UAS and SmallSat Weekly News

29 July – 4 August 2017

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Safe2Ditch: Automated Crash Management Technology for Small UAVs

Safe2Ditch is an autonomous, low cost crash management system that **enables landing to a safe and clear ditch site** for small UAVs. The system's exclusive mission is to get a vehicle safely to the ground in the event of an unexpected critical flight issue to minimize the risk of UAVs to people and property. This mission is performed autonomously, without any assistance from a safety pilot or ground station.

To view a short video about the technology, visit: http://bit.ly/2r5oWJ3

Directional UAV Localization of Power Line Ultraviolet Corona

Improved method of detecting power line faults

NASA's Langley Research Center has developed a novel system that uses **an ultra-violet camera to detect, inspect, and analyze a corona discharge**. This discharge signifies a power line fault, making the technology ideal for use in power line inspections. When coupled to a drone, the technology offers the ability to remotely monitor power lines in a cost effective way. Adding GPS technology results in precise location of power line faults.

Read more about the applications and benefits of this technology here!

For more information about these or other Langley technologies, please visit: http://technologygateway.nasa.gov

MIT Researchers Develop Mini-Computer Chips for Mini-Drones

Researchers at MIT are designing smaller, more efficient computer chips to "miniaturize the

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brain of a drone." MARCO MARGARITOFF JULY 20, 2017

CHRISTINE DANILOFF / MIT SHARE

Researchers at MIT are developing miniature chips, which would require far less power, ridding drones of the hitherto-required battery weight. Smaller chips, less batteries, less weight.

MIT researchers Sertac Karaman and Vivienne Sze claim that this is a wholly "new approach" to minimizing the restrictive need for large batteries and weight. "Imagine buying a bottlecap-sized drone that can integrate with your phone, and you can take it out and fit it in your palm," Karaman says. "If you lift your hand up a little, it would sense that, and start to fly around and film you. Then you open your hand again and it would land on your palm, and you could upload that video to your phone and share it with others," says Karaman.

The research being done at MIT is partly funded by both the National Science Foundation and the Air Force, with their goal, according to Karaman, being to design **the "smallest intelligent drone that can fly on its own."** Currently, their most successful prototype can process images at 20 frames per second, accurately orient the UAV, and consume less than 2 watts of power. That's a huge leap from the current quadcopter standard of using between 10 and 30 watts of power, never mind their batteries being too heavy to fit on one of these proposed mini-drones. http://www.thedrive.com/aerial/12671/mit-researchers-develop-mini-computer-chips-for-mini-drones

Are Flying Vineyard Drones Creating Better Wine?

Vintners are using aerial drones to improve vines, bottom lines and what ends up in the bottle. But will the art and instinct of winemaking be impacted? BY MATT ALDERTON

Drones prove useful as wine increasingly embraces sophisticated science, which adds a 21st-century sheen to an age-old craft. "Plants that have a high level of photosynthetic activity are healthier than plants that have a low level of photosynthetic activity," says Kevin Gould, founder and CEO of Hawk Aerial, which pilots drones for vineyards.

"The drones take photos using multispectral cameras. They then stitch those images together and then the composite image is processed by a proprietary **Enhanced Vegetation**

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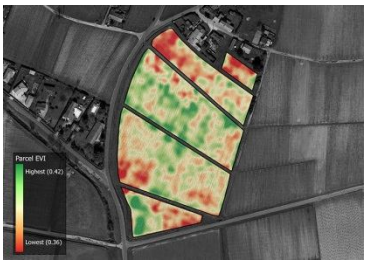
Index computer algorithm. This colorizes the image which makes vine vigor visible."

"That alerts the vineyard manager and viticulturist to various levels of health or low health in their vineyard," says Gould, who likens "vigor maps" to compasses. Although they don't tell growers the reasons why vines are weak—be it poor irrigation, inadequate fertilization or pests—they point them in the right direction.

"Wine that's made from diseased grapes has an off-flavor, so disease-free grapes offer wine drinkers a better drinking experience," says Melissa Staid Ph.D., co-founder and CFO of VineView, who says plant vigor also impacts taste. "There's an optimum vigor level associated with quality wine, so the extent to which a grower is proactive about managing vigor will result in a much better quality wine."



A drone's map of vineyard EVI levels (Enhanced Vegetation Index), also known as vigor / Photo courtesy SkySquirrel

http://www.winemag.com/2017/07/20/are-flying-vineyard-drones-creating-better-wine/

Anti-drone radio wave startup SkySafe secures $11.5M from Andreessen

Josh Constine (@joshconstine)

Drones are a threat to both military and public safety, whether flown by a terrorist or just a reckless pilot. SkySafe's radio wave technology can **detect and stop rogue drones from entering unauthorized areas** like military bases, stadiums, prisons and airports. SkySafe's radio frequency signals are projected from a perimeter of nodes or even a Jeep, and force unapproved drones to leave or land while allowing permitted drones to fly.

Now just two years after launch, SkySafe has raised an $11.5 million Series A round led by

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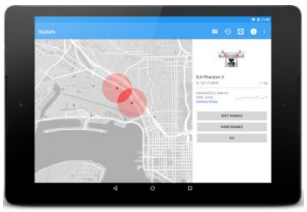
Andreessen Horowitz, whose partner Lars Dalgaard will join the board. It adds to the $3 million seed led by Andreessen last year.



Meanwhile, SkySafe has secured a $1.5 million Department of Defense contract with Naval Special Warfare to provide counter-drone tech to the Navy Seals. SkySafe's mobile defense vehicle can accompany armed forces in the field to protect a moving perimeter from drone attacks or surveillance. https://techcrunch.com/2017/07/20/skysafe/

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CNN Receives First-Ever Part 107 Waiver for Closed Set Drone Operations

CNN Aerial Imagery and Reporting (CNN AIR) is pleased to announce that CNN has become the first organization to be granted a Part 107 waiver by the Federal Aviation Administration (FAA) **to fly small unmanned aircraft systems (UAS) over people for closed-set motion picture and television filming**. CNN previously received the first-ever waiver granted by the FAA **to fly UAS over members of the public for media coverage, including newsgathering and reporting activities.**

CNN's successful waiver application builds on its longstanding commitment to moving UAS policies forward for news organizations. In 2015, CNN was selected by the FAA as one of the first three industry "Pathfinders" to develop safe uses of UAS in newsgathering, particularly in urban populated areas. This approval builds on CNN's closed set filming authority previously granted under Section 333 of the FAA Modernization and Reform Act of 2012. http://uasweekly.com/2017/07/21/cnn-receives-first-ever-part-107-waiver-closed-set-drone-operations/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

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Field widens for commercial drone use beyond photography Ashley Lisenby St. Louis Post-Dispatch Jul 21, 2017

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Madison County Sheriff Deputy Darren Onwiler demonstrates the drones camera capabilities on June 29.

Evolved from their model plane and military origins, today's unmanned aircraft are being put to work by businesses and public agencies in the St. Louis region.

Brian Borton, operations manager with Gateway Drone Resources, said the drones his company uses capture images that, coupled with advanced software, can help clients in agriculture, utilities and construction understand their land and projects better.

Commercial drone spending is projected to exceed $20 billion in roughly five years. Drone companies such as Borton's, which hired two people in July to boost its payroll to about a dozen, are also growing, adding revenue and jobs to the local economy.

As more drones take to the skies, more local governments are passing laws with restrictions on them, often citing privacy concerns. Borton said a recently passed drone ordinance in Chesterfield hasn't hurt his business but presents a challenge.
http://www.stltoday.com/business/local/field-widens-for-commercial-drone-use-beyond-photography/article_97463d8e-4dca-52c9-9d44-53ff364a90bf.html

Privately-owned drones will require licencing under new Government scheme Rachel Roberts, Agencies


Picture: *Getty Images/iStockphoto*

A drone registration system is to be launched in a bid to reduce the increasing problem of their misuse, the Government has announced.

