



## UAS and SmallSat Weekly News

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### Aerospace Sees Opening In Drone Commercial Inspection Services

*A multidisciplinary approach to technological advances in unmanned aircraft systems is a key entree into the growing inspection services market.* Graham Warwick | Sep 28, 2017



**Major industrial companies** are moving into **robotic inspection services**, combining their knowledge of infrastructure maintenance with drones, robots and artificial intelligence (AI) for automating the collection and analysis of data.

Honeywell has launched a commercial inspection service using Intel's Falcon 8+ industrial drone targeted at the utility, energy, infrastructure, and oil and gas industries. The Honeywell InView package includes the drone, pilot app and a web portal to help customers create standardized routines and crisis-response inspections, as well as providing data analytics.

A General Electric startup is taking AI into the field to automate and optimize inspection of industrial assets by drones and robots. Avitas Systems, launched by GE in June, has partnered with computing specialist Nvidia to develop AI for robotic inspection and data analytics.  
[http://www.mro-network.com/technology/aerospace-sees-opening-drone-commercial-inspection-services?NL=AW-05&Issue=AW-05\\_20170929\\_AW-05\\_352&sfvc4enews=42&cl=article\\_4&utm\\_rid=CPEN1000003332045&utm\\_campaign=11934&utm\\_medium=email&elq2=8395e2206bad4c45aadfae174255d337](http://www.mro-network.com/technology/aerospace-sees-opening-drone-commercial-inspection-services?NL=AW-05&Issue=AW-05_20170929_AW-05_352&sfvc4enews=42&cl=article_4&utm_rid=CPEN1000003332045&utm_campaign=11934&utm_medium=email&elq2=8395e2206bad4c45aadfae174255d337)

**'Helicopter With Wings' Aims For Surveillance Market** *Sep 22, 2017* William Garvey | *Aviation Week & Space Technology*

### Drone Competition?

Designed for seeing rather than being seen, the aircraft is as practical as its visage is, well, unusual. The two-place pusher has a wraparound windscreen reminiscent of the Bell 47 and large side windows. The high wing gives those within unobstructed views of what's below. A taildragger, it can operate out of small, unimproved fields. Intended to linger, it stalls at 58 kt and **can remain aloft for 5.5 hrs.**



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Seems like it's just the thing for pipeline, power line or border patrols as well as search and rescue, airborne law enforcement, special ops, wildlife protection and a host of other missions.

Clever design, but hardly new. In fact, the Seeker is 25 years old.

**Priced at \$449,500** for the A and \$484,500 for the A2, Lundeen says operators get a lot for their money, noting that "the ISR package costs more than the aircraft."

As for competition from commercial **drones**, he believes those aircraft **present little threat** since they have limited range, short endurance and heavy airspace restrictions and pose privacy concerns—not to mention that their operators have only screen views of what the airborne sensors or cameras see. Seeker crews, by comparison, can fly pretty much anywhere, operate up to 15,000 ft., adapt to changing conditions, sightings and opportunities, and track for hundreds of miles, then land, refuel and continue. [http://aviationweek.com/business-aviation/helicopter-wings-aims-surveillance-market?NL=AW-05&Issue=AW-05\\_20170929\\_AW-05\\_352&sfvc4enews=42&cl=article\\_5\\_2&utm\\_rid=CPEN1000003332045&utm\\_campaign=11934&utm\\_medium=email&elq2=8395e2206bad4c45aadfae174255d337](http://aviationweek.com/business-aviation/helicopter-wings-aims-surveillance-market?NL=AW-05&Issue=AW-05_20170929_AW-05_352&sfvc4enews=42&cl=article_5_2&utm_rid=CPEN1000003332045&utm_campaign=11934&utm_medium=email&elq2=8395e2206bad4c45aadfae174255d337)

**Passenger Drone lives up to its name with manned flight** Mallory Locklear,  
@mallorylocklear in Transportation

The company plans to start producing passenger drones in 2018.



There are quite a [few companies](#) working on developing drones for human transportation, but a new one has just jumped into the fray. With an almost fully developed prototype and plans to start producing them commercially next year, the aptly named [Passenger Drone](#) introduced itself by showing off a **manned flight on its first prototype.**

The company has been quietly working on its tech for the last three years and it has produced a lightweight, car-sized drone that can fly autonomously, be maneuvered remotely or be controlled manually. It's lifted by 16 rotors and produces zero emissions. Passenger Drone says it plans to build five more prototypes and log over 1000 hours of flight time before proceeding with commercial production.



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While Passenger Drone's rig may be inching close to real life flights, it's entering a [crowded field](#). Companies like [EHang](#), [Airbus](#) and Volocopter are just a few of the groups working on their own models and Volocopter's drone took its [maiden test flight](#) earlier this month. <https://www.engadget.com/2017/09/29/passenger-drone-manned-flight/>

30Sep17

### **Bold Eagles: Angry Birds Are Ripping \$80,000 Drones Out of the Sky** Mike Cherney

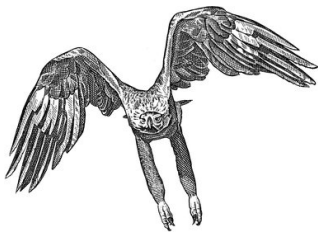
Sept. 29, 2017

Australia's wedge-tailed eagle uses sharp talons, crack aerial combat skills to attack and destroy pricey flying machines



*Daniel Parfitt's crashed \$80,000 drone after an attack by a wedge-tailed eagle. PHOTO:TOM LAW*

SYDNEY— Daniel Parfitt thought he'd found the perfect drone for a two-day mapping job in a remote patch of the Australian Outback. The roughly \$80,000 machine had a wingspan of 7 feet and resembled a stealth bomber. There was just one problem. His machine raised the hackles of one prominent local resident: a wedge-tailed eagle.



