UAS and SmallSat Weekly News

Contents

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16Sep17

Oregon Legislators ask for more drones to fight fires

U.S. Sen. Ron Wyden and U.S. Rep. Peter DeFazio today asked federal officials what's being done to deploy more unmanned aerial systems (UAS) to fight wildfires raging throughout Oregon and the West.

The letter from the two Oregon lawmakers seeking answers about using UAS as a firefighting tool comes in the wake of their meetings last weekend in Oregon with emergency responders battling wildfires around the state. Wildfires so far this year have ripped through more than 7.65 million acres in Oregon and the west. One-third of the 1.5 million acres now burning in the west are in Oregon.

Wyden and DeFazio noted that UAS have proven able to assess in real time the seriousness of wildfire damage, gather essential information for firefighters and first responders, and improve safety by identifying additional hazards as well as any infrastructure, property or wildlife in the path of a fast-moving fire. http://theworldlink.com/news/local/oregon-legislators-ask-for-more-drones-to-fight-fires/article_3a140543-52be-51f6-bd65-0b1590d08cee.html

You Will Never Guess Which Country Is Leading the World in Drone Delivery

Tamara Manning September 10, 2017

With fewer rules and regulations, Tanzania has managed to streamline the process of using drones. The government has already used dozens of drones to reach the population living in remote areas. This program shows the government's desire to walk in the footsteps of Rwanda, its neighboring country, which already has a strong drone delivery system in place.

Rwanda and Tanzania have managed to become pioneers in the drone delivery niche not by sheer wealth, but by a rigorous legal system in place and by a strong desire to capitalize on the power of technology.

Zipline is operating the world's only drone delivery system at a nationwide scale, sending out blood, medicine, food, water and any other items people need in order to survive. Zipline is able to operate over 500 flights each day, working 24/7 in any type of weather conditions to meet the basic needs of millions of people in East Africa. As for Tanzania, they will soon open 4 new drone distribution centers, which will accommodate over 100 drones and a minimum of 2,000 flights each

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day. Everyone in Tanzania is excited about this strategic move and is eager to see the results of embedding technology in the medical system. https://tech.co/country-leading-world-drone-delivery-2017-09

Scotland Yard begins drone trial to support policing operations across London

News-analysis PTI Sep, 11 2017

Scotland Yard today began an eight- week trial of a drone to support its policing operations across London. The drone, an Aeryon Skyranger being loaned to the Metropolitan Police by Sussex Police, will be available to officers dealing with incidents where air support would be of use, such as high risk missing people, serious traffic collisions, searches for suspects, weapon sweeps and others.

The Aeryon Skyranger. Image: Aeryon.

The drone will also provide aerial support for pre- planned and spontaneous firearms operations and surveying premises, as well as providing live footage of operational deployments to assist ground commanders' decision making. "Today we are starting an eight-week trial of the drone, which we hope will assist officers with both day-to-day policing and complex pre-planned operations," said Met Police Commander Simon Bray.

While the drones primary purpose is similar to that of the police helicopters, the Met believes it has **a distinct advantage over the helicopters** in its small size and ability to cope with a wider variety of incidents. The drone can operate in adverse weather conditions as well as indoor areas, and can send footage and images back to officers at the scene in real-time. A comprehensive analysis of the technique will take place at the end of the trial period. http://www.firstpost.com/tech/news-analysis/scotland-yard-begins-drone-trial-to-support-policing-operations-across-london-4033183.html

Drones and wildlife – working to co-exist September 10, 2017

Researchers have reviewed evidence for wildlife disturbance and current drone policies and found that the law is playing catch-up with emerging technology. *Pip Wallace, CC BY-ND Senior lecturer in Environmental Planning, University of Waikato*

The uptake of remotely piloted aircraft (RPAs) has been swift. But despite their obvious benefits, concerns are growing about impacts on wildlife. In our research we investigate whether regulation is keeping pace with the speed of

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technological change. We argue that it doesn't, and we suggest that threatened species might need extra protection to ensure they aren't harmed by drones.

