UAS and SmallSat Weekly News

Contents

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

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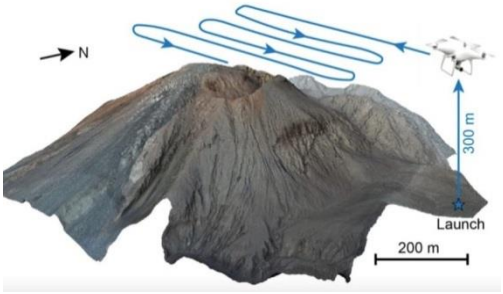
Monitoring active volcanoes with the help of drones APPLICATION BUSINESS HEADLINE NEWS MINING AND AGGREGATES ALEX DOUGLAS JUNE 5, 2020



Edgar Zorn is a PhD student in Potsdam, Germany, and specializes in measuring deformation on active volcanoes using photogrammetric techniques.

He and other scientists recently conducted a study using drones to make aerial images of a volcano in Guatemala from a safe position which allowed for the creation of 3D models of the volcano and enabled the scientists to gain ground movement data that would otherwise be difficult or dangerous to obtain. This sort of data can help understand and predict volcanic eruptions. Zorn spoke with DJI to explain more about the work:

My research deals with photogrammetric techniques applied to monitor changes on volcanoes, especially lava domes. This works best using drones as they are inexpensive and can be flown multiple times. There is also no human pilot in the air, so they can be flown into dangerous areas without any risk to the operator.

The main factor is the safe accessibility of dangerous terrain. Drones can capture images of erupting craters that would be impossible to get otherwise. They are very practical to quickly obtain good quality terrain images and photogrammetric data in almost all volcanic environments. This data complements all other types of measurements very well, and we can use it to build an accurate 3D model of the survey area.
https://www.commercialdroneprofessional.com/case-study-monitoring-active-volcanoes-with-the-help-of-drones/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330530-Commercial+Drone+Professional+DNA+-+2020-06-05

Unifly named as finalist for AUVSI XCELLENCE Awards APPLICATION BUSINESS EUROPE HEADLINE NEWS ALEX DOUGLAS JUNE 5, 2020

It was selected from a pool of accomplished applicants as one of several finalists, with winners set to be announced during an awards ceremony at AUVSI XPONENTIAL on October 6 in Dallas.

Recognized for the SAFIR project, the event successfully

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

demonstrated that multiple drones can be used simultaneously and safely in even the most challenging environments, near an active airport and over the city and the port of Antwerp.

Led by Unifly, the SAFIR project was realized by the following organizations: Amazon Prime Air, Aveillant, C-Astral, DronePort, Elia Group, Explicit, Helicus, the Port of Antwerp, Proximus, SABCA, skeyes and Tekever. The main focus of the SAFIR project was the real-time connection and collaboration between multiple systems for Unmanned Traffic Management.

Brian Wynne, president and CEO of AUVSI, said: "The AUVSI XCELLENCE Awards celebrate the achievements of individuals and organizations who have applied unmanned systems technology to create solutions to address a range of challenges affecting business and society." https://www.commercialdroneprofessional.com/unifly-named-as-finalist-for-auvsi-xcellence-awards/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330530-Commercial+Drone+Professional+DNA+-+2020-06-05

Atkins using drones to track progress of Hinkley Point C construction APPLICATION MINING AND AGGREGATES SURVEILLANCE ALEX DOUGLAS JUNE 4, 2020

Atkins has been appointed to undertake drone flights to provide data on the nuclear power stations' ongoing construction. Once a month, Atkins surveys the 180-hectare site, deploying its fixed-wing Wingtra drone.

With Extended Visual Line of Sight permission granted by the Civil Aviation Authority earlier this month, Atkins can conduct the survey from 650 ft. within a range of 1.5km from the drone pilot. All flights will comply with Civil Aviation Authority regulations on the use of drones at restricted installations.

The data collected will report the as-built state of the site and enable progress monitoring and non-conformance detection, while also supporting informed decision-making on stock management and road planning. The use of drones will increase the speed of data capture and the fidelity of the data, while also ensuring that the impact to site operations is kept to a minimum. https://www.commercialdroneprofessional.com/atkins-using-drones-to-track-progress-of-hinkley-point-c-construction/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330567-Commercial+Drone+Professional+DNA+-+2020-06-06

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
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Flock gets on board to insure HEROTECH8's automated drone-in-a-box technology APPLICATION HEADLINE NEWS UK ALEX DOUGLAS JUNE 4, 2020

The firm says the move makes it easy for any organization to deploy safe, secure and fully insured autonomous UAVs.

HEROTECH8's mission is to overcome the 'one pilot per drone' mindset which it believes is currently limiting the potential of UAS technology and hindering widespread adoption. The company's autonomous system aims to solve this challenge by automatically deploying and controlling drones.

