UAS and SmallSat Weekly News

Contents

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Drone video shows grey whale casually swimming underneath surfers Haye Kesteloo Nov. 14th 2019

Drones bring us some of the most amazing video footage. Just take a look at this video showing a grey whale casually swimming underneath a group of surfers at Doheny. And the crazy part is that hardly anybody seems to notice the massive creature.

The video was shot at southern California's Doheny State Beach and an easy day with hardly any wind and small waves. A group of surfers is sitting in the line- up waiting for another set to come in as a grey whale casually swims by.

The massive mammal is captured with a drone, presumably a DJI Mavic Pro as indicated by the video. https://dronedj.com/2019/11/14/drone-video-shows-grey-whale-casually-swimming-underneath-surfers/#more-21237

Loft Orbital raises $13 million as it prepares to bulk buy satellite buses Caleb Henry November 14, 2019

WASHINGTON — Loft Orbital has raised a fresh $13 million to continue development of a constellation of small satellites purpose-built to carry a mix of payloads for customers who don't want to fly their own satellites.

Foundation Capital led the Series A round with participation from Kima Ventures, Cendana Capital, Swell Partners, and GFA Ventures, bringing Loft Orbital's total raised to $20 million in "equity and non-dilutive capital," the company announced Nov. 13.

San Francisco-based Loft Orbital's first satellite, YAM-2, is scheduled to launch by mid-2020 on an Indian Polar Satellite Launch Vehicle arranged through Seattle-based rideshare broker Spaceflight. YAM-2 — short for Yet Another Mission — will carry five payloads: an Internet of Things telecom payload for Eutelsat; a methane sensor for Orbital Sidekick; a satellite positioning payload for Fugro; an imager for the UAE government; and a blockchain payload for SpaceChain.

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Loft Orbital's business model entails buying satellite buses from spacecraft vendors and outfitting them with a mix of payloads provided by customers who pay a fee for space on the Loft Orbital-owned-and-operated satellite. https://spacenews.com/loft-orbital-raises-13-million-as-it-prepares-to-bulk-buy-satellite-buses/

Doosan Fuel Cell Drone Makes 43 Mile Medical Delivery Miriam McNabb November 15, 2019

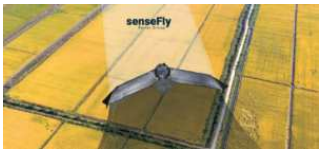
Korean drone company Doosan Mobility Innovation has been a new presence at drone shows and conferences this year. Now, the unique DS30 octocopter has demonstrated what it can do with a stunning 43 mile medical drone delivery.

"This last week, members of our team at Guinn Partners worked with Doosan Mobility Innovations, in collaboration with Skyfire Consulting, and the US Department of Health, to execute a 43 mile open ocean medical drone delivery between St. Croix and St. Thomas. The flight took an hour and forty three minutes on Doosan's hydrogen-fuel cell powered DS-30 aircraft (which still had nearly 30 minutes of hydrogen left in the tank upon landing)," says a Guinn Partners release.

"The drone carried simulation vials as a surrogate for diagnostic samples or vaccines in a temperature controlled payload system."

This type of demonstration has significant value for the industry. While an open ocean mission poses few risks to bystanders and is there for easier to implement as a test scenario, it demonstrates multiple technologies. As well as showcasing the flight endurance of the DS30 – and the value of hydrogen fuel cell technology for drones – the mission showcased a safe and controlled flight beyond visual line of sight. https://dronelife.com/2019/11/15/doosan-fuel-cell-drone-makes-43-mile-medical-delivery/

senseFly and Microsoft Plant Drone Farming Solution Jason Reagan November 15, 2019



Fixed-wing drone company senseFly is teaming up with Microsoft to optimize food production worldwide with a data-drive farming platform. The Switzerland-based company announced a new partnership with Microsoft Azure FarmBeats, a global initiative with the ambitious goal of increasing global food yields by 70 percent by 2050.

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Using drones, sensors and other software/hardware platforms, the FarmBeats program will collect and analyze huge swathes of agricultural data to develop actionable insights for farmers using AI and machine-learning algorithms. https://dronelife.com/2019/11/15/sensefly-and-microsoft-plant-drone-farming-solution/

AeroVironment Awarded $12 Million Support Contract from Major Middle Eastern Ally November 14, 2019 Military | News

AeroVironment, Inc. today announced a major Middle Eastern ally awarded the company a firm fixed-price contract valued at $11,999,992 on October 25, 2019 for logistics support, spares, and repair services in support of its existing fleet of AeroVironment's Puma™ AE and Raven® B tactical UAS. The contract award period of performance is two years.

