UAS and SmallSat Weekly News

Contents

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21Sep19

Following Saudi Attack, Citadel Garners USAF Counter-drone Contract Jason Reagan September 19, 2019

Counter-drone provider Citadel Defense Company is partnering with the U.S. Air Force to protect military assets from drone attacks.

The Air Force will deploy the company's Titan mobile anti-drone system. The contract represents the end game of an 18-month validation period by the U.S. departments of Defense and Homeland Security to determined Citadel's "ability to detect, identify, and defeat drone threats [that is] operationally effective across many mission environments."

"Feedback from 200-plus stakeholders uncovered unmet needs that existing [counter-drone] offerings did not address," Citadel CEO Christopher Williams said. "The solution must be capable of complete autonomous operation. It must be easy to use with setup and takedown in minutes, not hours "It must not require signal expertise or calibration to operate. And it must be able to detect and defeat drones without disrupting tactical communications. We built Titan to address those needs."

The Titan system offers tech that detects drone controllers, video and Wi-Fi links for individual drones and swarms and can then neutralize the threat. The solution can be set up in about 5 minutes for deployment for military, government or commercial use. ."
https://dronelife.com/2019/09/19/following-saudi-attack-citadel-garners-usaf-counter-drone-contract/

Austrian Airlines Using Donecle's Automated Inspection Drone Solution News September 18, 2019

Donecle announced it has signed on Austrian Airlines for automated drone inspection to reduce the time for aircraft inspection while increasing reliability, safety and traceability of airframe checks. Austrian will use it for visual inspections during line maintenance as well as for unscheduled events.

An automated drone scans the external surface of the aircraft and assists the inspector to visualize and detect defects on the images, evaluate paint quality or check regulatory markings.

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All images are stored on a secure cloud platform to build a digital history of the aircraft and improve traceability over time, contributing to a paperless process. https://uasweekly.com/2019/09/18/austrian-airlines-using-donecles-automated-inspection-drone-solution/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_09_19_2019&utm_term=2019-09-19

Drone Alliance Sets New Standard for Police Drones with Centrik September 18, 2019 News

The Alliance Drone Team, one of the UK's largest police unmanned aviation systems programs, has been able to expand and effectively manage operations covering almost 5,000 square miles.

The operational management system – the only one of its type approved by Regulators to manage both manned and unmanned operations – has coordinated activity for 50 police UAS pilots across South West England.

A collaboration among Devon, Cornwall and Dorset Police, the Alliance Drone Team integrates UAS into the emergency services environment, supporting law enforcement for missing person searches, major events and firearms incidents.

"Centrik has been a pleasure to work with, and has helped us to continue to professionalize our drone operations across our three counties. The software has allowed us to effectively manage our pilots, equipment and deployments, while ensuring effective risk management and safety oversight across our organizations," says Sgt James Rees, Accountable Manager, Alliance Drone Team. https://uasweekly.com/2019/09/18/drone-alliance-sets-new-standard-for-police-drones-with-centrik/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_09_19_2019&utm_term=2019-09-19

Picterra Lands $3.3 Million in New Funding to Help Further Democratize Geospatial Mapping Mapping and Surveying September 18, 2019

Picterra, a geospatial software organization that enables users to extract satellite and drone imaging insights through a combination of artificial intelligence and human expertise, today announced $3.3 million in new funding that will help further democratize geospatial mapping data. The funding will go toward growing Picterra's team and building upon its early

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successes, such as a community-built library of hundreds of deep learning models; reducing the training of deep learning models, and democratizing its geospatial mapping search engine.

Seed round investors include Space Capital, the world's leading space investor; Omidyar Network, the impact investment firm established by Pam and Pierre Omidyar, the founder of eBay; Atlantic Labs; and another European venture capital firm.

"Picterra's technology is built upon the advent of artificial intelligence and the increasing availability of Earth Observation imagery," said Chad Anderson, Managing Partner of Space Capital. Its platform is unique in that it's driven by a community of users who pool their data and expertise to collectively create a continuously-improving library of deep learning algorithms. This approach gives everyone – not just data scientists and developers – the opportunity to analyze and draw real-time insights from satellite and aerial imagery, all in just a few clicks. https://uasweekly.com/2019/09/18/picterra-lands-3-3-million-in-new-funding-to-help-further-democratize-geospatial-mapping/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_09_19_2019&utm_term=2019-09-19

Terra Drone Angola Uses UAV in Offshore Mock Oil Spill Response September 20, 2019 News

Terra Drone Angola has successfully demonstrated how drones can be used as a surveillance and reconnaissance tool for oil spill incidents. The pilot project was conducted for a major oil and gas operator in West Africa.