Commenting on the move, Edward Anastassacos, CEO of HEROTECH8 said: "We needed a forward-thinking and fast-to-respond insurance partner for such a visionary product, and we found that in Flock. Our partnership allows any of our customers to align insurance costs with operations and ensure all flying is fully compliant."
https://www.commercialdroneprofessional.com/flock-gets-on-board-to-insure-herotechs-automated-drone-in-a-box-technology/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330567-Commercial+Drone+Professional+DNA+-+2020-06-06

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Norfolk Naval Shipyard starts using drones in place of hazardous manual labor KATHERINE HAFNER THE VIRGINIAN-PILOT JUN 06, 2020 PORTSMOUTH

Norfolk Naval Shipyard drone pilot John Powell, branch head Robert Hale and drone pilot Jose Del Olmo demonstrate the unmanned aerial systems — used to evaluate recent storm damage

After a storm swept through Hampton Roads in mid-April, bringing gusts of up to 75 mph, surveying the damage at Norfolk Naval Shipyard was likely to take several weeks.

A traditional inspection would require a construction crew to build and move scaffolding to carefully look through a building where several large windows had been shattered. Instead, a

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

few people stood on the ground and remotely piloted a drone that got the job done in about an hour and a half.

Shipyard officials aim to start using the technology more, particularly in emergency management and risky inspection work, said Rob Hale, UAS program manager and security division branch head. It's the product of a years-long effort to get the necessary federal approvals. "Eventually this will be a great time and safety saver for us," Hale said. "It's the ultimate working smarter, not harder, thing. Some of this work is extremely hazardous." https://www.pilotonline.com/military/vp-nw-naval-shipyard-drones-20200606-hql63mqsdbgqjfcr4eob2stu64-story.html

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Air Force to pit autonomous fighter drone against human pilot in dogfight to test AI warfare KEITH GRIFFITH FOR DAILYMAIL.COM 6 June 2020

It's unclear what the autonomous fighter jet would look like, but it could be a modified version of an existing plane. An F-35B Lightning II is seen in a file photo

Lt. Gen. Jack Shanahan, head of the Pentagon's Joint Artificial Intelligence Center, said on Thursday that the Air Force Research Laboratory hopes to conduct the test in July 2021.

Shanahan, speaking at a virtual event organized by the Mitchell Institute for Aerospace Studies, did not reveal any specific details of the planned AI fighter jet's design or capabilities. The Air Force hopes that a fighter drone piloted by AI would be able to react faster to opponents as well as conduct harder, faster maneuvers that would be impossible with a human on board.

'Our human pilots, the really good ones, have a couple thousand hours of experience,' Rogers told **Inside Defense** in 2018. 'What happens if I can augment their ability with a system that can have literally millions of hours of training time?' he continued. 'How can I make myself a tactical autopilot so in an air-to-air fight, this system could help make decisions on a timeline that humans can't even begin to think about?' https://www.dailymail.co.uk/news/article-8395001/Air-Force-plans-pit-autonomous-fighter-drone-against-human-pilot.html

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

World Oceans Day: Developing Drone Technology to Protect Marine Wildlife Miriam McNabb June 08, 2020

It's World Oceans Day – and DRONELIFE is noting the day by reporting on researchers at Loughborough University's Wolfson School of Mechanical, Electrical and Manufacturing Engineering who are pushing the boundaries of drone technology to protect marine wildlife.

Co-affiliated with the Zoological Society of London, PhD student Melissa Schiele is working on drone technology that will help "combat illegal fishing, lead to better understanding of megafauna movement and detect ghost nets – the ocean's 'silent killers'," reports VOLUME, Loughborough University's online journal.

Schiele and her colleagues, including ZSL Marine Biologist and conservationist Dr. Tom Letessier, have spent the last two years with ZSL traveling the world surveying wildlife. The team developed a lightweight and inexpensive fixed wing, supported by the Bertarelli Programme in Marine Science and Canadian drone company, Aeromao. The current drone is excellent at detecting marine megafauna like turtles, sharks and rays. It's a waterproof, water-landing fixed wing drone, with a 10 km range, live stream capabilities, and the ability to detect small fishing vessels from altitudes of 260 – 360 feet. Schiele is hoping to extend the range and enable it to read registration numbers on illegal fishing vessels from higher altitudes. She also hopes to develop a low-cost system that can be used by marine-protected area managers, local rangers and fisheries enforcement teams to monitor their waters.
https://dronelife.com/2020/06/08/world-oceans-day-developing-drone-technology-to-protect-marine-wildlife/

Accelerating the drone industry with AccelerātUM NEWS UNITED STATES SAM LEWIS JUNE 8, 2020

It is comprised of senior executives and experts from the aviation industry, and is headquartered in Park City, Utah. Those involved will come together to develop consensus-based solutions for the unmanned mobility industry.

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
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AccelerātUM proposes to this by "bringing together commercial end-users, municipalities, emergency service providers, manufacturers, technology providers, researchers, and regulators". It is a different type of collaborative organization," said Lessing Stern, co-founder, and chairman of the board. "We founded AccelerātUM to address the need for consensus-based solutions to the complex and ambiguous problems the unmanned mobility industry is facing today."

Meanwhile, Michael Huerta, co-founder, and former FAA administrator said, "AccelerātUM was created to accelerate the development and implementation of policies, standards, and best practices necessary to address risk to the safety and security of our critical infrastructure and the National Airspace System ."
https://www.commercialdroneprofessional.com/accelerating-the-drone-industry-with-acceleratum/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330623-Commercial+Drone+Professional+DNA+-+2020-06-08

South Korea set to welcome drone deliveries APPLICATION DELIVERY SAM LEWIS JUNE 8, 2020

Drone delivery to remote areas is expected to be commercialized in South Korea by 2021.