The Raven system is designed for rapid deployment and high mobility for applications requiring low-altitude intelligence, surveillance and reconnaissance. With a wingspan of 4.5 feet and weighing 4.2 pounds, the hand-launched Raven provides aerial observation, day or night, at line-of-sight range of at least 6.2 miles. The Raven's stabilized gimbaled payload delivers real-time color or infrared imagery to ground control and remote viewing stations.

The Puma is a man-portable unmanned aircraft system designed for land and maritime operations. It has a wingspan of 9.2 feet, weighs 15 pounds and operates for up to 2.5 hours at line-of sight range of 20 kilometers with a standard antenna, and up to 60 kilometers with AeroVironment's Long-Range Tracking Antenna. It is capable of landing in water or on land. https://uasweekly.com/2019/11/14/aerovironment-awarded-12-million-support-contract-from-major-middle-eastern-ally/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_15_2019&utm_term=2019-11-15

Volans-i Becomes the First Drone Delivery Company to Earn An ARGUS Gold Rating November 14, 2019 News

ARGUS International, Inc. proudly announced its awarding of the ARGUS Gold Unmanned Operator rating to Volans-i, making the organization the first unmanned delivery operation to earn the prestigious aviation rating. The California-headquartered autonomous drone delivery solution serves the commercial,

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defense, and humanitarian sectors both within the United States and abroad.

The California-headquartered autonomous drone delivery solution serves the commercial, defense, and humanitarian sectors both within the United States and abroad. The ARGUS Unmanned Audit Standard was developed to provide unbiased, factual, data necessary to make informed decisions every time they use a service provider. The program assesses the safety of UAS operators and provides requirements for vendor qualification.
https://uasweekly.com/2019/11/14/volans-i-becomes-the-first-drone-delivery-company-to-earn-an-argus-gold-rating/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_15_2019&utm_term=2019-11-17

New drone camera system developed to help search inside buildings EMERGENCY SERVICES INNOVATION INTERNATIONAL NEWS TECHNOLOGY UK MATTHEW TRASK NOVEMBER 15, 2019

The new WideSee system was developed in collaboration between engineers at the University of Leeds, University of Massachusetts and Northwest University in Xi'an China.

It has been designed for use by emergency workers to aid in the rescue of those trapped inside high rise buildings.

Researchers say that the prototype device is capable of scanning deep into a building by using long-range radio waves, which can penetrate concrete walls.

Dr Zheng Wang, of the Leeds School of Computing, said of the project: "Heat seeking cameras can identify the heat being radiated from a human body, but in a blaze there is a high chance the cameras would be incapable of picking out the heat being generated by someone trapped in the building because of the more intense heat being given off by the fire."

The system uses an adapted LoRa radio like a radar by sending signals from the drone into the building before being picked up by a receiver on the drone allowing them to see, as a statement describes, the 'signature' of objects inside buildings.

WideSee was tested on an empty building in China, where it was successfully able to identify a small group of people on the ninth floor. When the volunteers were walking or waving and the flying speed of the drone was reduced to 1 or 1.5 metres per second, there was at least a 96% chance of being detected.

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"If people were lying still, the system did not pick them up, and the aim is for further research into the detection of non-moving targets." https://www.commercialdroneprofessional.com/new-drone-camera-system-developed-to-help-search-inside-buildings/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317294-Commercial+Drone+Professional+DNA+-+2019-11-15

SeaWorld to light up the skies with drone show test DRONES AT WORK INNOVATION NEWS TECHNOLOGY UNITED STATES MATTHEW TRASK NOVEMBER 15, 2019

SeaWorld San Diego has been granted approval by the California Coastal Commission to test a new night-time drone show in the skies over its park.

A report from the San Diego Union-Tribune notes that the park will test a show that involves using up to 500 of Intel's 'Shooting Star' drones to produce a synchronized light show in the sky.

The park was granted permission by the California Coastal Commission to test the show over 15-nights in February with each test lasting for no more than five minutes. SeaWorld will also have to review any potential hazards and impacts that may cause issues during the show as well as any potential impact the drones may have on birds.

Little is known about what will be contained in the show but it will make use of synchronized shapes using lights mounted on the vehicles that will then fly pre-programmed routes before returning to their launch area.