Offshore oil spills are a cause of great concern not only because of the economic losses but also because of their adverse impact on the environment and marine ecosystem. Unmanned aerial vehicles prove to be safer, faster, and cheaper than the traditional method of using helicopters or manned flight operations. Further, drones are also a much more viable option logistically because a team of just two operators can conduct UAV flight operations for up to 10 hours each day.

In the exercise, environmentally-friendly colored dye was released at the surface of the sea to simulate an oil spill. To help the energy company identify the location of the simulated oil spill and assess the surface area of the spill, an octocopter fitted with RGB camera and polarizing filter was used. Six flights were flown to attempt locating and sizing the simulated spill and

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showcase how drones can be used to collect crucial information in an emergency response situation.

Apart from monitoring oil spill response, drones can also be used by oil and gas operators for inspections of flare stacks, underdeck, hull, internal tanks, and pipelines. Drones are equally capable of performing large-scale aerial surveys which can be used for environmental baseline studies, gas leak detection, as well as 3D modeling of assets.
https://uasweekly.com/2019/09/20/terra-drone-angola-uses-uav-in-offshore-mock-oil-spill-response/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_09_20_2019&utm_term=2019-09-20

21Sep19

iRed relishes chance to push drone boundaries with construction tie-up

APPLICATION BUSINESS DRONES AT WORK HEADLINE NEWS UK ALEX DOUGLAS SEPTEMBER 18, 2019

iRed has joined the COMIT2Drones community, a specialist group focusing on drones within the construction industry.

COMIT (Construction, Operation & Maintenance through Innovative Technology) first began in 2003, originally as a two-year research and development project. It is a cooperative environment that enables companies to learn from one another as a means of improving understanding between the construction and technology industries and develop better ways of using mobile IT.

"Working alongside over 40 member companies, we're looking forward to sharing our knowledge and experience with both new and existing members." Looking ahead, Bloomfield added that iRed is also hoping to collaborate directly with members to create and develop new drone solutions for the construction environment, with the ultimate aim of advancing the safe and legal use of drones in the UK. https://www.commercialdroneprofessional.com/exclusive-ired-relishes-chance-to-push-drone-boundaries-after-construction-tie-up/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-312631-Commercial+Drone+Professional+DNA+-+2019-09-21

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23Sep19

Small satellites, big weakness DEBRA WERNER SEPTEMBER 2019

Constellations of microsatellites are starting to provide imagery, communications bandwidth and weather data to customers quickly and affordably. So what could possibly go wrong? Plenty, unless this sector gets its cybersecurity house in order. Startup companies are hooking up simple microsatellites (weighing 10 to 100 kilograms) to the internet for affordability and the convenience of customers. Imagery, weather data and communications bandwidth are delivered this way. Commands to the satellites travel through the internet to satellite ground stations and up to space. Cybersecurity experts are sounding the alarm about the vulnerability of this new way of doing business.

Cyber experts don't necessarily think companies must disconnect their satellites entirely from the internet. In our example, the CEO quickly hired outside experts to identify and shore up vulnerabilities in the firm's private computer network and its connections with the internet. They warned that an employee on an overseas trip could unwittingly create a conduit to the company's satellite constellation and blueprints by firing up a laptop on public Wi-Fi. So, employees are no longer allowed to bring their work laptops on many such trips. Instead, they travel with blank laptops containing no information about the company or its satellite constellation. When employees return from overseas, the laptops they carried are wiped clean to prevent any malware they may have picked up from spreading to corporate networks.
https://aerospaceamerica.aiaa.org/features/small-satellites-big-weakness/

Boeing tests drone with aerial refueling in mind JON SKILLINGS SEPTEMBER 20, 2019

The Boeing MQ-25 drone makes its first test flight.

Drones may someday rule the skies, but not all drones will have glamorous jobs. Some of them will be gas stations with wings.

Boeing banked in that direction on Thursday when it completed the first test flight of its MQ-25 unmanned aerial refueler. The sleek test aircraft,

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with a flattened-V tail assembly, carried out a 2-hour autonomous flight along a predetermined route to check out basic flight functions. Boeing test pilots at MidAmerica St. Louis Airport in Missouri monitored the aircraft, also known as T1, which flew to an altitude of 10,000 feet and reached speeds of roughly 180 knots.