#### *Wedge-tailed eagle*

Swooping down from above, the eagle used its talons to punch a hole in the carbon fiber and Kevlar fuselage of Mr. Parfitt's drone, which lost control and plummeted to the ground.

"I had 15 minutes to go on my last flight on my last day, and one of these wedge-tailed eagles just dive-bombed the drone and **punched it out of the sky**," said Mr. Parfitt, who believed the drone was too big for a bird to damage. "It ended up being a pile of splinters."

Weighing up to nine pounds with a wingspan that can approach eight feet, the wedge-tailed eagle is Australia's largest bird of prey. <https://www.wsj.com/articles/bold-eagles-angry-birds-are-ripping-80-000-drones-out-of-the-sky-1506701429?tesla=y>



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**Clearing an accident scene could soon be a lot faster for state troopers. Here's why.** RICHARD STRADLING [rstradling@newsobserver.com](mailto:rstradling@newsobserver.com) SEPTEMBER 29, 2017 RALEIGH

When a big accident closes the highway, it can take state troopers hours to make the measurements and take the pictures they'll need to determine what happened. Meanwhile, the crashed vehicles sit in the roadway in front of a line of exasperated drivers.

Now the State Highway Patrol says it can use drones to document and reconstruct serious accidents. The drones can make 3-D images of crash scenes, just like the laser systems that troopers use now on tripods. But drones can take aerial images the troopers can't. Plus, the drones do all of it much faster.

**"What used to take hours can now be done in minutes,"** said Trooper Dan Souther, a member of the Highway Patrol's Collision Reconstruction Unit. The 21 troopers in the crash reconstruction unit investigate about 200 high-profile crashes in the state a year, working out of five offices across the state. <http://www.newsobserver.com/news/traffic/article176136516.html>

**20Oct17**

**EasyJet to roll out drone inspections from 2018** 29 SEPTEMBER, 2017, FLIGHT DASHBOARD, DOMINIC PERRY, LONDON

London Gatwick airport could in 2018 see a flurry of drone activity, with both the facility's operator and low-cost carrier EasyJet looking to employ unmanned air vehicles for inspection tasks.

EasyJet has for several years been trialling the use of UAVs, in conjunction with UK firm Blue Bear Systems, to perform **aircraft inspections to check for damage following events such as lightning strikes.**

In 2018 it will roll out the system to its two UK maintenance hangars at London airports Gatwick and Luton, he says, following initial trials conducted with the UK Civil Aviation Authority.

Meanwhile, London Gatwick's operator is to begin trials of UAVs designed to perform **runway inspections** in the first half of 2018. "They can perform inspections better than any human eye," he says. "Drones are exciting for us." <https://www.flightglobal.com/news/articles/easyjet-to-roll-out-drone-inspections-from-2018-441652/>





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### SESAR JU Takes on Drone Integration With New Projects S.L. Fuller | September 29, 2017



The Single European Sky ATM Research (SESAR) Joint Undertaking (JU) is progressing toward the realization of the **European Commission's** U-space initiative for **airspace integration of unmanned aircraft systems**, SESAR said. The organization has launched [a series of exploratory projects](#) with more than \$10 million earmarked from the European Union's Horizon 2020

budget.

These projects would run for two years. SESAR said they aim to address issues impacting drone operations and remotely piloted aircraft systems at low levels. This includes beyond-line-of-sight operations and VFR environments.

"Through these projects, the SESAR JU brings together established aviation stakeholders, academia and new entrants into the sector as well as stakeholders from other industries, such as those from the mobile communications industry," SESAR said. "Together they will blend their expertise to perform extensive research and demonstrations on this exciting new area of air traffic management." <http://www.aviationtoday.com/2017/09/29/sesar-takes-drone-integration-new-projects/>

### NASA agrees to boost drone research in upstate New York Thursday, September 28, 2017



ALBANY, N.Y. (AP) — NASA has agreed to work with drone researchers in central New York, a partnership that state leaders say could help make the area a global leader in the emerging industry. Gov. Andrew Cuomo and U.S. Sen. Charles Schumer announced NASA's involvement on Thursday. The two

Democrats hailed the agreement, calling it great news for efforts to spur the upstate economy.

Specifically, NASA will work with an alliance of drone researchers on **a drone testing facility and plans for a 50-mile (80-kilometer) air test corridor between Syracuse and Rome**. The state has invested \$30 million in the test corridor and another \$10 million on a technology competition involving drone technology. <http://www.chron.com/news/article/NASA-agrees-to-boost-drone-research-in-upstate-12239706.php>



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### Don't fly your drone near these US landmarks, FAA warns DAVID KRAVETS - 10/1/2017



The Federal Aviation Administration is issuing **new drone-flight rules** that outlaw flying unmanned hobby aircraft within 400 feet of several US landmarks, including the Statue of Liberty.