Twenty-two incidents involving drones, balloons or unknown flying objects were investigated by the **UK Airprox Board** from January to April this year. Figures obtained by the Press Association show forces recorded 3,456 episodes last year, almost triple the 2015 figure of 1,237 and more than 12 times the 2014 tally of 283.

The proposed measure will help authorities trace owners when the unmanned gadgets are

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used inappropriately - with their increased use to fly drugs and other contraband into prison a growing concern. http://www.independent.co.uk/news/uk/home-news/drones-private-owned-registration-government-security-scheme-home-office-terrorism-prisons-a7854011.html

24July17

July 24, 2017

MMC Launches One-Stop Rental Solution For Industrial UAS In India and Asia.

Leading commercial drone manufacturer MMC has introduced their One-Stop Rental Solution for industrial drones in India and Asia. **The company plans to expand the program across the globe, opening centers in the United States**, Australia, Canada, Europe, South America, and South Africa.

MMC leads the market in applications for drone technology, such as mapping, inspections, power-line stringing, and surveillance. But while the return on investment for industrial uses is high, customers may hesitate to make an initial investment in a commercial drone before seeing what they can do.

The decision isn't only based on cost. MMC's Lu Ling, VP and Managing Director of the Overseas Market, says that MMC recognizes the need to take on more of the burden of drone operation for their customers: drone maintenance, educating the end user, and setting up data analysis solutions. http://uasweekly.com/2017/07/24/mmc-launches-one-stop-rental-solution-industrial-uas-india-asia/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

Drones can help, hinder Colorado wildfire fight

Drones can provide situational awareness to make sure a fire is doing what it is expected to do **ALEX ZORN** | The Rifle Citizen Telegram July 21, 2017

While some states are already using Unmanned Aircraft Systems (UAS), Center of Excellence UAS integration specialist Garrett Seddon said it will take some time before drones begin to

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be used in live wildfires.

"I envision **fire departments taking UAS out on calls with them in the next couple of years**," he explained. "It's hard to put a timetable on it because it is an always emerging technology. We know its capabilities and potential. It will take case studies to prove that it can do what it is supposed to do."

Military and UAS Integration Specialist for the Center of Excellence Garrett Seddon stands with drone that he hopes one day may be used in wildfires.

One way Seddon envisions using drones is during lightning storms. He said drones may be used to survey the area for smoke and pinpoint where exactly lightning hits. Drones also can provide situational awareness to make sure fire is doing what it is expected to do, though Seddon said there are no use cases yet.

Large UAS, drones more than 55 pounds, have been used to deliver cargo for the military, which Seddon believes has practical applications for fire suppression. He envisions several units being used to fly and drop water around the perimeter of the fire, though that also has not had real-world application to date. http://www.denverpost.com/2017/07/21/drones-colorado-wildfire-fight/

Caller-Times drone team takes storytelling to the sky

Tim Archuleta, Corpus Christi Caller-Times July 21, 2017

We are excited to announce that the Caller-Times is adding drone coverage to our storytelling toolbox.

The network established a partnership with a Federal Aviation Administration test site, **Virginia Tech University, to provide a pilot training program**. Our team underwent four days of training in the spring to understand how to safely operate unmanned aerial systems.

The network's training program included airspace regulations, crew resource management, safe operation of drone systems, including aerodynamics and battery life, basic and advanced maneuvers, emergency protocols, ethics and privacy.

As part of that effort, the Caller-Times recently played host to a Q&A to meet with local law

enforcement, FAA officials and others to introduce the team and share information about the training, safety procedures and protocols we are following with drone use.

Representatives from several law enforcement agencies, the FAA and Naval Air Station-Corpus Christi, attended a community outreach meeting about the new drone program on June 1, 2017, at the Caller-Times. *(Photo: Courtney Sacco/Caller-Times)*

We want to thank those agencies - the FAA, Corpus Christi Police and Fire departments, Nueces County Sheriff's Office and NAS-CC leadership - for spending several hours discussing our unmanned aerial systems program.
http://www.caller.com/story/news/local/2017/07/22/caller-times-drone-team-takes-storytelling-sky/367102001/

Drone racing lifts off, delivering 'out of body' experiences Benny Evangelista July 23, 2017

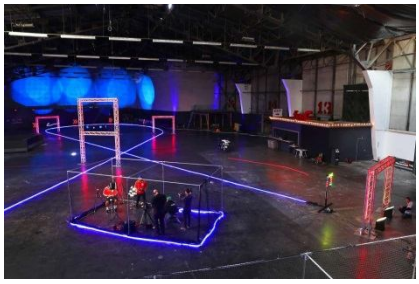

Photo: Scott Strazzante, The Chronicle

To date, drones are best known for aerial photography and more speculative pursuits like package delivery. But now, racing them has caught on, and some say the high-speed, relatively low-cost competition could be **the next big tech-driven sport**. In just two years, the sport has evolved from grassroots meet-ups of hobbyists gathering in parks, forests, warehouses or breweries to formal, sanctioned races and a TV series broadcast on ESPN. In September, the Reno Air Races — a showcase for regular aircraft for the last half-century — will for the first time include national championship races for drones.

Last Thursday, San Francisco's Aerial Sports League — one of the first groups in the country to organize drone competitions — turned the Palace of Fine Arts Theater into a looping, quarter-mile indoor drone drag race course, filled with the loud whiney buzz of drones speeding more than 100

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mph. The event drew 16 pilots from throughout California, from ages 11 to 45. http://www.sfchronicle.com/business/article/Drone-racing-lifts-off-delivering-out-of-11309712.php#photo-13280610

NASA Grant Funds Research Into Tracking UAVs


Photo credit: Andrew Bugera. Shared under a Creative Commons license.

July 24, 2017 | Matt Shipman

Researchers at North Carolina State University are launching a project aimed at researching and developing high-performance communications, networking and air traffic management (ATM) systems, including navigation and surveillance for both manned aircraft and unmanned aerial vehicles (UAVs). The work is supported by a three-year, $1.33 million grant from NASA's University Leadership Initiative.

"Our work is part of a four institution, $4.4 million project led by the University of South Carolina," says Ismail Guvenc, who is leading the effort at NC State. "Ultimately, our work will help to ensure that we have **safe airspace for UAVs and conventional aircraft**."

The NC State group will collaborate with David Matolak from the University of South Carolina (USC), Hani Mehrpouyan from Boise State University, and Benjamin Boisvert from Architecture Technology Corporation (ATCorp), in developing multi-band radio designs, "millimeter wave" (mmWave) propagation measurements/modeling, navigation and surveillance techniques for manned/unmanned aircraft, and ATM simulations. https://news.ncsu.edu/2017/07/nasa-grant-uavs-2017/

How North Dakota Is Using Drones to Diversify Its Economy Eli Dile, July 24, 2017

Unmanned aircraft systems are on track to radically alter the world's airspace. Expected to become a $100 billion industry by 2020, drones are already used to survey land, inspect infrastructure, and soon may even deliver our packages. One community leading in the development of this nascent technology is not a coastal technology hub, but **a college town in North Dakota of just over 50,000.**

The city of Grand Forks has emerged as a drone hotspot, and not by accident. The Grand Forks Region Economic Development Corporation and other **community partners have banded together to develop an ecosystem amenable to UAS research and development.**

"We're at the beginning stages of this as a commercial industry, but it's really taking off, excuse the

pun," said Keith Lund, president and CEO of Grand Forks Region Economic Development.