SeaWorld San Diego will be the latest park to make use of the technology following in the footsteps of Universal Studios Hollywood who used Intel drones for its Dark Arts at Hogwarts Castle show.

The test follows concerns over the environmental impact of fireworks with the theme park industry looking to emerging technology to produce the next generation of night-time spectaculars. https://www.commercialdroneprofessional.com/seaworld-to-light-up-the-skies-with-drone-show-test/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317294-Commercial+Drone+Professional+DNA+-+2019-11-15

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US drone bill will create 'inconsistent' regulations, insider says FAA LEGISLATION

NEWS UNITED STATES MATTHEW TRASK NOVEMBER 15, 2019

Drone regulation in the US is at a key turning point as a bill seeking to give states and cities control over laws surrounding low-flying drones could undermine the Federal Aviation Administration.

Diana Cooper, president of the Drone Operators Federation and Small UAV Coalition as well as the SVP of policy and strategy at PrecisionHawk, expressed her concern surrounding the future of drone regulation in the US.

In October, Senator Mike Lee introduced a bill that would see rules regarding low-flying drones being made by states, cities and municipalities instead of the FAA.

Cooper said: "These kinds of proposals to arbitrarily carve up the airspace and undermine the FAA's exclusive jurisdiction is arguably the largest regulatory threat to the drone industry.

"The U.S. is at risk of losing its global advantage in 2020 if it continues to pursue policies that create a patchwork of inconsistent or confusing UAS regulations."
https://www.commercialdroneprofessional.com/us-drone-bill-will-create-inconsistent-regulations-insider-says/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317294-Commercial+Drone+Professional+DNA+-+2019-11-15

18Nov19

ANALYSIS: General Atomics ready to add SparrowHawk attritable drone 15

NOVEMBER, 2019 FLIGHTGLOBAL.COM GARRETT REIM LOS ANGELES

General Atomics Aeronautical Systems is developing a new attritable jet-powered unmanned air vehicle. Called SparrowHawk, it is intended to be air-launched from and air-recoverable by the US Air Force's MQ-9 Reaper. The company has built one prototype so far, which could be flown for the first time before the end of 2020, depending on funding. The small UAV could be available for purchase by customers in 2021.

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The SparrowHawk weighs about 200lb, can carry a payload of about 13.6kg and would have a 174nm range. The development effort is being funded with internal research and development money.

It is a spin-off from the company's failed bid for the US Defense Advanced Research Projects Agency's Gremlins program which was won by Dynetics. The DARPA activity is an effort to develop a UAV that can be launched from a Lockheed Martin C-130J tactical transport, flown on a reconnaissance mission and then return to the aircraft to be recovered in flight. There's an advantage to having a small UAV being able to be air refueled especially when you have a mothership that can stay airborne for 40h. https://www.flightglobal.com/news/articles/analysis-general-atomics-ready-to-add-sparrowhawk-a-462112/

The TSA is planning to shoot down drones near airports. GOP congressmen say that's dangerous and probably illegal. Ian Duncan November 15, 2019

Passengers wait to check in at Gatwick Airport near London in December 2018 after drones halted flights there

The TSA wants to give air marshals the power to use Defense Department equipment to shoot down drones near airports, two congressmen said Friday, seeking to tackle the small automated aircraft that can harass much larger planes and leave flights grounded.

But in a letter to the Department of Homeland Security that summarizes the plan, the top Republicans on the House Transportation and Homeland Security committees said the idea goes far beyond what they envisioned when they gave the federal government new powers to counter drones last year. Reps. Sam Graves (R-Mo.) and Mike Rogers (R-Ala.) said only the Federal Aviation Administration has the expertise to manage the nation's skies.

"Nobody wants drones to cause disruptions at our airports, but to hastily hand over authority to shoot down drones to an agency that doesn't have the critical knowledge or experience of how our airspace system functions is irresponsible and dangerous," the congressmen said in a statement.

DHS began working with other government departments to develop an emergency plan this summer, after a drone grounded traffic at London's busy Gatwick Airport shortly before Christmas. The plans were finalized last month.

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In response to the threat, Congress at the Trump administration's urging last year gave DHS new authority to tackle drones, including the power to destroy them, if they posed a danger to the security of sensitive locations, like Customs and Border Protection facilities and Secret Service offices. But in their letter, Graves and Rogers said Congress did not contemplate airports being covered in the new law.

