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UAS and SmallSat Weekly News

Contents

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28Apr18

Germany, France press ahead on 'historic' joint weapons developments Andrea Shalal WORLD NEWS APRIL 26, 2018

BERLIN (Reuters) - German and French officials on Thursday pressed ahead with plans to jointly develop a next-generation fighter jet, a drone and a maritime airborne warfare aircraft, saying the projects showed European unity and strength in an increasingly uncertain world.

The ministers signed a letter of intent to explore joint development of a maritime warfare aircraft for use from 2035, a document outlining the high-level common requirements for a new fighter jet, and a concept of operations for a joint training and operation of a fleet of C-130J transport planes.

They also agreed to continue working on a Euro-drone project with Italy and Spain, after three European defense companies unveiled a first full-scale model of their planned Medium-Altitude Long-Endurance (MALE) drone.

The companies - Airbus, Dassault Aviation and Leonardo - said the project underscored their commitment to build a European version of an unmanned aerial system in a world dominated by U.S. and Israeli designs. https://www.reuters.com/article/us-germany-airshow-france/germany-france-press-ahead-on-historic-joint-weapons-developments-idUSKBN1HX2H8

Starlink internet will cost about $10 billion and 'change the world' Emre Kelly, FLORIDA TODAY April 26, 2018

SpaceX is expected to spend billions on its ambitious goal to construct a massive constellation of internet-beaming satellites that will "change the world," the company's president and chief operating officer said during a conference earlier this month.

The project, known as Starlink, aims to launch thousands of satellites on SpaceX rockets to low Earth orbit that can eventually beam internet connectivity back down, bypassing the need for complicated ground-based infrastructure. Users, according to the federal documents, need only have a laptop-sized terminal to gain connectivity to the constellation of nearly 12,000 minifridge-sized satellites. "It'll cost the company about $10 billion or more to deploy this system." The statements by Shotwell came nearly a month after SpaceX secured critical authorization from the Federal Communications Commission to begin

constructing the constellation. SpaceX, the FCC said, must launch 50 percent of its proposed 4,425 satellites by 2024 and fully complete that first phase by 2027.

The company hopes to launch a second phase of more than 7,500 additional satellites to even lower orbits, which will help reduce latency, or a delay before data transfers begin. https://www.floridatoday.com/story/tech/science/space/2018/04/26/spacex-shotwell-starlink-internet-constellation-cost-10-billion-and-change-world/554028002/

Virginia Tech unveils new drone park on campus Victoria Shirley | Apr 26, 2018

BLACKSBURG, Va. **-** Virginia Tech unveiled their new drone park Thursday morning, but it wasn't your average ribbon cutting.

A drone held up one half of the ribbon and once Virginia Tech President Timothy Sands cut the ribbon, the drone flew the piece of ribbon all over the new drone park.

The drone park stands 85 feet above the ground and is the size of a football field.

The nets allow for students and researchers to fly without worrying about red tape researchers normally have to deal with when flying drones outside.

"Drones can get lost, they can get damaged, they can damage other things, this provides a nice safe space for students to test and easily recover their drone," said Bisio.

However, it won't just be the engineering department using the drone park, Sands expects almost every department on campus to find a use for it. "Almost every field can use unmanned aerial systems in one way or another," said Sands.

The one million dollar project is one of the largest of its kind in the U.S. http://www.wdbj7.com/content/news/Virginia-Tech-unveils-new-drone-park-on-campus-480996121.html

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House votes to outlaw weapons on small recreational drones Bart Jansen, USA TODAY

April 27, 2018

 WASHINGTON – The House voted Friday to outlaw weapons on small drones. Rep. Michael Burgess, R-Texas, proposed to fine drone pilots $25,000 for adding a weapon to remote-controlled aircraft, unless authorized by the Federal Aviation Administration.