Drones are still heavily regulated by the Federal Aviation Administration, but in late 2013, the FAA concluded a 10-month selection process and designated six jurisdictions as UAS research and test sites. Research and data from these locations aim to help safely integrate unmanned aerial vehicles (UAVs) into U.S. airspace. Those entities include The University of Alaska; the State of Nevada; Griffiss International Airport in Rome, N.Y.; Texas A&M – Corpus Christi; Virginia Polytechnic Institute; and the North Dakota Department of Commerce.

Much like with autonomous vehicle technology, the competition to become the country's drone capital is heating up. Grand Forks continues to make advances that position it ahead of competitors. Grand Sky, the United States' first commercial UAS business and aviation park, recently announced that this summer that drones will start flying beyond the visual line of sight of their pilots. And in May, Governor Doug Burgum created the "UAS Detection and Counter-UAS Task Force," which will explore solutions to threats posed by drones used for nefarious purposes.
http://www.iedconline.org/blog/2017/07/24/innovation-and-technology/ed-now-feature-how-north-dakota-is-using-drones-to-diversify-its-economy/

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China's Ehang to Launch Commercial Fly-by-iPad

*Jul 25, 2017*John Morris **|** ***The Weekly Of Business Aviation***

Aviation Week's John Morris checks out the Ehang 184. Don't expect a pilot report, because it's autonomous!

Chinese small unmanned-aircraft manufacturer Ehang plans the launch next year of a commercial version of its **autonomous single-passenger vertical-takeoff-and-landing air vehicle that flies without a pilot, under the control of a plug-and-play iPad**.

That vehicle will likely be larger and heavier as the current Ehang 184 is weight-limited to a single passenger of 220 lb. Whether it will have a second seat remains to be seen, Ehang co-founder Derrick

Xiong told Aviation Week at EAA AirVenture.

The eight-rotor vehicle is on display here in its first presentation to an aviation audience since its unveiling in January 2016 at the Consumer Electronics Show in Las Vegas. “We want to expose it to the most hardcore aviation people in the world, and they’re here at Oshkosh, before we finalize our commercial version,” he said.

The vehicle currently occupies an awkward spot as being too heavy to fit the Federal Aviation Administration’s 55-lb weight limit for commercial drones, yet it cannot qualify as an experimental aircraft because it is autonomous and has no pilot. And one that carries a person, no less, for which there are no FAA regulations. “We are in discussions with the FAA,” says Xiong.

http://aviationweek.com/oshkosh-2017/china-s-ehang-launch-commercial-fly-ipad?

Ocean-spanning terror drones that can fly for thousands of miles without a break could attack the US from Africa with deadly explosives

Sensational headline and article from the UK Daily Mail that stretches the facts...

By PHOEBE WESTON FOR MAILONLINE 24 July 2017

'In about five years, drones will be able to be launched from Africa which can reach our shores, because they'll have permanent power by the sun', Owen West, who is a top adviser for the Pentagon's special operations and low-intensity conflicts told US lawmakers in Virginia last week, according to the report by **Defense One**.

Last year, ISIS became the first non-state group to use commercial drones to attack their enemies. General Raymond Thomas, who is the US Special Operations commander, said their use of this technology was the 'most daunting problem' of last year.

Over the next few years experts believe electric UAS will need more powerful electric motors, lighter solar cells and flight management systems that require a minimum of human input.

One of these companies, Advanced Aircraft Company, has created a drone called **Greased Lightning which combines the best bits of drone and aeroplane design.**

It is a commercial variant of a design that was also being developed by NASA. Although it probably won't be in production for a few years it has benefited from the development of powerful electric motors.

'You have conventional airplane UAS that are launched from catapults and have large recovery

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equipment like nets or skyhooks or things like that', founder and CEO Bill Fredericks told Defense One.

The Greased Lightening drone is a commercial variant of a design that was also being developed by NASA. Although it probably won't be in production for a few years

'And basically those aircraft, the advantage is like a normal airplane, it gets a very good lift-to-drag ratio,' he said. 'Electric motors are really unique, and good efficiency and good power-to-weight electric motors are a relatively new thing to come to the market', Mr Fredericks said.
http://www.dailymail.co.uk/sciencetech/article-4724260/Ocean-spanning-drones-attack-Africa.html

Alta Devices Joins High Altitude Technology Group 19 Jul 2017

Alta Devices has announced that it has joined with other developers of high altitude technology to create the Upper Airspace Working Group (UAWG). This group will work to tackle the challenges and opportunities associated with high altitude missions. The UAWG's founding members are Facebook, Boeing, Google, Harris, Lockheed Martin, Northrup Grumman, Rockwell Collins, AeroVironment, General Atomics and Alta Devices. **All these companies are working on major projects for flight at over 60,000 feet.**

Previously, there was little activity in this section of airspace which is above typical commercial flight altitudes. Currently, multiple commercial projects are using technologies such as HALE (High Altitude Long Endurance) UAVs, high altitude balloons and airships. Applications include mapping, transportation, surveillance and infrastructure provisioning. With multiple types of high altitude projects in development, one common thread is that solar technology will be a component of all of them.

The UAWG will provide the AIA (Aerospace Industries Association) with strategic advice on coordination and standards for high altitude flight. One priority will be working with the global aerospace community on the development of international regulations to ensure safe and efficient operations in this airspace. http://www.unmannedsystemstechnology.com/2017/07/alta-devices-joins-

high-altitude-technology-group/

Airbus Jet-Propelled UAV Demonstrator Completes First Test Flight 21 Jul 2017

Airbus Defence and Space has announced that it has successfully tested a new type of aircraft that will aid the development of future unmanned aerial vehicles (UAVs) for series production. The unmanned jet-propelled demonstrator with the project name SAGITTA **flew completely autonomously for around seven minutes** over the test site in Overberg, South Africa, on a pre-programmed course. The flying-wing construction demonstrated favourable flight characteristics during the test. This flight marked the successful completion of the first test phase, which also comprised an extensive series of ground tests.

The demonstrator is the product of the 'Open Innovation' / SAGITTA national initiative launched by Airbus in 2010. The project sees Airbus working together with institutes from the technical universities of Munich and Chemnitz, the University of the Federal Armed Forces (Universität der Bundeswehr) in Munich, the Ingolstadt University of Applied Sciences and the German Aerospace Centre DLR to jointly develop advanced technologies for unmanned flight. The project started with a feasibility study of the flying-wing configuration. http://www.unmannedsystemstechnology.com/2017/07/airbus-jet-propelled-uav-demonstrator-completes-first-test-flight/

New Long-Distance Drone Detection Solution Revealed 24 Jul 2017

Groupe ADP and DSNA Services, a subsidiary created by the French Civil Aviation Authority (DGAC), have announced that the two firms have combined their expertise to create the Hologarde project, a **drone detection system** that can be adapted to any sensitive sites requiring protection against unmanned aerial vehicles (UAVs).

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Hologarde incorporates three types of technology (radar, radio frequency and HD video) into a single control centre and can detect any type of drone up to five kilometres away. It was installed for testing at Paris-Le Bourget Airport during the International Paris Air Show. The advantage of long-distance detection is the ability to anticipate and develop an appropriate response according to the nature of the intrusion. Once a drone has been detected, it can be monitored in real time with a camera through the control centre, which can be accessed from both PCs and tablets.
http://www.unmannedsystemstechnology.com/2017/07/groupe-adp-dsna-services-announce-new-long-distance-drone-detection-solution/

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50 AIRPORTS TO PROVIDE AUTOMATED AIRSPACE AUTHORIZATION FOR UAS STARTING THIS FALL AUVSI NEWS JUL 21, 2017

This fall, 50 airports will begin providing Low Altitude Authorization and Notification Capability (LAANC), which will give UAS operators the ability to "apply for instant, digital approval to fly in U.S. controlled airspace using the same applications they use for flight planning and in-flight situational awareness."

