UAS and SmallSat Weekly News

Contents

2 DJI-sponsored group unites the drone industry to give pilots a voice
2 Origami and Bio-Inspired Drone Bends Frames During Crash to Avoid Damage
3 ANSI opens registration for unmanned aerial systems meeting
4 PrecisionHawk inks partnership contract to take business to new heights
4 Global UAV accelerates technology development with 4G mission cellular network
5 DARPA Picks Silent Falcon for Power Beaming Demo
5 New York state Griffiss airport receives extra funds for UTM research
6 redUAS to develop C-UAS training for emergency responders via New Mexico Tech
6 Black Sage launches one-off drone protection service to stadiums and public events
7 Aston Martin Volante Vision Concept is a VTOL aircraft for 2030!
7 Move the Furniture, It's Time for a Drone Race
8 Kespry delivers first drone-based high-res thermal inspection for commercial property
9 Senators Want to Double Funding for Putting Commercial Drones in the Air
9 Faster, Lighter, Smarter: DARPA Gives Small Autonomous Systems a Tech Boost
10 Nevada Launches Drone Center of Excellence for Public Safety
11 Envision Solar Announces UAV ARC Rapidly Deployed Drone Re-Charging Network
11 Textron Divisions Pair Scorpion Jet With Drone Control Capability
12 FAA Announces Milestone of 100K Remote Pilot Certificates
12 City of Manassas Secures $13.75M Investment from Aurora Flight Sciences' Expansion
13 Dangerous Drones Could be Intercepted by Feds
14 Boeing Aims for Flying-Taxi Future With MIT Engineering Center
15 Made In Space's 'Archinaut' Could Build Big Power Systems for Small Satellites
15 Wildfires are getting worse: Can firefighting drones help combat them?
16 Global drone software market to tip $5.3 billion by 2025
17 It's Time to Pay Attention: Industry Leaders Comment on FAA Reauthorization Amendments
18 ALTI: BVLOS Flight Could Mean Fixed-Wing Drones Come into their Own
19 Daytona Beach police catches suspect with help from drone!
20 ParaZero's Drone Safety System Saves Costly Payload and Drone from Crash
20 NTSB Using Drones In Investigations

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28Jul18

DJI-sponsored group unites the drone industry to give pilots a voice BUSINESS

NEWS EMMA CALDER on JULY 25, 2018

Network of Drone Enthusiasts (NODE), a drone group comprising end users and manufacturers dedicated to representing the interests of responsible drone pilots across Europe, was launched last year in the United States and Canada.

The group aims to provide professional and recreational drone users a united voice to collaborate with local and regional legislators on developing drone regulations that encourage the use of drones, while protecting public safety. Through the website, NODE members can bring drone proposals to the attention of UAS policy makers, who can provide guidance on explaining the benefits of drones and their admirable safety record to local and regional elected officials.

NODE is sponsored by DJI, one of the world's largest makers of personal and professional civilian drones. http://www.commercialdroneprofessional.com/dji-sponsored-group-unites-the-drone-industry-to-give-pilots-a-voice/

29Jul18

Origami and Bio-Inspired Drone Bends Frames During Crash to Avoid Damage

MARCO MARGARITOFF JULY 28, 2018

For researchers at the École Polytechnique Fédérale de Lausanne (EPFL), it seems as though evolution and inevitability were the two primary factors in developing the latest bio and origami-inspired drone, which has insect wings on its mind as a means to reduce damage from arguably unavoidable collisions.

"The current trend in robotics is to create 'softer' robots that can adapt to a given function and operate safely alongside humans," said the head of EPFL's Laboratory of Intelligent Systems, Dario Floreano. "But some applications also require a certain level of rigidity. With our system, we have shown that you can strike the right balance between the two."

This balance most directly refers to the drone's arms, which are encased in a soft, elastic material, with firm plates within. During flight, these arms are rigid and provide the required

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physics to allow for operational flight. When a certain amount of force hits them, however, the crossed threshold results in the inner plates breaking apart, allowing the arms to bend. This leaves vital electronics and battery components intact, with only a manual refolding required to properly resume flight.

As Floreano explains, a certain amount of rigidity in robots is necessary, whether to capably sustain their own physical weight or an additional payload's. For a UAV of this size, it seems like EPFL's scientists have managed to strike the right balance between the soft and compliant end of the spectrum, and the durable fortitude of the other.
http://www.thedrive.com/tech/22474/origami-and-bio-inspired-drone-bends-frames-during-crash-to-avoid-damage?utm_campaign=RSS&utm_medium=HeadofLettuceMedia&utm_source=HOLM_entertainment

30Jul18

ANSI opens registration for unmanned aerial systems meeting 07/27/2018

By Michael Harris Editor

WASHINGTON, D.C. -- The American National Standards Institute is calling for assistance with developing a roadmap for the development and growth of America's unmanned aircraft systems sector.