Drones are useful tools for conservation biologists. They allow them to survey inaccessible terrain and assist with many challenging tasks, from seeding forests to collecting whale snot. But researchers are also discovering that RPAs have negative impacts on wildlife, ranging from temporary disturbances to fatal collisions.

So far, the regulatory response has focused squarely on risks to human health, safety and privacy, with wildlife impacts **only rarely taken into account**, and even then usually in a limited way.

We have reviewed evidence for wildlife disturbance and current drone policies and found that the law is playing catch-up with emerging technology.

This is particularly important in New Zealand, where many threatened species live outside protected reserves.

http://theconversation.com/drones-and-wildlife-working-to-co-exist-83488

Lockheed Martin unpacks foldable Outrider canister drone

David Szondy September 14th, 2017

Outrider is Lockheed Martin's new, lightweight canister launched UAS that's been unveiled at DSEI in London(Credit: Lockheed Martin)

Lockheed Martin has revealed its Outrider canister drone at the Defence and Security Equipment International (DSEI) in London. The lightweight, canister-launched unmanned aircraft system (UAS) is only 10 cm (4 in) wide, weighs only 1.7 kg (3.8 lb), yet can reach speeds of 50 knots (58 mph, 93 km/h) and has greater endurance and payload capacity than comparable drones.

The aerospace and defense company isn't giving away too many specifications at the moment, though it does say that the Outrider can be launched with a single button and can operate either autonomously or remotely by an operator using its high-definition TV and infrared camera.

Lockheed sees the Outrider as having both military and civilian applications and it will be marketed in both Britain and abroad. With an eye toward the commercial export market, the Outrider will be available in an International Traffic in Arms Regulations (ITAR) free configuration.
http://newatlas.com/lockheed-martin-outrider-drone/51347/

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Drone Warfare: A New Way to Look at Killer Robots Sandra Erwin - Sep 13, 2017

Atuar, a veteran of the Israeli military, helped design a gun-carrying drone that he nicknamed "the future soldier." He argues that remotely operated small drones could help reduce casualties in future conflicts.

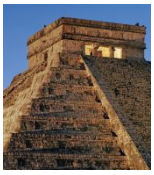
Known as Tikad, Duke Robotics' armed drone earned the prestigious Security Innovation Award in 2016 from the U.S. Department of Defense Combating Terrorism Technical Support Office. The 110-pound Tikad he developed with a team of combat veterans can be equipped with cameras for targeting, and can carry rifles, machine guns and grenade launchers.

Duke Robotics, based in Gulf Breeze, Fla., is looking to recast the debate over drone warfare and is marketing the Tikad as an alternative to boots on the ground. The company is seeking to raise up to $15 million from the sale of common stock and is offering shares to the public under the marketing campaign "Invest in Keeping Our Troops Safe." Anyone can purchase stock for as little as $450. Crowdfunding investments are unusual in the defense industry but Atuar says the response has been favorable. http://scout.com/military/warrior/Article/Drone-Warfare-A-New-Way-to-Look-at-Killer-Robots-107371111

17Sep17

Archaeologists Search Ancient Pyramid for Clues to Maya Underworld

Archaeologists deploy innovative technology to discover what lies within and below ancient Maya ruins.



CHICHÉN ITZÁ, MEXICO At the spring and fall equinoxes, the setting sun casts serpent-like shadows along the northern stairs of El Castillo, or "the castle." Built more than a thousand years ago by the ancient Maya, the pyramid towers 100 feet over the ruins of Chichén Itzá, a World Heritage site and popular tourist destination on Mexico's Yucatan Peninsula.

Adventurers and archaeologists have explored the ruins for more than a century, but mysteries endure. Seeking clues, a multidisciplinary team of scientists and engineers is launching the first comprehensive investigation of Chichén Itzá in 50 years. An estimated 3,000 cenotes remain hidden beneath the forest canopy in southern Mexico, many harboring clues about ancient Maya civilization. The team will use **drone-mounted LIDAR** (light detection and ranging) and thermal

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sensors to penetrate the dense foliage and locate the natural sinkholes.
http://news.nationalgeographic.com/2017/09/mexican-pyramid-mysteries-chichen-itza-archaeology/

Consumer Drones Unlikely to Inflict Horrible Head Injuries, Study Finds SEP 16, 2017 WILL NICHOLLS

Researchers at Virginia Tech have been studying the injury risks posed by consumer drones by **flying them into dummies' faces**, and they've now come to a conclusion. The study found that **the risk of a catastrophic head injury was less than 5 percent** in an impact with a drone weighing 2.6 lbs (such as the popular DJI Phantom).