Testing with the T1 will continue as a preliminary step ahead of Boeing producing four engineering development models of the MQ-25 as part of an $805 million contract with the US Navy. The eventual goal for the Navy is to have unmanned aircraft take over as its carrier-based aerial refueling tankers, relieving combat aircraft like the F/A-18E/F Super Hornet now serving in that role. https://www.cnet.com/news/boeing-tests-drone-for-aerial-refueling/

National Drone Safety Awareness Week

National Drone Safety Awareness Week will help educate the public about drone safety by highlighting how key sectors of the drone community are engaging with the public and spreading awareness throughout the U.S.

During this week, the FAA will promote your safety stories, successes, events and educational programs. Everyone is welcome to participate in this weeklong campaign, whether to engage the public in ongoing drone work, or to kick off new safety initiatives.

Get Started Today

- Check out the Stakeholder Playbook for ideas and inspiration.
- Download the National Drone Safety Awareness Week graphics and apply them to your event materials.
- Visit the Voluntary Tracking Tool (VTT) on the Unmanned Aircraft Safety Team (UAST) website to log your planned events.
- Tag your social media stories with #DroneWeek to let us know you're participating in National Drone Safety Awareness Week.

For additional information, visit faa.gov/go/DroneWeek or email DroneSafetyWeek@faa.gov

Oneida Indian Nation to use drones for land management PAYNE HORNING SEP 20, 2019

The Oneida Indian Nation is going to introduce drone technology to better protect and manage their land and environmental resources.

To launch this new effort, it is teaming up with NUAIR, a nonprofit coalition of private and public organizations overseeing drone testing in central New York. The plan is to collect and assess data about its property.

"When you're looking down on something rather than at ground level, you certainly get to see more of what's going on and they also have parcels that are difficult for them to access due to marsh land and thickly wooded areasg," Basile said. "So, viewing it from above it gives them perspective that they aren't currently able to see with the ranger on foot or in a four wheeler."

The partnership is mutually beneficial. NUAIR is one of only a few sites in the country currently conducting unmanned aircraft research for the Federal Aviation Administration. This new project will provide the coalition with data that will aid its efforts to find the best way to integrate drones safely into the national airspace. https://www.wrvo.org/post/oneida-indian-nation-use-drones-land-management

Successful test flight for Tellumat ASTUS defenceWeb 17th Sep 2019

South African provider of defence and security technology Tellumat successfully completed flight trials with its ASTUS unmanned aerial system in the Overberg region of South Africa under SA Civil Aviation Authority regulations.

Poor weather conditions saw any number of test flights done in strong winds, freezing temperatures and various layers of cloud cover. This did not deter the flight team, and the UAS coped – admirably – with all conditions. Among flight milestones achieved were successful climbs to 16,000 feet and maintaining cruise speeds varying from 50 to 90 knots. At all times, two live video channels transmitted feeds to the ground station. https://www.defenceweb.co.za/aerospace/unmanned-aerial-vehicles/successful-test-flight-for-tellumat-astus/

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Dronisos to strengthen presence in the US with new office and training center

19th September 2019

Founded three years ago in Bordeaux, France, Dronisos specializes in the execution of indoor and outdoor light shows. The company has celebrated **a major milestone** earlier this year, with its 10,000th drone show installation at Vulcania, a theme park in Auvergne, France.

Building on its success, Dronisos is excited to open their newest office in Orlando, Florida. Situated in the global hub of the entertainment industry, this strategic location will allow Dronisos to continue to expand within the American market, where they are already performing a fifth of their shows.

"The demand is particularly strong in this territory. In some states, fireworks are considered too noisy and dangerous because of fire hazards. We are convinced of the merits of establishing ourselves in the United States because we are able to offer new types of shows, outdoor shows in particular," says Dronisos CEO, Laurent Perchais.

Dronisos is also pleased to announce that they are launching the world's first drone training center in Kentucky. The center will train partners to be certified in the use of their drone technology. Through this certification program, the company aims to build a global network of expert partners, as well as to meet the demands of shows around the world.
https://blooloop.com/news/dronisos-expansion-new-office-training-center/

The Future of War Is Already Here Dr. P. W. Singer is a scholar specializing in technology and politics. Sept. 18, 2019

Missiles and drone aircraft on display at an unidentified location in Yemen in a photo released by the Houthi Media Office Sept. 17.

It seems like the opening of a techno-thriller novel: In the dead of night, a swarm of robotic planes sneaks past a billion-dollar defense system and takes out one of the world's most valuable targets in a fiery blast.