The congressmen also said the specifics of the DHS plan were ill-conceived, calling the department's experience using counter-drone technology "sorely lacking" and saying that the air marshals had a "complete absence of any experience in such matters." https://www.washingtonpost.com/transportation/2019/11/15/tsa-is-planning-shoot-down-drones-near-airports-gop-congressmen-say-thats-dangerous-probably-illegal/

UAVs Continue To Grow in Strength in the Middle East Beth Stevenson November 17, 2019

The MQ-4C Triton system used by the U.S. navy.

The drone attacks against state-owned oil producer Saudi Aramco that took place in September 2019 made the headlines the world over, drawing attention to the increasing use of this type of capability in the Middle East.

While nations in the Gulf are focusing on the acquisition of fighter fleets, there is also a parallel drive to extend their capabilities with the use of UAVs which can be operated at ever-increasing stand-off ranges for effective mission execution. As is the case with fighter fleets, there is a strong focus on imports for UAVs in the region, and Middle Eastern nations are looking towards a mix of U.S., Russian and Chinese suppliers of this type of system.

Chinese UAVs are increasingly advancing to be more than the reverse-engineered versions of U.S. and Israeli UAVs that they were once deemed to be, and while they may not be of quite the same sophistication as these other systems, the selling point is that China will readily export this technology with few qualms over the way they will ultimately be operated. https://www.ainonline.com/aviation-news/defense/2019-11-17/uavs-continue-grow-strength-middle-east

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Could drone deliveries help the environment? Let's unpack that SAMANTHA MASUNAGA STAFF WRITER NOV. 17, 2019

Wing Hummingbird drone

Drones have been touted as a clean, fast way to appease our demand for quick deliveries. When Amazon.com Inc. unveiled a new design in June for its Prime Air delivery drone, it framed the initiative as part of its vision to make half its shipments net zero carbon by 2030. Wing, a division of Google parent Alphabet Inc., heralded its service as helpful in easing greenhouse gas emissions. After UPS first publicly flew a drone from the top of a delivery truck to drop off a package at a home, an executive called the test a "big step" toward reducing UPS' emissions.

Small drones have a lower environmental impact than ground-based delivery methods. But drone batteries need to be charged, and that power has to come from somewhere. For drones to live up to their green potential, plugging into clean power sources is vital. Access varies from state to state and from utility to utility.

Thanks to solar power, California frequently generates more electricity than people can use. The study in Nature Communications concluded that a one-pound package delivered by a small drone in California would reduce greenhouse gas emissions by 54% compared with a diesel truck. The same delivery in Missouri, which gets most of its electricity from coal, would result in a reduction of just 23%. https://www.latimes.com/business/story/2019-11-17/drone-deliveries-environment-trucks

Drones Capture Iceland's Shrinking Glaciers Jenessa Duncombe 8 November 2019

Photographs of Iceland's southern glaciers show pools of water where walls of ice once stood.

The glacial tongue of the Icelandic glacier Breiðamerkurjökull has retreated considerably between the times these images were taken in 1989 (top) and 2019 (bottom).

In the span of a single human lifetime, large swaths of Icelandic glaciers have melted away.

Now scientists have documented the sheer magnitude of the change by using composite images taken of Icelandic glaciers in the 1980s and comparing them with modern-day drone

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images. The images are side-by-side comparisons of the same scenery, taken just decades apart. In recent years, Iceland's glaciers have lost about 40 square kilometers annually, according to the Icelandic Meteorological Office.

The Hoffellsjökull outlet glacier in southern Iceland has retreated since this photograph taken in 1982 (left), leaving behind a lake that has grown "rapidly every year" since 2010 (right).

https://eos.org/articles/drones-capture-icelands-shrinking-glaciers

Drones to inspect I&M transmission lines LOCAL NEWS NOV 12, 2019 NEWS-SENTINEL STAFF REPORTS nsmetro@news-sentinel.com

Indiana Michigan Power (I&M) will use aerial drones to inspect transmission lines over Allen, DeKalb and Steuben counties beginning as early as Tuesday, Nov. 12, and continuing through next week. Weather may impact the schedule.

These inspections help I&M ensure the safe and reliable operation of the area's transmission system. The aerial drone will follow transmission lines for extended periods of time to capture high-resolution images of I&M equipment for assessment of structures and line conditions.

I&M has contracted with Asymmetric Technologies to manage these aerial inspections. A licensed operator pilots the drone, assisted by a camera operator/inspector on the ground. Inspection teams will follow FAA rules that require the pilot to maintain line of sight to the drone at all times. The inspection team will travel along the rights-of-way to access the transmission lines.