***Bloomberg* reports** that the study, which was published in *Annals of Biomedical Engineering*, involved crashing a number of differently sized drones into crash test dummies, using sensors to measure the impact and calculate the risks posed in a real-life incident.

The authors made a suggestion that the FAA should consider updating its guidelines to restrict just heavier drones from flying over people, potentially opening up opportunities for smaller consumer drones to perform such flights. https://petapixel.com/2017/09/16/consumer-drones-unlikely-inflict-horrible-head-injuries-study-finds/

18Sep17

Today's Top Supply Chain and Logistics News From WSJ *Paul Page* Sept. 18, 2017

The budding U.S. drone industry is making a plea to the government: **please regulate us.** Despite White House directives rolling back regulations affecting most industries, the WSJ's Andy Pasztor reports that drone proponents are clamoring for more federal rules to help open the skies for unmanned aircraft. That's because the business is running under year-old rules that effectively barred commercial drones from U.S. airspace because of safety concerns, leaving most of the growth to come under limited approvals regulators have granted for small, remotely piloted aircraft weighing up to 55 pounds. Drone makers say added regulations are the only way to get a green light for a much broader array of promising uses. Responses to Hurricane Harvey's impact on Texas this month showcased the industry's potential, with drones used for search and rescue missions, bridge inspections, flood monitoring and media flights—some going beyond what's accepted under normal circumstances. https://www.wsj.com/articles/todays-top-supply-chain-and-logistics-news-from-wsj-1505730457

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Border agencies test hand-launched drones *Mark Rockwell Sep 15, 2017*

AeroVironment's Puma is one of several small UAS being tested by the Border Patrol in late 2017 and early 2018. (Image: AeroVironment)

Customs and Border Protection and the Border Patrol are testing three small, hand-launched drone systems in selected sectors along the southern and northern borders over the next few months to see if the diminutive aircraft are worth a larger investment and wider deployment.

Border Patrol agents will test versions of small unmanned aircraft systems beginning this month in operational sectors in Tucson, Ariz., the Rio Grande Valley in Texas and in the Swanton sector in Vermont. CBP will look at the systems' reconnaissance, intelligence, surveillance, tracking and acquisition capabilities in difficult terrain, or areas deemed too high-risk for manned aircraft or border security ground personnel.

"These aircraft will enable Border Patrol agents to **surveil remote areas not easily accessible** by other means, which is critical to our ability to secure the border," said Border Patrol acting Chief Carla Provost in the Sept. 14 statement. "They will also be **invaluable for humanitarian missions**, aiding in locating individuals in need of medical assistance along inhospitable areas of the border." https://fcw.com/articles/2017/09/15/border-patrol-drone-tests.aspx?admgarea=TC_Agencies

Measure's First Drone Services Franchise Opens in Illinois

Measure, the largest U.S. provider of drone services for enterprise customers, today announced its **first franchise** location with the September 25 grand opening of Measure Springfield in Illinois. The franchise's primary focus is on the telecommunications, construction, energy and agriculture sectors. Capabilities range from inspecting cell tower, wind farm and solar farm infrastructure to surveying construction sites, monitoring construction project progress, and assessing crop yields, irrigation problems and pest infestations for precision agriculture. Aerial imagery for commercial real estate, insurance, media and disaster response applications is also available.

All services enable customers to take advantage of the efficiencies and insights of drone technology without the time, expense and experienced personnel required to manage their own drone programs**.** http://uasweekly.com/newsletter-sign-up/

Drones becoming popular tool for first responders SEP 18TH, 2017

INDIANAPOLIS (WTHR) - You've probably seen drones flying around your neighborhood, or at least on the news. They do a

lot more than just keep an eye on what's going on from above. First responders are getting more use out of them now than ever before.