The roadmap, to be a key point of discussion at ANSI's 2018 Unmanned Aircraft Systems Standardization Collaborative (UASSC) meeting in Washington, D.C., is intended to "help clarify the current standards landscape, minimize duplication of effort among standards developers, inform standards participation resource allocation, and ultimately help grow the UAS market."

ANSI said it expects to release a first draft of the document a week before the September 20th summit, following previous efforts performed by four working groups. These include UAS airworthiness; general flight operations, personnel training, qualifications and certifications; flight operations for critical infrastructure inspections and commercial services; and flight operations for public safety.

"As industry continues to develop technological solutions to support UAS integration, the standards community has an important role to play in codifying these solutions and promoting their widespread acceptance," said Joe Bhatia, president and CEO of ANSI.

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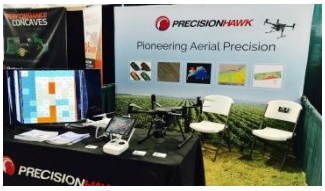
https://www.intelligent-aerospace.com/articles/2018/07/ansi-opens-registration-for-unmanned-aerial-systems-meeting.html

PrecisionHawk inks partnership contract to take business to new heights BUSINESS HEADLINE NEWS EMMA CALDER JULY 30, 2018



PrecisionHawk has locked in a partnership with the Aircraft Owners and Pilots Association (AOPA), a non-profit organization that advocates for general aviation. This collaboration is designed to connect pilots with a growing network of drone service providers, as well as access to training, legal services, and job opportunities.

The agreement offers independent drone operators a discounted membership rate with AOPA and access to jobs that require a commercial drone pilot from the world's leading enterprises through PrecisionHawk's Droners.io, a drone pilot network.

Comprised of a network of more than 15,000 commercially licensed drone pilots, Droners.io is the largest community of its kind. Since PrecisionHawk acquired the drone pilot platform in February 2018, Droners.io has allowed PrecisionHawk to service its growing base of enterprise customers in insurance, agriculture, energy, construction and government, while offering drone operators the opportunity to turn their passion for drones into a profession.
http://www.commercialdroneprofessional.com/precisionhawk-inks-partnership-contract-to-take-business-to-new-heights/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-270112-Commercial+Drone+Professional+DNA+-+2018-07-30

Global UAV accelerates technology development with 4G mission cellular network BUSINESS NEWS EMMA CALDER JULY 30, 2018

Global UAV Technologies has successfully completed a test flight of its UAV using the 4G cellular network for command and control as well as flight data telemetry feedback following investment into its research and development, engineering and manufacturing division, NOVAerial Robotics.

The test flights included multiple takeoffs and landings as well as the execution of an autonomous flight plan with one of NOVAerial's multicopter UAV platforms.

Currently, UAV's fly utilizing a direct radio link with the pilot ground station. "Using the cellular network as a high bandwidth datalink will provide increased operational range for many

applications such as drone surveillance, delivery, search and rescue and emergency response flights in both urban and rural areas. This technology opens the door to a range of new drone applications that have not been possible until now."
http://www.commercialdroneprofessional.com/global-uav-accelerates-technology-development-with-4g-mission-cellular-network/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-270112-Commercial+Drone+Professional+DNA+-+2018-07-30

DARPA Picks Silent Falcon for Power Beaming Demo Press Release

Silent Falcon UAS Technologies solar electric, fixed wing, long endurance, long range Unmanned Aircraft System (UAS) has been selected by DARPA for its Stand-off Ubiquitous Power/Energy Replenishment – Power BeamingDemo (SUPER PBD).

SUPER PBD is designed to prove the feasibility of recharging an electric powered UAS while in flight using a laser light source, allowing for indefinitely long flight times by using concatenated "Fly" and "Fly & Charge" cycles removing the need to land to refuel.

The aircraft is a proven solar electric system, and the addition of power-beaming capabilities builds on established technology. Other partners in the project include Optonicus LLC, SolAero Technologies Corporation and Ascent Solar Technologies, Inc.
https://www.uasvision.com/2018/07/30/darpa-picks-silent-falcon-for-power-beaming-demo/

New York state Griffiss airport receives extra funds for UTM research July 30, 2018Philip Butterworth-HayesUAS traffic management news

Senator Joseph Griffo has helped Griffiss International Airport receive $800,000 for UTM research. Of this, $500,000 "will be used to transform a hangar at the airport into a year-round drone experimentation environment, known as a "Sky Dome." The Sky Dome will support the development of drone technologies to operate safely and securely in the National Air Space system. Griffo says this funding is in addition to $450,000 that was announced previously.