The FAA [said](#) it issued the new rules, which include "potential civil penalties and criminal charges," at "the request of US national security and law enforcement agencies." The new rules take effect October 5. Here are the landmarks at issue:

- Statue of Liberty National Monument, New York
- Boston National Historical Park (USS *Constitution*), Boston
- Independence National Historical Park, Philadelphia
- Folsom Dam, Folsom, California
- Glen Canyon Dam, Lake Powell, Arizona
- Grand Coulee Dam, Grand Coulee, Washington State
- Hoover Dam, Boulder City, Nevada
- Jefferson National Expansion Memorial, St. Louis
- Mount Rushmore National Memorial, South Dakota
- Shasta Dam, Shasta Lake, California

The FAA has also issued similar guidelines around US military bases, and it has already barred drone flying with National Parks, where some of these monuments are located. The FAA said it was "considering additional requests" from other federal agencies about barring drones flying near other locations. <https://arstechnica.com/tech-policy/2017/10/psa-aviation-regulators-ban-drone-flights-near-major-us-landmarks/>

### The security threat we've been ignoring: Terrorist drones David Von

Drehle Columnist September 29



Two years ago, you would have had a tough time getting a meeting with a junior staffer in Washington to discuss the subject. A year ago, people had begun furrowing brows. Now, this is Topic A for an entire "community of experts that has emerged inside the federal government," as National Counterterrorism Center chief Nicholas Rasmussen told a panel of senators Wednesday. "It's a real problem," he said.



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How real? Islamic State fighters in Iraq and Syria, using off-the-shelf aircraft modified to drop grenades, have repeatedly menaced U.S. Special Operations forces. If they can do it in Raqqa, surely someone will try to do it here.

FBI Director [Christopher A. Wray](#), testifying to the same panel, said **the threat is palpable and immediate**: "The expectation is it's coming here imminently." Drones are "relatively easy to acquire, relatively easy to operate, and quite difficult to disrupt and monitor."

[https://www.washingtonpost.com/opinions/the-security-threat-were-ignoring-terrorist-drones/2017/09/29/3fbd1374-a51f-11e7-b14f-f41773cd5a14\\_story.html](https://www.washingtonpost.com/opinions/the-security-threat-were-ignoring-terrorist-drones/2017/09/29/3fbd1374-a51f-11e7-b14f-f41773cd5a14_story.html)

**"Every Kid Loves Planes And Rockets, Right?"** DEBRA WERNER | OCTOBER 2017

ERNEST EARON, 41, CO-FOUNDER OF AND CHIEF TECHNOLOGY OFFICER AT PRECISIONHAWK

IMAGINE THE WORLD IN 2050. WHAT DO YOU THINK WILL BE HAPPENING IN AVIATION?

I think that while the basics of the [drone] technology will be similar to what we've come to expect now, their use and ubiquity will be world-changing. **Drones and autonomous flying machines will be used everywhere** from applications like bridge inspection and delivery that we are aware of now, through to applications that we haven't even begun to contemplate yet. The technology will move people as well as goods around. With better and cheaper electronics, computers, batteries, materials and manufacturing, we'll be seeing personal aircraft everywhere alongside flying delivery, repair, inspection, herding and monitoring drones. All of this will turn the airspace, and the regulatory environment around it, on its head. Conveniently, people are starting to think about that now. So while I think there will be huge changes and disruption for the better across multiple industries as well as aerospace, it will be as chaotic as it often is with these kinds of innovations. <https://aerospaceamerica.aiaa.org/departments/every-kid-loves-planes-and-rockets-right/>

**Drone companies team up to service North Dakota oil patch** *The Associated Press*

OCTOBER 01, 2017, MINOT, N.D.

*A Norway-based manufacturer and a Scandinavian technology company have been teaming up with a North Dakota drone operation to service the region's utility and oil and gas customers.*



Robot Aviation, a manufacturing company based in **Poland**, and eSmart, a software company founded in **Norway**, are partnering with SkySkopes, a Grand Forks drone-piloting company that recently opened an office in **Minot**. The three businesses are aiming to provide

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customers with the hardware, software and operators to deliver unmanned aerial technology, the Minot Daily News reported.

ESmart has developed software to analyze data collection from unmanned aerial systems. The company joined forces with SkySkopes after Hurricane Irma in Florida to do damage assessments in the Jacksonville area for JEA, the eighth largest municipal electric company in the country and largest in the state of Florida. JEA spokeswoman Gerri Boyce said the drones were able to assess the damage in 24 hours when it normally takes many days.

<http://www.theolympian.com/news/business/article176443311.html>

### Mercedes trials van-drone delivery combo in Switzerland Nick Lavars [12 PICTURES](#)



Mercedes kicked off trials of its drone-van delivery service last week. While plenty see drones replacing certain delivery methods, the idea that **they could simply complement them** is also beginning to gather some momentum. Mercedes-Benz flagged its intentions in this area last year when it unveiled a [concept van](#) that incorporates delivery drones to

handle some legs of a journey, and has now taken another step forward by kicking off trials of the technology in Switzerland.