Currently, FAA authorization is required for flights in controlled airspace, at certain times of day, or near sensitive locations. Authorization requests are subject to long waiting periods and labor-intensive manual approvals, which can add more time to, or entirely halt, the process of trying to fly UAS commercially. http://www.auvsi.org/industry-news/50-airports-provide-automated-airspace-authorization-uas-starting-fall

EAA Embraces Drones, New Technologies

Jul 24, 2017* John Morris | *The Weekly Of Business Aviation

Google founder Larry Page's Kitty Hawk flying car is showing off the future at EAA AirVenture: Kitty Hawk Aero

OSHKOSH, Wisconsin —The world's largest aerial extravaganza and de facto U.S. Air Show, EAA AirVenture, opened July 24 in Oshkosh, Wisconsin.By the end of the week more than half a million visitors will have passed through its gates to view the warbirds, homebuilt, vintage and latest production and kit-built sport aircraft on display, or discussed the latest cockpit, maintenance,

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avionics and training technologies with the nearly 1,000 commercial exhibitors.

Among the stars of the show are Amazon chief Jeff Bezos's Blue Origin reusable rocket and crew capsule, the world's second flying B-29 Superfortress "Doc," and man-carrying developments of drone technologies from China's Ehang and Google CEO Larry Page's Kitty Hawk.

Top Airbus executives are in attendance to talk about innovation for the company's push into electric propulsion and its formation of a company in Silicon Valley to pursue disruptive technologies in fields such as personal aerial transportation in congested cities.

Yet this enthusiasm for the future faces a backdrop of a declining private pilot population, and a younger generation that is more interested in what drones and their man-carrying developments can do rather than how they work.

The Experimental Aviation Association (EAA) has always been known as a cradle for innovation, but is that spark now being overshadowed by massive corporate spending on private space, electric propulsion and automated personal transportation?

"No," says EAA Chairman and CEO Jack Pelton who insists the organization will remain relevant in a fast-changing world. http://aviationweek.com/technology/eaa-embraces-drones-new-technologies?NL=AW-05&Issue

MADISON POLICE USE 2 NEW DRONES TO INVESTIGATE CRIMES Jul. 25, 2017

MADISON, Wis. (AP) — Madison police are among a growing number of law enforcement agencies using drones to investigate crimes and track down offenders.

The Madison Police Department has used its new drone team five times since June, the Wisconsin State Journal (http://bit.ly/2eKHSuY) reported. Its two drones weigh between five and 10 pounds each and have three different cameras that allow them to take pictures and video. They cost a total of about $17,500.

Lt. Mike Hanson commands the 11-member drone team. He said the drones have already been used to track fugitives and look for dementia patients who wandered off. "They're here to stay," he said. "We want the community to understand it's a tool for us to be able to keep them safe, and our officers." Nearly 350 law enforcement departments nationwide have purchased a drone, according to an April 2017 report from Bard College's Center for the Study of the Drone.
http://www.apnewsarchive.com/2017/Police-in-a-southern-Wisconsin-city-are-among-a-growing-number-of-law-enforcement-agencies-using-drones-to-investigate-crimes-and-track-down-offenders/id-e08acd2da5b34d939b404c04850679b5

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Reports Of DJI Spark UAVs Falling Out Of Sky Raise Safety Concerns.

Fortune (7/25) reports on DJI's response to "reports that its most consumer-friendly aircraft," the Spark UAV, "is randomly plunging from the sky, a cause for concern over safety issues." According to the story, there have been reports of Spark UAVs "suddenly" turning off during operation and crashing "into various areas ranging from open fields to lakes or forests, according to at least 14 users." Although none of these incidents resulted in injury or property damage, "such instances would be possible if the drones had been operated in more crowded areas."

Flirtey Continues to Lead Drone Delivery Industry

July 26, 2017

July Marks The Anniversary of The First FAA-Approved Drone Delivery in the U.S. and The First Autonomous Drone Delivery to a Customer's Home

Flirtey, the world's leading drone delivery service, commemorates its milestones in aviation history as July marks the two-year anniversary of the first ever FAA-approved drone delivery in the United States and the one-year anniversary of the first drone delivery to a customer's home.

On July 17 2015, in collaboration with NASA, Flirtey conducted the first-ever FAA-approved drone delivery when it delivered multiple packages of urgent prescription medication to the Remote Area Medical health clinic in Wise, Virginia. The Virginia General Assembly unanimously passed House Joint Resolution 232 commending Flirtey for the achievement.

Flirtey CEO Matthew Sweeny, Senator Mark Warner and Governor Terry McAuliffe hailed the event the "Kitty Hawk" moment for the drone delivery industry, and Flirtey's historic delivery drone was accepted into the Smithsonian's National Air and Space Museum, which displays the Wright Flyer, the Space Shuttle Discovery, and the first aircraft operated by FedEx.
http://uasweekly.com/2017/07/26/flirtey-continues-lead-drone-delivery-industry/

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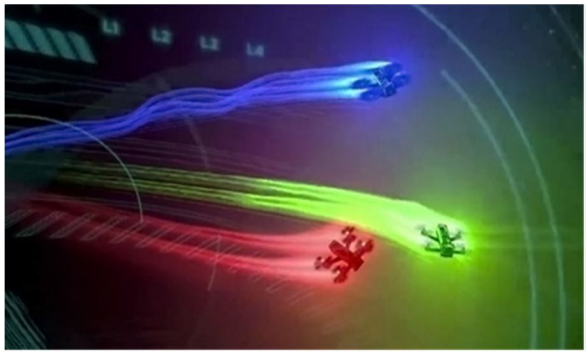

July 26, 2017

The DRL Premiers Allianz World Championship Race 2017 Season Finale On ESPN

The Drone Racing League (DRL), the global leader in professional drone racing, announced the premiere of the 2017 Allianz Circuit Season Finale, the Drone Racing World Championship, airing on ESPN this Friday, July 28 at 9 PM EST. Following an epic playoff race in Munich and an electrifying 2017 season, the world's eight best drone pilots face-off at the DRL Allianz World Championship at the iconic Alexandra Palace in London, fighting to be crowned the World's Greatest Drone Pilot.

"The 2017 DRL Allianz season has been incredible, featuring the world's best drone pilots and the craziest, three dimensional race courses ever created," said DRL Founder and CEO Nicholas Horbaczewski, "The talent of the pilots and competition continues to improve every race, and we can't wait to deliver the London Championship to our growing fan base around the world."

At the 2017 season finale DRL pilots face a daunting course at the iconic Alexandra Palace, hitting speeds of more than 80 MPH and navigating razor sharp turns and **the first ever FPV Power Loop, a series of light gates stretching across 180 degrees and forcing the drones into an inverted dive at full speed**. http://uasweekly.com/2017/07/26/drl-premiers-allianz-world-championship-race-2017-season-finale-espn/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

Know Before You Fly Reaches Major Milestone with More than 500,000 Unique Visitors to Website July 26, 2017

Drone safety campaign urges visitors to learn the guidelines before taking to the skies

WASHINGTON — Know Before You Fly announced today more than 500,000 unique users have visited its website since the launch of the unmanned aircraft systems (UAS) education campaign in December

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2014.

