access to Drone Services Media Contact Amy Wiegand 757-657-4886 August 15, 2019



Virginia Beach, VA -- DroneUp, LLC, a drone pilot service provider for aerial data collection, is pleased to announce that it has been awarded a contract for Unmanned Aerial Systems Services by the Commonwealth of Virginia to provide UAS services to all state agencies, institutions of higher education and other public bodies in Virginia. The award is the first of its kind for the drone industry

and a highly anticipated announcement after a competitive request-for-proposal process with multiple national drone organizations.

The award includes service categories for Emergency Services, Law Enforcement Support, Aerial Inspection or Mapping Data Services, Agriculture and Gaming, Agency Media Relations and





Marketing. The Commonwealth anticipates that the primary users will be the Departments of Aviation, Emergency Management, Transportation, Forestry, Mines, Minerals and Energy, and all Public Universities and Community Colleges.

The services under the award are available for use by all 50 states, the District of Columbia, and the territories of the United States through the National Association of State Procurement Officials ValuePoint Cooperative Purchasing Organization. For further information please see www.NASPOValuePoint.org.

16Aug19

You Can Watch Rocket Lab Launch 4 Satellites into Orbit Soon. Here's How. Tariq Malik an hour ago Spaceflight



Update, 9:06 a.m. EDT: Rocket Lab has scrubbed today's launch due to high winds and has not yet announced a new launch date. The launch window extends over 14 days, with liftoff occurring 30 minutes earlier each day.

We are standing down from today's launch attempt due to weather. Surface level winds are 30% over limit. A new target launch day/time will be advised soon. A <u>Rocket Lab</u> <u>Electron booster</u> will launch a quartet of satellites into orbit, and you can watch it all live online. You can also watch the launch directly from <u>Rocket Lab's livestream website here</u>. The webcast will begin about 15 minutes before launch time.

On this mission, the Electron will launch the first cubesat for the French company UnseenLabs, which aims to build a constellation of small satellites to provide maritime surveillance of Earth's oceans. Rocket Lab will also launch the BlackSky Global-4 Earth-imaging satellite, the second such satellite launched for Black Sky this year. The final two cubesats are technology-demonstration spacecraft built by the U.S. Air Force Space Command's Pearl White program. They will serve as an "on-orbit testbed for emerging technologies in 2019." "The demonstration will test new technologies including propulsion, power, communications and drag capabilities for potential applications on future spacecraft," Air Force officials said. The two satellites were built by Tiger Innovations Inc. in Herndon, Virginia and should last about a year in orbit, they added. https://www.space.com/watch-rocket-lab-launch-look-ma-no-hands-webcast.html