So rather than the drones carrying out the final leg of the journey, they will instead bring items ordered by siroop customers from the merchant's warehouses to the Vito vans parked at one of four pre-defined "rendezvous points" around the city of Zurich. There, the driver collects the package and completes the last-mile of delivery as normal, while the drone returns to the warehouse.



"We believe that drone-enabled logistics networks will transform how we access goods every day – we will be able to order something online, and like magic, receive it within minutes, for a fraction of the cost and energy expended today," says Andreas Raptopoulos, Founder and CEO of Matternet. "Switzerland is at the forefront of this technological

revolution. <http://newatlas.com/mercedes-delivery-van-drone-switzerland/51569/>



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### Crisis Response Lessons Learned



After sending crisis response teams to two separate hurricane response efforts in Texas and Florida, HAZON Solutions has taken a brief operational pause to reconstitute our teams and **catalog our lessons learned**.

Unmanned aircraft can add immense value in any number of crisis scenarios; they are also equally capable of hampering response efforts and creating additional safety concerns. That means pre-response preparations, coordination with the appropriate authorities, having standards and processes in place to ensure your teams operate safely and at a high level and communicating effectively.

- Safety is still priority number one. Any procedure that affects safety cannot be shortened, eliminated or deviated from without a thorough risk analysis.
- Utilizing procedures in your daily operations enables effective crisis response. Every drone operation should have standard operating procedures.
- Early preparation and routine practice are the keys to success. Equipment should be maintained to the highest standards to ensure reliability and aircrew must be trained to ensure proficiency.
- Slow down to speed up. This goes for everything: pack-out, driving to the site, setup, and UAS operations.
- Stay within your comfort/safe zone. There is no way to fully prepare for every situation or new use case that will be discovered during disaster response.
- Unmanned doesn't mean unmanned. Men and women still operate the "unmanned systems" we all call drones. The operator should pass a thorough "pre-flight checklist" that includes proper training, rest, nutrition/hydration, proficiency, experience and maturity to operate in a crisis response situation.

We at HAZON hope to **foster a sense of community** within the unmanned aviation business, a community that is interested in the advancement of all participants. We must come together, pass information, collaborate where possible and learn from each other. In doing so, the tide



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will rise and with it so will our individual ships. <http://hazonsolutions.com/news/55-crisis-response-lessons-learned>

### DJI Launches Privacy Mode For Drone Operators To Fly Without Data Transfer

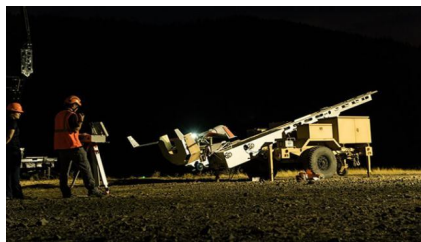
DJI today launched a new Local Data Mode that stops internet traffic to and from its DJI Pilot app, in order to provide enhanced data privacy assurances for sensitive government and enterprise customers. When an operator activates Local Data Mode, **the app will stop sending or receiving any data over the internet**. This adds an additional layer of security for operators of flights involving critical infrastructure, governmental projects or other sensitive missions.

"We are creating Local Data Mode to address the needs of our enterprise customers, including public and private organizations that are using DJI technology to perform sensitive operations around the world," said Brendan Schulman, DJI's Vice President of Policy and Legal Affairs. "DJI is committed to protecting the privacy of its customers' photos, videos and flight logs. Local Data Mode will provide added assurances for customers with heightened data security needs."

[http://uasweekly.com/2017/10/02/dji-launches-privacy-mode-drone-operators-fly-without-data-transfer/?utm\\_medium=push\\_notification&utm\\_source=rss&utm\\_campaign=rss\\_pushcrew](http://uasweekly.com/2017/10/02/dji-launches-privacy-mode-drone-operators-fly-without-data-transfer/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew)

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### Insitu Demonstrates Revolutionary UAV Integrated With Systems for Fighting Wildfires October 3, 2017 Mapping and Surveying | News



Insitu, a wholly-owned subsidiary of The Boeing Company, together with Esri successfully completed test flights on a new way to support firefighting efforts using software for firefighters and first responders. The flights were held at the Warm Springs, Oregon, Federal Aviation Administration (FAA) Unmanned Aerial System (UAS) Test Range.

Insitu deployed its INEXA™ **remote sensing teams to aid firefighters** in suppressing the Eagle Creek fire In Oregon. Coordinating with the Oregon Department of Forestry, Insitu's ScanEagle system provided near real-time data for firefighters and first responders. Equipped with electro-optical (EO), in daylight, infrared (IR) video for nighttime flights, and mid-wave sensors, the ScanEagle surveyed fire lines at night over the Eagle Creek wildfire, which had spread to nearly 49,000 acres throughout the Columbia River Gorge region.