Drone company PABLO AIR plans to remove the need for deliveries by more traditional means. It hopes to replace use of manned planes and boats with the more efficient drone technology it manufactures. It will take over existing deliveries from the city of Incheon, delivering to remote mountainous and island communities.

It system uses vertical takeoff and landing drones based on swarm technology and has demonstrated Korea's first long-range drone flights. Next year it is planning to make a 50-kilometer test flight from Incheon Port to Jawoldo and Ijakdo islands, in Woongjin County.

"We aim to fill the logistics void in island regions by utilizing Incheon Port's logistics infrastructure and drone technology." https://www.commercialdroneprofessional.com/south-korea-set-to-welcome-drone-deliveries/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330623-Commercial+Drone+Professional+DNA+-+2020-06-08

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

NASA UAS traffic management patent wins 2020 government Invention of the Year award June 5, 2020 Jenny Beechener UAS traffic management news

This technology, called "Unmanned Aerial System (UAS) Traffic Management (UTM) to Enable Civilian Low Altitude Goods and Service Delivery by UAS," allows UAS to maintain safe and efficient operations for goods and services delivery. The invention transforms traditional, human-centric air traffic management into a machine-centric, federated approach.

In traditional air traffic management, a centralized authority provides services to keep the airspace safe and accessible. In UTM, the Federal Aviation Administration delegates some of that authority to others to provide similar services to directly support the operators. Those operators may receive services from different service suppliers. These additional services may include low-altitude weather information, congestion management, terrain avoidance, route planning, re-rerouting, separation management and contingency management. This novel ecosystem requires a federation of services that are interconnected and communicate via well-defined interfaces and protocols. For more information visit: https://utm.arc.nasa.gov https://www.unmannedairspace.info/latest-news-and-information/nasa-for-patent-for-traffic-management-of-unmanned-aircraft-systems-wins-2020-government-invention-of-the-year/

Rapid COVID-19 Test Delivery Performed by Drone 07 Jun 2020 Mike Ball

Quantum-Systems GmbH, in conjunction with medical laboratory Becker & Kollegen, has tested the delivery via drone of COVID-19 test samples from the test station at Munich's Theresienwiese public space to the laboratory four miles away. Urgent samples must be delivered to the laboratory as quickly as possible, especially in situations where a timely test result has a decisive influence on the choice and success of therapeutic measures for a patient.

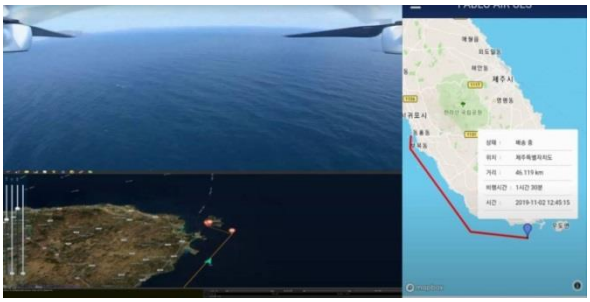
Quantum-Systems used its autonomous Trinity F90+ drone to transport 20 sample tubes over the 4 miles distance in less than seven minutes. With an equivalent journey by van taking an hour or more under normal Munich traffic conditions.

"I am concerned about the individual behind each sample and the well-being of the patient in terms of the quality and speed of the findings," said Marc Becker, M.D. "In this particular case, it is also about reducing risks for the many people involved in our laboratory services, such as

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

doctors, courier services and assistants."
https://www.unmannedsystemstechnology.com/2020/06/rapid-covid-19-test-delivery-performed-by-drone/?utm_content=buffer52762&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

Remote parts of Korea to see drone delivery in 2021 Josh Spires Jun. 8th 2020



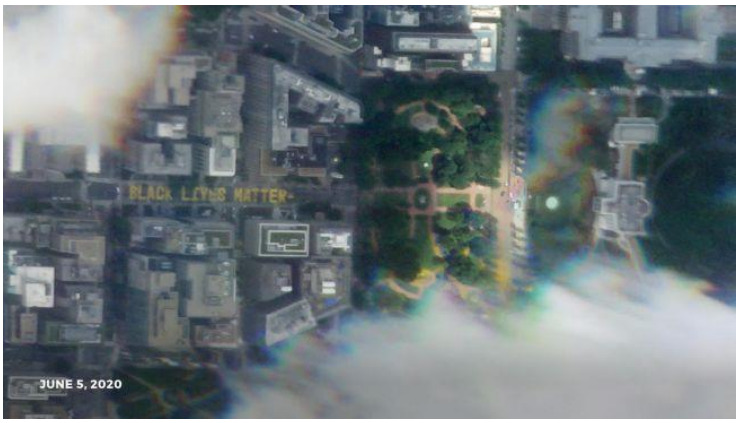
Remote islands off the coast of South Korea will soon see drone deliveries, thanks to Pablo Air, that can replace the ships currently used to carry passengers and cargo.

The drones will be making deliveries from the mainland in Incheon to the islands in the same region. The drones aim to eliminate regional inequality in logistics for the transportation of daily goods.

Pablo Air is located in Incheon Port and is capable of sending out 100 drones at a time. The company has already demonstrated its delivery drones by doing a test flight of its long-range drone covering a distance of 57.5 km in 1 hour and 56 minutes.