An estimated 700,000 UAS were to be sold in the United States in 2015, according to the Consumer Technology Association. In addition, more than 425,000 people have registered their drones since Dec. 21, 2015, according to the Federal Aviation Administration (FAA). The robust traffic to the Know Before You Fly website is evidence that **the safety campaign is potentially reaching the majority of people flying or interested in flying UAS**. https://www.dronenewz.info/uncategorized/know-before-you-fly-reaches-major-milestone-with-more-than-500000-unique-visitors-to-website-12/

Three Drone Companies to Invest in Today

The drones are coming. In fact, they're already here. Rich Smith (TMFDitty) Jul 21, 2017

Depending on whom you ask, drones went mainstream in 2015 -- or maybe it was 2013, or 2017. One thing is clear: Watching the local fireworks display this past July 4th, I counted no fewer than half a dozen drones hovering above the festivities, their LEDs glowing steadily among the explosions.

I'd say that's pretty "mainstream." If you've been holding off on investing in drones stocks to see if drone technology is a fad that will fade or a new fixture of daily life, well, that debate is over. **Drones are here to stay** -- and it's time for us to find some drone companies to invest in.

Which companies, precisely? For various reasons, I think you should give serious consideration to three drone stocks: **AeroVironment** (NASDAQ:AVAV), **Boeing**(NYSE:BA), and **Northrop Grumman** (NYSE:NOC).

AEROVIRONMENT'S QUANTIX DRONE IS HELPING LIFT IT INTO THE TOP RANKS OF LEADING DRONE COMPANIES. IMAGE SOURCE: AEROVIRONMENT.

Let's start with AeroVironment, the clear leader among publicly traded drone companies selling small drones to the military (civilian drone technology remains mostly the domain of private companies). Since its inception, AeroVironment has sold tens of thousands of Raven, Wasp, and other small "unmanned aerial vehicles" to the U.S and other militaries around the world. Wall Street believes it will sell tens of thousands more drones before it is done. According to data from S&P Global Market Intelligence, the average expectation among analysts who follow AeroVironment is that this stock will

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grow its earnings at nearly 36% annually over the next five years.
https://www.fool.com/investing/2017/07/21/3-drone-companies-to-invest-in-today.aspx

Russian scientists put a defibrillator on a drone *Natasha Lomas (@riptari)*

In what looks like a potentially useful use of drone technology, Russian scientists at the Moscow Technology Institute have stuck a defibrillator on a drone **so it can be remote piloted to a person in need of cardiopulmonary resuscitation.** The project is a collaboration between the Aerospace Laboratory of the Moscow Technological Institute (MTI) and Russian medical equipment company, Altomedika.

The range of the Russian drone is up to 50km, according to a spokesman, and it's capable of carrying a 3kg payload, with the designers touting "compact dimensions" which they say make their drone "versatile in use". Of course there still needs to be a human at the landing site to connect the electrodes and follow on screen and/or voice prompts so treatment can be carried out.

"The defibrillator will analyze the ECG, store data for a doctor and, if necessary, produce a series of discharges in accordance with international recommendations on cardiopulmonary resuscitation."
https://techcrunch.com/2017/07/27/russian-scientists-put-a-defibrillator-on-a-drone/

28July17

Spot Nearby UAVs With DeTect's DroneWatcher App

"DroneWatcher" will spot and alert users of any nearby UAVs in order to assuage privacy concerns. BY MARCO MARGARITOFF JULY 26, 2017

Florida-based company DeTect has released "DroneWatcher," an Android app for Amazon Fire Tablets and Android smartphones that will notify users of any nearby unmanned aerial vehicles (UAVs).

According to DroneLife, the application is aimed at both private and corporate sectors, as both citizens and businesses alike have the desire to know who and what is invading their airspace.

With the Pro version of DroneWatcher, you can connect multiple phones or tablets to

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form a pretty solid mesh-network of sorts, through which all connected devices will inform each other of how many and which kinds of UAVs are flying in each individual device's area. The range is adequate, detecting drones from a quarter mile to half a mile.

According to DroneLife, once a drone has been spotted, users will receive its make and model, as well as log its ID number to a database. Added to that, the Pro version sports a "power bar" which points users in the general direction of the drone's operator. As it stands, DroneWatcher **detects around 85 percent of unencrypted, WiFi or RF** controlled UAVs in the sky. That's pretty impressive and worth taking a gander at. http://www.thedrive.com/aerial/12855/spot-nearby-uavs-with-detects-dronewatcher-app

UK government's drone collision report criticized 27 July 2017

The Drone Manufacturers Alliance Europe (DMAE) has questioned the evidence gathered in the report and says some of the testing is flawed. According to the UK Airprox Board, there have been **70 near-misses involving drones in 2016**, more than double the year before.

DMAE, which accounts for almost 80% of the civil drones operating in the world, said it wanted the department to release the full testing methodology and results of its Mid-Air Collision Study. "There have been no confirmed collisions anywhere in the world between a modern consumer drone and a traditional aircraft, and drone manufacturers are working diligently on technological solutions to prevent any such collision," DMAE's Daniel Brinkwerth said. http://www.bbc.com/news/technology-40738948

29July17

XAIRCRAFT Launched in Japan Targeting Global Precision Farming

July 28, 2017

XAIRCRAFT Japan held a press conference in Tokyo on July 26, 2017. The Chinese agricultural UAV company XAIRCRAFT officially launched its flagship UAV Plant Protection System “P20” in the Japanese market. Japan is one of the first countries using large-scale UAV on plant protection in the world. Take

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rice as an example, ground vehicles spray about 22% (in 2014), and the proportion of UAV plant protection has reached 36%.

To tackle with the huge impact of imported agricultural products along with the ageing of rural population, Japanese food producers need more intelligent, efficient and hands-free equipment to improve their efficiency.

XAIRCRAFT made the choice of Japan as its first step in the process of internationalization, it is hoped that its UAV Plant Protection System P20 can exert its technological value rapidly in Japan.
http://uasweekly.com/2017/07/28/xaircraft-launched-japan-targeting-global-precision-farming/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

Local company hosts first-ever drone Fly-In Ty Knight 07/27/17×




More than 75 pilots from across the United States were drawn to Albuquerque on July 22 to attend the area's first local drone olympics.

New-Mexico-based drone pilot training company, DroneU, in association with multiple unmanned aviation organizations, hosted its first Fly-In at its Albuquerque headquarters last weekend.

DroneU offers a membership-based online platform, where interested and aspiring drone enthusiasts can take their craft to a more professional level through meetups and online classes. DroneU boasts close to nearly 10 million minutes of instructional video watched in over 100 countries worldwide.

Competitors were challenged in courses that focused on real-world drone application, such as thermal search and rescue, subject tracking, fast water rescue, HVAC, real-estate videography and cinematography. The event also included an obstacle course.
http://www.dailylobo.com/article/2017/07/drone-u-fly-in

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Cleared for takeoff: Area designated for personal sUAS use

By Kenji Thuloweit, 412th Test Wing Public Affairs / Published July 27, 2017

Aerial view and map coordinates of the new Edwards AFB Personal Small UAS Area. (U.S. Air Force image)

EDWARDS AIR FORCE BASE, Calif. --

Whether you call them drones, quadcopters or the official government term – small unmanned aircraft system – **there's now a place on Edwards for hobbyists to fly their personal sUASs.**

"The area was chosen because it was close to base housing for resident convenience," said Trish Fisher, 412th Operations Support Squadron, Current Operations deputy chief. "One of the benefits of the standardized/designated area is that it eliminates the need for each small UAS operator from getting individual permission from the control tower, allowing continuous access to the area during daylight hours." Could we find a similar location at Langley open to the public?

Fisher added the area also complies with an FAA notice and FAA advisory regarding the use of model aircraft and sUASs**.** http://www.edwards.af.mil/News/Article/1259866/cleared-for-takeoff-area-designated-for-personal-suas-use/

Microdrones Completes 10 New BVLOS Test Flights Frank Schroth**on: July 28, 2017**

On July 13 and 14, Microdrones completed a series of test flights that were beyond the pilot's visual line of sight (BVLOS). These flights were completed with the standard configuration of RC, telemetry and batteries on the md4-1000 aircraft.