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[http://uasweekly.com/2017/10/03/insitu-demonstrates-revolutionary-uav-integrated-systems-fighting-wildfires/?utm\\_medium=push\\_notification&utm\\_source=rss&utm\\_campaign=rss\\_pushcrew](http://uasweekly.com/2017/10/03/insitu-demonstrates-revolutionary-uav-integrated-systems-fighting-wildfires/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew)

**DARPA and AFRL take laser aim at small UAVs** 03 OCTOBER, 2017 FLIGHTGLOBAL.COM  
LEIGH GIANGRECO WASHINGTON DC

The US Air Force and the Defense Advanced Research Projects Agency (DARPA) are ramping up their efforts to thwart small unmanned air vehicles (UAVs), with two recent requests out **looking for sensors and lasers to shoot down or disable them.**

Today, US convoys are not only threatened by roadside bombs, but growing swarms of small, cheap, commercial UAVs that neither rely on GPS or radio receivers to operate. As part of DARPA's Mobile Force Protection, the agency is developing an integrated system that could sense and "neutralise" self-guided small UAVs. The system would fit on humvees and the US Coast Guard's Defender class boats, with the ability to detect and defeat groups of UAVs at least 1km away.

Meanwhile, the US Air Force Research Laboratory is gearing up for a demonstration using directed energy technology to counter group one and two UAVs. Like DARPA, the USAF would kick off the demo in fiscal year 2018. The USAF is considering both high powered microwaves and laser weapon systems that could find, fix and target single or multiple UAVs, according to the 15 September request for information. <https://www.flightglobal.com/news/articles/darpa-and-afri-take-laser-aim-at-small-uavs-441724/>

**Drone breach at Michigan prison went undetected for 2 months** Associated  
Press October 2

LANSING, Mich. — A State Police report says a drone that sneaked contraband into a Michigan prison in May went undetected for nearly two months.

Michigan Department of Corrections spokesman Chris Gautz said video surveillance shows that inmates at Richard A. Handlon Correctional Facility received two packages dropped by a drone May 29. Prison officials suspect the packages contained cellphones that were found inside the prison in July.

The report, which was obtained by the Detroit News through a Freedom of Information Act request, said a third package containing phones, tobacco and marijuana was delivered that day, but prison officials recovered it.



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"A source inside the prison informed MDOC staff that it was the result of an unsuccessful drone delivery," according to the report by State Police Detective Sgt. Christian Clute. "It was later learned that **two packages were successfully delivered** (confirmed through video) to prisoners via drone. After the successful drone delivery, two phones were found inside the facility on prisoners." [https://www.washingtonpost.com/national/drone-breach-at-michigan-prison-went-undetected-for-2-months/2017/10/02/058dc090-a786-11e7-9a98-07140d2eed02\\_story.html](https://www.washingtonpost.com/national/drone-breach-at-michigan-prison-went-undetected-for-2-months/2017/10/02/058dc090-a786-11e7-9a98-07140d2eed02_story.html)

### **New Adaptable UAV Concept Switches Between Fixed-Wing and Rotary Flight** 02

Oct 2017 | Caroline Rees



[BAE Systems](#) has announced that, together with students from [Cranfield University](#), it has revealed a new technology concept – named **Adaptable UAVs** – which can alternate between fixed-wing and rotary-wing flight modes in the same mission. When in rotary wing mode the UAVs can be launched and recovered from battlefields and docked on a

special pole.

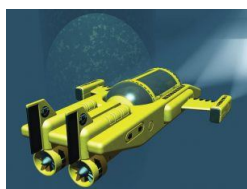
The Adaptable UAVs are a hybrid between fixed and rotary-wing aircraft, and would use adaptive flight control and advanced navigation and guidance software, which would allow the aircraft to benefit from the greater speed and range afforded to fixed-wing aircraft, before alternating to rotary-wing mode to hover and achieve vertical take-off and landing.

The pole constrains the lateral or sideways movement of the UAV when being launched or recovered so strong winds cannot dislodge them and avoids any damage to personnel nearby. The pole's gyro-stabilised element also ensures that it remains upright independently of the host vehicle's orientation, which may be rolling if on a ship, or in the case of a land vehicle driving up or down a slope at the time of the launch or recovery.

<http://www.unmannedsystemstechnology.com/2017/10/new-adaptable-uav-concept-switches-fixed-wing-rotary-flight/>

### **Honeywell Develops MEMS IMUs for Unmanned Vehicles** 02 Oct 2017 | Caroline

Rees



[Honeywell](#) has partnered with Unmanned Systems Technology. The 'Platinum' incorporates Honeywell's Micro-Electro-Mechanical System (MEMS) Inertial Measurement Units (IMUs) as motion-sensing solutions.

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The [HG1120 and HG4930](#) IMUs employ advanced MEMS gyroscopes and accelerometers (as well as magnetometers in the HG1120) to meet a broad range of application such as precision agriculture, surveying and mapping, platform stabilization, navigation, and motion compensation. Both systems feature an internal environmental isolation system designed to **attenuate unwanted inputs** commonly encountered in real-world applications. The small footprint of these IMUs make them ideal for space-constrained unmanned vehicle applications. <http://www.unmannedsystemstechnology.com/2017/10/honeywell-develops-mems-inertial-measurement-units-unmanned-vehicles/>

### **LiDAR-Equipped Hybrid Long Distance UAV Unveiled** 30 Sep 2017 | Caroline Rees



[Phoenix LiDAR Systems](#) and [JOUAV](#) have announced the TerraHawk CW-30. The new aircraft was unveiled at the InterGeo tradeshow in Berlin.

Hybrid VTOL / fixed-wing UAV technology combines the vertical takeoff & landing (VTOL) capabilities of a multirotor aircraft with the efficiency, speed, and flight endurance of a fixed-wing aircraft.