Indiana Michigan Power (I&M) is headquartered in Fort Wayne, and its 2,450 employees serve more than 593,900 customers. https://www.news-sentinel.com/news/local-news/2019/11/12/im-drone-to-inspect-transmission-lines/

Flying Blind: Iris Automation and Kansas DOT Demonstrate BVLOS Flight Using Only Onboard Detect and Avoid Systems Miriam McNabb November 18, 2019

Flight beyond visual line of sight is being tested intensively now, as regulators and technology providers partner to demonstrate that drone flights can be conducted safely without visual observers. Usually, longer BVLOS flights require some sort of ground-based system like radar to protect the area from any other aircraft or obstacles. Now, as part of the UAS Integration Pilot Program, two partners have demonstrated safe drone operations without any visual observers or ground based airspace security. Instead, the recent flight performed by Iris Automation and Kansas DOT used only Iris Automation's onboard, detect and avoid collision avoidance systems. In the first two days of flights, the team completed more than 150 miles BVLOS.

If onboard collision avoidance systems can be proven to ensure safe flight, it's a big step forward for unmanned traffic management and the drone industry.

The following is an Iris Automation press release. https://dronelife.com/2019/11/18/iris-automation-and-kansas-dot-demonstrate-flight-using-only-onboard-detect-and-avoid-systems/

Lightweight Drone Detection System Protects Assets and Information from Eyes In The Sky November 18, 2019 Counter UAS

Context Information Security has developed a lightweight, low-cost drone detection system capable of detecting drones being used for surveillance, smuggling and drone enabled cyber-attacks against wireless networks.

It can discriminate a drone from benign wireless signals at a range up to two kilometers, even in noisy radio environments. Geo-location is performed once the signal is within range of two or more radios. Signal metadata is reported to a cloud-based server via a secure cellular VPN where it is analyzed and the results checked against user defined rules. Alerts are then sent in real-time via a variety of channels. For a football stadium, it could message an on-site police officer so the pilot can be quickly located and the drone threat neutralized.

An algorithm enables fingerprinting as to the type of signal and any known hardware associated with it. The system can even distinguish between different models of drones and controllers from the same manufacturer and recognize frequency-agile encrypted video downlinks.

A post-incident forensics interface enables sharing signal metadata for incident forensics to confirm or deny the presence of a recovered device based upon its radio footprint. System integration is enabled via a plugin framework with support for SMS, Telegram, Google Earth, XML, CSV and KML. With very low bandwidth requirements, the system can be deployed over IP radio, PoE/LAN or cellular. The server and interface also have a lightweight footprint and can be deployed on a single laptop for mobile events. https://uasweekly.com/2019/11/18/new-lightweight-drone-detection-system-protects-assets-and-information-from-eyes-in-the-sky/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_18_2019&utm_term=2019-11-18

Drone Aviation reports record third quarter revenue and profitability APPLICATION

BUSINESS FINANCIAL ALEX DOUGLAS NOVEMBER 18, 2019

Drone Aviation, a developer of tethered aerial monitoring and communications platforms serving national defense and homeland security customers in the US, has announced record financial results.

For the third quarter ended September 30, revenue growth and profitability was driven by deliveries of WASP Lite systems to the U.S. Army as well as additional deliveries of its WASP tactical aerostat system and related integrated services in support of the United States Border Patrol. Quarterly revenues consisted of aerostat systems deliveries to customers as well as increased integrated services revenue related to field services support of the USBP.

For the nine months ended September 2019, gross revenues were $4,120,834 compared to $995,838 gross revenues reported for the nine months ended September 2018. https://www.commercialdroneprofessional.com/drone-aviation-reports-record-third-quarter-revenue-and-profitability/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317372-Commercial+Drone+Professional+DNA+-+2019-11-18

2020 counter drone market worth $20 billion says Market Forecast November 15,

2019 Jenny Beechener Counter-UAS systems and policies, UTM and C-UAS market analysis

A market intelligence study by Market Forecast estimates the counter drone market will be worth $1.8 billion in 2020, rising to $5.47 billion in 2028. The cumulative market is expected to surpass $32 billion based on a compound annual growth rate of 13%. Ground-based platforms are predicted to continue to dominate the market, comprised of both fixed platforms and vehicle-mounted

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platforms.