But it is no fiction. It is now a technological and political reality.

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Much remains uncertain about the raid on oil facilities in Saudi Arabia on Saturday that shut down half the country's oil output. There were disputes about the origin of the attack as well as the weapons used. What we know for certain is that the attack points to crucial changes in the technology of war and its consequences that the United States should prepare for better than the Saudis did.

The most advanced weapons used to be found only in the hands of the most powerful state actors, because of how much it cost to obtain them and the expertise required to use them. Now there is a much lower barrier to entry. More than 75 nations have cruise missiles and more than two dozen nations have armed drones. Those numbers will continue to grow as more sellers like China introduce the technology into the world arms market. (As fate would have it, the Saudis recently bought Predator-drone knockoffs from Beijing.)
https://www.nytimes.com/2019/09/18/opinion/drone-attack-saudi-arabia.html?searchResultPosition=3

Good to Go: Reviews are in on the New FAA B4UFLY App Miriam McNabb September 23, 2019

The new FAA B4UFLY App is one of the best examples to date of successful collaboration between industry and government in the drone space. The new app has only been out for a little more than a month – today, app developers Kittyhawk have released some of the stats.

B4UFLY is designated as the official FAA drone airspace awareness application – and it's the first mobile app that the FAA has developed. It was good news for recreational drone pilots when the FAA announced that they had partnered with commercial airspace intelligence platform Kittyhawk to redevelop the application to improve the user experience.

According to the FAA, the app is designed to provide:

- A clear "status" indicator that informs the operator whether it is safe to fly or not
- Informative, interactive maps with filtering options
- Information about controlled airspace, special use airspace, critical infrastructure, airports, national parks, military training routes and temporary flight restrictions
- The ability to check whether it is safe to fly in different locations by searching for a location or moving the location pin
- Links to other FAA drone resources and regulatory information

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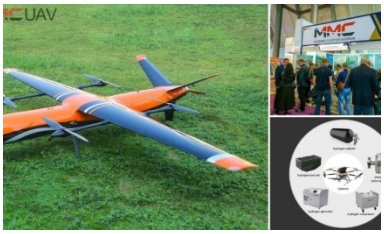
By definition, "the app provides situational awareness to recreational flyers and other drone users. It does not allow users to obtain airspace authorizations to fly in controlled airspace, which are only available through the FAA's Low Altitude Authorization and Notification Capability (LAANC)."

The new app meets the FAA's goals, and almost all users agree that it offers a major improvement over the previous app. https://dronelife.com/2019/09/23/good-to-go-reviews-are-in-on-the-new-faa-b4ufly-app/

MMC UAV launches new record-breaking Hydrone APPLICATION BUSINESS INNOVATION INTERNATIONAL NEW PRODUCTS NEWS ALEX DOUGLAS SEPTEMBER 23, 2019



MMC UAV has launched its new hydrone Griflion H, with a record-breaking 15-hour flight time.

It is a hydrogen-powered vertical take-off and landing drone with an integrated design and MMC-developed hydrogen fuel battery with great stability.

MMC says the highlight of Griflion H is the extended flight time thanks to its high-efficiency metal bipolar plate hydrogen fuel cell with a maximum hydrogen storage capacity of 27L.

Its flight time reached a record-breaking 15 hours without payload and 10 hours with a 3kg payload. Other features include convenient operation, high security, wide coverage, zero emissions and low noise.

This is coupled with different payloads which provide solutions for global customers in areas like surveying and mapping, rescue, security & protection, border scouting and forest scouting. https://www.commercialdroneprofessional.com/mmc-uav-launches-new-record-breaking-hydrone/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-312755-Commercial+Drone+Professional+DNA+-+2019-09-23

AeroVironment Achieves Successful First Test Flight of Next Generation Solar HAPS UAS September 22, 2019 News

AeroVironment, Inc. , a global leader in Unmanned Aircraft Systems for both defense and commercial applications, announced the successful first flight of the HAWK30 solar High Altitude Pseudo Satellite (HAPS) unmanned aircraft system on September 11,

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2019 at the NASA Armstrong Flight Research Center in California. AeroVironment partnered with SoftBank Corp to create HAPSMobile Inc., the joint venture funding HAWK30 design development and demonstration.

"The first flight of HAWK30 builds on more than two decades of pioneering HAPS technology development and demonstration by the AeroVironment team, and comes only two years since SoftBank joined us in this endeavor," said Wahid Nawabi, AeroVironment president and chief executive officer. "We are grateful for the expertise and support from NASA's outstanding team at the Armstrong Flight Research Center. We are proud to add another milestone to their storied history of aviation innovation," Nawabi added.

