



UAS and SmallSat Weekly News

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Air traffic control for drones is coming

TO KEEP them from colliding as their numbers increase, NASA and the FAA are devising a system. Here's how it could work. *By Samantha Masunaga Los Angeles Times*



By 2020, an estimated 7 million **drones** could be zipping around the country delivering packages, taking photos, inspecting infrastructure or conducting search-and-rescue missions. But before that happens, we'll need a system in place to keep them from crashing into each other – or worse, into passenger aircraft.

NASA, along with the Federal Aviation Administration and an extensive list of industry partners, has been researching the requirements needed to establish a **drone** traffic management system. This summer, some of those ideas will be tested in the field.

Unlike the current air traffic management system, this one won't rely on human controllers in towers who bark instructions to incoming and outgoing aircraft. Instead, **drone** operators will use an electronic system to get access to constraint notifications and input flight information. And they will be expected to follow the rules.

Eventually, the system will be autonomous. The plan is to finish the research by 2019 and hand over ideas for the FAA to implement no later than 2025.

But the FAA will not be creating the entire electronic traffic management system – that task will largely be handled by companies that are already developing **drone** navigation and communication software, or **drone** manufacturers that want to create their own system.

Once the rules are set and all **drone** systems can speak the same language, "that really unlocks the true potential of networked aerial robotics," said Jonathan Evans, co-president of Skyward, a **drone** operations software firm that is participating in the NASA project.

<http://digital.olivesoftware.com/Olive/ODN/VirginianPilot/Default.aspx>

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Xponential 2017: USAF Ground-Based Sense And Avoid infrastructure rolled out

Huw Williams, Dallas - IHS Jane's International Defence Review 12 May 2017

Raytheon has worked with partners across government and industry to install ground-based sense and avoid (GBSAA) capabilities at a number of sites for the US Air Force (USAF). The concept of operations for the installation includes a dedicated GBSAA operator who is collocated with the air crew and shares the same situational awareness picture.

Speaking at Xponential 2017 in Dallas, Texas, Raytheon technical director Robert Stamm explained that the GBSAA system had been rolled out in support of USAF Predator and Reaper unmanned aircraft system (UAS) operations, noting Cannon Air Force Base, New Mexico, as one site. The infrastructure makes use of existing Federal Aviation Administration (FAA) and Department of Defense (DoD) systems. http://www.janes.com/article/70307/xponential-2017-usaf-gbsaa-infrastructure-rolled-out?from_rss=1

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Virtual 'top hats' ensure swarming drones won't crash Rob LeFebvre/May 15, 2017

Drone [swarms](#) can be used for lots of things, like [creating holograms](#), putting on a Superbowl [halftime show](#) or collecting [military intelligence](#). One of the problems with a bunch of quadcopters executing maneuvers in close proximity, however, is that they can crash when they touch or fly under each other. Researchers at the [Georgia Institute of Technology](#) have found a way to avoid both issues by creating a virtual bumper area around each copter so that they don't accidentally touch. They've also ensured that each copter has a little "top hat" of space above it so it won't go underneath another drone and get caught up in its airflow.

Ph.D. student Li Wang figured out that the top hat must be as tall as five times the diameter from one rotor to another by flying drones atop one another. The 0.6-meter vertical space ensures the quadcopters avoid undercutting each other. A set of algorithms gives the drones the ability to quickly maneuver out of the way when they detect another robot next to or above them. <https://flipboard.com/@Engadget/-virtual-top-hats-ensure-swarming-drones/f-443237f84a%2Fengadget.com>

FHWA looks into drones for bridge inspection By Matt Leonard May 15, 2017



Drones are already being used by officials in [Ohio](#) and [Minnesota](#) to inspect bridges and other infrastructure, but the Federal Highway Administration wants to collect best practices for efficient use of payload sensors and learn how the collected data should be managed so that various stakeholders have accurate and actionable information to support their work.

The FHWA is looking for sources that can report on the data management process in its entirety -- from the sensors on the drone that gather the information, to the systems that analyze and present the data to inspectors -- to determine the kind and quality of data needed by bridge inspectors for a precise inspection.

The study would survey the types of data collection sensors being used on unmanned systems - high-resolution cameras, infrared thermography cameras, LiDAR -- and assesses the quality level needed to perform a satisfactory inspection. It would then match the available technologies to the type, quality and quantity of information needed by inspectors.