Wayne Township Fire Captain Michael Pruitt has a growing collection of drones. The models he owns now aren't heat-resistant, but even from a distance, firefighters can get a 360 degree view of pretty much anything, within their line of sight.

"We've been able to **read placards on the side of overturned trucks** before we even commit a HAZMAT team to the incident, so that's huge in identifying what those materials are," said Pruitt. The heat-seeking camera shows changes in temperature, which can help firefighters find hot spots or see chemical reactions from hazardous spills.

"One capability is getting eyes on a river or any type of body of water where someone may be in trouble," said Pruitt. "The second tool would be to deliver a floatation device to an individual that could be hanging on to a tree or in the water." http://www.wthr.com/article/drones-becoming-popular-tool-for-first-responders

Charity aims high to monitor dolphins and whales by drone Victoria Pease2 days ago

Inner Hebrides charity to capture sea life from the sky after drone training.

Pods of killer whales and harbour porpoises which bask in the clear waters could be the first in the UK to be monitored by drone by a marine research organisation.

The **unlikely partnership** between a company responsible for millions of flights and a small group of charity workers from the Isle of Mull may appear strange, but their common goal is to capture the west coast wildlife as safely as possible.

"We run a citizens science project where we monitor whales and dolphins," explains Alison Lomax, director of HWDT. "So every year the vessel will survey the Hebrides and volunteers will come and join us on board - one of the NATS employees joined us and basically linked us up with this opportunity to do the drone training."

The charity, which has been running since 1994 and is based in Tobermory, is considered the leading source of information for the conservation of the Hebrides population of whales, dolphins and porpoises. https://stv.tv/news/features/1397871-charity-s-aims-high-to-monitor-dolphins-and-whales-by-drone/

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Tanzania: US-Made Drone Set to Help in Protection of Katavi Wildlife Zephania Ubwani

Arusha — **Full scale surveillance against poachers** using drones will commence at the Katavi National Park before long. This follows approval of the American-made Super Bat DA-50 version of unmanned aerial vehicle (UAV) as the most viable among the drones tested in the country since 2014.

"The machine (Super Bat) has proved viable due to its robustness and endurance," said Mike Chambers, the man behind the initiative and director of Bathawk Recon and Elephant Survival Organisation (ESO), a non-governmental body. "The range of the plane suited the usual terrains of our national parks. We looked to measure how well we can see people. Its cameras could easily detect humans on the ground," he told The Citizen on Friday.

In addition, he said, Super Bat DA-50 was able to cover a huge area, which promises an effective fight against illegal hunters who have eluded game rangers in killing elephants and other animals in the vast parks and other protected areas. http://allafrica.com/stories/201709180078.html

Drones Inspect Cell Towers for Damage Post-Hurricane September 17, 2017

Wireless communication access proves critical in disaster response

The New Jersey Innovation Institute (NJII) Defense and Homeland Security Innovation Lab is conducting drone video inspection of cell towers in Houston, post Hurricane Harvey with the help of Maser Consulting P.A. in. Wireless communications are important for rescue and recovery efforts, not only in civil command and control operations, but in the efforts of concerned citizens rescuing thousands of residents from flooded homes.

Unmanned aerial system (UAS) crews perform initial site assessments to **determine accessibility** to cell towers so telecommunication companies can assign repair crews where the most impact can be made. They also perform data acquisition to assess the condition of the cell tower site with up-to-date information for repair activities.

Once repairs have been made, UAS crews can return to the site and assess the quality of the repairs to give telecommunication clients confidence that their equipment is operating effectively**.**
http://www.pobonline.com/articles/101100-drones-inspect-cell-towers-for-damage-post-hurricane

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19Sep17

FAA greenlights drone use in Irma recovery *Mark Rockwell Sep 18, 2017*

The two weeks in 2017 that saw two Category 4 hurricanes strike the U.S. will likely go down a landmark period for the use of the aircraft in disaster recovery efforts.

The week after Irma struck Florida, the Federal Aviation Administration said it worked to quickly issue a total of 132 airspace authorizations to local, state and federal government agencies and critical infrastructure providers in the state to operate drones in the disaster zone, as agencies and commercial industries began the clean up after the huge storm.