The company has chosen to begin its operations in Incheon as it has an airport, port, industrial complexes and a free economic zone, making it perfect for transporting goods from mainstream transportation methods to the drones. They will use the port's logistics infrastructure to get the drone deliveries off the ground. https://dronedj.com/2020/06/08/remote-parts-of-korea-to-see-drone-delivery-2021/#more-29996

Satellite sees 'Black Lives Matter' message from space (photo) Mike Wall June 8, 2020



The White House is also in the scene.

A SkySat satellite operated by San Francisco-based company Planet captured this image of the "Black Lives Matter" message painted on 16th Street in Washington, D.C., on June 5, 2020.

A cry for racial justice has been

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

spotted from space. On Friday (June 5), a satellite operated by San Francisco-based company Planet spied the "Black Lives Matter" message that city workers in Washington, D.C. painted in big yellow letters across two blocks of 16th Street earlier that day. The White House is also visible, on the right side of the photo. In the center of the image is Lafayette Square, which has been the site of protests against police brutality sparked by the May 25 death of George Floyd at the hands of Minneapolis police.

Planet shared the photo via Twitter on June 5. Four days earlier, the company tweeted out a message of support for protesters. "We stand in solidarity with the Black community and all people of color who are peacefully voicing their anger and frustration at having their voices ignored for too long, Planet supports the equal treatment of all people and believes that we must all stand up and speak out for openness, inclusion and social justice. Only through collective unity will the voices of our friends, our family and our entire community be heard. Bias and discrimination have no place in this world. Planet stands with those seeking justice and racial equality." https://www.space.com/black-lives-matter-planet-satellite-photo.html?utm_source=Selligent&utm_medium=email&utm_campaign=9155&utm_content=SDC_Newsletter+&utm_term=3417707&m_i=HvLCZnJCa72WLpE6R64v49KprdBxb_QK5Cs89JAdKQnIwTSeXKJu4aGDsQJBRn_MdrukiYsq93fVpIcZ4QWbbIs4SEHQectejDmC3H2HHH

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South Korea Plans to Launch Air Taxi Service by 2025. Will Hyundai Be Ready? Brian Garrett-Glaser June 8, 2020

Beginning with just one or two routes — or terminals — in the Seoul metropolitan area, South Korea plans to open ten air taxi terminals by 2030. The ministry expects the UAM market to reach $10.8 billion by 2040, focused on 18-30-mile trips offering transport in connection with buses, the city's subway system and other forms of mobility.

In January, Hyundai unveiled its S-A1 vehicle concept and role as a vehicle partner to Uber Elevate, indicating interest in markets outside of South Korea such as the United States. The Korean automaker has also created a UAM division, made a series of high-profile industry hires, and pledged to invest $1.5 billion in the air mobility market over the next few years. However, Hyundai is targeting 2028 for the commercialization of UAM, beginning with overseas markets — a timeline that doesn't match the South Korean government's aggressive 2025 date for initial

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

service. That may mean the government will look abroad to Joby Aviation or other manufacturers whose electric air taxi designs are closer to certification.

Ranked fifth in population density and fourth in gross domestic product, Seoul also has more existing heliports than any other city in the world. Seoul will have 94 vertiports for UAM use, with total ground infrastructure costs of $262 million and unmanned air traffic management costs of $458 million — a good ratio of revenue to infrastructure cost.

"We estimate that by 2040 there could be over 7 million passengers processed per year in the Greater Seoul region," Dyment told *Avionics International*, with operator revenues reaching $7.2 billion between 2020 and 2040. https://www.aviationtoday.com/2020/06/08/south-korea-plans-launch-air-taxi-service-2025-will-hyundai-ready/

Virginia Beach DroneUp conducted a test to learn what drones can do during the pandemic SANDRA J. PENNECKE INSIDE BUSINESS JUN 08, 2020

Tom Walker, DroneUp's chief executive officer who founded the company in 2016, said delivery of over-the-counter medicines is one of the promises of drones.

From the federal government to local officials, inquiries about drone use during the crisis were coming in, and Walker decided that it was incumbent upon the industry to conduct an operationally-based exercise that produced data and lessons learned to ensure they can respond safely, effectively and efficiently when needed.

DroneUp joined with another drone technology company, Workhouse Group, delivery company UPS and its subsidiary, UPS Flight Forward and Virginia's Center for Innovative Technology to test the use of commercial drones to add safety, speed, predictability and efficiency to healthcare logistics.

Exercises to test residential and commercial package deliveries were done this spring on the unoccupied campus of St. Paul's College in Lawrenceville, Virginia. Thirty people — all wearing masks, practicing social distancing and taking temperature checks — participated in the test. "It was aimed at learning what is possible to do safely and effectively today while gathering data to overcome obstacles in the near future," Walker said. https://www.pilotonline.com/inside-business/vp-ib-droneup-deliveries-0608-20200608-cjt3ip6

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

Detect-and-Avoid Technology Enables UK BVLOS Drone Trials 06 Jun 2020 Mike Ball

Iris Automation's Casia computer-vision-based Detect-and-Avoid technology is being integrated into UAVs operated by drone delivery provider Skyports that are being used to trial beyond-visual-line-of-sight flights in non-segregated airspace. The flights are being performed as part of the UK Civil Aviation Authority's Regulatory Sandbox program which explores innovative concepts in aviation in line with safety, security and consumer protection.