"The remaining $300,000 will be used for a UAS mobile operations center for the airport, which will have flight operation and radio equipment and will give the airport more flexibility when it

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comes to operational abilities, according to Griffo. The airport is a designated UAS test site within the NUAIR alliance program. https://www.unmannedairspace.info/uncategorized/new-york-state-griffiss-airport-receives-extra-funds-utm-research/

redUAS to develop C-UAS training for emergency responders via New Mexico Tech July 30, 2018 Philip Butterworth-Hayes Counter-UAS systems and policies

redUAS (http://www.reduas.us/), a counter-UAS service, training and operations company, has been awarded a contract by New Mexico Tech to develop and deliver C-UAS training to first responders, security and emergency management personnel around the world. Offerings are geared toward preparing emergency first responders to better prevent and respond to terrorist incidents.

redUAS is a joint venture between six veteran-owned and first responder-owned small businesses with unique first-hand knowledge of how drones are being employed for military operations, emergency services, and for homeland security. The company includes drone professionals with real-world counter-UAS experience who can help customers gain understanding of the threat and work with partners to develop employable C-UAS Tactics, Techniques and Procedures (TTPs). redUAS includes: ABSI Defense, Avian, Atollo, Liberty Consulting Solutions, Company 6 UAS and Golden-Aero.
https://www.unmannedairspace.info/counter-uas-systems-and-policies/reduas-develop-c-uas-training-emergency-responders-via-new-mexico-tech/

Black Sage launches one-off drone protection service to stadiums and public events July 27, 2018 Philip Butterworth-Hayes Counter-UAS systems and policies

By offering temporary, or one-time counter drone protection as a service, Black Sage is providing stadiums and venues a relatively low-cost solution for specific high-risk events.

"Black Sage has worked with military and government customers over the past several years to protect against the threat of drones at fixed sites. We now offer a service that allows commercial venues to have protection without the cost of maintaining permanent installations," said Black Sage Technologies Managing Partner Ross Lamm PhD.

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The Black Sage system provides early detection to allow law enforcement to take action even before the drone is airborne, AI classification to reduce false alarms, operator location to assist law enforcement in apprehension, and forensic data to ensure prosecution.

"While this new service allows stadiums to add this extra level of security for specific, high-risk events, Black Sage still offers permanent or semi-permanent solutions for stadiums and venues seeking long-term counter drone protection." https://www.unmannedairspace.info/counter-uas-systems-and-policies/black-sage-launches-one-off-drone-protection-service-stadiums-public-events/

31Jul18

Aston Martin Volante Vision Concept is a VTOL aircraft for 2030! July 30, 2018 Thomas Luna

Luxury car maker Aston Martin branched into the vertical take-off and landing (VTOL) world with their Volante Vision Concept, a personal aircraft designed for transportation in 2030.

Aston Martin partnered with Cranfield University, Cranfield Aerospace Solutions and Roll-Royce to develop the Volante Vision Concept. The futuristic vehicle is being designed for personal air travel. The aircraft will be fully autonomous, but a pilot can manually take control any time. The luxury VTOL aircraft will be built with an electric architecture so that it can run more efficient, faster and quieter than anything available now. Aston Martin said their VTOL aircraft can travel from Boston to New York in one hour, so that means it can fly as fast as 215.3 mph! https://www.wetalkuav.com/aston-martin-volante-vision-concept-is-a-vtol-aircraft-for-2030/

Move the Furniture, It's Time for a Drone Race Maya Sweedler July 30, 2018

From offices to restaurants, informal drone-racing spots pop up around the city

El Original doesn't always close down for the night after the last round of margaritas. Once the chairs and tables are removed from one of its dining rooms and hexagonal gates strung up, the restaurant transforms into a racing track for remote-controlled aircraft. Twice in the past year, it has hosted races for micro drones. Small enough to fit into the palm of a hand, the micro drones are colloquially known as

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"Tiny Whoops," the name of the company that trademarked the miniature devices.

The temporary track at El Original is one of a handful of informal drone-racing locations around the city. Others include a digital-imaging studio in Chelsea and the fifth floor of a building on the Lower East Side. The pilots wear goggles that allow them to look through a camera mounted on the drone. They navigate the track from a drone's-eye perspective in real time, using video-game-like consoles to control the height and speed.

Like the broader drone-racing community, the New York City scene has expanded rapidly since the Federal Aviation Administration loosened restrictions on hobbyists in late 2015. In the city, there are 14,225 personal drones registered to 665 owners, according to FAA data. "For most of its life, [drone racing] lived in this underground, totally secretive environment," said Nicholas Horbaczewski, founder and CEO of the professional Drone Racing League. "By 2015, almost every country had an amateur drone-racing league." https://www.wsj.com/articles/move-the-furniture-its-time-for-a-drone-race-1532955600

Kespry delivers first drone-based high-res thermal inspection capabilities for commercial property BUSINESS NEWS EMMA CALDER JULY 31, 2018

Radiometric analysis means that a specific temperature is displayed for a specific point on a roof. In contrast, non-radiometric thermal drone data simply shows general temperature differences and changes in an area, making it hard to determine whether there is a specific point of damage or concern.