The report, entitled: "Counter- Global Unmanned Aerial Vehicle- Market and Technology Forecast to 2028" covers the period from 2018 to 2028 and examines the rise of unmanned platforms across Defense and Commercial markets. It analyses market trends, including key drivers, restraints and challenges; key technologies; software interfaces; regulations in the top 10 countries; and analysis market opportunities and profiles. The market is segmented based on Region, Technology, Platform, End User and Interdiction.
https://www.unmannedairspace.info/counter-uas-systems-and-policies/2020-counter-drone-market-worth-usd20-billion-says-market-forecast/

19Nov19

Chinese drone question splits agencies, White House SAM MINTZ 11/18/2019

When the Interior Department recently announced it was reversing course and grounding its UAS fleet over security concerns of Chinese-made drones, some figured the move was due to pressure from a White House bent on cracking down on Chinese companies doing business in the U.S. But a new White House document obtained by our Stephanie Beasley appears to throw some doubt on that.

The Trump administration opposed banning federal agencies using Chinese drones this fall, in an OMB draft document sent to Interior on Sept. 30. The memo criticizes a Senate bill, S. 2502 (116), which would prohibit federal spending on drones made in China and other countries identified as national security threats, arguing that a ban could roil trade relations and put an "undue burden" on agencies — all for no real security benefit. Instead, OMB recommended that agencies continue to use Chinese drones and establish cybersecurity safeguards, which Interior had already been doing until its sudden reversal last month.

So what caused Interior's about face? Here's one theory, from James Poss, a retired Air Force major general and drone security consultant, who thinks that DHS may have played a role. The agency has warned that Chinese-made drones could carry data security issues for organizations using them. Poss said making assessments about drone cybersecurity was outside of Interior's responsibility and the department's quick grounding of its fleet suggests its previous assessment wasn't strong enough. "I think the biggest indicator is that DOI came out and reversed its position," he said. "It's possible that senior folks from DHS talked to DOI."
https://www.politico.com/newsletters/morning-transportation/2019/11/18/chinese-drone-question-splits-agencies-white-house-782573

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DRONERESPONDERS Working Group to Support Urban Public Safety UAS Operations

NEW YORK – DRONERESPONDERS – a non-profit program supporting public safety UAS – announced the formation of the DRONERESPONDERS Major Cities Working Group designed to unite and assist public safety agencies operating unmanned aircraft systems in urban and large metropolitan areas.

Formalized at the Drone Journalism Leadership Summit held November 13 at the City University of New York, charter members of the Major Cities Working Group include representatives from the Fire Department of New York, the Los Angeles Fire Department, the Los Angeles Police Department and the New York Police Department.

The Major Cities Working Group will be administered by DRONERESPONDERS, with additional non-profit organizational support provided by the Association for Unmanned Vehicle Systems International and the National Press Photographers Association. AIRT, AUVSI and NPPA will facilitate coordination between public safety agencies, news media organizations, non-governmental organizations, and the unmanned systems industry as needed.
https://www.droneresponders.org/post/droneresponders-major-cities-working-group-to-support-urban-public-safety-uas-operations

New Vehicle-Mounted Counter-UAS System Released 19 Nov 2019

DroneShield has announced the release of DroneSentry-X, the company's new vehicle-mounted counter-UAS product. Compatible with a range of vehicles as well as fixed-site installations, and featuring automated 360° detect and defeat capabilities for anti-drone swarm protection, the system is aimed at military, law enforcement, security and VIP protection markets.

The system features a digital control panel and display and roof-mounted sensors that can be automatically or manually activated to intercept rogue drones. It provides real-time situational awareness while moving, with the ability to automatically counter drone threats detected by the system. The device can also be deployed at a fixed site or as a temporary pop-up solution, with on-site or remote operator access.
https://www.unmannedsystemstechnology.com/2019/11/new-vehicle-mounted-counter-uas-system-

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released/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=045b4bdf5d-eBrief_2019_19_Nov&utm_medium=email&utm_term=0_6fc3c01e8d-045b4bdf5d-111778317

Silent Arrow® 1-Ton Cargo Delivery Drone Secures USSOCOM Development Contract November 18, 2019 Military | News

Silent Arrow is the world's first production-ready, 1-ton, autonomous cargo aircraft, which delivers up to 1,631 pounds of supplies at less than half the cost of JPADS with more than double the glide ratio, dramatically improved landing accuracy, zero vertical impact force and with far greater stealth.

Yates Electrospace Corporation CEO Chip Yates said, "We are currently working with our AFSOC partners to conduct several airdrops of the Silent Arrow GD-2000 from various aircraft at medium altitudes in the February-March 2020 timeframe, and at high altitudes (25,000 feet) in April-May 2020."