Skyports is a specialist in drone deliveries and will work with the UK CAA to explore how regulatory approvals can be granted for drones flying BVLOS within airspace that is shared with other aircraft. Iris Automation's Casia will allow Skyports' drones to automatically gain visibility, understand the surrounding airspace and independently react as if a pilot were on board to avoid mid-air collisions.

Skyports will also be assisted by Thales, who will provide their Soarizon UAS mission planning and flight management software as well as secure remote electronic identification through Thales Remote ID for drone tracking. Environmental assessment partner RSK will assist with assessing factors such as noise, air quality and carbon and social impact strategies.
https://www.unmannedsystemstechnology.com/2020/06/iris-automation-daa-technology-powers-uk-bvlos-drone-trials/?utm_source=UST+eBrief&utm_campaign=a7ea0b1bc4-eBrief_2020_09Jun&utm_medium=email&utm_term=0_6fc3c01e8d-a7ea0b1bc4-111778317

Spectacular drone footage captures thousands of turtles nesting Amy Woodyatt, CNN June 9, 2020

Researchers have captured beautiful aerial footage of thousands of green turtles congregating on the edge of Australia's Great Barrier Reef during the nesting season. Scientists from Queensland Government's Department of Environment and Science captured the footage using a drone at the world's largest green turtle rookery at Raine Island, a vegetated coral cay approximately 385 miles northwest of Cairns.

Green turtles, named after the color of their cartilage and fat, are found mostly in tropical and subtropical waters and migrate long distances between feeding grounds and the beaches where they

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

emerged as hatchlings, some 35 years after they were born.

The creatures are endangered and are under threat due to hunting, overharvesting their eggs, loss of beach nesting sites and becoming trapped in fishing apparatus.

Raine Island is the largest remaining turtle rookery in the world, but despite attracting a "massive aggregation" of the creatures, scientists noticed that they were not reproducing as expected due to nests flooding and inhospitable terrain.

After implementing a series of interventions to help the struggling turtles, scientists sought to track the population. In research conducted in December and published in scientific journal PLOS ONE on Thursday, they found that using drones was the most accurate way of documenting the endangered sea creatures.

Green turtles are endangered because of hunting, harvesting of their eggs, loss of nesting habitat and becoming trapped in fishing equipment. Using drones, the team revealed 64,000 turtles swimming around the island waiting to come ashore to lay their eggs.
https://www.cnn.com/2020/06/09/world/green-turtle-drone-nesting-intl-scli-scn/

Agriculture drone market set to swell to $5.19bn by 2025 AGRICULTURE APPLICATION HEADLINE NEWS ALEX DOUGLAS JUNE 9, 2020

An industry forecast made by Meticulous Research has predicted the market's worth will reach $5.19bn by 2025, growing at a CAGR of 31.1% from 2019.

Forecasters explained that the growth in this market is mainly attributed to factors such as growing population and rising pressure on the global food supply, increase in venture funding for development of agriculture drones, growing e-agriculture or information and communication technologies in agriculture, rising automation in agriculture, growing emphasis on enhancing agriculture efficiency and rising need for water conservation across the globe.

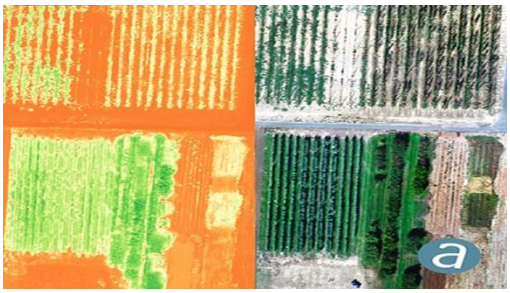
Based on application, the agriculture drone market is segmented into precision agriculture, livestock monitoring, smart greenhouse, irrigation, precision fish farming and other applications. Precision agriculture commanded the largest share of the market in 2019, owing to growing demand for drones in numerous precision agriculture operations including weed

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

detection, plant counting, crop health monitoring, and harvest season monitoring, among others, to gain better productivity and increased revenues. However, the agriculture drone market for irrigation is expected to grow with the fastest CAGR from 2019 to 2025.

Geographically, the global agriculture drone market is segmented into North America (U.S., Canada, and Mexico), Europe (U.K., Germany, France, Italy, Spain, and Rest of Europe), Asia-Pacific (China, Japan, India, Australia, and RoAPAC), South America and the Middle East & Africa. North America commanded the largest share of the global agriculture drone market in 2019, followed by Europe and Asia Pacific.
https://www.commercialdroneprofessional.com/agriculture-drone-market-set-to-swell-to-a-5-19bn-worth-by-2025/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330704-Commercial+Drone+Professional+DNA+-+2020-06-09

SimActive Introduces Cloud Sharing and Reflectance Calibration with New Version 8.5 June 9, 2020 Mapping and Surveying



SimActive Inc., a world-leading developer of photogrammetry software, announces the release of Correlator3D version 8.5. The new version allows users to share and visualize projects in the cloud. It also features new tools for the calibration and processing of multispectral imagery.