Burgess has been introducing the measure since 2012. But he got the help of a vivid illustration about the threat in 2015, when a drone pilot in Clinton, Conn., posted video of a drone mounted with a semi-automatic handgun that could fire in flight. The pilot wasn't charged for lack of specific law prohibiting armed drones, Burgess said.

"This appeared to be a case of technology surpassing current legislation," Burgess said, quoting the Clinton police chief at the time. "Police say their greatest fear with the increase in the use of recreational drones is their weaponization."
https://www.usatoday.com/story/news/2018/04/27/house-votes-outlaw-weapons-small-recreational-drones/555941002/

Dream of Flying Drone Taxis Moves One Step Closer to Reality Alan Levin April 27, 2018

Aurora Flight Sciences, which Boeing now owns, is working on a flying taxi project with Uber.

On-demand robotic flying taxis and drone deliveries are years away from reality, but the U.S. Department of Transportation has removed at least one barrier to their operation.

Responding to work by companies including Boeing Co., Intel Corp. and Uber Technologies Inc., the department on Friday said it would use the same process to consider approval of drone taxis that would carry passengers and cargo for hire as it does for approving traditional commercial air carriers. Amazon.com Inc. and Alphabet Inc.'s Google unit are both developing drones to deliver products.

Under U.S. law, the agency must certify that any business carrying people or cargo for hire is economically "fit, willing and able" to perform. Certifying an airline under those regulations can

take years, but the operators DOT can exempt that are using smaller or mid-sized aircraft, it said in a notice set to be posted Monday in the Federal Register. https://www.bloomberg.com/news/articles/2018-04-27/dream-of-flying-drone-taxis-moves-one-step-closer-to-reality

ICE Wants Drones BETSY WOODRUFF 04.27.18

Immigration and Customs Enforcement (ICE) agents are looking to use drones as part of their work. People in the agency are currently taking steps to move toward crafting policies for agents to use drones. At some point next month, ICE officials are expected to meet to begin discussing the groundwork for the use of drones.

any agents believe using drones will help them when executing narcotics warrants—dangerous no-knock raids that can result in the deaths of both law-enforcement agents and civilians. Drones could be used to see if a sniper was on the roof of a building before agents entered, or if people with weapons were in the backyard of a house. Drones could also be used for surveillance and general law-enforcement activities. https://www.thedailybeast.com/ice-wants-drones

US Marine Corps looking to acquire portable 'suicide drones' April 29, 2018 Feilidh Dwyer

The Marines require that any new weapon acquisition in this class should be capable of maintaining contact between craft and controller for more than 15.5 miles. They similarly need craft that will remain in flight for at least an hour. Such UAVs should contain sensors that perform surveillance and reconnaissance functions (visible to the pilot on their handheld screen controller), including identifying or recognizing enemies.

The Marines have requested that launch tubes for such drones should be less than a foot in diameter, shorter than eight feet and ideally the whole system should be capable of being transported by one Marine (although two is also permissible).

An example of a tube-launched suicide drone at a military expo.

Once the drone has flown over a particular area and gathered information it can either turn back to base or lock-on to a target using
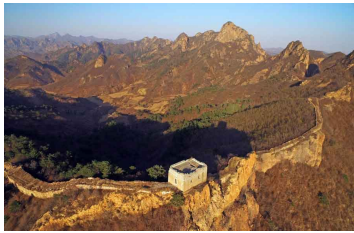
GPS coordinates and fly directly into it, blowing up on impact.
https://www.wetalkuav.com/marine-corps-want-portable-suicide-drones/?utm_source=WeTalkUAV&utm_campaign=54984856a6-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_1d410cb84d-54984856a6-83642867

China to use AI and drones to protect Great Wall Xinhua| 2018-04-26 Liu

BEIJING-- China plans to use artificial intelligence (AI) and unmanned aerial vehicles, or drones, to inspect, repair and preserve the Great Wall.