Irma made landfall in Florida on Sept. 10, a little more than two weeks after Hurricane Harvey hit Texas. In the wake of Harvey's floodwaters in Houston and other parts of the Texas coast, FAA Administrator Michael Huerta said the storm was a landmark for the use of drone technology in disaster recovery. The FAA had to learn on the fly, streamline how it issues drone authorizations as Harvey did its damage, Huerta said. https://fcw.com/articles/2017/09/18/irma-drones-faa-rockwell.aspx

By early September, FAA had quickly issued 137 authorizations to local, state and federal agencies for a wide variety of operations in support of Harvey recovery. Those included **fire departments**, **railroad companies** and emergency management officials who used the aircraft to look at buildings, bridges and roadways for critical damage. **Cell tower companies** also launched drones to assess towers and ground equipment, and **insurance companies** put them in the air to look at damage to neighborhoods.

Hurricane Irma drew similar drone authorizations for similar recovery work, showing how UAS technology can be a go-to for disaster recovery operations. The **Air National Guard**, said the FAA, used drones normally tasked for combat operations to perform aerial surveys in Florida after Irma, allowing it quicker access to areas and prioritize assistance. **Customs and Border Protection** also sent Predator B drones from its operational base in Corpus Christi, Texas, to help map the hard-hit Key West area, as well as Miami and Jacksonville. The CBP drones used radar to survey the condition of infrastructure such as power plants, for the Federal Emergency Management Agency, said the FAA. Insurance companies and **utilities** also tapped drones to assess damage and launch recovery efforts. https://fcw.com/articles/2017/09/18/irma-drones-faa-rockwell.aspx

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3 Reasons Why the Drone Industry Is Hiring Thousands of New Workers

A billion dollars in venture capital this year and deregulation are fueling a hot job market. Lisa Calhoun *General partner, Valor Ventures*

For the first time in history, investments in drones--those buzzy airborne gadgets that used to be called UAVs--have crossed a billion dollars. $1.2 billion has already been invested in unmanned aerial tech in 2017 so far, according to *CB Insights*.

"In the past several years, the drone space has crossed the threshold from being driven by hobbyists and experimentalists to being largely enterprise-dominated," says John Frankel, founder at FFVC, a New York venture capital firm and early drone investor. He invested in Top Flight Technologies in 2015, and later, Skycatch, an autonomous aerial mapping startup that helps international construction and mining companies like Komatsu automate the collection, processing, and analysis of aerial data."

The doubling of investment and FAA deregulation now are driving **a mini job boom**. It's fast creating a workforce as large as that of private school teachers in the U.S.--about 400,000. About this time last year, the FAA created a new commercial drone pilot licensing program. Plunk down $150, a 70-question multiple choice test, and the license could be yours. In the first 3 months, 300 new drone operators were minted every business day. Out of the first 28,000 applicants, some 22,000 passed. Those numbers pale, however, in comparison to the number of commercial drones registered in the same period--2,000 a day. https://www.inc.com/lisa-calhoun/how-big-is-the-drone-job-boom.html

Drones to fight skeeters? JOYANNE PURSAGA, WINNIPEG SUN SEPTEMBER 18, 2017

The city's insect control branch hopes to use a drone to help fight mosquitoes.

The branch is asking council's innovation committee for $36,500 to buy an unmanned aerial vehicle (UAV), commonly referred to as a drone, which it expects could help identify new mosquito breeding sites created when landscape and drainage patterns change.

"This task is not usually possible as all staff are focusing their efforts on larviciding existing sites in order to reduce the emergence of adult mosquitoes," the report notes.

Insect control says drones are already used for the task in some parts of the United States, since they are cheaper than having ground crews do the work, leave no footprint on sensitive lands and

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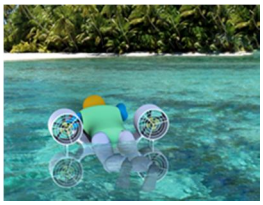
can see mosquito larvae in water from 80 feet away.
http://www.winnipegsun.com/2017/09/18/drones-to-fight-skeeters

ANTI-DROWNING DRONES TROY TURNER 09/19/2017





Robots and drones might be replacing jobs but that doesn't mean it's always a bad thing! The Amphibious Joint-Lifeguard UAV is one example that makes perfect sense if we can pull it off.