Specifically, results can be exported to the cloud directly from the software interface, and shareable links are automatically created for online visualization. Moreover, calibrated reflectance panels and sun sensors can be used to produce reflectance maps, with multispectral bands perfectly registered. Louis Simard, CTO at SimActive said, “This new version brings advantages to customers having data exploitation requirements such as online viewing and to users processing imagery from highly sophisticated sensors.”

SimActive is the developer of Correlator3D™ software, a patented end-to-end photogrammetry solution for the generation of high-quality geospatial data from satellite and aerial imagery, including UAVs. https://uasweekly.com/2020/06/09/simactive-introduces-cloud-sharing-and-reflectance-calibration-with-new-version-8-5/?utm_source=rss&utm_medium=rss&utm_campaign=simactive-introduces-cloud-sharing-and-reflectance-calibration-with-new-version-8-5&utm_term=2020-06-09

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DJI Security Issues: Booz Allen Performs Exhaustive Audit Miriam McNabb June 09, 2020

The fears about DJI security issues have had a negative effect on many DJI clients and partners who are caught between the need to reassure industrial clients and hardware requirements. DJI's affordable and advanced hardware solutions have few competitors in the same price range not manufactured in "listed countries" including China. One client, legendary drone company PrecisionHawk, worked with Booz Allen to develop a framework for testing the security of drone technology. Their initial tests were performed on DJI drones – and the report is the result of that testing.

The report states clearly that they found no evidence of data transmission to DJI or China, which backs up DJI's assertion that users have complete control over their own data. However, the report does identify technical vulnerabilities, such as when using the Map Services App – which does ping addresses like Google and AWS (Amazon's cloud services). Customers looking for an absolutely secure platform will have to use the mitigations suggested – just turning off the "Allow Map Services" function. These are the risks associated with any system, the report points out: "Any drone that provides the feature of externally-sourced map services would be expected to make such connections and to present similar vulnerabilities."

"We take these findings extremely seriously and are already implementing concrete steps to address many of the threat vectors identified in the report," says a DJI blog post. "Some have already been remediated, and we are actively working on several others, for our current products and longer-term approaches to security. https://dronelife.com/2020/06/09/dji-security-issues-booz-allen-performs-exhaustive-audit/

QinetiQ Australia Awarded Contract to Create UAS Flight Test Range in Australia

INSIDE UNMANNED SYSTEMS JUNE 9, 2020AIR, TEST SITES

QinetiQ Australia, a science, engineering and defense technology company, was recently awarded a contract to design and build a drone flight test range at Cloncurry Aerodrome in North West Queensland on behalf of the Queensland Government. The range will include access to a commercial

Robert Rea | Axcel Innovation | Charlottesville and Portsmouth, VA
robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

quality runway, dedicated hangar and workshop, a range control center, a range control system with surveillance radar and other surveillance and tracking equipment and dedicated airspace and regulatory approvals for unmanned aircraft systems.

Initially, the facility will support all UAS weight classes for "routine flying operations, demonstration activities and test and evaluation trials of moderate complexity." There are plans for the facility to eventually support the "full range of ground and flight test activity, providing an Australian home for the conduct of highly complex developmental test programs." https://insideunmannedsystems.com/qinetiq-australia-awarded-contract-to-create-uas-flight-test-range-in-australia/

Researchers use stereo cameras for drone collision avoidance Josh Spires Jun. 10th 2020

Researchers from MIT, Texas A&M University, and Universidad Politécnica de Madrid have managed to create a relatively low-cost and effective method for drones to detect and avoid obstacles in flight using stereo cameras to build a depth map of the world around it in real-time.

Drones that are capable of capturing their surroundings usually rely on LiDAR, RADAR, and microphone arrays along with visual cameras which is what the research team is focusing on. The other common options are normally associated with high price tags and therefore are only used on expensive commercial drones. On the other hand, the stereo cameras are relatively cheap and available. The drone uses the stereo cameras along with gaming software powered by an NVIDIA Jetson TX2 onboard to allow drones of all sizes to utilize this technology.

As the two cameras are a known distance apart, the angle at which they view the world can be taken into account to allow the drone to accurately detect objects in front of it. The stereo camera is used alongside Microsoft AirSim to train the detection model. The data captured by the stereo camera is then fed into the detect model which can output boxes around objects with a number symbolizing how confident the observation is. The full abstract can be found below with the full paper available on the IEEE Xplore digital library.
https://dronedj.com/2020/06/10/researchers-use-stereo-cameras-for-drone-collision-avoidance/#more-30013

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robert.rea@axcel.us | 757-309-5869 | www.axcelinnovation.com

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Drones deployed during marches were not to spy on protesters: Authorities Luke Barr June 10, 2020

A drone with a camera attached, flies over a vigil remembering the death of George Floyd, June 4, 2020, in Riverside, Calif.

Acting Customs and Border Protection Commissioner Mark Morgan told ABC News, "We were not providing any resources to surveil lawful peaceful protesters." Morgan said CBP was helping more than a dozen cities around the country and "providing assistance to state and locals so they could make sure that their cities and their towns were protected." He added that when a driver allegedly ran over a group of law enforcement officers in Buffalo, NY, the CBP "air operation" was able to help track the vehicle and assist local law enforcement in arresting the driver. "We weren't taking any information on law abiding protesters, but we were absolutely there to ensure that the safety of folks there as well as to enforce and make sure law and order remain," he said.