The China Foundation for Cultural Heritage Conservation has signed an agreement with Intel Wednesday, to explore the use of AI and the company's drones in the protection of the Great Wall.

The Great Wall, a symbol of China, is actually not just one wall, but many interconnected walls built between the third century B.C. and the Ming Dynasty (1384-1644). Researchers can use drones to collect images of the walls, and use 3D modeling to find broken sections and missing bricks.

"The use of the latest technologies, will provide a new perspective of the protection of the Great Wall, and show us the great potential of science and technology in cultural heritage protection," said Li Xiaojie, director of the China Foundation For Cultural Heritage Conservation. http://www.xinhuanet.com/english/2018-04/26/c_137139112.htm

South Wales Is Currently Testing Drones for Search and Rescue Purposes MARCO MARGARITOFF APRIL 25, 2018

The Royal National Lifeboat Institution and the Maritime & Coastguard Agency are currently undergoing a drone trial testing period at St. Athan in South Wales. The trial phase focus is on the vehicle's effectiveness in shoreline searches, search and rescue operations, and mud rescues.

According to the *BBC*, around 190 people die on U.K. and Irish coasts every year, a statistic presumably motivating lawmakers and first responder organizations to seriously consider implementing drones into the limited preventative strategies.

Welcoming sophisticated drone tech to the conventional set of lifesaving tools is certainly a logical approach, which has already proven effective in other parts of the world. http://www.thedrive.com/tech/20405/south-wales-is-currently-testing-drones-for-search-and-rescue-purposes

Dutch startup, Avular raises $1.8 million to fund business expansion for their modular drone platform, the Aerial Curiosity Haye Kesteloo Apr. 27th 2018

Dutch drone startup, Avular, raised $1.8 million to grow their commercial drone business. The Eindhoven-based company develops industrial unmanned aerial devices as well as other robotics and positioning systems. Since their start in 2014, the company had been mostly focused on the agricultural and inspection sectors, but now they are looking to expand their business with the new funding. At the heart of their company is the modular drone platform, the Aerial Curiosity, that allows their customers to quickly develop a drone for custom applications without having to build the unmanned aerial device from scratch. Additional functionality, such as positioning systems, humidity sensors, or LED lights for a drone show, can easily be connected to its central nerve center, the Curiosity Core. https://dronedj.com/2018/04/27/dutch-startup-avular-modular-drone-platform-aerial-curiosity/

Drones are helping fight the zika virus by spreading sterilized mosquitoes April 30, 2018 Feilidh Dwyer

The International Atomic Energy Agency has conducted successful tests using drones to drop hundreds of thousands of sterile mosquitoes into parts of Brazil which have been ravaged by the zika virus.

The project is a long-running collaboration between the IAEA, The United Nations Food and Agriculture Organization and Swiss-American non-profit WeRobotics.

Zika can cause babies to be born with major birth defects including severe brain damage and deformed skulls. Since 2015, there have been more than 225,000 confirmed cases and another 553,000 suspected cases of zika.

The aedes mosquito which carries the zika virus.

The IEAEA scientists first expose hundreds of thousands of male mosquitoes to radiation in a lab which sterilizes them. They then collect them and put them in a compartment in a drone. To protect the insects and prevent them from losing a leg or wing, they are chilled to 4-8C, putting them into a sleep-like state that keeps them stationary. Each drone can treat 20 hectares in five minutes, and each drone can carry 50,000 sterile mosquitoes per flight.

Sterile males who mate with females do not produce any offsprings. After a certain period of time, the mosquito population in a given area can drop dramatically. At around $12,000 per drone, this initiative is a cost-effective way for governments to take on a serious problem that has caused significant pain and suffering in many parts of the planet..
https://www.wetalkuav.com/drones-helping-fight-zika-virus-spreading-sterilized-mosquitoes/

Osage Nation opening innovation center at airport near its north Tulsa casino By Kevin Canfield Tulsa World Apr 17, 2018

Gabriel Graveline, who leads the robotics team for the Tulsa Fire Department, lands a drone during an exercise with Drone Pilot Inc., who was in Tulsa to help teach to teach law enforcement and public safety agencies how to use drones for their work.