"Accuracy really matters when billions of dollars of property and facilities are at risk," said George Mathew, CEO of Kespry. "Manual inspections and first-generation drone flights are slow and inaccurate ways of attempting to understand the state of a roof. Earlier approaches leave surveyors, risk assessors, and roof inspectors guessing at the specific location of leaks, blocked drains, or damage to building infrastructure, all of which can have serious impacts on assets inside. The new Kespry solution for commercial roof inspection solves these problems. http://www.commercialdroneprofessional.com/kespry-delivers-first-drone-based-high-res-thermal-inspection-capabilities-for-commercial-property/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-270263-Commercial+Drone+Professional+DNA+-+2018-07-31

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1Aug18

Senators Want to Double Funding for Putting Commercial Drones in the Air

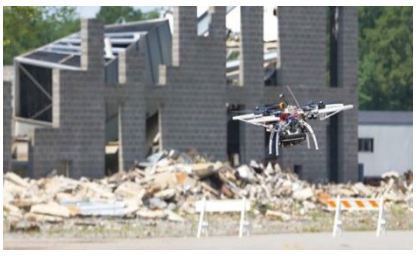
AARON BOYD JULY 31, 2018

A bipartisan trio of senators wants to double the amount of federal funding supporting the integration of commercial unmanned aircraft systems. The current version of the Transportation, Housing and Urban Development spending bill would allocate $3 million in matching grants for companies working with the Federal Aviation Administration's test sites. The amendment introduced by Sens. Mark Warner, D-Va., John Hoeven, R-N.D., and Catherine Cortez Masto, D-Nev., would double that amount to $6 million.

"This amendment will ensure we continue supporting advancements in the safe and responsible integration of unmanned systems in our airspace," Warner said in a statement. Those pilot(less) programs "will test the safe operation of drones in a variety of conditions currently forbidden. These include operations over the heads of people, beyond the line of sight and at night," Transportation Secretary Elaine Chao said when announcing the first 10 partnerships. The program received a lot of initial interest from groups across the country, with more than 150 submissions to be a part of the first pilots. https://www.nextgov.com/emerging-tech/2018/07/senators-want-double-funding-putting-commercial-drones-air/150171/

Faster, Lighter, Smarter: DARPA Gives Small Autonomous Systems a Tech Boost

August 1, 2018 News



DARPA's Fast Lightweight Autonomy (FLA) program recently completed Phase 2 flight tests, demonstrating advanced algorithms designed to turn small air and ground systems into team members that could autonomously perform tasks dangerous for humans – such as pre-mission reconnaissance in a hostile urban setting or searching damaged structures for survivors following an earthquake.

Building on Phase 1 flight tests in 2017, researchers refined their software and adapted commercial sensors to achieve greater performance with smaller, lighter quadcopters. Conducted in a mock town at the Guardian Centers training facility in Perry, Georgia, aerial

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tests showed significant progress in urban outdoor as well as indoor autonomous flight scenarios, including:

- Flying at increased speeds between multi-story buildings and through tight alleyways while identifying objects of interest
- Flying through a narrow window into a building and down a hallway searching rooms and creating a 3-D map of the interior
- Identifying and flying down a flight of stairs and exiting the building through an open doorway.

Begun in 2015, the FLA applied research program has focused on developing advanced autonomy algorithms—the smart software needed to yield high performance from a lightweight quadcopter weighing about five pounds with limited battery power and computer processing capability onboard. http://uasweekly.com/2018/08/01/faster-lighter-smarter-darpa-gives-small-autonomous-systems-a-tech-boost/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_08_01&utm_term=2018-08-01

Nevada Launches Drone Center of Excellence for Public Safety August 1, 2018 News

The Nevada Institute for Autonomous Systems (NIAS) today announced the launch of the Nevada Drone Center of Excellence for Public Safety (NDCOE). The mission is to save lives and reduce air hazards from drone incursions by empowering a shared safety vision with the FAA's integration of drones into the commercial air traffic system.

Located in Las Vegas, Nevada, with facilities donated by Switch, the NDCOE will provide safety incursion research data, drone technology best practices, educational materials, and the new center will conduct public workshops that promote and protect the public's safety and privacy in an open and ethical manner.

Safe and successful UAS operations rely on quality training, end user education and maximizing public safety. To protect and educate residents and visitors, this center seeks to protect against drone users who pose a public safety hazard due to inexperience and malicious drone operations, e.g., drones hitting people or that have the potential to cause an airline disaster, and who violate your safety, privacy, or drone laws near high traffic public places, at airports, near military bases, or critical infrastructure. NDCOE will also advance Drone Surveillance,

Detect, and Avoid (remote sensing), wildland firefighting, gas-leak detection, and time-sensitive medical delivery technologies for life-saving medical equipment and organs.

