UAS and SmallSat Weekly News

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On June 1, Governor Terry McAuliffe ceremoniously signed legislation allowing autonomous delivery devices (robots) on sidewalks and crosswalks across the commonwealth. Virginia was the first state to pass legislation allowing the devices to operate on a statewide basis. The law goes into effect July 1.http://mailchi.mp/f11d938addcf/governor-mcauliffe-aspiring-to-make-virginia-the-capital-of-automated-vehicles-229845?e=9b4b804620

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Chesapeake app developer aims to turn drone pilots into rescue crews By Kimberly Pierceall The Virginian-Pilot Jun 4, 2017

Tom Walker with DART Ventures LLC, which stands for "drone assisted response team," told a crowd of unmanned-systems types at a business roundtable presented by the Virginia Beach economic development authority that the company is beta-testing an app called DroneUp. It aims to turn hobbyists into a fleet of drone pilots with a vantage point who can help when needed when they get alerts for a missing child, a missing elderly person or even a missing pet. A video posted on the company's Facebook page notes "pretty videos don't change the world."

Walker said the company offers free basic training but will make money from charging for more technical training, like searching for a fugitive. The company also plans to sell insurance and advertising and to create a marketplace for jobs to connect pilots with people who need a drone.

https://pilotonline.com/business/biz-buzz/chesapeake-app-developer-aims-to-turn-drone-pilots-into-rescue/article_c1d78bdc-3ddb-5852-a0d5-a084602f4307.html

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Massachusetts Considers Limits On UAV Use By Law Enforcement.

The AP (6/4) reports that Massachusetts is considering regulations that would prohibit the use of UAVs by "police or other governmental authorities" to "track, collect or maintain information about the political, religious or social views, associations or activities of any individual, group, association, organization, corporation," unless the information collected relates directly to a criminal investigation. The proposal also seeks to ban the weaponization of UAVs as well as the use of biometric technology, unless the latter is used to "identify the subject of a warrant."

Will The Coming Drone Swarms Eliminate Physical Privacy?

Kalev Leetaru, Forbes Contributor/Jun 2, 2017

Imagine a world in which the skies are filled with drones delivering packages, monitoring traffic, responding to in-progress criminal activity, monitoring for gas leaks, flagging potholes and the rest of the infinite applications they are being touted for. As that package delivery drone drops down to street level to gently deposit a package on a doorstep, its cameras can easily peer in the front windows and check for illegal activity, eavesdrop on conversations, scan the wireless network, estimate how expensive the furniture is and even assess the residents' decorating skills. Some of these are likely illegal under current law, but often the line between illegal and the grey area of legal when it comes to drones is not so clear.

Drones zooming along public streets scanning every license plate below is entirely legal in many jurisdictions today and one could imagine the current CCTV + patrol car mounted ALPR networks being extended with saturation drone networks that could, in theory, scan even the most remote rural roadways day in and day out. Putting this all together, our coming drone future may finally end the quaint notion of privacy those of the past enjoyed. https://flipboard.com/@forbes/-will-the-coming-drone-swarms-eliminate-/f-4dbacb0012%2Fforbes.com

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The Importance of Drones and Photogrammetry for the Insurance Industry 01 Jun 2017

Drone-based photogrammetry, popularly known as drone-mapping, helps optimize insurance-related processes, speeding up and reducing the cost of surveys for risk assessment and claims management. Drone-mapping also adds accuracy, while at the same time reducing the risk of fraud and improving the customer experience, with tailored premiums and faster claim resolutions. In their report Clarity from above, PricewaterhouseCoopers (PwC) estimated that drone-powered solutions like photogrammetry-based surveying could help the insurance industry save as much as $6.8 billion USD per year.