Designed for logistical support for both military and relief operations, Silent Arrow's spring-deployed wings, high standoff distance and low cost have led to expanded military contracts with the U.S. and allied foreign government, as well as international aerospace & defense companies. It is designed for fixed-wing and rotorcraft deployment of supplies, cargo and fuel under austere operating conditions and timelines. https://uasweekly.com/2019/11/18/silent-arrow-1-ton-cargo-delivery-drone-secures-ussocom-development-contract/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_18_2019&utm_term=2019-11-18

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Tackle Box for the Modern Fisherman: Rod, Reel, Drone Mike Cherney Nov. 19, 2019

PERTH, Australia—When fisherman Robbie Riches laments the ones that got away, he means his $1,000 drones. He belongs to a school of anglers who have swapped the seaside tranquility of surf fishing for the motorized whine of drone fishing. The flying machines ferry baited fishing line from the angler's reel far from shore and then lower the hook to where the best tuna, mackerel and snapper are said to lurk.

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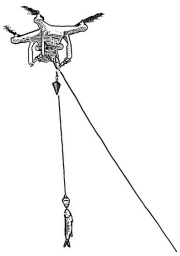
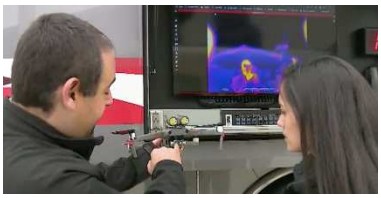


If all goes well, the drone releases the line, and the fisherman reels in the catch when a fish bites. If there is a problem, a hooked fish can yank the drone into a costly crash landing.

The risk is outweighed by a shot at bigger fish farther offshore. Mr. Riches said he once bagged a 42-pound mackerel. Other times, drones yield only trouble. Last week, Mr. Riches lost track of how much line was left in his reel. When it reached the end, his fishing rod bent forward, and he saw the drone falling into the water. He pulled in the waterlogged drone and two small snapper.

To keep up with demand, Mr. King ordered several waterproof drones—the SplashDrone 3+, which sells in the U.S. for anywhere from $1,200 to $2,300. https://www.wsj.com/articles/tackle-box-for-the-modern-fisherman-rod-reel-drone-11574180033?mod=itp_wsj&ru=yahoo

Over 100 pilots lift off at two-day GEMA and FEMA drone training event Haye Kesteloo Nov. 19th 2019



More than 100 pilots lift off from Jim R. Miller Park during a two-day GEMA and FEMA drone training event, participating in exercises ranging from obstacle courses to barricaded gunmen scenarios.

Fox 5 reported on the two-day GEMA (Georgia Emergency Management Agency) and FEMA (Federal Emergency Management Agency) event in which more than 100 drone pilots lifted off from Jim R Miller Park. The two-day event included drone exercises such as obstacle courses and barricaded gunmen scenarios.

"This is a pretty new technology, and the only way we're going to get better is to understand what works and what doesn't work," said Lt. Brett Ries with Cobb County Fire and Rescue. "We're relying on each other's' experience and really taking that and moving forward with it."

In addition to the normal camera on a drone, the thermal camera has been a very valuable asset for first responders as it makes it easier to spot missing persons, suspects, and hot spots in fires. https://dronedj.com/2019/11/19/100-drone-pilots-during-gema-and-fema-drone-training-event/

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Nokia and Sendai City Test Wireless Connected Drones for Tsunami Alerts

November 19, 2019 News

Sendai City and Nokia successfully conducted a test flight of a Nokia drone on a private LTE network provided by Nokia Digital Automation Cloud. They tested the potential use of drones during a tsunami or other disasters to help in prevention and mitigation efforts. The test verified that using a private LTE network to control and communicate with the drones is an effective means for enhancing situational awareness and communicating with the affected population during a disaster. This is the first time this type of trial has been conducted.

Sendai City lies northeast of Tokyo on Honshu Island, with a population of over 1 million. The coastal areas were devastated by the tsunami caused by the Great East Japan Earthquake in 2011 and have come to be recognized internationally through the United Nations as a symbol of disaster risk reduction and reconstruction.