Developed and assembled in AeroVironment's HAPS Innovation Center, the HAWK30 has a wingspan of approximately 260 feet and is propelled by 10 electric motors powered by solar panels covering the surface of the wing, resulting in zero emissions. Flying at an altitude of approximately 65,000 feet above sea level and above the clouds, it is designed for continuous, extended missions of up to months without landing.
https://uasweekly.com/2019/09/22/aerovironment-achieves-successful-first-test-flight-of-next-generation-solar-haps-uas/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_09_23_2019&utm_term=2019-09-23

24Sep19

DJI doubles down on agriculture market with P4 Multispectral unveiling at AirWorks

AGRICULTURE APPLICATION DJI AIRWORKS EVENTS HEADLINE NEWS ALEX DOUGLAS SEPTEMBER 24, 2019

At this year's annual AirWorks conference, DJI has confirmed its intentions to better equip the agriculture industry.

With the slogan 'Today's Tools, Tomorrow's Standards,' the manufacturer outlined the $1.4bn worth of addressable agricultural market in the US where drones can help improve work. This is part of a wider addressable market of $5.9bn globally.

DJI has launched the P4 Multispectral, a 6 lens camera integrated with the Phantom 4 which also has a sensor on top. Introducing the product, Jan Gasparic said: "The camera system has six built-in lenses, one is an RGB sensor which essentially acts as a

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normal camera. Also integrated is a five band multi spectral camera system. There are five different lenses, each with two megapixels and each one is capturing different levels of the light spectrum." Been able to access the entire light spectrum, something the naked eye is unable to do, can allow those in the field to gather information on plant health, chlorophyll levels, and potential stress to the plant.

"On top of the drone is what we call a sunlight sensor. When doing mapping missions, is it constantly capturing the ambient data and when processing this data, the reading then gives more accurate and more consistent data. This all comes back to making data much more accessible and consistent for others to build on."
https://www.commercialdroneprofessional.com/breaking-news-dji-doubles-down-on-agriculture-market-with-p4-multispectral-unveiling-at-airworks/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-312868-Commercial+Drone+Professional+DNA+-+2019-09-24

Five Key Commercial Applications for Drone-Based LiDAR 20 Sep 2019 LiDAR (Light

Detection and Ranging) technology has become an important tool for the surveying industry and is used to perform 'laser scanning' and generate 3D point cloud images.

LiDAR sensors can be integrated onto drone platforms, allowing industry professionals to conduct aerial surveys and collect data efficiently and safely, while cutting costs, saving time, and converting data into useful information.

Here, Microdrones, a provider of fully integrated drone solutions, looks at five key commercial applications for drone-based LiDAR. *Read the full article to find out more (opens in a new window).*

Microdrones have been offering aerial mapping solutions since 2016 – complete drone packages for professionals undertaking surveying, area mapping, corridor mapping, inspections, volumetrics, precision agriculture monitoring, construction and mining.

They introduced the mdLiDAR drone packages in 2019, for geomatics professionals producing 3D point clouds optimized for land surveying, construction, oil & gas, and mining applications.
https://www.unmannedsystemstechnology.com/2019/09/five-key-commercial-applications-for-drone-based-lidar/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=9a50f5ed76-eBrief_2019_Sept_24&utm_medium=email&utm_term=0_6fc3c01e8d-9a50f5ed76-119747501

25Sep19

Alta Devices Increases Solar Production for Small Satellites 23 Sep 2019

Alta Devices has announced that the company will be scaling up solar production in order to meet the growing demand for small satellites, which will rely on solar energy for power, anticipated over the next decade.

Solar technology is currently the most expensive hardware component in a small satellite. Alta Devices has developed proprietary equipment that allows it to mass-produce its thin-film gallium arsenide solar cells, and is scaling up this equipment for higher production volumes and lower costs, which in turn will result in reduced costs for small satellites.