Over the weekend, House Democrats sent a letter to Department of Homeland Security Acting Secretary Chad Wolf about alleged drones over Minneapolis and other cities. Morgan said that the support that CBP provided to cites is "no different" than what they have done throughout the agency's history. https://abcnews.go.com/US/drones-deployed-marches-spy-protesters-authorities/story?id=71165057

Airflow Launches eSTOL Electric Cargo Aircraft Charles Alcock June 10, 2020

An early concept design for Airflow's eSTOL cargo hauler shows ten propellers on the leading edge of the wing, plus a pusher propeller at the rear of the airframe.

Airflow, a startup launched by five former members of Airbus's Vahana eVTOL aircraft development team, today announced plans to build an electric-powered short takeoff and landing aircraft (eSTOL) to be used for cargo operations. The California-based company said it can get the fixed-wing aircraft into production and certified under FAA Part 23 rules by 2025.

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The unnamed aircraft is intended to be operated from short landing strips of just 300 feet in length. Airflow said it will actually only require around 150 feet for takeoff.

The company intends to develop what it calls an "aerial logistics network" for moving cargo between warehouses and distribution points with so-called "middle mile" trips of between around 50 and 250 miles, and at speeds of up to around 115 mph. It believes it can provide more efficient freight transportation than trucks. Initially, Airflow's eSTOL is intended for single-pilot operations and will be able to carry a payload of 500 pounds in a 90-cu-ft cabin. Airflow claims that it will be operated at around one-third of the average hourly cost of a comparable helicopter or one of the new eVTOL aircraft now under development.

The aircraft is being developed for single-pilot operations and Airflow envisages this role being filled largely by younger pilots looking to build miles in their logbooks before moving up to airline jobs. Eventually, it could be operated autonomously, but Ausman said that he feels it could take 15 years to get approval for this in some countries.
https://www.ainonline.com/aviation-news/business-aviation/2020-06-10/airflow-launches-estol-electric-cargo-aircraft

Exolaunch arranges rides for Loft Orbital satellites Debra Werner June 10, 2020

SAN FRANCISCO – German launch services provider Exolaunch announced an agreement to launch two Loft Orbital microsatellites on SpaceX Falcon 9 rideshare missions.

A SpaceX Falcon 9 rocket launches Starlink satellites from Cape Canaveral Air Force Station. Credit: SpaceX

Under the contract, Exolaunch will handle mission management, deployment and integration services for Loft Orbital, a San Francisco startup planning to establish a constellation of standard microsatellites to fly payloads, sensors and experiments for customers.

Exolaunch announced plans in April to arrange rides for multiple small satellites on SpaceX Falcon 9 rideshare missions. Loft Orbital is the first customer announced.

Exolaunch is preparing to launch Loft Orbital's YAM-3 satellite, built by LeoStella, a Seattle-based joint venture of Thales Alenia Space and Spaceflight Industries, on a Falcon 9 flight scheduled for December 2020. YAM-3 includes an internet-of-things payload, an onboard

autonomy demonstration, a position and queuing demonstration and blockchain applications.
https://spacenews.com/exolaunch-loft-orbital-contract/

COVID-related Drone Delivery Soars into Canadian First Nation Jason Reagan June 10, 2020

Toronto-based Drone Delivery Canada is partnering with a non-profit to deploy COVID-related drone delivery to a First Nation community.

The company announced a collaboration with GlobalMedic and Air Canada to carry needed cargo to Christian Island, a remote territory governed by the Beausoleil First Nation Community in Ontario. Using Sparrow drones and DDC's DroneSpot takeoff and landing zones as well as additional drone flight infrastructure, flights will be remotely monitored by the company from its new commercial operations center located in Vaughan, Ont. Company officials expect the program will launch in the third quarter of this year. The program will work in partnership with logistics firm, the OEC Group.

The Beausoleil First Nation Community is expected to use DDC's Sparrow drone solution to limit person-to-person contact on its island ferry service by transporting COVID-related cargo such as personal protection equipment, hygiene kits, test kits and test swabs.
https://dronelife.com/2020/06/10/ddc-drone-covid-drone-delivery/

Altitude Angel pairs up with Inmarsat to bring new UAV air traffic management system APPLICATION INNOVATION NEW PRODUCTS TECHNOLOGY SAM LEWIS JUNE 11, 2020

Altitude Angel was founded in the UK in 2014. A statement from the company said that the system will deliver advanced flight tracking and management capability for unmanned aerial vehicles. The duo will build on Altitude Angel's GuardianUTM platform, jointly developing a 'pop-up UTM' capability.

It will be able to be deployed anywhere it is required to manage beyond-visual-line-of- sight UAV flights and will utilize Inmarsat's global network of satellites. It will initially be aimed at aiding blue-light emergency services and first responders. A commercial product aimed at a wider audience will follow, Altitude Angel claimed.

Phil Binks, Altitude Angel's head of air traffic management said, "The ability to almost instantly 'pop-up' safe, secure and fully operational UTM platforms in any environment, at any time, will

give first responders, blue-light services and aid organizations a valuable new tool that could save countless lives. Altitude Angel and Inmarsat, in developing 'Pop-Up UTM', will be able to bring connectivity, clarity and automated air traffic control services for UAVs in even the most challenging of circumstances." https://www.commercialdroneprofessional.com/altitude-angel-pairs-up-with-inmarsat-to-bring-new-uav-air-traffic-management-system/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-330851-Commercial+Drone+Professional+DNA+-+2020-06-11

Wisk Resumes Flight Testing with Self-Flying Air Taxi June 10, 2020 News

Wisk, the Urban Air Mobility company behind the world's first all-electric, self-flying air taxi, Cora, announced today that it has resumed flight testing in both the U.S. and in New Zealand.