Whether it's at the beach or a pool, the idea is that a drone can reach a drowning individual much faster than another human who has to swim a distance before making a rescue. Designed to be introduced into regular rescue practice, this UAV can be controlled by lifeguards as a first response solution. It can fly directly overhead before being safely lowered to the individual in need. Once it arrives, they can climb on board and float to safety. In more serious circumstances where the person is unresponsive, the drone can provide temporary floatation until rescuers can arrive. Designer: Sarsenbek Hazken http://www.yankodesign.com/2017/09/19/anti-drowning-drones/

Hybrid VTOL UAV Wins Research & Development Funding 16 Sep 2017 | Caroline Rees

Embry-Riddle Aeronautical University has announced that a **computer-controlled** hybrid unmanned aircraft system (UAS) developed at the university that lifts off vertically like a helicopter, leans to a 90-degree angle and flies horizontally like an airplane has garnered international research support.

The project was among the fourth-round winners of industrial research and development funding provided by Space Florida, the aerospace and spaceport development authority for the State of Florida, and the Israel Innovation Authority, an organization committed to maintaining Israel's position at the forefront of global innovation. **The Space Florida-Israel Innovation Partnership Program**, established in October 2013, is a $2 million recurring joint fund supporting research, development and commercialization of aerospace and technology projects that benefit both Israel and Florida. Embry-Riddle and Heurobotics teamed up with Israel's Agrowing company to become one of five winners of the latest Space Florida-Israel Innovation Partnership grants.

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Featuring a mechanically simple airframe similar to a twin-engine helicopter with fully articulating rotorheads, the Mark II is intelligent, stable, and maneuverable, thanks to a mathematical solution that stitches together control algorithms for both aircraft and spacecraft, explained Richard "Pat" Anderson, director of Embry-Riddle's Eagle Flight Research Center. "**We used spacecraft attitude estimation algorithms, married to our own aircraft control algorithms**," said Anderson, professor of aerospace engineering. "To our knowledge, no one has done that before." http://www.unmannedsystemstechnology.com/2017/09/hybrid-vtol-uav-wins-research-development-funding/

20Sep17

INDIANA'S BARGERSVILLE FIRE DEPARTMENT USES UAS TO FIND MISSING WOMAN AUVSI NEWS SEP 18, 2017

Bargersville Community Fire division chief Eric Funkhouser arrived with the UAS two hours into the search, and **within just 15 minutes of being in the air**, the UAS found the woman alive.

"We were able to see that heat signature on the screen and then take the drone, fly it over where she was located and hover above her. Members of the sheriff's department and those at the scene went straight to where the drone was in the air and locate her."

"It validates everything that we wanted in this program," Funkhouser says. "To be able to go out and make a difference and locate someone who was having a medical emergency this morning, and find her and get her the help she needed – she was lost out there – to locate her means everything to us." http://www.auvsi.org/industry-news/indiana%E2%80%99s-bargersville-fire-department-uses-uas-find-missing-woman

Warm Springs FAA UAS Test Range Expands Operations to Bend Municipal Airport CBN ON SEPTEMBER 19, 2017

Test Range Now Has Three Regional Airport Operation Locations

The Warm Springs FAA UAS Test Range, a member of the Pan Pacific Test Range Complex (PPUTRC), led by the University of Alaska, Fairbanks announced the addition of the Bend Municipal Airport to their Unmanned Aircraft operation locations.

Gary Judd, Bend Municipal Airport manager, notes that the FAA classifies Unmanned Aerial Vehicles as aircraft. "With this agreement, the Bend Municipal Airport is assured that all UAV operations conducted by the Warm Springs UAS program at the Bend Municipal Airport are conducted safely

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and in compliance with FAA rules and regulations for operations at airports within Class G airspace such as the Bend Municipal Airport."