With a drone and Pix4D solutions, it is possible to automate drone flights to capture images and transform them into 2D maps and 3D models that insurers can use to document the initial state of property, infrastructure or agricultural assets, and assess and quantify damage once a claim is raised. http://www.unmannedsystemstechnology.com/2017/06/article-importance-drones-photogrammetry-insurance-industry/

Indago UAS Performs BVLOS Pipeline Inspections 01 Jun 2017

Lockheed Martin has announced that, in partnership with Canadian UAVs, it has completed what it claims is the first beyond visual line of sight (BVLOS) pipeline and well assets inspection using the company's Indago 2 quadrotor unmanned aircraft system (UAS). The Indago 2

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completed the inspection at the Foremost Testing Range in Alberta, Canada. At the UAV Testing Facility in Foremost, Canadian UAVs inspected pipelines and wellheads using Indago, which was outfitted with its 30x payload. This powerful camera captures high resolution inspection images and video with 30x optical zoom and enhanced digital zoom.

"Our systems routinely fly beyond line of sight for our military customers, which has allowed us to gain compliance status with Transport Canada for use in commercial airspace," said John Molberg, business development lead for Lockheed Martin CDL Systems. http://www.unmannedsystemstechnology.com/2017/06/indago-uas-performs-bvlos-pipeline-inspections/

Agenda Confirmed for Energy Drone Summit 01 Jun 2017

The Energy Drone Coalition, a ground-breaking resource with events, news and market intelligence that focuses specifically on collaboration within the rapidly emerging drone/UAV technology being utilized and developed for the oil & gas, power, mining & chemical industries, has confirmed details of the upcoming Energy Drone Summit, taking place June 20 – 21 in Houston, Texas.

The EDC Summit is an opportunity for leaders in energy drone fields to come together to share ideas and best practices. http://www.unmannedsystemstechnology.com/2017/06/agenda-confirmed-energy-drone-summit/

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HAZON Solutions releases latest version of HAZON Drone Management System AUVSI News posted 5 days ago

Just four weeks after the initial release of the HAZON Drone Management System (HAZON DMS), a software that gives drone operators the ability to safely and efficiently manage their UAS program, the latest version of the web-based management tool was released on June 1, with the inclusion of two new features.

The first new feature, Lessons Learned, gives users the ability to quickly capture and share important information, as well as develop best practices. The second new feature, Incident Reporting, gives UAS operators the ability to "easily record and catalog incidents ensuring compliance with the Federal Aviation Administration (FAA) Part 107 regulations governing commercial drone operations."

According to HAZON Solutions, the update to the HAZON DMS software also includes improvements to qualifications tracking. Now, after developing unlimited, unique qualifications, users can also add expirations to those qualifications, and include automatic pop up reminders.

"These new features represent our continuous commitment to risk mitigation, FAA compliance and operational efficiencies," says Sean Cushing, HAZON Solutions' COO and Co-Founder. http://www.auvsi.org/blogs/auvsi-news/2017/06/01/hazon-solutions-releases-latest-version-of-hazon-drone-management-system

MIT Researchers To Present On Long-Endurance Communications UAV At AIAA AVIATION Forum.

MIT News (6/6) reports that MIT researchers will present this week at the AIAA AVIATION Forum in Denver, Colorado on a design for a UAV "that can hover for longer durations" to provide communications support in the event that normal phone and Internet systems are disrupted.

MIT's gasoline-powered UAV targets five-day flight endurance
 Rich Haridy June 7, 2017

A team of MIT students successfully tested a prototype gasoline-powered UAV that can potentially stay aloft for five days at a time (Credit: Veronica Padron/MIT)
VIEW GALLERY - 4 IMAGES
When it comes to flight endurance for an unmanned UAV, the Qinetiq Zephyr still reigns supreme with a flight of over 336 hours, but its solar-powered, high-altitude design doesn't make it suitable for many applications. A team of engineers at MIT has developed a cheaper UAV design that has the ability to stay aloft for up to five days at low-altitudes on a single tank of gasoline, potentially offering communications support in areas struck by natural disasters.

The long-duration UAV is powered by a 5-hp gasoline engine, weighs under 150 lb (68 kg) and features a glider-like design with a 24-ft (7.3-m) wingspan. As well as being designed to carry communications-support payloads of up to 20 lb (9 kg), the UAV could offer a cost-effective platform for general environmental monitoring. The design resembles "a thin glider" that would be able to carry "10 to 20 pounds of communications equipment while flying at an altitude of 15,000 feet." http://news.mit.edu/2017/drones-stay-aloft-five-days-0607

Axiom Space Plans Space Station To Manufacture Small Satellites.