Using speakers, HD cameras and thermal cameras mounted on drones, the testers delivered recorded and real-time voice messages and conducted aerial monitoring using HD and thermal camera video streaming from the drones. They were able to issue a major tsunami warning to evacuees in coastal areas through the drone speaker and monitor the tsunami arrival zone and coastal areas through drone camera images. They also guided people to evacuation sites using the drone to convey directions and monitored the movements of evacuees using the drone camera. The test also highlighted how first responders can facilitate disaster prevention and mitigation without risk to the personnel managing the evacuation activities.
https://uasweekly.com/2019/11/19/nokia-and-sendai-city-test-wireless-connected-drones-for-tsunami-alerts/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_daily_newsletter_11_20_2019&utm_term=2019-11-20

21Nov19

Opinion: Prioritizing Safety in the Drone Revolution *Nov 21, 2019* Elaine L. Chao, U.S. Secretary of Transportation, *Aviation Week & Space Technology*

Drones are the fastest-evolving transportation segment in history, moving at the pace of imagination. It is an exciting time for aviation, and the U.S. Transportation Department is playing an important role in this revolution. The department's commitment to

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the safe integration of drones into America's airspace will clear the way for advances in public health, safety, mobility, productivity and economic growth.

Today, nearly 1.5 million drones and 155,000 drone pilots are registered with the FAA. Whether you fly for recreational purposes, business or public safety, your drone is an aircraft, and you are its pilot. Maintaining the highest levels of safety is a shared responsibility.

Drones have unique capabilities, giving them tremendous potential. Natural disasters like hurricanes and wildfires have brought many positive uses into sharp focus. In California, firefighters from the Los Angeles Fire Department are using drones to aid with situational awareness so that they can more safely and effectively combat fires and save lives.

Drones are being increasingly embraced by first responders for search and rescue and disaster recovery. The first medical and commercial drone package delivery flights recently made headlines and underscore the promise that package delivery holds for the future.

The advent of drones is creating new job categories that never before existed. So, fly safe, have fun and keep innovating. https://aviationweek.com/future-aerospace/opinion-prioritizing-safety-drone-revolution

Drone light shows in China are showing what is possible Haye Kesteloo Nov. 20th 2019

We have seen a number of amazing drone light shows here in the US over the last couple of years. Mostly from companies like Intel and Verity Studios. But more recently it seems that the most advanced and animated drone light shows are happening in China. I came across this video earlier today and then I started searching some more and I was positively surprised with what I found. Check out some of these recent videos that show you what can be done with coordinated drone light shows. The figures and animations that are created in the night skies are simply amazing. Who needs fireworks anymore?
https://dronedj.com/2019/11/20/drone-light-shows-china/

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22Nov19

Drone Pilots – Exciting Updates to Low Altitude Authorization and Notification Capability

The Federal Aviation Administration (FAA) today announced two important expansions of the Low Altitude Authorization and Capability (LAANC), which automates the application and approval process for drone pilots to obtain airspace authorizations in controlled airspace.

The capability is now active at Baltimore/Washington International Thurgood Marshall Airport, Dulles International Airport, William P. Hobby Airport in Houston and Newark Liberty International Airport. A full list of airports covered by LAANC is available on our website.

LAANC directly supports the safe integration of UAS into the nation's airspace, expedites the time it takes for drone pilots to receive authorizations to fly under 400 feet in controlled airspace. LAANC also provides pilots with an awareness of where they can and cannot fly.

The program is accessible to all pilots who operate under the FAA's small drone rule (Part 107) and was expanded in July to provide near real-time airspace authorizations to recreational flyers. usafaa@public.govdelivery.com

Universal Power Industry 'WavDrone' begins flight testing APPLICATION BUSINESS NEWS UNITED STATES ALEX DOUGLAS NOVEMBER 22, 2019

WavDrone, a wholly owned subsidiary of Universal Power Industry Corp, has announced that it will begin comprehensive flight testing of its carbon-nanotube drones and drone intercept technologies.

This will take place at Griffis International Airport in Rome, N.Y. The facility is part of New York's 50-mile UAS corridor between Syracuse and Rome, N.Y. facilitating BVLOS testing, thus enabling the safe integration of UAS testing in U.S. airspace.

Griffiss Airport is located within class D airspace and has a unique charter from both State and Federal authorities which allows it to perform the full range of tests required to meet the specifications of commercial and military markets. The facility also certifies equipment to meet

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the National UAS Standardized Testing and Rating verification of conformity with government standards.

Tony Chiu, president of the Universal Power Industry Corporation, said: “We are very excited to begin testing, as this is the final step before submitting our first of three projects to the U.S. Air Force for review and consideration.” https://www.commercialdroneprofessional.com/universal-power-industry-wavdrone-begins-flight-testing/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-317709-Commercial+Drone+Professional+DNA+-+2019-11-22

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