The Warm Springs UAS Test Range is a key testing facility for the Pan-Pacific UAS Test Range Complex, one of only six official FAA UAS test sites in the United States and is the only site owned and operated by a Native American tribe on tribal land. The Test Range has expanded operations at the Bend Municipal Airport, Prineville Airport and the Madras Municipal Airport**.** http://cascadebusnews.com/warm-springs-faa-uas-test-range-expands-operations-bend-municipal-airport/

The first autonomous drone delivery network will fly above Switzerland starting next month *Like a futuristic postal service... that delivers blood*

Thuy Ong@ThuyOng Sep 20, 2017*Photo: Matternet*

Logistics company Matternet has announced a permanent autonomous drone network in Switzerland that will now see lab samples like blood tests and other diagnostics flown between hospital facilities, clinics, and labs. The first delivery network will be operational from next month, with several more to be introduced in the next year. Matternet says medical items can be delivered to hospitals within 30 minutes.

Matternet, based in Menlo Park, California, was granted authorization to operate its drones over densely populated areas in Switzerland in March and says that approval was a world first. Today, the company unveiled a Matternet Station; a kind of white, futuristic looking postbox with a footprint measuring about two square meters, that can be installed on rooftops or on the ground to send and receive packages by drone.

The drone network is part of a partnership with Swiss Post, and is significant because it's the first operational drone network flying in dense urban areas that's not a pilot run or in testing. Last month, Zipline announced plans to operate its blood delivering service by drone in Tanzania by early next year as well. A pair of hospitals in Lugano in Switzerland had previously tested Matternet drone flights to deliver lab samples. Matternet plans to establish a regular service starting in early 2018. https://www.theverge.com/2017/9/20/16325084/matternet-autonomous-drone-network-switzerland

Caister Lifeboat crew tests use of drones 19 September 2017

An offshore lifeboat crew is testing the use of drones during search and rescue operations. The independent offshore lifeboat service at Caister, Norfolk, has a fleet of drones, fitted with floodlights and cameras. A spokesman said the devices would beam back live footage - visible on lifeboat screens.

Discussions are ongoing with the Civil Aviation Authority (CAA) about bringing the drones into regular use on rescues. A CAA spokesman said permission could be granted in "certain circumstances for certain people", but that some safety issues needed to be worked through.

If a drone collided with a search and rescue helicopter, he said, the result could be "catastrophic". "We absolutely want to support the use of drones as long as they're done safely, so the risk of harming people in the air is controlled," he said**.** http://www.bbc.com/news/uk-england-norfolk-41322398

21Sep17

Lockheed, Army Demo Counter-UAV Laser Weapon Prototype Scott Nicholason: September 21, 2017 Industry News

Lockheed Martin and the U.S. Army have demonstrated a **prototype laser weapon system** equipped with sensors, software and specialized optics built to engage adversarial unmanned aerial vehicles.

The *Advanced Test High Energy Asset* system worked to eliminate five *Outlaw* unmanned aerial systems during a test that took place at White Sands Missile Range in New Mexico, Lockheed said Wednesday. ATHENA's features include advanced beam control and fiber laser technologies along with the *Accelerated Laser Demonstration Initiative* system and a compact Rolls-Royce turbo generator.

"The tests at White Sands against aerial targets validated our lethality models and replicated the results we've seen against static targets at our own test range," said Keoki Jackson, Lockheed chief technology officer**.** http://blog.executivebiz.com/2017/09/lockheed-army-demo-counter-uav-laser-weapon-system-prototype/

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Intel Drones Do Wonder Woman Frank Schrothon: September 17, 2017

The ability to manage a swarm of drones can have any number of business benefits — not the least of which is the WOW factor. Intel has staged a number of light shows with swarms of drones. Most recently their technology was used to produce a multimedia piece on Wonder Woman. Intel has been building on the technology to manage multiple drones, a technology they obtained with the acquisition of Ascending Technologies, a German firm.

Here are a couple of videos. The first is the light show – amazing. The second features Natalie Cheung of Intel discussing the project. (PS – the movie was also awesome).
https://dronelife.com/2017/09/17/intel-drones-wonder-woman/

PrecisionHawk's Michael Chasen: Drones Will Revolutionize Every Industry They Touch Miriam McNabbon: September 14, 2017

PrecisionHawk's CEO Michael Chasen isn't afraid to make big statements – or to take big actions. In his keynote address to last week's InterDrone conference, Chasen said that drones were a transformative technology, and PrecisionHawk was ready for the transformation.