The flight tests will evaluate the performance of the aircraft in a real world environment, while collecting data that will help inform the further development, operation, safety features and certification of the aircraft. Flight tests had been temporarily paused due to shelter-in-place restrictions resulting from the Coronavirus pandemic. Prior to the pandemic, the company had completed more than 1300 test flights expanding the flight envelope, providing data for model, design, and requirements updates, and maturing procedures to operate the aircraft safely and efficiently. Carl Engel, Director, Flight Test for Wisk, said "As we return to flight testing, we have implemented a number of procedures and social distancing measures based on best practices and recommendations from local and national health and government organizations."

Based in the San Francisco Bay Area and New Zealand, Wisk is an independent company backed by The Boeing Company and Kitty Hawk with a decade of experience.
https://uasweekly.com/2020/06/10/wisk-resumes-flight-testing-with-self-flying-air-taxi/?utm_source=rss&utm_medium=rss&utm_campaign=wisk-resumes-flight-testing-with-self-flying-air-taxi&utm_term=2020-06-11

Airobotics Gets BVLOS Waiver from FAA During Covid-19 within 24-Hours: Here's How João Antunes JUNE 5, 2020

On April 5th, 2020, due to the pandemic and lockdown orders, a Houston-based oil and gas company asked for a waiver to use drones for inspecting its equipment, since workers had to be

kept inside. Within 24 hours, the FAA took action and issued its first COVID-19 related drone waiver approving beyond-visual-line-of-sight operations for Airobotics.

Operating in visual line of sight creates a challenge both from the manpower aspect, directly affecting the cost, and coverage area, which BVLOS solves. For example, in oil and gas industries or chemical factories, some areas are not accessible for pilots, either because of loss of sight or areas that are deemed dangerous, therefore limiting drone operations. However, having a BVLOS waiver, Airobotics can cover the entire infrastructure.
https://www.commercialuavnews.com/energy/airobotics-gets-bvlos-waiver-from-faa-during-covid-19?utm_source=marketo&utm_medium=email&utm_campaign=newsletter&utm_content=newsletter&mkt_tok=eyJpIjoiT1RZNVltSmlNbVkyTWpJMiIsInQiOiJZQldsWG1WazRBS1pRNTFIemtGUFFpeWxyZ3ZyTjBzU3FcL0cyUzdUY2lGR1pJTmNYOGlTbFhPbVJkbE5vdVEzSFM0cVBvSzBvQldPeUxPVEF1SDladGV0N1RPaFJtVHFQdFNRY2V3Y1hQYXBlUXorb1JrUHFSU3hEQUZBSzJ6OTcifQ%3D%3D

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New Ideas: Young Architect Imagines the Urban Droneport as a Response to Pandemic Miriam McNabb June 11, 2020

New technology drives new ideas in every industry: and in this guest post, a young architect's passion project imagines how drone technology and architecture can combine to offer a response to the current – and any future – crisis.

The "**Urban Droneport**" is a **logistics center that automates deliveries in urban environments using drones, which minimizes contact between people**. In the current epidemiological context, this would facilitate the arrival of medicines, personal insulation material, and food and basic products for isolated people; improving the quality of life of the population during quarantine and minimizing the risk of coronavirus infection. These options could reduce rides and walks to pharmacies, supermarkets or the work of delivery people. In addition, centrally

located drone delivery could also be useful in the distribution of medical supplies to healthcare centers, given the shortage situations that we are dealing with.

The **objective** of the project is the design of a building that allows and optimizes the transport of goods with Remotely Controlled Aircraft in urban areas. Emphasis is placed on both the design of the necessary architecture and the generation of a new network which adapts to the existing city and enables this new transport system. The project is innovative as it designs new distribution systems, new elements for receiving packages and, in general, a new infrastructure network that frees up existing ones and optimizes the movement of goods. https://dronelife.com/2020/06/11/new-ideas-young-architect-imagines-the-urban-droneport-as-a-response-to-pandemic/

Drone Delivery of Library Books: Wing's Newest Application Makes Summer Reading Fun Miriam McNabb June 11, 2020

Google spin-off Wing was the first company in the U.S. to receive authorization to operate a commercial drone delivery service. In October 2019, the company began drone delivery of food and medicines in Christianburg, VA. Now, a committed middle school librarian in Christianburg has convinced Wing to add drone delivery of library books to their portfolio – a great way to get kids excited about reading.

Kelly Passek was one of Wing's first customers for drone delivery of household goods and meals. Wing has worked with local companies and Walgreens to deliver consumer goods to communities, following on successful implementations of their consumer drone delivery platform overseas. Passek was so impressed with how quickly items were delivered, that she petitioned Wing to take on library books.

"I think kids are going to be just thrilled to learn that they are going to be the first in the world to receive a library book by drone," said Passek. https://dronelife.com/2020/06/11/drone-delivery-of-library-books/

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