The first tests were over the Alma airport runway. The longest of these was three kilometers back and forth. The second set was altitude flight testing in which the drone climbed to 850 meters.

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Transport Canada granted permission for and attended Microdrones' testing at the Unmanned Aerial System Centre for Excellence (UAS CE) in Alma. http://dronelife.com/2017/07/28/microdrones-completes-10-new-bvlos-test-flights/

Don't Freak Out About Amazon's House-Scanning Drones

The recently patented design would be a strictly opt-in service. Alasdair Wilkins July 27, 2017

Amazon officially received the patent Tuesday for tech that would allow its planned drone delivery service to analyze customers' homes and **offer recommendations** on things they might want to buy. Here's the relevant section from the filing, which stresses that only people who want a drone scanning their house for recommended buys would get that particular experience.

*As such, users who wish to participate in the features described herein that are associated with the data analysis service **may opt-in** and authorize audio, visual, or other suitable data to be captured and analyzed by the unmanned aerial vehicles as they deliver items. Users who do not wish to participate in or be associated with the data analysis service **may opt-out** and avoid data to be captured by the unmanned aerial vehicles as they deliver items.*
https://www.inverse.com/article/34763-amazon-prime-air-drone-patent

30July17

Drones are used for everything from saving lives to land surveying, but training lags behind

***Colorado** agencies are relying on drones for rescues and to help battle wildfires*




RJ Sangosti, The Denver Post

By **GRAHAM AMBROSE** | gambrose@denverpost.com | The Denver Post | July 29, 2017

Ten years ago, everyday use of civilian drones sounded more like science-fiction than social policy.

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Today, falling costs and improving technologies have helped launch the aviation vehicles in the public sector, where UAVs are used for everything from surveying and mapping to search and rescue, and from law enforcement to fighting wildfires.

In June, state legislators passed House Bill 1070, which tasked a subdivision of the Colorado Department of Public Safety — the Center for Excellence — with **conducting a study on how to integrate unmanned aircraft systems in public agencies, from firefighting and search and rescue to accident reconstruction and emergency management.** Guidelines could help agencies navigate the murky terrain and provide needed assistance on implementation and use.

Last year, the Federal Aviation Administration, which oversees drone use and regulations in the United States, implemented separate rules for recreationalists and professional flyers in the private and public sectors. The FAA estimates that regulations could generate more than $82 billion for the U.S. economy and create more than 100,000 new jobs within a decade, as drone shipments quadruple over the next four years. *http://www.denverpost.com/2017/07/29/drones-colorado-draft-guidelines/*

31July17

What Investors Need to Know About Camera Drones

Small camera drones keep getting cheaper. That's good news for consumers, but bad news for the stakeholders and would-be investors in the companies that build them. Rich Smith, Jul 30, 2017

PATHFINDER SOLAR UAV, CIRCA 1995. IMAGE SOURCE: NASA.

The same cheap prices that permit companies like DJI, its Chinese rival Xiaomi, and France's Parrot to win sales among consumers may hurt these companies' ability to market themselves to investors. Globally, sales of drones with cameras are expected to surpass $3 billion next year, and to top $4.5 billion by 2020.

China's DJI currently "dominates the consumer market" for camera drones globally, says the *Journal*. Private equity funds are said to have sunk some $10 billion into DJI. But what about retail investors?

As for DJI, well, whether other drone makers are suffering because it's eating all the profits and

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starving out its rivals, or whether DJI, too, is suffering from pinched profit margins due to falling camera drone pri is hard to say. And it will probably remain hard to say unless and until DJI makes an IPO filing with the SEC. It could be that the low prices for camera drones that are delighting consumers and laying DJI's rivals low are the weapon DJI is wielding to monopolize this market -- in which case, a **DJI IPO could prove a good opportunity for investors.**
https://www.fool.com/investing/2017/07/30/what-investors-need-to-know-about-camera-drones.aspx

This Drone Could Solve the Front Range's Air Pollution Problem

FRIDAY, JULY 28, 2017 AT 6:13 A.M. BY GRANT STRINGER


The NIST drone in action above Boulder Courtesy of NIST

Colorado has a problem with air pollution. The challenge of making Colorado's air fresh again hasn't gone unnoticed by scientists at the Boulder-based National Institute of Standards and Technology, who have unveiled an innovation in air-quality measurement to see how dirty our air really is.

NIST has **combined lasers and a drone** to build a system that can measure pollutants from as far as a mile away. Whereas older measurement systems require doing laps around a large area in a plane or taking measurements from a car at specific locations like an oil and gas well, NIST's new system is quick, accurate and comprehensive, says researcher Kevin Cossel.

A laser from a telescope beams toward a drone hundreds of feet in the air, which "refracts" different wavelengths of light from the laser beam, similar to how a prism splits a beam of light into various colors. The different wavelengths can then be used to indicate whether pollutants like methane and carbon dioxide are in the air. http://www.westword.com/news/national-institute-of-standards-and-technology-drone-monitors-pollution-9299171

Gov. Cooper signs drone bills: Here's what changes Jul 28, 2017

Lauren K. Ohnesorge Staff Writer*Triangle Business Journal*

Governor Roy Cooper signed two bills this week that regulate the use of unmanned aircraft – also known as drones. House Bill 337 revises existing state drone laws, changing the language so that the **regulations apply to model aircraft**.

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A drone used by Duke Energy.

House Bill 128 **prohibits drone use near prisons**, defining "near" as a horizontal distance of 500 feet or a vertical distance of 250 feet.

Stephen Hartzell, a drone law expert and attorney with Brooks Pierce, says he views the legislation as "a way for North Carolina to show that it is ready, willing and able to do business" in the unmanned aerial systems industry (UAS). https://www.bizjournals.com/triangle/news/2017/07/28/gov-cooper-signs-drone-bills-heres-what-changes.html

Taking flight: Businesses like Luck Stone and Dominion Energy using drones to improve operations

By JOHN REID BLACKWELL Richmond Times-Dispatch Jul 29, 2017


John Blackmore (left), a surveyor and mapping supervisor, and Eric Warinner, an engineering technician, hold two types of drones used by Luck Stone Corp. at its Boscobel quarry in Goochland County. The flying devices gather important data about operations.

With a buzzing sound like a swarm of bees, a flying device resembling a miniature helicopter lifted off from the ground at Luck Stone Corp.'s Boscobel quarry one day this spring. The company, a major producer of stone, sand and gravel products for construction and other industries, has been using UAVs for about three years to do a variety of jobs at its quarries and distribution centers in Virginia and North Carolina.

For Warinner and Blackmore, an even better way to refer to the technology is UAS, for unmanned aerial system, because the aerial vehicles themselves are only part of the technology. It also includes the tools for programming the aerial devices and organizing, analyzing and sharing the data they collect. **"It is a system of aircraft, and software with very complex math computations, that makes this very useful for us**," Blackmore said.

Dominion Energy, Virginia's largest utility, is another example. The company has been using drones since 2013, mainly for transmission line inspections in hard-to-reach places such as water crossings.