Alta's solution will consist of flexible, glass-free units that are 10 to 100 times larger with no exposed electrical interconnects, thus eliminating breakage and lowering cost. The units will bond to customer substrates using a large-area, high-volume vacuum bonding process, as opposed to mounting individual cells.
https://www.unmannedsystemstechnology.com/2019/09/alta-devices-increases-solar-production-for-small-satellites/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=9a50f5ed76-eBrief_2019_Sept_24&utm_medium=email&utm_term=0_6fc3c01e8d-9a50f5ed76-111778317

Despite Headwinds, DJI's Enterprise Growth is Nothing Short of Phenomenal

Miriam McNabb September 24, 2019

Nobody denies that DJI is the largest, and the strongest, drone manufacturer in the world. And despite a global trade war, consolidation in the drone industry, U.S. government issues and what industry analysts have called the death of drone industry hype, DJI's enterprise business growth this year has been nothing short of phenomenal. The company's enterprise business grew at a stunning 80% year over year. With over 14,000 employees worldwide and 7 locations in the U.S., DJI is continuing to expand.

In his characteristic straightforward manner, Rebello did not shy away from addressing recent U.S. government criticism of the DJI platform security. "We are facing some headwinds from a geopolitical perspective," says Rebello, "and it is impacting how the industry is growing as a whole. But we're ready to meet those challenges head on."

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"Let me be very clear," said Rebello, referring to leaked draft memos about data security concerns. "False. These allegations are totally false. Our platform is clean, safe, and secure." https://dronelife.com/2019/09/24/despite-headwinds-djis-enterprise-growth-is-nothing-short-of-phenomenal/

Microsoft gives campus modernization construction update with SkyCatch footage

BUSINESS MINING AND AGGREGATES NEWS VIDEO ALEX DOUGLAS SEPTEMBER 25, 2019

Since the demolition of the site in January, there has been 'great progress,' something the SkyCatch timelapse demonstrates.

Microsoft detailed how the drone video not only offers the team a unique view of the project, but the images have fed into 3D models of the site.

The models enable more effective data, allowing those working on the project to efficiently tackle challenges as they arise, plan ahead and monitor construction progress.

The project is actively coordinating over 100 different building information models containing over 2.8 million individual 3D building components. See the video here: https://www.commercialdroneprofessional.com/microsoft-gives-campus-modernisation-construction-update-with-skycatch-footage/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-312958-Commercial+Drone+Professional+DNA+-+2019-09-25

DJI looks to power the next-gen of farming with P4 Multispectral

AGRICULTURE BUSINESS HEADLINE NEWS NEW PRODUCT ALEX DOUGLAS SEPTEMBER 25, 2019

DJI has described it as the world's first fully integrated multispectral imaging drone designed for precision agriculture and environmental management. It combines data from six sensors to measure the health of crops, from individual plants to entire fields, as well as weeds, insects and a variety of soil conditions.

P4 Multispectral features a gimbal-stabilized imaging system composed of one RGB camera and a multispectral camera array with five narrow band sensors – including red edge and near infrared – that are capable of capturing visible and invisible light.

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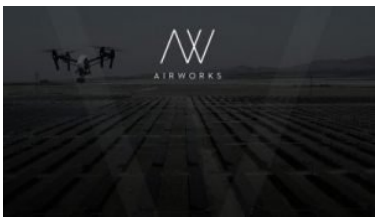
This data gives professionals in the field unique insights into vegetation stress, soil composition as well as water salinity and contamination.

An additional integrated spectral sunlight sensor maximizes the accuracy and consistency of data collection during missions flown at different times of day.

Integration into the DJI Ground Station Pro flight planning app then allows pilots to switch between real-time views of the drone's RGB video camera and Normalized Difference Vegetation Index (NDVI) output for immediate insights while in the field. An integrated RTK positioning module and TimeSync system support real-time, accurate positioning data for each image, optimizing photogrammetric results and providing centimeter-level accurate measurements.

Data collected can be imported into DJI Terra or a suite of third-party software including Pix4D Mapper and DroneDeploy, for analysis and to generate additional vegetation index maps. The P4 Multispectral costs $6,499 and comes with a 1-year free license to DJI Terra (Basic) Windows software and a 1-year free license to DJI GS Pro (Team-Professional) iPad app. Customers can also purchase the P4 Multispectral with the D-RTK 2 Mobile Base Station for a total of $9,100. https://www.commercialdroneprofessional.com/in-depth-dji-looks-to-power-the-next-gen-of-farming-with-p4-multispectral/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-312958-Commercial+Drone+Professional+DNA+-+2019-09-25

DJI is Fighting Back, and Gathering the Drone Industry Around Them Miriam McNabb September 25, 2019



At the Airworks keynote address this morning, representatives from DJI, Booz Allen, the Brookings Institute, and the Oil and Gas industry took the stage to make a critical point: the drone industry needs clear standards for data security and other requirements.

Government proposals would limit the use of funds to purchase drones manufactured in China, based solely upon "country of origin." With estimates of their market share ranging between 65 -85%, these proposals would have a major impact on government and public sector users.