International Business Times (6/6) reports that Axiom Space plans to build a habitable space station that would "manufacture and deploy small satellites at a fraction of the current cost required to launch a spacecraft from Earth."

The company aims to begin assembly in 2020, prior to which time it plans to "start launching space tours for 10 days to the ISS from 2019." Commenting on when manufacturing operations could begin, Axiom Vice President Amir Blachman said, "We're talking 2026, 2027, 2028. We can envision printing hundreds of jet turbines and super-specialized alloys, and down-massing them in quantity." https://www.yahoo.com/news/private-space-station-aims-become-104106318.html

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Google's Project Wing team takes a key step towards making drone delivery real

TechCrunch (6/7) reports that Google's Project Wing announced that it has completed a series of FAA and NASA-required UAV air traffic control (ATC) management tests, in preparation for plans to implement UAVs for package delivery.

In the test, "a single Wing operator controlled three Wing drones simultaneously for separate pickup and delivery missions, while also navigating with two Intel drones and a DJI Inspire, all sharing the same general airspace." The test demonstrated "how Wing's traffic management platform could automatically plot the paths of all these vehicles, and intelligently update and adapt those paths on the fly, in real-world outdoor flying conditions." https://techcrunch.com/2017/06/07/googles-project-wing-team-takes-a-key-step-towards-making-drone-delivery-real/

Google's drone delivery project just shared some big news about its future Julie Bort

Alphabet CEO Larry Page Andrew Kelly/Reuters

Larry Page, cofounder of Google and CEO of Google's parent company Alphabet, promised in his annual shareholder's letter that there would be exciting things happening with Project Wing this year. Project Wing is the company's drone delivery project. On Wednesday, the project shared some news via a post on Medium.

The update reveals that Wing took part in a set of nationwide tests conducted by NASA and the FAA alongside other drones from other manufacturers like Intel and DJI. The Wing team was testing something that could wind up being just as important and potentially just as lucrative for Alphabet as the drones themselves: the software that will automatically manage all sorts of drones from many manufacturers as they whiz around the sky. http://www.businessinsider.com/project-wing-update-future-google-drone-delivery-project-2017-6

Drone Testing Area Is a Godsend for a Small Farming Town

Open skies help a town be on the cutting edge.

By David Grossman Jun 7, 2017

The small Canadian town of Foremost, Alberta has historically relied on its scenic beauty to attract outsiders, with deep forests and a lake that's perfect for fishing. Near Medicine Hat and the American border, it can be easy to overlook. But drones have emerged along the horizon. Foremost has transformed itself into the home to Canada's only testing range to fly drones beyond line of sight, a crucial detail in drone research.

The Foremost Centre for Unmanned Systems got its start in 2014, when the Canadian Centre for Unmanned Vehicle Systems, a non-profit owned by the government, got a restricted airspace license. With 700 square nautical miles designated for drone flights up to 18,000 feet above sea level, a sparse population below, a paved runway, and only two manmade towers in the entire region, it provides a lot for drones to spread their wings, so to speak.

But the real advantage came with the line-of-sight ruling, which Transport Canada handed down last year. Flying beyond the pilot's vision is crucial for companies like Amazon or UPS that want to incorporate drones into their globe-crossing businesses. While having only one testing range in the country may not sound like much, the United States' FAA doesn't allow it at all. http://www.popularmechanics.com/flight/drones/a26802/canadas-only-beyond-line-of-sight-drone-testing/

Virginia Tech tests NASA traffic management system for unmanned aircraft

This week Virginia Tech tested a traffic management system designed to help multiple unmanned aircraft navigate the air space safely. The research was part of a national campaign to study the system, which was developed by NASA.