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"We typically do a lot of these inspections with helicopters," said Steve Eisenrauch, the company's manager for transmission lines and forestry, who leads its UAV program. "We have been able to offset some of that with drones. When we do that, there is **a much smaller environmental footprint** to be able to use a drone instead of a helicopter. There is **an added level of safety."**

Since 2015, the company has used UAVs to inspect nearly 5,000 transmission line structures, he said. To conduct its drone program, Dominion has partnered with Hazon Solutions, a Virginia Beach-based provider of small UAV inspection service operations. http://www.richmond.com/business/local/taking-flight-businesses-like-luck-stone-and-dominion-energy-using/article_16a67655-0e69-5195-b03f-907f6327fe6f.html

Last-mile delivery via drone July 31, 2017


Connect Robotics drone flies through the streets in Lisbon to deliver a parcel for the national Portuguese postal service CTT. Credit: ESA

A warm meal was quickly delivered by a drone from an ESA business incubator start-up to the last inhabitant in a remote village in **Portugal**.

"Even if the village is not far away, it takes a driver by car over half an hour to deliver the meal to Joaquim Reis in Podentinhos and come back due to bad and unpaved roads. Our drone arrived in just three minutes, without the need of a pilot," explains Raphael Stanzani of Connect Robotics, hosted at ESA's business incubator in Portugal.

"**One operator can handle six of our drones at the same time.** The drone takes off by itself, taking care of weather, elevation and flight routes. After dropping the package, it returns automatically."

Connect Robotics was founded by Eduardo Mendes and Raphael Stanzani in 2015. Eduardo was developing software to control and navigate unmanned aerial vehicles for his doctorate, and decided to turn it into a business.

Motivated by the potential of drones to transport life-saving goods, help people in distress and reduce

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the isolation of people living in remote regions, they are exploring the 'last-mile delivery market', of interest to medical distributors, postal services and retailers, who need fast and reliable deliveries at lower costs. https://techxplore.com/news/2017-07-last-mile-delivery-drone.html

Drone makers and wireless companies to come together with White House to speed new technologies News-analysis hidden Jun, 22 2017

The White House is bringing together drone makers, wireless companies, and venture capitalists on Thursday to look at ways government can help speed new technologies to the marketplace.

President Donald Trump will meet with the chief executives of General Electric Co, Honeywell International Inc and AT&T Inc, major drone industry firms and venture capitalists in the latest effort by the White House to focus on innovative technologies as a way of spurring job growth.

Michael Kratsios, the White House's deputy chief technology officer, told reporters **the goal** of the sessions is **to find ways the United States "can maintain its leadership creating and fostering entirely new technologies that will drive our economic growth."** The chief executives of several unmanned aerial systems, or drone, companies including Kespry Inc, AirMap, Airspace Inc, Measure UAS Inc, Trumbull Unmanned, and PrecisionHawk Inc are attending the White House sessions.

Senior executives at Xcel Energy Inc, Verizon Communications Inc and CenturyLink Inc are also taking part as are venture capital firms including **AOL co-founder Steve Case w**ho heads Revolution LLC, 500 Startups, Cayuga Ventures, Epic Ventures and Lightspeed Ventures. The administration wants to promote the development and commercialization of emerging technologies and speed the development of unmanned aerial vehicles or drones and 5G wireless technology, Kratsios said. http://www.firstpost.com/tech/news-analysis/drone-makers-and-wireless-companies-to-come-together-with-white-house-to-speed-new-technologies-3834683.html

1Aug17

A United Airlines jet narrowly missed a drone just before landing at Newark Liberty International Airport Benjamin Zhang

A United Airlines Boeing 767-400. Flickr/Uwe Schreiber

On Sunday, a drone got dangerously close to a United Airlines jet that was attempting to land at Newark Liberty International Airport. Flight 135, a Boeing 767-400, was notified of a drone in its

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vicinity by air traffic control.

Fortunately, **the United pilots were able to monitor the drone's position** and the aircraft landed without incident. The FAA notified the New Jersey State Police, and the FAA has launched an investigation into the incident. http://www.businessinsider.com/united-airlines-jet-missed-drone-landing-newark-airport-2017-7

GPSdome Tests GPS Anti-Jam Technology on UAV 31 Jul 2017

GPSdome has announced that it has performed successful airborne tests of its device for protection against GPS jamming and spoofing. The tests were conducted jointly with Bluebird Aero Systems Ltd., which specializes in unmanned aerial vehicles (UAV).

"We installed our GPSdome on a Bluebird small UAV in order to test its GPS protection during a flight under jamming conditions," said Moshe Kaplan, GPSdome CTO. "The successful tests showed that **the GPSdome-protected UAV continued functioning** under jamming attacks and retained its GPS reception, while **the unprotected UAV lost the GPS signal."**
http://www.unmannedsystemstechnology.com/2017/07/gpsdome-tests-gps-anti-jam-technology-uav/

Civilian Drone Completes 88km BVLOS Flight 26 Jul 2017

FlyLogix, a conductor of long range unmanned operations to offshore installations, has announced that it has conducted what it claims is **the furthest BVLOS (beyond visual line of sight) civilian drone flight in the UK**.

The flight saw Flylogix's Condor Drone complete an inspection of the DP3 unmanned platform on behalf of oil and gas operator Centrica. The drone took off from Blackpool Airport and flew the 88km round trip to the platform in the East Irish Sea, which forms part of Centrica's Morecambe Bay operations.

Condor rapidly returned detailed infrared imagery from the flight. The use of long range drones to

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complete remote offshore inspection provides operators with unparalleled imagery and data without the cost and risk of mobilising personnel offshore.
http://www.unmannedsystemstechnology.com/2017/07/oil-rig-inspection-drone-completes-88km-bvlos-flight/

University of Michigan Announces New Outdoor Drone Testing Facility 31 Jul 2017

The University of Michigan has announced that it is developing an outdoor fly lab for testing autonomous aerial vehicles for its College of Engineering, adding to the university's spate of advanced robotics facilities. The facility, known as M-Air, will be a netted, four-story complex. Construction of the $800,000 M-Air is expected to begin in August and be complete by the end of the year.

M-Air will be located near a complementary indoor space. Next door, the Ford Motor Company Robotics Building will hold a three-story fly zone where drones can perch on walls or ceilings and interact with the environment. **Together, the labs allow for a full spectrum of experiments with one or several drones.** Researchers will be able to test unique control and sensing schemes, cooperative control, human-robot interaction, and novel missions, Atkins said.

"When M-Air opens, Michigan Engineering will be the only engineering school in the country — perhaps in the world — with access to cutting-edge robotic test facilities for air, sea and land," said Alec Gallimore, the Robert J. Vlasic Dean of Engineering and a professor of aerospace engineering.

M-Air is funded by Michigan Engineering and the U-M Office of Research. With 9,600 gross square feet, M-Air will have an 80-by-120 footprint, and it will stand 50 feet high. A pavilion for up to 25 people will comfortably host users. The M-Air floor will be grass, and its walls black polyester netting held in place with structural steel poles. Adjustable lighting will make it useable in the evening.

"From an aerial robotics education perspective, this facility is enabling the notion of, **'If you can imagine it, you can try it out,'"** Atkins said.
http://www.unmannedsystemstechnology.com/2017/07/university-michigan-announces-new-outdoor-drone-testing-facility/

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2Aug17

August 2, 2017

NOAA Picks Black Swift Technologies SuperSwift sUAS For Fire Observation

Aircraft to Provide Wildfire Measurements in Support of NOAA Fire Weather Forecasting

The U.S. National Oceanic and Atmospheric Administration (NOAA) has selected a small unmanned aircraft system (sUAS) for wildfire measurements and observations in support of its FIREX field mission and the fire weather forecasting initiative. Black Swift Technologies will deliver to NOAA an integrated system consisting of an airframe, avionics and multiple sensors capable of **research-quality measurements of CO2, CO, aerosol, RH, p and T in wildfire plumes, as well as multispectral high-resolution maps of wildfires**.

The SuperSwift sUAS will be operated by the University of Colorado's Integrated Remote & In Situ Sensing Program (IRISS) in collaboration with NOAA.