DJI VP and U.S. Country Manager Mario Rebello has made the point that government and enterprise users must define clear standards for data security and require vendors to meet them, rather than creating regulations based only upon "country of origin."

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DJI is developing to anticipated safety standards by including features like ADS-B receivers on drones over 250 grams manufactured next year, the Aeroscope solution for remote ID, and other safety features: which VP of Policy and Legal Affairs Brendan Schulman says represent over 30,000 development hours.

DJI is also forming partnerships with powerful technology partners like Microsoft, developing sophisticated integrated systems that will allow enterprise to combine 3rd party and drone data and enable a broad set of data visualization tools. They're working with large and influential customers in the Oil and Gas industry. And they continue to contribute on government industry collaborations like the Drone Advisory Committee.

Despite the fact that accusations of data security issues remain vague, the risk of regulation is clear: and DJI is fighting back. While efforts to explain and document where the data goes and new features that allow the user to choose security features have not been sufficient to stem the rumors, the strategy of gathering powerful support from partners in and around the drone industry may yet prove ultimately effective. https://dronelife.com/2019/09/25/dji-is-fighting-back-and-gathering-the-drone-industry-around-them/

26Sep19

Measure to Provide Drone Services for Big Solar Portfolio Betsy Lillian September 25, 2019

Measure has inked an agreement with renewable energy developer Invenergy to service a solar portfolio of over 900 MW with drone inspection and data solutions.

Solar has been a primary part of Measure's portfolio since the company's inception in 2014. Last year, Measure says it inspected and processed data for a 328 MW solar farm in just 10 days.

"We chose Measure due to their experience with large solar operations and their efficiency and professionalism on the job," states Alex George, senior vice president of asset management and operations at Invenergy. "We look forward to seeing how drone inspection data will help increase our solar energy output while reducing costs."

Brandon Torres Declet, CEO of Measure, adds, "Invenergy has positioned themselves as leaders in the renewable energy field, and we are proud to help them achieve their goals by providing world-class drone inspection and data services." https://unmanned-aerial.com/measure-to-provide-

drone-services-for-big-solar-portfolio?utm_medium=email&utm_source=LNH+09-26-2019&utm_campaign=UAO+Latest+News+Headlines

Crocodile-spotting drones delivered with help from Amazon in Australia Haye Kesteloo Sep. 26th 2019

The Australia-based Ripper Group, known for their drones that can identify sharks, has partnered with Amazon to deliver a crocodile-spotting drone service to beaches in Australia.

The government of the northeastern state of Queensland initiated the project,after the Ripper Group had shown it could successfully identify sharks with drone technology in New South Wales.

The Ripper Group's partnership with Amazon's unit Amazon Web Services aims to reduce the time it takes to transmit footage collected by the drones.

The drones from Ripper Group use an algorithm developed in partnership with the University of Technology in Sydney that can identify up to 16 different marine species with an accuracy rate of 93%.

During the World of Drones Congress in Brisbane, the unmanned aircraft streamed images from a demonstration at a Queensland crocodile park. Data from January 2018, provided by the Queensland government, shows that four of 11 crocodile attacks since 2011 were fatal.
https://dronedj.com/2019/09/26/crocodile-spotting-drones-amazon-australia/

27Sep19

UAV Turbines' Monarch 5 Engine Completes Successful Inaugural Flight, Ushers In New Era of UAS September 25, 2019 Military News

UAV Turbines, Inc., a pioneer of microturbine technology, today announced the inaugural flight of its Monarch 5 engine, a first-of-its-kind microturbine propulsion system, at Griffiss International Airport. This new turboprop technology is engineered to provide mid-sized commercial and military unmanned air vehicles with a reliable, efficient, safe, heavy-fuel propulsion system. The Monarch 5 is now poised to replace the unreliable and maintenance-intensive reciprocating engines currently used by providing operators with superior

performance and ease of use, and features a remote start, quiet operation, and long intervals between required maintenance.

According to a recent report from the FAA, the commercial UAV market is expected to triple in size by 2023 as the need and use cases for UAVs expand to include medical support, cargo delivery, search and rescue, and transportation. However, current engines do not offer the reliability and safety profile required to perform these tasks. Now, for the first time, UAV Turbines' Monarch family of turboprop engines offers a propulsion system that will meet the safety, flight duration and reliability requirements for commercial use.
https://uasweekly.com/2019/09/25/uav-turbines-monarch-5-engine-completes-successful-inaugural-flight-ushers-in-new-era-of-uas/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_09_26_2019&utm_term=2019-09-26

DJI Commits Drone Technology to Increase Support for National Disaster Response Efforts Press 26 September 2019

DJI today unveiled a new Disaster Relief Program to support first responders during and after major disasters such as wildfires, hurricanes, floods, tornadoes, earthquakes and local emergencies.