Chasen says that PrecisionHawk is making **three moves** to ensure that they're ready for that evolution. They're working on fully integrating their solution, from the best tools for data capture to the right applications and algorithms for analysis. They're building out a world-class service organization to help new industries with adoption. And, says Chasen, PrecisionHawk is maintaining its leadership position as a company: "We are making sure we are giving back to the community, and we are making sure that we have an open system that is easy for people to work in and extend."

"I do think that **drones are the next iPhone** and at PrecisionHawk we are doing everything we can to move forward with that vision," Chasen said. https://dronelife.com/2017/09/14/precisionhawks-michael-chasen-drones-will-revolutionize-every-industry-touch/

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Aero Drone Announces Full-Immersion UAS Academy This Fall Betsy Lillian, September 21, 2017

Aero Drone Corp. has announced the schedule for two Academy Professional Series classes this fall. The courses will provide emerging drone professionals with six days of total-immersion training in Tygh Valley, Ore. The classes include Federal Aviation Administration Part 107 training and certification, along with other commercial drone competencies, including introduction to aerial cinematography; editing and developing aerial cinematography reels; using unmanned aircraft systems (UAS) in business applications; career opportunities; enhancing company safety and efficiency though UAS; and hands-on flight training in Class G airspace.

The program includes complete instruction and all course materials, transportation, on-site lodging, all catered meals, and a wine social. The first Professional Series 1 (PS-1) class this fall will take place Oct. 16-21. The second PS-1 class will be held Nov. 13-18. The classes are held at the Aero Drone Academy, located on over 9 square miles of outdoor flight testing grounds in Class G airspace. https://unmanned-aerial.com/aero-drone-announces-full-immersion-uas-academy-fall

22Sep17

Here's a Map with Up-to-Date Drone Laws For Every Country SEP 20, 2017 JAYPHEN SIMPSON

Obeying local law when flying your drone is paramount, but those laws vary from country to country – with some not allowing drones in at all. To help with planning, blogger and frequent traveler Anil Polat has created a map of the world with the **laws of each country**.

The map uses laws sourced from each country's appropriate governing body and is updated frequently. Anil says he also included links to registration forms and any contact information you might need to request permission to fly in each country. Because laws can vary from state-to-state in the U.S., Anil has also included separate state laws, along with any area-specific laws found in other countries.

The full map is hosted on Google My Maps. Anil has also released smartphone apps containing the same data, which can be found for Android and for iOS. https://petapixel.com/2017/09/20/heres-map-date-drone-laws-every-country/

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Federal Judge Overturns City Drone Ordinance In First Ruling Of Its Kind John Goglia

The City of Newton, MA passed a law this past December that sought to ban unmanned aircraft flights below 400 feet, flights over private and public property without the landowner's permission and to require local registration of drones. A federal judge in Massachusetts ruled today that the City of Newton was wrong : it does not have that authority because it is preempted by the federal government.

The case was brought by Michael Singer, a physician and inventor who lives in Newton and is an FAA certified drone pilot. He owns and operates a number of small drones. Dr. Singer challenged four sections of the City's ordinance, one that required local registration of unmanned aircraft and three sections that affected flight operations, including the altitude and distance they could fly. He asserted in the lawsuit, in which he represented himself, that the City's ordinance was preempted by federal law "because it attempts to regulate an almost exclusively federal area of law." The federal district judge reviewing the case, William G. Young, agreed. In his decision, Judge Young states "Congress has given the FAA the responsibility of regulating the use of airspace for aircraft navigation and to protect individuals and property on the ground and has specifically directed the FAA to integrate drones into the national airspace."

This decision is being cheered across social media by drone operators throughout the country who have been hampered in their operations by a patchwork of differing laws in cities and states across the country. https://www.forbes.com/sites/johngoglia/2017/09/21/federal-judge-overturns-city-drone-ordinance-in-first-ruling-of-its-kind/#216f03ee1217