"One of the purposes of IRISS is to work with the science community to develop and deploy platforms which make primarily in situ measurements," said Brian Argrow, IRISS director. "This naturally led us to partnerships with NOAA on the science perspective, and to Black Swift Technologies for their sUAS technology and expertise. It's a partnership that looks like a three-legged stool with the science interest of NOAA, the technology and engineering expertise of IRISS, and the unique sUAS platform designed by Black Swift Technologies, as the corresponding legs."
http://uasweekly.com/2017/08/02/noaa-picks-black-swift-technologies-superswift-suas-fire-observation/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

Future of Farm Drones

BI Intelligence, Business Insider's premium research service, expects spending on the overall drone market to surpass $12 billion by 2021. But what about the agricultural drone market specifically?

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Global Market Insights forecasts that the agricultural drone market size will exceed $1 billion and 200,000 units shipped by 2024. GMI attributes the growth through 2024 to increasing awareness of the pros and cons of drones in agriculture among farmers.

The company also claims that technological advancements in farming techniques will push demand during the forecast period. Increased automation stemming from a lack of skilled resources and a labor crisis will also bolster agricultural drone demand. Finally, GMI expects government programs in this sector to permit operations of various sizes to help make farming processes more efficient.

The article describes its picks for the best agricultural UAVs, including the senseFly eBee SQ, PrecisionHawk Lancaster 5, Honeycomb AgDrone, and DJI Matrice 100.
http://www.businessinsider.com/farming-drones-precision-agriculture-mapping-spraying-2017-8

America's most promising drone startup just partnered with DJI

3D Robotics software now integrates with DJI drones - Ben Popper Aug 1, 2017

Back in 2015, California-based startup 3D Robotics seemed poised to compete for the top spot in the consumer drone market. It had a great reputation among the hobbyist community and a slick unit called the Solo. Unfortunately, the Solo's performance and sales didn't live up to expectations, and last year, **3D Robotics bowed out of the consumer drone game**.

The company is **now focused on enterprise software**, specifically an offering called Site Scan that aims to help construction and engineering firms better manage their building sites and operations. Starting today, 3D Robotics' mobile app will work with DJI drones. "At this point it's pretty clear DJI offers the best hardware platform for both consumer and commercial. In economics this is the division of labor, the specialization," said 3D Robotics CEO Chris Anderson. "**No one company can do it all**, especially given the rapid growth of the commercial sector, where it's all about integration with specific tool kits." Growth in the use of drones for construction has been impressive, and is forecast to continue growing. https://www.theverge.com/2017/8/1/16073506/3d-robotics-partner-dji-integrate-site-scan-drone

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Secret Service to Test Drone to Boost Security at Trump Property AUG. 2, 2017

(Reuters) - The U.S. Secret Service said on Wednesday it plans to deploy a small drone during President Donald Trump's visit to his golf club in New Jersey this month as the agency considers new ways to provide protection.

In a document released Wednesday, the agency said it planned to use a small tethered unmanned aircraft system vehicle during Trump's visit this month to the Trump National Golf Club in Bedminster. The club is one of the president's favorite weekend spots and he is expected to stay there for an extended period in August.

The agency said it is working to incorporate several types of drones and tethered systems into its overhead security-monitoring efforts. The drone has electro-optical and infrared cameras to look for potential threats and is on a microfilament tether that provides power to the craft.
https://www.nytimes.com/reuters/2017/08/02/technology/02reuters-usa-trump-security.html

Drone Company Atlas Dynamics Completes $8 Million Funding Round

Frank Schrothon: July 31, 2017

Atlas Dynamics, a developer of drone-based solutions for the professional user, announced it has raised $8 million from private and institutional Asian and Israeli investors. Atlas is developer of the Erida drone (find related coverage here).

The proceeds of the funding will be applied to the development of its Visual Line of Sight (VLOS) and Beyond Visual Line of Sight (BVLOS) drone-based data solutions, and to build its presence in key markets, including North America. The company expects to begin distributing its products in North America in Q3 of this year. Key applications for Atlas include infrastructure inspection, construction, emergency response, security and insurance.

"The market is ready for fully autonomous drone-based solutions that are available to fly today,

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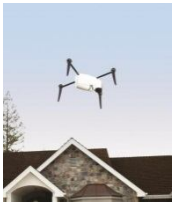
capable of providing key data in multiple VLOS and BVLOS scenarios," said Guy Cherni, CMO for Atlas Dynamics. http://dronelife.com/2017/07/31/drone-company-atlas-dynamics-completes-8-million-funding-round/

FARMERS INSURANCE LAUNCHES UAS PROGRAM AUVSI NEWS

AUG 2, 2017

In an effort to "enhance the claims experience for customers who have suffered significant damage to their roof following major weather events," Farmers Insurance has announced that it is launching a UAS program. Farmers conducted field tests to examine the "most effective and customer-centric ways" of utilizing UAS technology with its existing claims operation.




California-based Kespry will provide the initial squadron of UAS to Farmers. Farmers says that it will ultimately be able to **resolve more claims with greater efficiency and accuracy**, as its claim representatives will have access to "comprehensive roof dimensions and automated damage detection, with onsite availability of rooftop imagery made possible in just minutes." http://www.auvsi.org/industry-news/farmers-insurance-launches-uas-program

Police fly drone to investigate fatal Fort Collins crash Cassa Niedringhaus, cniedringhaus@coloradoan.com Aug. 2, 2017

Fort Collins Police Services and Poudre Fire Authority will begin using the drones in emergency situations.


FCPS, the Larimer County Sheriff's Office, Loveland and Colorado State University police departments,

Poudre Fire Authority, and Loveland Fire Rescue Authority collectively launched a regional unmanned aerial system program in late June to assist in investigations, including serious crashes and backcountry search and rescue operations. **The drones can help make crash investigations more efficient and minimize traffic disruptions,** according to FCPS.

The six participating agencies have a total of five drones, and each agency has a group of FAA-certified pilots. They've outlined police procedures and privacy and safety information on larimeruas.com.
http://www.coloradoan.com/story/news/local/2017/08/02/police-fly-drone-investigate-fatal-fort-collins-crash/530690001/

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THIS DRONE DOES CARTWHEELS! SARANG SHETH 08/03/2017

This drone is secretly a gymnast. Unlike any other drone, its propellers can bend and flex, pointing in virtually any direction, making the drone itself in turn, fly around in any orientation and do cartwheels in the sky.

The Voliro, developed by students of the Swiss Federal Institute of Technology (ETH Zürich) and Zurich University of the Arts (ZHDK), is a Hexacopter (with six propellers) that's **capable of doing pirouettes in the air**, thanks to its independently rotating propellers. This may make the drone more versatile, but it complicates things greatly, because the angle of the propellers pretty much determines how the drone would fly. The drone can take off vertically and then proceed to do everything from barrel rolls, to even vertically climbing up a wall. The students are also working on a center sphere, so the drone can roll around like a hamster in a glass ball.
http://www.yankodesign.com/2017/08/03/this-drone-does-cartwheels/

Draper Equips UAVs with Vision for GPS-denied Navigation

A team from Draper and MIT has developed advanced vision-aided navigation techniques for UAVs that do not rely on external infrastructure, such as GPS, detailed maps of the environment or

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motion capture systems. Working together under a contract with the Defense Advanced Research Projects Agency (DARPA), Draper and MIT created a UAV that can autonomously sense and maneuver through unknown environments without external communications **or GPS under the Fast Lightweight Autonomy (FLA) program. The team developed and implemented unique sensor and algorithm configurations, and has conducted time-trials and performance evaluations in indoor and outdoor venues.** http://uasweekly.com/2017/08/04/draper-equips-uavs-vision-gps-denied-navigation/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

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