In addition to fostering major advances in UAS technology with testing partners like the FAA, NASA, and Switch, Nevada is also home to the most registered drone users in the nation in Las Vegas. http://uasweekly.com/2018/08/01/nevada-launches-drone-center-of-excellence-for-public-safety/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_08_01&utm_term=2018-08-02

Envision Solar Announces UAV ARC Rapidly Deployed Drone Re-Charging Network August 1, 2018 News

Envision Solar International, Inc., announced that its new UAV ARC™ product is now patent pending and in product development. It is a rapidly deployed and scalable, recharging network. It does not require any fueling or connection to grid infrastructure because it generates and stores all of its own energy from renewable sources. It is self-ballasted and leveling, does not require construction for its installation, has a hardened exterior and countermeasures designed to protect it from vandalism and theft. Each unit forms part of a broader network which fuels drones and gathers and shares information about their health and flight plans as part of the Internet of Things (IoT). Units can be deployed on flat roofs in cities or on any terrain in remote locations. The planned networks of units will be open to any operator of unmanned aerial vehicles as part of a subscription or individual usage plan.
http://uasweekly.com/2018/08/01/envision-solar-announces-uav-arc-rapidly-deployed-drone-re-charging-network/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_08_01&utm_term=2018-08-02

Textron Divisions Pair Scorpion Jet With Drone Control Capability July 31, 2018

Military | News

Textron Systems and Textron Aviation, businesses of Textron Inc. announced today the successful integration and demonstration of the company's manned-unmanned teaming capability.

During the proof of concept demonstration, the team installed Synturian software in the cockpit mission computer of the Scorpion jet. The team simulated

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a NIGHTWARDEN® Tactical Unmanned Aircraft System and an Aerosonde™ Small Unmanned Aircraft System for the demonstration. The Scorpion aircrew set up flight route waypoints, established surveillance orbits, steered the sensor and changed the unmanned aircraft heading, airspeed and altitude. The simulated unmanned aircraft were then able to operate without further aircrew interaction.

"The ability to easily and intuitively control unmanned systems from the cockpit of a manned tactical aircraft is a game-changer," said Textron Aviation Defense Senior Flight Test Pilot Brett Pierson. "The tactical and operational ramifications of this new capability are enormous. http://uasweekly.com/2018/07/31/textron-divisions-pair-scorpion-jet-with-drone-control-capability/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_07_31&utm_term=2018-07-31

2Aug18

FAA Announces Milestone of 100K Remote Pilot Certificates

Betsy Lillian August 1, 2018

On July 26, the Federal Aviation Administration (FAA) announced a milestone of 100,000 issued Remote Pilot Certificates.

Since the FAA's Part 107 rulemaking went into effect on Aug. 29, 2016, more than 100,000 have obtained a Remote Pilot Certificate to fly a drone for commercial and recreational (not qualifying as "model aircraft") use, the agency says.

Under Part 107, the person actually flying a drone must have a Remote Pilot Certificate or must be directly supervised by someone with a certificate. According to the FAA, the Part 107 exam success rate stands at 92%.

The agency notes that the certificate is good for two years from the date of issue. Anyone who earned a certificate at the end of August or in September 2016 should review the certification renewal requirements and prepare to take recurrent training or testing, the FAA says. https://unmanned-aerial.com/faa-announces-milestone-of-100k-remote-pilot-certificates?utm_medium=email&utm_source=LNH+08-02-2018&utm_campaign=UAO+Latest+News+Headlines

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City of Manassas Secures $13.75M Investment from Aurora Flight Sciences' Expansion Betsy Lillian August 1, 2018

Gov. Ralph Northam, D-Va., has announced that Aurora Flight Sciences, an aerospace company that specializes in autonomous systems technologies, will invest more than $13.75 million in the City of Manassas, Va.

Acquired by Boeing last year, the company will expand its Manassas headquarters to include a robotics facility with a research and development lab, a light-manufacturing unit, a professional office space, and a hangar. With more than 450 current employees, this expansion will create an additional 135 high-wage jobs in a community that has become a regional hub for industries in aerospace and defense, the governor says.

These new jobs will pay an average salary of more than $100,000 a year. The City of Manassas and Virginia faced fierce competition against Puerto Rico, Alabama and West Virginia for the company's investment, Northam notes. This is the second major expansion for Aurora**.**
https://unmanned-aerial.com/city-of-manassas-secures-13-75m-investment-from-aurora-flight-sciences-expansion?utm_medium=email&utm_source=LNH+08-02-2018&utm_campaign=UAO+Latest+News+Headlines

Dangerous Drones Could be Intercepted by Feds August 1, 2018 Sarah Babbage

Drones are increasingly used for terrorism, drug smuggling, and other crimes, so the government wants more authority to intercept them. Congress has given the Defense and Energy departments limited authority to identify and intercept threatening drones. The Homeland Security and Justice departments want that power too.

An AscTec Firefly drone, produced by Intel Corp.-owned Ascending Technologies, sits on the witness table as Joshua Walden, senior vice president at Intel speaks during a House Energy and Commerce subcommittee hearing.