"We are rebranding and repurposing the airpark to take advantage of emerging technologies in unmanned aerial systems," Red Corn said. There are about 400 acres available for development.

Drone Pilot Inc. was at the airpark Tuesday for a drone pilot training program for law enforcement and public safety agencies. The class included participants from the Tulsa police and fire departments, the Broken Arrow Police Department, Osage Nation Police Department and the Osage Nation Wildland Fire team.

In time, the tribe expects Skyway36 will be more than just the face of unmanned aerial systems training. Paul Tutty, an aviation consultant for the Osage Nation, envisions the airpark as an "autonomous and robotics innovation zone." http://www.tulsaworld.com/news/local/osage-nation-opening-innovation-center-at-airport-near-its-north/article_2a4a451c-ceaf-5309-af60-f1fa96241f82.html

Flying cameras have found a sense of belonging at oil and gas facilities SPONSOR

CONTENT BULLETIN BY (intel)
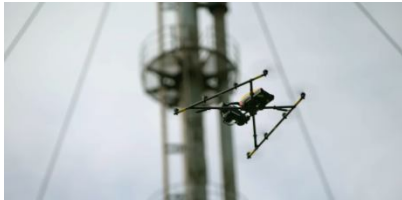
 The oil and gas industry is poised to be transformed by a technology that flies through the air. Maneuvering effortlessly around flare stacks, oil rigs, underdecks, and along miles of pipeline, rugged, remote-operated hawks are saving businesses millions of dollars and making inspections safer than ever before.

UAVs are in the limelight, seizing the public imagination through spectacles like Intel's mid-air choreographed drone light show at the 2018 Pyeonchang Opening Ceremony. Experts predict the commercial application of drones will generate explosive growth: Gartner forecasts a global revenue yield of $6.6 billion for the field by 2020. Others see the oil and gas industry as one of the top three or four sectors with the greatest potential for drone integration. Ultimately, employing UAVs in pipeline inspection is estimated to be worth $41 million globally, and as much as $1.1 billion for offshore rigs and refineries.

Monitoring for leaks or gas emissions, detecting spills, and ensuring that rigs and pipelines are safe and in compliance with regulations are among the most crucial operational tasks that oil and gas companies must carry out. .Businesses are under pressure to find a way to perform inspections without putting lives in danger and adding staggering costs.

Intel's Falcon 8+ is used by the company Cyberhawk when inspecting flare stacks at a gas terminal in Saint Fergus, Scotland, where wind gusts can reach 40mph. The company was able to complete a survey in just over a day that would have taken three workers three days, and did not require shutting down the facility, saving up to $5 million a day. https://qz.com/1228103/flying-cameras-are-watching-over-our-oil-and-gas-facilities/

Capturing drones in-flight Air Force Research Lab
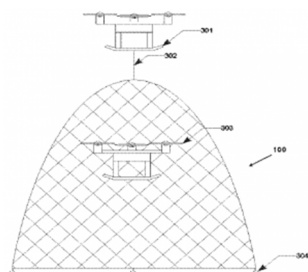
 An RF impenetrable net is tethered to a friendly drone which positions it over the target drone in flight. The friendly drone can then take over electronic control of the target drone or steer it to the ground safely.

Unmanned vehicles for ground, sea, and air applications present an unprecedented opportunity as delivery platforms for improvised

threats including explosive, chemical, radiological, biological, and electronic warfare devices. Further, we have seen recent incidents of drones flying in restricted airspace, disrupting commercial air traffic, and accounts of these devices covertly spying on civilians. A need exists for a comprehensive, safe, and affordable solution for countering these cheap, highly-available, threat-bearing unmanned vehicles.