FHWA also wants to know how data from drones can be combined with other information sources and presented to inspectors as well as how the information should be stored and integrated with bridge and asset management systems. More information is available [here](#).
<https://gcn.com/articles/2017/05/15/drone-bridge-inspections-fhwa.aspx>

XPONENTIAL 2017 – the UST Round-Up 15 May 2017

More than 7,000 attendees and over 600 exhibitors attended XPONENTIAL 2017, the annual AUVSI trade show last week, held in Dallas. It was a busy week, with exciting announcements from many of the companies in attendance – here's our round-up:

Inertial Sense introduced the the μ INS, a miniature GPS-aided inertial navigation system designed to provide high-quality direction, position, and velocity data for drones and robotic applications. [Read more...](#)



UAV Vision launched a miniature 3-axis gyro-stabilised gimbal designed for commercial and ISR applications. [Read more...](#)

Pulse Aerospace released two new VTOL UAS: the petroleum-powered Radius 65, and the electric Vapor 15. Developed for military and industrial customers, the Radius 65 can operate for up to five hours in cruise and hover missions; while the Vapor 15 targets ISR and mapping missions. [Read more...](#)

Nicomatic released new 90° High Power solder contacts, available for the CMM 220 and 320 series of connectors. [Read more...](#)

Ophir Optics Group introduced “LightIR”, a compact, continuous zoom, infrared (IR) thermal imaging lens for cooled detectors in UAVs. [Read more...](#)



AeroVironment unveiled the new Snipe Nano Quad, a miniature and field-rugged VTOL UAS designed to support close-range ISR missions. [Read more...](#)

Elistair unveiled the Ligh-T 2 tethered drone station, featuring waterproofing, a 60 Mbs secured datalink and a new compatibility with the DJI Inspire 1. [Read more...](#)

Airbus announced its latest start-up – Airbus Aerial – focused on developing imagery services for commercial applications. These services will offer actionable data and analysis of information provided by drones, satellites, high altitude aircraft and other sources. [Read more...](#)

Southwest Research Institute (SwRI) confirmed details of a new patent for technology that allows the control system of unmanned ground vehicles (UGVs) to locate and control UAS, using both on-ground and in-sky perception sensors. [Read more...](#)



Septentrio introduced two new OEM GNSS receiver boards: the AsteRx-m2 and AsteRx-m2 UAS. The credit-card sized boards offer all-in-view multi-frequency, multi-constellation tracking and centimetre-level RTK position accuracy. [Read more...](#)

Trig Avionics showcased the TT26, a new multi-mission UAS avionics solution featuring a certified Mode S transponder, ADS-B Out (TSO C166-B), certified GPS (TSO C-145) and a certified altitude encoder. [Read more...](#)

Swift Navigation announced a new ruggedized dual-frequency RTK GNSS receiver. “Duro” offers centimeter-accurate positioning and was developed in conjunction with Carnegie Robotics. [Read more...](#)



Rapid Composites unveiled “Bullray”, a rugged, fully autonomous, waterproof and man-portable VTOL UAS. [Read more...](#)

Phoenix International introduced the Phalanx II rugged, small form factor Network Attached Storage (NAS) data storage system for UAVs, UUVs and airborne ISR applications. [Read more...](#)

HAZON Solutions released “HAZON DMS”, secure, cloud-based drone management software allowing UAV operators to safely and efficiently track and manage their drone fleet, pilots and workflow. [Read more...](#)

3W-International introduced its new 3W-180 SRE Hybrid Wankel engine, which can be fuelled by petrol or kerosene. It is particularly well-suited for UAVs due to the power-to-weight ratio. [Read more...](#)

<http://www.unmannedsystemstechnology.com/2017/05/xponential-2017-ust-round/>

New Record Set for Urban Package Delivery by Drone 12 May 2017



A Nevada unmanned aircraft system (UAS) consortium (Team Roadrunner) has announced that it has set **a new record flying a fixed-wing UAS over 97 miles** to Austin, Texas using cellular connectivity.

Launched from a central Texas urban location, the UAV flew a preplanned route through the National Airspace System (NAS) using a combination of a mobile command and control (C2), a visual observer team, and stationary visual observers (VO) located across the flight route were equipped with enhanced radios and cell phone communications which allowed the UAV to be flown using a cellular communications link until it successfully landed and delivered its package in Austin, Texas.