Sen. John Thune (R-S.D.) is weighing whether to attach a measure (S. 2836) to his FAA reauthorization bill (S. 1405; see BGOV Bill Summary) that would provide drone interception authority to DHS and DOJ.

Drones can be used to "drop explosive payloads, deliver harmful substances, disrupt communications, and conduct illicit surveillance both domestically and internationally," said Homeland Security Secretary Kirstjen Nielsen in a June 6 letter to Congress.

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It would authorize DHS and DOJ to develop, test, and deploy equipment to counter drones, in coordination with the Transportation Department. It would exempt DHS and DOJ counterdrone activities from the federal criminal code, including the Wiretap Act, the Computer Fraud and Abuse Act, and other statutes they could violate. If enacted, DHS and DOJ may have to wait to use their new authority because drone disruption technology is still in development, and because it's hard to identify which drones pose a threat. https://about.bgov.com/blog/drones-intercepted-feds/

Boeing Aims for Flying-Taxi Future With MIT Engineering Center Katrina Lewis and Julie Johnsson August 1, 2018

The Aerospace & Autonomy Center rendering

Boeing Co. will create an engineering center focused on pilotless aircraft technology in a commercial real estate project under construction at the Massachusetts Institute of Technology.

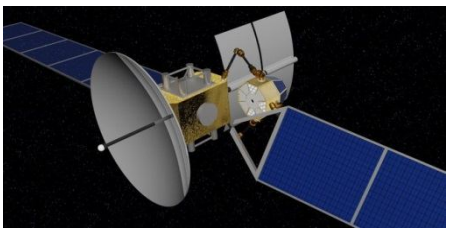
The world's largest planemaker is the first tenant to commit to MIT's Kendall Square Initiative, a research, retail and academic complex in Cambridge. Boeing agreed to lease 100,000-square-feet in research and lab space that's set to open in 2020.

Boeing has been pouring resources into the strange new flying machines being created to haul people and cargo above increasingly congested urban roadways, which executives believe could transform aerospace in a matter of years -- not decades.

The Aerospace & Autonomy Center will house Aurora Flight Sciences, a leading designer of unmanned aerial vehicles that Boeing bought last year, and which has roots at MIT. The new engineering hub will also support research for Boeing NeXt, whose initiatives include the complex traffic control systems needed to manage skies filled with flying taxis and cargo drones.. https://www.bloomberg.com/news/articles/2018-08-01/boeing-plans-center-for-pilotless-flight-at-mit-engineering-hub

Made In Space's 'Archinaut' Could Build Big Power Systems for Small Satellites

Mike Wall, Space.com Senior Writer | August 1, 2018 07



An artist's illustration of Made In Space's Archinaut robot (right) servicing a client satellite.

One of the first big jobs for the Archinaut in-space assembly robot being developed by California startup Made In Space may involve outfitting small satellites with large solar-power systems in Earth orbit.

Such work could boost the power potential of spacecraft in the 330-lb. to 660-lb. range by a factor of five or more, allowing them to take on duties previously limited to larger satellites."Deploying these power-intensive payloads on small satellites is game-changing, because these platforms cost an order of magnitude less to build and launch and can be fielded much more rapidly than 1,000-kilogram-plus satellites," Made In Space CEO Andrew Rush said in a statement.

For the smallsat-power application, Archinaut would be built into (and therefore launch with) the client satellite, Rush said. The satellite's solar cells would also be stowed aboard, along with raw materials for Archinaut's 3D printer. "Once we get on orbit, we use our robotic manipulators to pull out the appropriate part and make an assembly, and then manufacture the space-optimized structure that would support the solar array," Rush told Space.com.
https://www.space.com/41341-archinaut-made-in-space-small-satellite-power.html

Wildfires are getting worse: Can firefighting drones help combat them? August 2, 2018 Feilidh Dwyer

Firefighting drones are a recent but rapidly developing technology. The National Interagency Fire Center (NIFC) reported that in 2018, wildfires were responsible for burning *4 million acres of land* in the United States. That's 11 percent higher than the average since 2008. At this stage, drones are primarily used by fire departments for monitoring – giving crews a birds-eye view of what's going on and deploying their thermal imaging cameras to identify hot spots or people within buildings.

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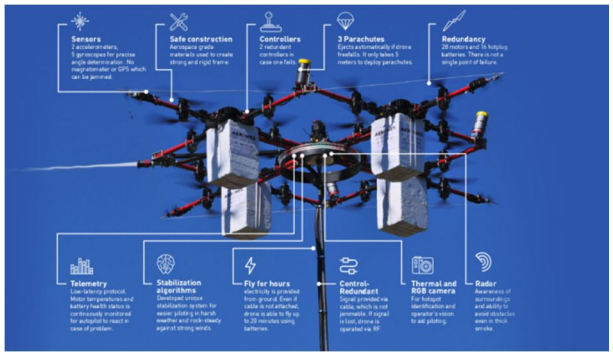
In the last year, however, some pretty nifty drones have been released that are designed to extinguish flames.