Drones have been proven to help search, rescue and recovery teams find victims faster, while also helping to keep them from harm's way. Drones have been widely used to spot people in distress, to inspect infrastructure such as roads, bridges and power lines, and to assess damage and create high-resolution maps after recent disasters such as hurricanes Florence, Irma and Harvey as well as California wildfires, including the Camp Fire in Paradise and the Tubbs Fire in Santa Rosa.

"This program builds on DJI's growing commitment to the public safety industry, as more than 900 public safety organizations across the United States, including the Los Angeles Fire Department, Menlo Park Fire Protection District, Alameda County Sheriff's Office and the Public Safety Unmanned Response Team North Texas are deploying DJI drones for lifesaving activities," said Romeo Durscher, Director of Public Safety Integration at DJI. "To date, at least 278 people around the world have been rescued from peril by drones, and this program will ensure that many more lives are saved by mitigating the risks to emergency responders on the ground and on the front lines of natural disasters."

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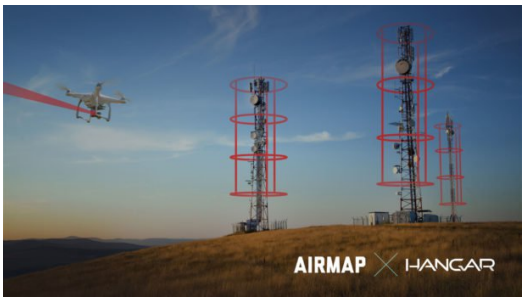
https://www.suasnews.com/2019/09/__trashed/?mkt_tok=eyJpIjoiWmpWbVlUVXdORFUyTkRWbCIsInQiOiIzMGY1S0gzZkN6M3o3RFdwQ0pcL2M0U1VuRTB2SlNiSU1rcTRTb1BOVncxUmR2MVN2a29NUGpLOTF6RFFmSk9aRitjKzFGWlhwZFZLT0hcL3pwbjZQNUpQeVNFcWxUdjFaMjNNTHV5TlJuXC9aM1hEeUx1MHhDOU83dW96TFZVNkQwdyJ9

If Big Integrators are the New Drone Industry Influencers – AirMap is Moving to the Forefront Miriam McNabb September 25, 2019



At the InterGeo conference in Germany last week, drone analysts DRONEII said that in 2019, integrators are the strongest influencers in the drone industry. If that's the case, then AirMap is set to maintain their position as an industry influencer with this week's announcement that the company has acquired drone workflow platform Hangar. The move sees AirMap double down on the intention to go above and beyond airspace management solutions, and will expand Hangar's reach to new international markets and industries.

AirMap is a leading provider of airspace intelligence and unmanned traffic management technology. The platform allows drone pilots to integrate operations into low-altitude airspace and serves a variety of stakeholders in UTM: including drone pilots, airports, and communities. Hangar's platform allows subject matter experts to fly complicated missions easily: with software that allows autonomous drone flight designed to cover every inch of an inspection site. https://dronelife.com/2019/09/25/if-big-integrators-are-the-new-drone-industry-influencers-airmap-is-moving-to-the-forefront/

NASA working on Transformers-like shape-shifting robots AMANDA KOOSER SEPTEMBER 25, 2019

NASA shared a look at a 3D-printed prototype Shapeshifter on Wednesday, describing it as "a contraption that looks like a drone encased in an elongated hamster wheel." The machine is in testing at the Jet Propulsion Laboratory robotics yard in Pasadena, California.

The current Shapeshifter test version has two

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halves that split apart and can fly as aerial drones, or they can combine together and roll along the ground.

A more advanced version of Shapeshifter would consist of a group of smaller robots called "cobots." The cobots could move independently, but also work together to traverse difficult terrain, explore caves, swim and even relocate a "mothercraft" lander from one place to another.

Shapeshifter is in the very early stages of development as part of NASA's Innovative Advanced Concepts program. The Shapeshifter team plans to apply for more NASA funding in 2020 to continue work on the project. https://www.cnet.com/news/nasa-working-on-transformers-like-shape-shifting-robots/#ftag=CADf328eec

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