Team Roadrunner consisted of the FAA-designated Nevada UAS Test Site (Nevada Institute for Autonomous Systems), Volans-i UAS, Latitude UAS, AUV Flight Services, and the ground and mobile visual observer support from Embry-Riddle Aeronautical University (ERAU) Worldwide campuses.

“This was the most challenging, logistically-intensive, and longest package delivery demonstration recorded to date using cellular technology in the NAS, and allowed us the opportunity to demonstrate innovative capability – a demonstration necessity for the UAS industry,” said Dr. Chris Walach, Director of the FAA-designated Nevada UAS Test Site and

Adjunct Assistant Professor, College of Aeronautics at Embry-Riddle Aeronautical University Worldwide. <http://www.unmannedsystemstechnology.com/2017/05/new-record-set-urban-package-delivery-drone/>

Pulse Aerospace Unveils New Long-Endurance Unmanned Helicopters 11 May 2017



[Pulse Aerospace](#), a developer of multirotor Unmanned Aircraft System (UAS) platforms, has announced the release of two new [VTOL UAS](#), the petroleum powered Radius 65 and electric Vapor 15. By expanding beyond the company's current Vapor 35 and Vapor 55 offerings, Pulse covers a broad application range for helicopter UAS. **The Radius 65 incorporates a petroleum power plant to achieve an endurance of up to five hours in cruise and hover missions with a useful load of 25 lbs.** Vapor 15 will carry 2.5 pounds of payload for 1 hour in a small, easy to transport form factor. Both systems offer the same payload flexibility, safety features, precision full-authority automatic flight control system, and ease of use as Vapor 35 and 55.

The Radius 65 was developed to serve the demands of military and industrial customers requiring the take off / landing, hover, and heavy payload capabilities of the Vapor 55 with added range for extended ISR, Lidar, survey, and delivery missions.

<http://www.unmannedsystemstechnology.com/2017/05/pulse-aerospace-unveils-new-long-endurance-unmanned-helicopters/>

Harris to Provide BVLOS Capabilities for Grand Sky UAS Park 10 May 2017



[Harris Corporation](#) has announced that it has been selected by Grand Sky Airfield Operations to provide an advanced solution to support beyond-visual-line-of-sight (BVLOS) unmanned aerial systems (UAS) flight operations – reducing the need for chase planes to provide constant visual

surveillance during flight. The announcement was made during the AUVSI Xponential trade show in Dallas.

Harris will provide a customized RangeVue sense and avoid solution that delivers real-time situational awareness of surrounding unmanned and manned aircraft traffic, with reliable multi-sensor surveillance for cooperative and non-cooperative vehicles. The solution will cover the 217-acre unmanned aircraft business and aviation park located on Grand Forks Air Force Base, North Dakota.

It will enhance Grand Sky's infrastructure for safe and efficient BVLOS UAS operations and testing, ensuring the FAA's stringent safety requirements are met and eliminating the need for expensive chase planes to track UAS entering, exiting or operating within Grand Sky's 60 nautical-mile radius airspace. <http://www.unmannedsystemstechnology.com/2017/05/harris-provide-bvlos-capabilities-grand-sky-uas-park/>

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Boeing Studying Tailsitting VTOL Design For US Marines' MUX UAV Requirement.

[Aviation Week](#) (5/16) reports that Boeing is examining a tailsitting vertical take-off and landing (VTOL) design as one of several concepts for the US Marine Corps' MUX requirement for a long-range, long-endurance multimission UAV. For the tailsitting VTOL concept, Boeing is drawing on its smaller Heliwing design from 1995, and is also considering a tiltrotor concept. The Marines Corps is expected to issue a request for information (RFI) for the MUX requirement by the end of the year. Other firms pursuing the program are Bell Helicopter with its V-247 tiltrotor, Northrop Grumman with a variant of the Tern tailsitting VTOL UAV, Aurora Flight Sciences, Piasecki Aircraft, and potentially Sikorsky.

XPO speakers look to the future in final keynote session

[AUVSI News](#) Amy French

The final keynote presentation of Xponential 2017 — “Unmanned Systems Shaping the Enterprise” — focused on the future, starting with a passing of the torch for AUVSI. John Burke, who has served as AUVSI board chairman since 2015, welcomed his successor, Dallas Brooks, who is with the Mississippi State University/ASSURE UAS Center of Excellence.