Aerones' firefighting drone, designed by a Latvian company, can reach a height of nearly 1,000 feet in just six minutes. It can be operated by a single pilot and can reach places that normal firefighters have no chance of getting to. These drones can fly with battery for around 20 minutes, but ultimately the company wishes to provide tethered drones that will allow them to fly for several hours. Their 'Superfast' drone will be equipped with 28 propellers and is capable of carrying a weight of 450 pounds..

Digirobotics drone. Dubai's Civil Defence has recently revealed a UAV designed to extinguish blazes in high-rise buildings. It has a light carbon fiber body and is capable of travelling at speeds of 155 mph. It can fly for two and a half hours and is designed to be deployed to a particular building using its fixed wings. It can then hover in place with its extendable rotors and use its nozzle to disperse its 158 gallons of foam before returning to refill its tanks.

China has also been working on drones for putting out fires in tall buildings and other hard-to-reach areas. As with the other companies, these drones are set to be rolled out by the end of the year.

It's clear from the rapid adoption of drone technology by fire departments throughout the United States that it can help improve efficiency and save lives. Firefighting drones are a very recent development, and we will need to wait for testing to be completed. Perhaps we will then start to see UAVs deployed on a grand-scale to help fight fires that are occurring at a greater frequency. https://www.wetalkuav.com/can-firefighting-drones-help-combat-wildfires/

Global drone software market to tip $5.3 billion by 2025 BUSINESS NEWS EMMA CALDER AUGUST 2, 2018

The global drone software market will soar to new height in the next seven years, an industry report has predicted.

According to QY Research, the drone software industry was worth $389m

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(£297m) in 2017 and is projected to reach $5.3bn (£4.2bn) by 2025 at a CAGR of 38.89% between 2017 and 2025.

The drone software market is used mainly for three industries: construction, agriculture and mining. Construction was the most widely-used area with more than 30% of the global total in 2017. Looking to the future, the slow upward price trend will continue. As competition intensifies, price gaps between brands will narrow with fluctuation in gross margin.

Key brands include Dronedeploy, 3D Robotics and Airware, as well as Dreamhammer, Drone Volt, Dronedeploy, ESRI, Pix4D, 7ESRI, PrecisionHawk, Delta Drone, Sensefly, AeroVironment, Skyward Io and VIATechnik. http://www.commercialdroneprofessional.com/global-drone-software-market-to-tip-4-1-billion-by-2025-study-predicts/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-270582-Commercial+Drone+Professional+DNA+-+2018-08-02

It's Time to Pay Attention: Industry Leaders Comment on FAA Reauthorization Amendments Miriam McNabb August 02, 2018

On July 31, the Small UAV Coalition, AOPA and other industry advocates signed a letter opposing an expected amendment from Senator Mike Lee (R-Utah) to the FAA Reauthorization package, concerning UAS delivery; on August 1, the Small UAV Coalition and a slightly different group of supporters including the Commercial Drone Alliance penned yet another letter voicing their support for proposed revisions to Section 336, which would require recreational operators to take an aeronautical knowledge test.

FAA Reauthorization is up this week in the Senate. What we do know, as reported by AIN online, is that "The U.S. Senate has begun circulating an initial block of nearly four-dozen amendments expected to be offered as a package to the FAA reauthorization bill, signaling that the chamber is progressing toward a possible vote on the legislation.

It's bad timing for the drone industry. With the Department of Homeland Security focused on security issues surrounding drones in an effort to get authorization to detect and disable, the conversation about drones on Capitol Hill lately has been less about economic benefits and more about potential terrorism. In addition, as the current administration makes an effort to grant states more power, FAA preemption – the idea that the FAA should have sole regulatory

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authority over the airspace – is being threatened, another potential barrier to the drone industry.

Commercial operators and recreational operators concerned with the drone industry should be paying attention now – before lawmakers who aren't familiar with the technology's potential decide the industry's future. https://dronelife.com/2018/08/02/its-time-to-pay-attention-industry-leaders-comment-faa-reauthorization-amendments/

ALTI: BVLOS Flight Could Mean Fixed-Wing Drones Come into their Own Miriam McNabbon: August 02, 2018

The largest commercial drone manufacturer in South Africa, ALTi, says that the day of the fixed-wing, VTOL drone could be here. In a piece titled "What is BVLOS and What Does it Mean to Commercial Drone Users," the company points out that flight beyond visual line of sight represents a significant change, not only in regulations but for the development of drone technology.

"There are 2 key factors that make BVLOS flight a tipping point for commercial drone industry expansion," says ALTi. "The first is enabling service providers to conduct complex drone operations. The second is enabling drones to be able to conduct truly unmanned flight with no pilot needed for take-off or landing."