The Air Force has developed this novel technology to capture drones in use. The solution involves the use of a "friendly" drone which carries an RF Isolating Containment Unit. It is a mesh cage tethered below the friendly drone and sufficient in size to contain the unfriendly drone. The mesh material is impervious to RF signal. In operation, the friendly drone intercepts the target, captures it in the RF ICU where it is disabled and then transports it to a safe landing area. The friendly drone can take over electronic control of the target drone if necessary. https://techlinkcenter.org/technologies/capturing-drones-in-flight/?utm_source=UAS_newsletter&utm_medium=email&utm_campaign=technology

AirMap, Project Wing "demonstrate NASA UTM TCL3 de-confliction capabilities"

April 27, 2018 Philip Butterworth-Hayes UAS traffic management news

 AirMap and Project Wing report they have successfully demonstrated a solution to safety-critical airspace deconfliction challenges as part of the ongoing NASA-UTM trials.

As a UAS Service Supplier (USS), AirMap has participated in past trials to successfully demonstrate NASA-UTM capabilities, including geo-fencing, rule-based situational awareness, flight planning, airspace conflict resolution, notice and authorization, real-time telemetry, contingency management, and remote airspace management for a variety of BVLOS flight simulations.

This week, AirMap joined Project Wing and ANRA technologies to test TCL3 concepts, including failover recovery, remote identification, dynamic weather conditions, contingency planning, and USS-to-USS communication for multiple drone operations.

According to AirMap: "During the trial, AirMap provided UTM services to a senseFly eBee and an Intel Aero, while Project Wing powered separate Intel Aeros, a DJI Inspire, and their own delivery drone. AirMap and Project Wing UTM systems successfully planned and de-conflicted flight plans within the same airspace using an open source, distributed, peer-to-peer system to perform a multitude of missions, including surveys and package delivery in close proximity. Throughout the flights, AirMap and Project Wing UTM systems demonstrated inter-USS

communication such as real-time telemetry and notifications to ensure compliance and safety across the entire multi-USS UTM environment. http://www.unmannedairspace.info/uncategorized/airmap-project-wing-demonstrate-nasa-utm-tcl3-de-confliction-capabilities/

Insitu Integrates Customized TK-5 Firewatch Smart Mapping Payload on ScanEagle UAS April 30, 2018 Mapping and Surveying | News

Insitu, a subsidiary of The Boeing Company and Overwatch Imaging today announced that they have successfully integrated a customized TK-5 Firewatch smart tactical mapping payload on Insitu's ScanEagle® UAS. It will provide real-time fire line maps and wide-area, high-resolution imagery intelligence for wildfire management, disaster recovery, and other applications.

Integrated onto ScanEagle, the TK-5 Firewatch payload maps more than 50,000 acres per hour with resolution much greater than high-altitude or space-based multi-band imaging systems, and features image data and onboard processing capability to enable faster identification and delivery of geospatial intelligence at large scale.

Firewatch will enable ScanEagle to "fly the gaps," day or night, when traditional mapping or surveillance assets are unavailable or conditions are hazardous for manned aircraft to fly.

The TK-5 Firewatch payload autonomously collects high-quality imagery in visible, near infrared, and thermal infrared spectral bands simultaneously, and analyzes that imagery in real time onboard, using GPU-accelerated processors and computer vision software. The Firewatch payload supports live automated fire line mapping, automatic small hot-spot detection, large-scale vegetation index land monitoring and fire fuels analysis, multi-band photogrammetry, and timely wide-area image maps for situational awareness, change analysis, and response planning. http://uasweekly.com/2018/04/30/insitu-integrates-customized-tk-5-firewatch-smart-mapping-payload-on-scaneagle-uas/?utm_source=newsletter&utm_medium=email&utm_campaign=uasweekly_newsletter_2018_04_30&utm_term=2018-04-30

1May18

FAA rolls out automated system for drone pilots to request airspace Samantha Ehlinger APR 30, 2018 | FEDSCOOP

Federal Aviation Administration has begun expanding use of an automated system that will help the agency eventually provide unmanned aircraft (UAS) operators nationwide "near real-time" processing of their airspace authorization requests.