“I’ve never been more optimistic about where we’re going — both as an organization and as an industry,” Brooks said, but emphasized the work of education and advocacy for progress-friendly laws and regulations that remains. “Our revolutionary technologies are colliding with a technical and regulatory system designed to accept only evolutionary improvement.”

Next to the microphone was an unabashed fan of speeding the pace of change: Virginia Gov. Terry McAuliffe, whose administration recently added “Virginia is for Unmanned Systems Lovers” to the list of state slogans.



Calling Xponential “the greatest conference ever held,” McAuliffe emphasized that unmanned systems offer tremendous opportunities for diversifying Virginia’s government-dependent economy, and that he is ensuring Virginia “leans in” and offers tremendous opportunity for unmanned systems.

Among other examples of his enthusiasm, McAuliffe cited 70 miles of sensor-equipped roads being built to facilitate advances with autonomous vehicles. He also touted a new law to prevent new regulation from unduly encumbering the industry. “There are no local regulations at all. We do not have state regulations. The industry is too new, and I don’t want us writing laws that could stifle innovation.” <http://www.auvsi.org/blogs/auvsi-news/2017/05/11/xpo-speakers-look-to-the-future-in-final-keynote-session>

Redkite Wide-Area Sensor Completes Successful Advanced Flight Testing Aboard Integrator UAS [AUVSI News](#)

Logos Technologies has announced that it has successfully conducted advanced flight testing of its Redkite wide-area sensor aboard the Insitu Integrator UAS. Testing confirmed that the Redkite was capable of capturing stabilized, wide-area motion imagery (WAMI), and could successfully stream it to multiple handheld devices on the ground from the payload bay of the UAS. This latest demonstration, which was the second successful airborne test with the Integrator, took place in Boardman, Oregon.

Capable of storing up to eight hours of geo-tagged mission data for forensic analysis, the Redkite is compact and lightweight, and comes in two configurations, one being a platform-agnostic pod for manned and unmanned aircraft, and the other being an integrated payload module. Both versions image over 12 square kilometers at once, and while doing so, can detect, track, and record all significant movers in real time within the scene. The next goal to accomplish with the Redkite on the Integrator will be to further reduce the system weight, which will allow for full endurance flights.



Photo Courtesy of Logos Technologies

<http://www.auvsi.org/blogs/auvsi-news/2017/05/15/redkite-wide-area-sensor-completes-successful-advanced-flight-testing-aboard-integrator-uas>

WhiteFox Defense Technologies Demonstrates Its DroneFox Technology During Xponential [AUVSI News](#)

During Xponential 2017, San Luis Obispo, CA-based WhiteFox Defense Technologies, Inc. demonstrated its flagship technology, the DroneFox, which is built to respond to dangerous small UAS. Designed to detect, identify, and mitigate UAS with a multi-mile range, the DroneFox is a SWaP-C optimized, portable technology, which uses a “master signal” to track and temporarily take control of UAS.

Using the “master signal,” the operator of the DroneFox can choose a course of action from a variety of responses, including land, return to launch, confiscate, and reroute. The DroneFox is different from jammers and other non-kinetic products because it can select the exact signal it wants to manipulate without interfering with any others signals, even other UAS.

During Xponential, WhiteFox performed operational tests for several different parties, including FAA Administrator Michael Huerta, Discovery Channel hosts, UAS manufacturers and an international representation of UAS technologists.



Photo Courtesy of WhiteFox Defense Technologies

<http://www.auvsi.org/blogs/auvsi-news/2017/05/15/whitefox-defense-technologies-demonstrates-its-dronefox-technology-during-xponential>

British prison is first to use 'disruptor' to create drone-proof 'shield' around jail 16 MAY 2017

A British prison has become the world's first to use a new system designed to stop [drones](#) flying over perimeter walls to drop contraband into jails. The device creates a 2,000ft (600m) shield around and above a prison that will detect and deflect the remote-controlled devices.

It uses a series of "disruptors", which are sensors to jam the drone's computer, and block its frequency and control protocols. The operator's screen will go black and the drone will be bounced back to where it came from.