A traffic management system could be key in helping grow the commercialization of unmanned vehicles. The system evaluates flight plans, monitors aircraft in flight and alerts users to changes or potentially hazardous situations. "Being able to handle that kind of volume safely and efficiently will determine whether a lot of the UAS applications in development will be commercially viable over the long term," Mark Blanks, the director of the Virginia Tech Mid-Atlantic Aviation Partnership, which operates the university's Federal Aviation Administration-designated UAS test site, said in a statement.

The test flights in Blacksburg were designed to mimic what operators might encounter if widespread commercial UAS flights beyond line of sight become commonplace.
http://www.virginiabusiness.com/news/article/331121?utm_source=email&utm_medium=email&utm_campaign=daily

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Sky mail: delivered in Japan

Regulators will unveil plans for parcel deliveries by drone today, paving the way for possible nationwide services by 2020. The government wants to cut regulations and pep up investment in unmanned-aerial-vehicle technology to help solve a profound labour crunch; Japan's working population has shrunk by 10m since the mid-1990s. Delivery companies have been hit harder than most. Yamato, which runs Japan's busiest door-to-door service, has slashed parcel volumes and hiked basic charges for the first time in 27 years. Thousands of other service companies may soon be forced to follow suit. Many are banking on the drone industry to take off. In March, Rakuten, Japan's largest e-commerce firm, announced a joint venture with AirMap, the world's top provider of air-traffic-management software for drones. The goal, they say, is to build a platform for airspace services and "let innovation take flight". https://mail.google.com/mail/u/1/#inbox/15c8c5c8ee7e2256

Chinese E-commerce Giant JD.com Develops UAVs For Rural Deliveries.

CNBC (6/8) reports that Chinese "e-commerce giant" JD.com has developed a UAV "which can deliver packages weighing as much as one ton."

CTO Chen Zhang said that in China, "e-commerce is huge but in remote villages most people are not benefitting from e-commerce," and that the company is developing six different types of delivery UAVs to address that problem, although the high cost of batteries "is a major issue we need to address" before the program can be operationalized. http://www.cnbc.com/2017/06/08/e-commerce-jdcom-alibaba-amazon-drone-delivery-china-asia-technology.html

Amazon Developing "Virtual Safety Shroud" For UAVs.

GeekWire (6/8) reports that Amazon is developing a "virtual safety shroud" for UAVs, in case "a child or a dog wanders into range while a UAV is dipping down to make a delivery," or similar obstructions occur. The "detect-and-avoid system is described in a patent application published today.
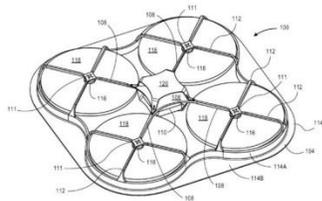
Among the inventors is Gur Kimchi, the vice president and co-founder of Amazon Prime Air's drone delivery operation, so you know it's serious." https://www.geekwire.com/2016/amazon-patent-filing-delivery-drone-designs/

Commercial UAV Industry Sees Expanded Opportunities For Use.

The Economist (6/9) reports on the proliferation of commercial UAVs, noting five key areas where there are opportunities for expansion: photography, agriculture, construction, inspection, and public safety.

Regarding agricultural applications, the article notes that "agriculture, and measuring the health of crops in particular, was identified early on as a promising market for commercial drones," as "crop health can be assessed by taking pictures using special multispectral cameras which 'see' more than the human eye." http://www.economist.com/news/technology-quarterly/21722999-todays-drones-are-mostly-flying-cameras-they-are-already-being-put-wide-range

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New Bill Would Shift UAS Regulation To State And Local Governments.

Flying Magazine (6/6) reports that Sen. Dianne Feinstein (D-CA) has introduced a bill that would allow "state, local, and Native American tribal authorities to regulate how hobbyists and businesses can operate their drones below 200 feet and within 200 feet of a structure, with the option to seek assistance from the FAA." Feinstein said in a statement that "state local, and tribal governments have a legitimate interest in protecting public safety and privacy from the misuse of drones" and that this bill will provide them with the ability to "create low-altitude speed limits, local no-drone zones or rules that are appropriate to their own circumstances."