The TerraHawk CW-30 comes with the Phoenix LiDAR Systems Ranger-LR-T, a complete LiDAR + Camera mapping system. This solution provides both LiDAR point clouds and ortho imagery. The Ranger LR-T will map up to 52 km<sup>2</sup> in a single flight, with resolution down to 2cm and **flight endurance of up to 120 minutes**. The system permits transport/operation by two technicians and is flight-ready in 15 minutes. <http://www.unmannedsystemstechnology.com/2017/09/phoenix-lidar-jouav-announce-hybrid-long-distance-lidar-mapping-uav/>

### **New York Agency Touts Progress Using Drones For Conservation, Emergency Response Work** GORDON BLOCK, WATERTOWN DAILY TIMES / OCTOBER 2, 2017

*The New York Department of Environment and Conservation commissioner cites drone usage behind more efficient work and the ability to **save taxpayer dollars**.*



(TNS) -- Officials with the New York Department of Environmental Conservation are touting their efforts to use drones as a part of their environmental management and emergency response efforts.

The department's 22-drone fleet is used for a variety of





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purposes across the state.

In St. Lawrence County, drones are used for mapping of phragmites, an exotic invasive plant, at the Wilson Hill Wildlife Management Area. They were also used to map a two-mile stretch of eroded coastline on Lake Ontario, assessing damage and confirming properties on a dune system were safe - allowing them to avoid weeks of on-the-ground surveys.

Other uses include oil spill monitoring, bat cave surveying, traffic monitoring at the state fair and conducting search and rescue following natural disasters in Texas and Puerto Rico.

<http://www.govtech.com/news/NY-Agency-Touts-Progress-Using-Drones-For-Conservation-Emergency-Response-Work.html>

### **VIRGINIA GOVERNOR TERRY MCAULIFFE OPERATES UNMANNED SYSTEMS IN THREE DOMAINS** AUVSI NEWS SEP 28, 2017

During a technology demonstration at the Mid-Atlantic Regional Unmanned Aircraft Systems (MARUAS) Airfield at NASA's Wallops Flight Facility in coastal Virginia, Virginia Governor Terry McAuliffe operated unmanned systems in three domains—air, land, and sea.

The demonstration showcased how **unmanned systems are being used by scientists** to study the effects of major storms and sea-level rise on barrier-island dynamics, in an effort to form policies for coastal resilience.

“By combining unmanned systems across all three domains we are collecting data that will provide greater insight into our coastline, demonstrating the transformative nature of these technologies, and highlighting the capabilities of this uniquely situated facility at Wallops,” [Governor McAuliffe says](http://www.auvsi.org/industry-news/virginia-governor-terry-mcauliffe-operates-unmanned-systems-three-domains). <http://www.auvsi.org/industry-news/virginia-governor-terry-mcauliffe-operates-unmanned-systems-three-domains>

### **Pacific Drone Challenge lays down 4,500-mile gauntlet across the open ocean**

Nick Lavars

*The Pacific Drone Challenge is looking for the first commercial drone to cross the Pacific from Japan to Silicon Valley*



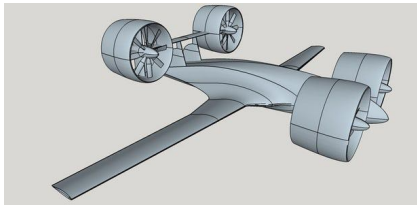
Around 4,500 miles (7,300 km) separate the Pacific coasts of Japan and Silicon Valley, a distance beyond the reach of current non-military drones. But a new event called the Pacific Drone Challenge **has thrown down the gauntlet** to those in the business



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of driving the technology forward, tasking competing teams with making the massive crossing using an unmanned aircraft without stopping to re-fuel.

One of the teams already signed up for the challenge, Silicon Valley's Sabrewing Aircraft Company, is building a fixed-wing quad-rotor drone designed to take off from a standard runway and use 24 electric motors to cover as much as 8,800 km (5,500 mi). The company expects the journey across the Pacific to take 45 to 50 hours.



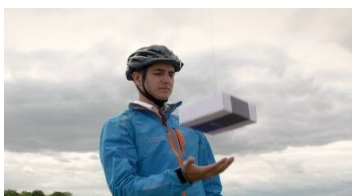
"We've been working on a heavy-lift, mid-altitude, long-endurance unmanned aircraft system for several years," said Ed De Reyes, the Chief Operating Officer of Sabrewing Aircraft. "This race gives us the ability to demonstrate our system ... and to make some history as well."

Sabrewing Aircraft will be pitting its technology against that of Japanese company iRobotics, which is holding its cards a [little closer to its chest](#). As it stands, those two are the only competing teams, although the competition is open to anyone and there is no deadline, the winner will simply be anybody who can make the crossing first. <http://newatlas.com/pacific-drone-challenge/51583/>

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**DelivAir uses drones to deliver to people, not physical addresses** Rachel England, @rachel\_england

*The service neatly places your package in your hands, wherever you are.*



Drone deliveries have been in the pipeline for some time, and while Amazon is pioneering the cause, (although Rival 7-Eleven has [completed](#) nearly 100 aerial deliveries to date), its model is still somewhat encumbered by factors at odds with the advantages drone delivery technically offers. Recipients need to be present at an address. Cambridge Consultants has developed a drone delivery system that'll get you your stuff **anytime, anywhere, in a matter of minutes**.