Drones have become a [major security problem in Britain's prisons](#) and are increasingly used to smuggle in drugs, weapons, phones and other valuables. The new system, called Sky Fence, is

being introduced at Les Nicolles prison on Guernsey, where around 20 "disruptors" will be installed on the perimeter and inside. <http://www.telegraph.co.uk/news/2017/05/16/british-prison-first-use-disruptor-create-drone-proof-shield/>

UW spinout WiBotic lands \$2.5M to build technology that charges drones and robots wirelessly [NAT LEVY](#) on April 26, 2017



A drone attached to the WiBotic charging gear. (WiBotic Photo / Chasen Smith)

University of Washington spinout [WiBotic](#), which is building technology that wirelessly powers drones and other robotic devices, has raised \$2.5 million in a new funding round.

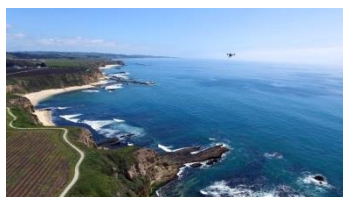
The round is led by [Tsing Capital](#), a Chinese fund management company, and includes investments from [Comet Labs](#) and Digi Labs as well as follow-on investments from [W Fund](#), [WRF Capital](#) and [Wisemont Capital](#). WiBotic, originally founded within the UW's electrical engineering and computer science departments, will use the funds to enhance product development and beef up sales and marketing activities.

The round brings the 10-person company to a total of \$3.25 million in funding. CEO Ben Waters, who spoke at a [UW Innovation Summit in Shanghai in 2015 that GeekWire attended](#), founded WiBotic with UW professor [Joshua Smith](#). <https://www.geekwire.com/2017/uw-spinout-wibotics-lands-2-5m-to-build-chargers-for-drones-and-robots-aiming-to-reduce-the-need-for-human-maintenance/>

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Cape' Lets You Fly Real Drones in the Real World... Over the Internet

MAR 27, 2017



The startup [Cape](#) calls itself "the world's first online drone flight platform," and they do exactly as the name implies: Cape lets you fly a real drone, in a real-world location, without ever leaving the comfort of your desk chair. Sign up for the company's public beta, and soon you'll be invited

to launch one of Cape's drones placed all over California. Once you're in, use your computer, tablet, or smartphone to launch and fly the thing—no pesky FAA certificate required, no worries about crashing an expensive investment, and (apparently) almost no lag between the controls and the drone.

You simply pick an available DJI Inspire 1 along the coast or in the desert of California—each location is active at different times and days—read over the controls really quick, and hit enter to automatically take off. Once you're in the air, you'll be automatically fenced into a safe zone, kept at a legal altitude, and otherwise prevented from having *too* much fun at the expense of Cape's fleet, but otherwise you're free to fly around to your hearts' content.

<https://petapixel.com/2017/03/27/cape-lets-fly-real-drones-real-world-internet/>

Special Operations Command creating new drone technology

initiative [National Defense](#) May 17, 2017 [Jon Harper](#)

U.S. Special Operations Command is partnering with the Pentagon's Strategic Capabilities Office to create a new organization dedicated to advancing drone technology, a top acquisition official announced May 16.

The outfit, known as DRONEWERX, was modeled after Special Operations Command's SOFWERX initiative which opened the door to nontraditional partners in industry and academia to do fast prototyping and experimentation with new technologies.

The goal is "to build a DRONEWERX equivalent to SOFWERX to really get at, how do we leverage this combination of swarm technology, commercial drone technology, artificial intelligence, machine learning, and actually create near-term combat capability?" said James "Hondo" Geurts, SOCOM's acquisition executive, at the National Defense Industrial Association's Special Operations Forces Industry Conference in Tampa, Florida.

The initiative will include prize challenges. Industry, academia, hackers and tech-savvy individuals will be allowed to participate, he said.

"That's all about experimenting," he said. "It's not about writing a [request for proposals] and then 10 years from now selecting a contractor to build a SOCOM drone. It's, 'how do we have it all work together [and] create a scalable platform?'"

Special Operations command isn't just interested in unmanned aerial vehicles. It wants to look at the "full spectrum" of unmanned systems and autonomous capabilities including in the undersea domain, Geurts noted. <https://about.bgov.com/blog/special-operations-command-creating-new-drone-technology-initiative/>

McAuliffe to use UAV flight to kick off \$5M drone runway on Eastern Shore



<https://twitter.com/TerryMcAuliffe/status/865292408157765632>

The Mid-Atlantic Regional Spaceport is opening its new drone runway Thursday. Located on the north end of Wallops Island on the Eastern Shore, it cost \$5.8 million to build and is 3,000 feet long and 75 feet across.