While automation is a hot topic in the drone industry, so are regulations. As interest in and adoption of commercial drones increases, concerns over safety have also increased. The concept of "airworthiness" is one that strikes fear into the heart of manufacturers: it represents a potentially changing standard which could severely limit development.

In addition to meeting aircraft standards, ALTi points out, commercial drones for BVLOS flight will need reliable detect and avoid technologies as well as reliable communication technologies, like satellite, cell and radio. Fixed-wing VTOL craft could offer the best package for all requirements: long distance flight, efficient use of power, and automation possibilities.

"BVLOS will change the game for commercial drone users," says ALTi. "….For the first time we are starting to see affordable, reliable solutions of various types in this space that are able to make BVLOS work." https://dronelife.com/2018/08/02/alti-bvlos-flight-could-mean-fixed-wing-drones-come-into-their-own/

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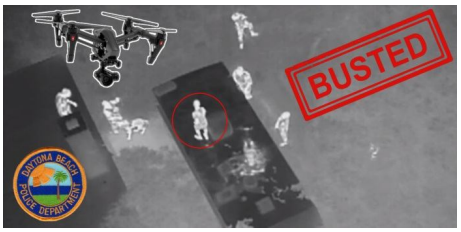
Daytona Beach police catches suspect with help from drone! August 2, 2018 Thomas Luna



A 23-year-old man in Florida hid on a roof after police chased him for attempting a break-in robbery, but a drone equipped with a FLIR thermal imaging camera helped officers track the suspect. Anthony Rivers Jr. was arrested shortly after the drone spotted him, which also marked the first time Daytona Beach Police Department used a drone to arrest a suspect, according to Orlando Sentinel.

After patrol was unable to find Rivers Jr. on foot, five drones were deployed to pinpoint the suspect's location. Once Rivers Jr. knew police were closing in on him, he jumped on top of a neighbor's trailer but gave up shortly after police persuaded him to come down, according to WKMG News 6.

Screenshot from WKMG News 6's video shows drone footage of the suspect jumping on top of a trailer.

"Our drones are equipped with a night-time FLIR system, which allows us to see the night-time view, the hotspots and stuff like that," said SGT. Time Ehrenkaufer in a WKMG News 6 interview.

The police department also told WKMG News 6 that the five drones cost $76,000, but it was all funded by money taken from drug dealers.

Drones have been used by other police departments from all around the world to track suspects because of their aerial advantage. Drones built specifically for police are equipped with cameras to give officers eyes in any situation, including night-time operations. Police departments using drones has been a debatable topic, but the large areas drones can cover and the increase of arrests because of that is undeniable. https://www.wetalkuav.com/daytona-beach-police-catches-suspect-with-help-from-drone/

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ParaZero's Drone Safety System Saves Costly Payload and Drone from Crash

August 2, 2018 News

Parazero Israel Ltd, announced today that its drone safety system has saved hundreds of thousands of dollars' worth of payload mounted on a commercial drone that almost crashed a couple of weeks ago. The system identified a critical failure and triggered the flight termination system, shutting down the power to the rotors. The parachute launcher then opened the chute to full canopy in a fraction of a second, bringing the drone and payload safely to the ground and minimizing the impact energy. http://uasweekly.com/2018/08/02/parazeros-drone-safety-system-saves-costly-payload-and-drone-from-crash/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_08_02&utm_term=2018-08-03

NTSB Using Drones In Investigations Mark Huber August 2, 2018

The NTSB is increasingly using drones as part of its accident investigation toolkit, including for terrain mapping of air crashes, according to NTSB investigator Michael Bauer. Notable drone applications by the Board since 2016 include rail and highway crashes and general aviation accidents.

However, Bauer notes that the NTSB's most challenging application of the technology was related to the investigation of the fatal Feb. 10, 2018, crash of a Papillon Helicopters sightseeing Airbus EC130B4 that hit terrain while on approach to land at Quartermaster landing zone in the Grand Canyon near Peach Springs, Arizona. NTSB engineers needed a three-dimensional digital model of the accident site and surrounding terrain to understand terrain features and used a FARO laser scanner to create the 3D model. The Board's small unmanned aircraft systems (sUAS) team also used photogrammetry to support the investigation and compare data generated by both technologies for future investigations.

Flying the sUAS at the crash site required prior permission to operate within the associated airspace and the special flight rules area from various tribes and governments—including the National Park Service and FAA—and coordinating flights with the helicopter tour operators in the region. The site's difficult terrain, combined with an absence of electric power and internet at the site, required additional planning and equipment.

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The NTSB employed a remote pilot in command and a visual observer for each flight who also monitored the local frequency for traffic. Several flights were paused to ensure safe separation, but Bauer reported that the mission was accomplished in just over an hour of flying, including a 10-acre mapping mission completed in just 12 minutes, and that it provided "stunning visual imagery of the local terrain area." https://www.ainonline.com/aviation-news/general-aviation/2018-08-02/ntsb-using-drones-investigations

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