Let's imagine you're out having a nice walk in the middle of the countryside when you start feeling peckish. Using [Cambridge Consultants'](#) DelivAir app, you'd place an order for a snack, and the delivering drone would use GPS and your smartphone signal to navigate to your location, periodically asking for location updates during its flight, until it's within visual range.

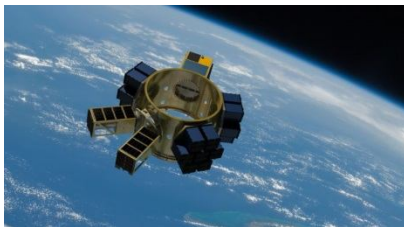


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Once it arrives, you point your mobile phone flash LED to the sky, where it'll blink a coded pattern to let the drone know it's delivering to the right person. Then, while staying a safe height above the ground, the drone lowers the package into your very hands using a stabilising winch, which you then unhook. The drone then makes its merry way back to base.

There are multiple applications for this type of service. It could be used to take a puncture repair kit to a stranded cyclist, or essential supplies to remote areas as part of [disaster relief](#) efforts. There's life-saving potential, too; DelivAir could swiftly get EpiPens or defibrillators to people in urgent need. "Drone delivery is fast and ideal for something that is needed immediately. In that case, a consumer wants a delivery directly to them as a person – not to a location," said Nathan Wrench, head of the industrial and energy business at Cambridge Consultants. "Our DelivAir concept has the potential to revolutionize the delivery process, by removing the address restriction that other drone technologies are limited by." <https://www.engadget.com/2017/10/04/delivair-uses-drones-to-deliver-to-people-not-physical-address/>

### **NASA launching up to 72 smallsats with Spaceflight for \$5.5 million** Caleb Henry — October 3, 2017



WASHINGTON — NASA signed its first contract with small satellite rideshare company Spaceflight to launch as many as 72 cubesats between now and 2020 for a total price of up to \$5.5 million.

Specifically, the contract enables the launch of 72 "units," which typically measure 10 centimeters in length, width and height, and have a mass of around 1.33 kilograms. These units are often assembled in groups to form larger cubesats, such as the 3U cubesats Spire and Planet use, or the 6U Arkyd satellites of Planetary Resources.

Seattle-based Spaceflight provides rideshare opportunities on U.S. rockets from SpaceX, Orbital ATK and Rocket Lab, as well as India's Polar Satellite Launch Vehicle, Russia's Soyuz and the Russian-Ukrainian Dnepr. NASA's launch policy, however, will restrict the 72U to ride solely on American rockets. Spaceflight's contract allots up to **24U of launch capacity per year** for three years starting in 2018. NASA's Kennedy Space Center entered the contract for launch and integration services. <http://spacenews.com/nasa-launching-up-to-72-smallsats-with-spaceflight-for-5-5-million/>



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### **Civilian oversight panel hears guidelines for LAPD use of drones** Makeda

Easter and Kate MatherContact Reporter

The [Los Angeles Police Department](#) released formal guidelines on its proposal to fly drones during a one-year pilot program, spurring questions and concerns among members of a civilian oversight panel and the public at **a contentious meeting** Tuesday.

“Our challenge is to create a policy that strikes a balance, that promotes public safety, the safety of our officers and does not infringe on individual privacy rights,” Assistant Chief Beatrice Girmala told the Los Angeles Police Commission at the packed meeting.

Before outlining the guidelines, Girmala reviewed initial feedback from the community on the proposed drone initiative. Of 1,675 emails, only about 6% were positive and encouraged the LAPD to incorporate the new technology.

If approved, drones— referred to by the LAPD as small Unmanned Aerial System — will be flown only during specific incidents involving barricaded suspects, active shooters, potential explosives, hostages, natural disasters, hazardous materials, search and rescue operations, and in searches for armed criminals. <http://www.latimes.com/local/lanow/la-me-ln-lapd-drones-20171002-story.html>

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### **EagleView Receives Patent for New Drone Property Inspection Process** October 5,

2017 Mapping and Surveying | News



Eagle View Technologies has won a patent for property inspection using an unmanned aerial system (UAS), or drone. EagleView’s new technology automatically generates a flight path around a structure to capture imagery and data using the drone. The flight path is defined based on the characteristics of the drone camera and the known outline and height of the structure. **A pilot is not needed** to create the flight path.

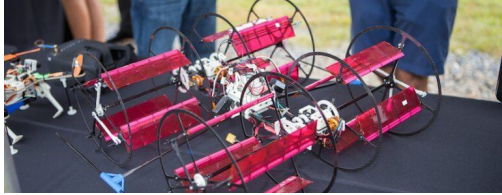
Earlier this year, EagleView introduced EagleView OnSite™. The solution brings property data and imagery from multiple camera sources, including drones, directly to an insurance claims adjuster’s desk. Through the EagleView OnSite Solutions™ network, a field representative is assigned to capture imagery of the property by drone. That imagery, combined with EagleView’s newly acquired machine learning technology, can identify damage and other anomalies on properties before and after the claim event.