Tamara Dietrich **Contact Reporter** tdietrich@dailypress.com

Va's McAuliffe to become first governor to fly in a UAV, to kick off \$5M drone runway

Gov. [Terry McAuliffe](#) is set to soar Thursday in an autonomous Centaur aircraft on the Eastern Shore to launch the state's new \$5 million runway dedicated to drone research and development. McAuliffe said the flight will make him the first governor in the country to fly in an unmanned aerial vehicle, while the airstrip effectively vaults Virginia into the lead in UAVs.

Asked by a reporter Wednesday if he was scared of his upcoming drone flight, the governor insisted he wasn't.

"No, I'm excited," McAuliffe said, calling it a "historic day for Virginia."

"These autonomous vehicles — whether it's drones, whether it be autonomous cars on the roads, whether it be maritime — I want Virginia to lead that," he said.

The new airstrip sits on the north end of Wallops Island — 3,000 feet long, 75 feet wide and now officially open for business. Officials say it's the only one of its kind in the country, purpose-built specifically for unmanned aerial vehicles or systems.

[NASA](#) Wallops Flight Facility said the governor won't be taking off and landing on the new drone runway, but on one of NASA's larger airstrips on its main base a few miles away. There will be a pilot aboard as backup.

The Virginia Commercial Space Flight Authority, now known as Virginia Space, is actively seeking out customers for the new drone airstrip among the [Department of Defense](#), NASA, academia and private industry.

Virginia Space manages the state-owned Mid-Atlantic Regional Spaceport, which launches commercial cargo resupply missions to the International Space Station. MARS also launched NASA's LADEE mission in 2013 to study dust in the lunar atmosphere.

The new drone runway, said Virginia Space Executive Director Dale Nash, "provides new capabilities" for the MARS facility and heralds even more. The airstrip can handle vehicles up to and including the heavy Predator- and Reaper-class drones, he said. It also has a large concrete pad at one end that's rated up to 5,000 pounds per square inch to handle vehicles on vertical takeoff. <http://www.dailypress.com/news/science/dp-nws-mars-drone-runway-20170516-story.html>

Hampton council OKs drone use by police

HAMPTON — [Hampton police](#) can now use drones for some kinds of police work, under a set of procedures that bars their use to simply spy on people, the City Council decided Wednesday.

Chief Terry Sult said the department hoped to purchase a \$14,000 drone equipped with infrared night vision equipment, but wanted a sense that council members supported the move. The drone could be used to gather evidence about criminal activity only if a magistrate or judge issued a search warrant, Sgt. Mark Kincaid told the council. Kincaid has prepared a 14-page manual governing operation of a drone.

It could be used without a warrant for emergency situations, such as tracking a fleeing suspect, assessing damage after a storm or monitoring response to a fire but only after a senior shift supervisor, incident commander or the chief approved the use, he said.

Federal and state laws set strict guidelines for police use of drones, Kincaid said. [Federal Aviation Administration](#) rules, for instance, forbid flying them over crowds, so they could only be used at big public events if police felt there was a need to keep an eye on the edges a gathering where they were concerned there might be traffic or other challenges, he said.

And while the night vision equipment allows recording, the rules Kincaid prepared said recordings could only be made in emergency situations, where lives might be at stake, for training or for damage assessment where a warrant isn't required to protect individuals' civil rights. He said the police department's current rules for body camera and dashboard camera recordings would apply to any recordings a drone might make.

Council members, with a series of nods and no formal comment or vote, indicated the police could go ahead with plans to buy and operate a drone to start an unmanned aerial vehicle program. <http://www.dailypress.com/news/hampton/dp-nws-hampton-budget-0427-20170426-story.html>

Virginia to Open Autonomous Technology Center

The center will serve as a testing facility for autonomous technology across sectors, but based on recent actions by the government, the center could put a priority on autonomous vehicle development. [NEWS STAFF](#) / MAY 12, 2017



On May 11, Virginia Gov. Terry McAuliffe promised that automation would be a cornerstone of the commonwealth's new economy.

"Over the past three years, we've made tremendous progress to support this emerging industry, and we'll continue our efforts to cut red-tape and open the door for further growth," he said in a [release](#) announcing the launch of the Autonomous Systems Center of Excellence (ASCE).

The center will be operated by the **Center for Innovative Technology** (CIT), a nonprofit corporation focused on creating technology-based economic development strategies to accelerate innovation. The ASCE will function as both a development and deployment system of all aspects of the autonomous systems industry. The announcement was made during the Xponential event held by the Association for Unmanned Vehicle Systems International.

The center also will operate as an advocate for the autonomous industry within the state. Virginia has already gotten started in the autonomy sector through its 2013 partnership with the FAA. Per the release, Virginia ranks consistently among the top 10 of states positioned to reap the largest economic benefit from the onset of autonomous technology.

"Virginia has already established itself as a leader in the autonomous systems industry," said Secretary of Technology Karen Jackson in the release. "... It is essential that we create an epicenter that drives collaboration, facilitates information sharing, and provides streamlined access to all of our world-class assets". http://www.govtech.com/fs/Virginia-to-Open-Autonomous-Technology-Center.html?utm_source=SSTI+Weekly+Digest&utm_campaign=c4d9a4f818-EMAIL_CAMPAIGN_2017_05_18&utm_medium=email&utm_term=0_ecf5992d4c-c4d9a4f818-212424957

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DRONES GO TO WORK

The disruptive economics of unmanned vehicles are taking hold. Here's how to think about the drone economy and your place in it. CHRIS ANDERSON Harvard Business Review

Drone economics are classically disruptive. Already drones can accomplish in hours tasks that take people days. They can provide deeply detailed visual data for a tiny fraction of the cost of acquiring the same data by other means. They're becoming crucial in workplace safety, removing people from precarious processes such as cell-tower inspection. And they offer, literally, a new view into business: Their low-overhead perspective is bringing new insights and capabilities to fields and factories alike.

Like any robot, a drone can be autonomous, which means breaking the link between pilot and aircraft. Regulations today require that drones have an “operator” on the ground (even if the operation is just pushing a button on a smartphone and idly watching as the drone does its work). But as drones are getting smarter, regulators are starting to consider flights beyond “visual line of sight” — ones in which onboard sensors and machine vision will more than compensate for the eyes of a human on the ground far away. Once such fully autonomous use is allowed, the historic “one pilot/one aircraft” calculus can become “one operator/many vehicles” or even “no operator/many vehicles.” That’s where the real economic potential of autonomy will kick in: When the marginal cost of scanning the world approaches zero (because robots, not people, are doing the work), we’ll do a lot more of it. Call this the “democratization of earth observation”: a low-cost, high-resolution alternative to satellites. Anytime, anywhere access to the skies. https://hbr.org/cover-story/2017/05/drones-go-to-work?mkt_tok=eyJpIjoiTUdaaFpqWTBOR0U0TWpNeilsInQiOiJPYTd0N01CT2wyZitVTWoycGliWHFmbzByeSsxSzRSR2NoRIY5M2VNeXJCZmFEeEhnRIIXRGU2XC8yYTIwVWVZUZWxuQ1MrQ3NXMFwvWm1iTGQ3S2pKUK1KcENWdlVWVE5cL3lMYVpJdDZuSHNQZnl4YnFrSUdVaWtWSXJTaWc2b1VwNSJ9

NASA Exploring Ways To Integrate UAVs Into US Airspace.

[Air Traffic Management](#) (5/18) reports that the “two notional scenarios NASA is exploring to integrate drones into US airspace include both a portable model that would move between geographical areas and a persistent model that would provide continuous coverage for a specific area.” Air Traffic Management adds that under both models, “operators would use data to make inputs only when initiating, continuing, or terminating a drone flight.”

Amazon Focuses On Developing Air Traffic Control System For UAVs.

[Bloomberg News](#) (5/18) reports that Amazon “said Thursday it has started development of an air traffic control system to manage its fleet as the drones fly from warehouses to customers’ doors.” According to the article, the system, which is being developed near Paris, will focus on “ensuring flying delivery vehicles don’t collide with buildings, trees, other drones or – and most unpredictable of all – birds.”



The article explains that Amazon made the decision to develop its own air traffic control system “after concluding what’s available isn’t adequate for a large fleet of autonomous drones.” The article mentions that in the US, the FAA has put in place rules that restrict drone use in densely populated areas, which may mean “Amazon’s service would be restricted to more rural areas.”

<https://www.bloomberg.com/news/articles/2017-05-18/amazon-s-delivery-drone-research-focuses-on-avoiding-birds>