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[http://uasweekly.com/2017/10/05/eagleview-receives-patent-new-drone-property-inspection-process/?utm\\_medium=push\\_notification&utm\\_source=rss&utm\\_campaign=rss\\_pushcrew](http://uasweekly.com/2017/10/05/eagleview-receives-patent-new-drone-property-inspection-process/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew)

### **First University Outdoor Flight Lab Now At University of Maryland** Jackson Schroeder



The University of Maryland A. James Clark School of Engineering recently opened [Fearless Flight Facility](#), the university outdoor flight laboratory that could stem innovation in flight control, sensing, autonomy, collaboration, and unmanned aircraft system testing.

The new facility is just a short drive away from the main College Park campus in the university's Discovery District, and serves as **the only university outdoor flight laboratory for UAS testing in the D.C.-Maryland-Virginia region.**

Before the opening of this new outdoor facility, student and faculty researchers were limited to testing in an indoor lab or had to forego testing. Now, researchers are able to test their drones in the 100-foot wide, 300-foot long, and 50-foot high facility.

The restriction does not apply to the new facility, however, as it is confined by a black polyester string netting and is considered an indoor facility. This allows researchers to legally test their aircraft systems in real wind and weather conditions. <https://www.tun.com/blog/flight-lab-university-of-maryland/>

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### **Boeing Deal Targets Flying Taxis**

*Proposed acquisition of Aurora Flight Sciences could pave way for fleets of pilotless flying taxis*



Uber selected the Aurora eVTOL to explore potential flying taxis, with 50 due to be delivered by 2020. PHOTO: AURORA FLIGHT SCIENCES

By Doug Cameron Updated Oct. 5, 2017



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[Boeing](#) Co. [BA 1.22%](#) on Thursday said it plans to acquire Aurora Flight Sciences Corp., a maker of aerial drones and pilotless flying systems in a move the company said could pave the way for fleets of small flying taxis.

**Virginia-based Aurora** is a specialist in autonomous systems that allow military and commercial aircraft to be flown remotely, including technology that automates many functions, and has been working with Uber Technologies Inc. on a new vehicle that would take off and land like a helicopter.

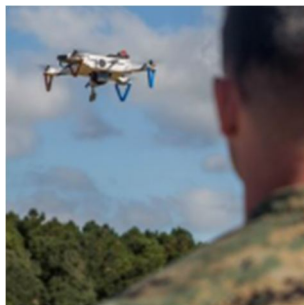
The proposed Aurora deal marks Boeing's second acquisition in less than a year involving autonomous systems [following last December's purchase](#) of Liquid Robotics Inc., a maker of ships and undersea vehicles, and adds to a portfolio that includes aerial drone maker Insitu. <https://www.wsj.com/articles/boeing-buying-drone-maker-aurora-flight-services-1507208375>

**Also**, see **Boeing Buys Aurora Flight Sciences, Extending Autonomy Innovation** Oct 5, 2017  
Graham Warwick | *Aviation Week & Space Technology*



[http://aviationweek.com/technology/boeing-buys-aurora-flight-sciences-extending-autonomy-innovation?NL=AW-05&Issue=AW-05\\_20171006\\_AW-05\\_40&sfvc4enews=42&cl=article\\_5\\_1&utm\\_rid=CPEN1000003332045&utm\\_campaign=12038&utm\\_medium=email&elq2=22a04342d1504153bc7226f1bf07e2e0](http://aviationweek.com/technology/boeing-buys-aurora-flight-sciences-extending-autonomy-innovation?NL=AW-05&Issue=AW-05_20171006_AW-05_40&sfvc4enews=42&cl=article_5_1&utm_rid=CPEN1000003332045&utm_campaign=12038&utm_medium=email&elq2=22a04342d1504153bc7226f1bf07e2e0)

## Army, Marine Corps Demo 3D-Printed Small UAS Nichols Martin October 5, 2017



The [U.S. Army](#) and [Marine Corps](#) have tested a remote-controlled small unmanned aerial system that was manufactured through the use of three-dimensional printing technology.

USMC [said Tuesday](#) the Army Research Laboratory brought together Marines from various military occupational specialties **to demonstrate the functionality** of the SUAS platform.

"At this point we are focusing on intelligence, surveillance and reconnaissance missions," said Eric Spero, a team leader in ARL's vehicle technology directorate. He added the SUAS is designed to employ multiple camera systems such as infrared and daytime cameras.





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Additive manufacturing techniques can work to help manufacturers construct and set up SUAS within a 24-hour period, USMC added. <http://www.executivegov.com/2017/10/army-marine-corps-demo-3d-printed-small-uas/>

**Boeing Subsidiary Tests GIS-Equipped UAV for Firefighting** Anna Forrester October 5, 2017



TYSONS CORNER, VA, Oct. 5, 2017 — [Boeing](#)'s (NYSE: BA) Insitu subsidiary has partnered with Esri to demonstrate an unmanned aerial vehicle with a geographic information system for potential use during firefighting missions, ExecutiveBiz [reported Wednesday](#).

Insitu [said Tuesday](#) the team **held test flights** of the *ScanEagle* UAV at the [Federal Aviation Administration](#)-designated unmanned aircraft system test range in Warm Springs, Oregon. <https://www.govconwire.com/2017/10/boeing-subsidiary-tests-gis-equipped-uav-for-firefighting/>