The Low Altitude Authorization and Notification Capability (LAANC) helps to integrate drones into the airspace, providing operators "near real-time airspace authorizations" to fly in controlled airspace, according to a press release Monday. Under the current rule for small drones, "pilots or operators planning to fly in controlled airspace under 400 ft. must receive an airspace authorization from the FAA," according to the FAA.

"What used to take weeks now takes mere seconds," FAA Acting Administrator Dan Elwell said of the new system, in a videoaccompanying the announcement. "Over the next six months we'll roll out LAANC at nearly 300 FAA air traffic facilities, in approximately 500 airports."

Here's how LAANC works: The FAA has a UAS data exchange, which allows it to share airspace data with the private sector, according to the FAA. Approved companies provide automated apps for the drone pilots to use to apply for authorizations.. https://www.fedscoop.com/faa-rolls-automated-system-drone-pilots-request-airspace/

DJI reported 65 lives were saved by drones in previous year May 1, 2018 Thomas Luna

Even though drones can be misused, DJI released a report showing that drone technology can

be used to save lives. According to the report, which documented 27 separate drone rescues from all over the world, at least 65 people from May 2017 to April 2018 were saved with help from a drone.

From dropping buoys to struggling swimmers in Australia and Brazil to spotting unconscious victims on cold nights in England and America, drones have proven to be a life-saving technology. The advancement in thermal imaging cameras, like what FLIR offers, have also helped find at least 18 victims thanks to their ability to sense a person's body heat in the dark.

DJI's report is based on media coverage from seven countries, but other drone rescues may have gone undocumented. The report also found that 32 of the victims saved in the last year were from the United States, while the rest were from China, Australia, Brazil, France, Malta and the United Kingdom.

Drones carried life preservers to two fishermen stranded in a flooded river in Sichuan, China. Photo by Zhong Jia.

The majority of the documented drone rescues involve only one or two victims, but on October 2017, 24 stranded hikers were spotted and saved in China thanks to a drone. In August 2017, an Iowa-based fire department used a drone to help find six people during a river rescue.

Six people missing on a river at night were found with a thermal imaging camera. Image courtesy of Decorah, Iowa Fire Department.

"Drones allow rescuers a way to find missing people, deliver supplies like food and life vests, and cut search and response times from hours to minutes," said Brendan Schulman, DJI Vice President for Policy & Legal Affairs. "When laws and regulations allow public safety agencies to deploy drones easily, rescuers are able to save time and money, protect their personnel, and most importantly, rescue people from peril."

With the increase use of drones to save lives, DJI estimated that drone rescues may eventually become so common that local news may not even mention them anymore. https://www.wetalkuav.com/dji-reported-65-lives-were-saved-by-drones-in-previous-year/2/

DOT Takes Step Toward Expediting Drone Delivery Authorizations Betsy Lillian April 30, 2018

The Small UAV Coalition is applauding the U.S. Department of Transportation's announcement that it will use existing exemption authority to grant economic authority to unmanned aircraft systems operators seeking to carry property in air transportation – representing an important step to expedite drone delivery operations in the U.S., the coalition says.

According to a Federal Register notice issued today, "Notification to UAS Operators Proposing To Engage in Air Transportation," the DOT aims to establish a "procedure to seek an air taxi

operator exemption to hold economic authority from the Department of Transportation for companies proposing to engage in certain air transportation operations with [drones]."

"In order to engage directly or indirectly in air transportation, a citizen of the United States is required to hold economic authority from the department pursuant to 49 U.S.C. 41101, either in the form of a 'certificate of public convenience and necessity' or in the form of an exemption from the certificate requirement. This authority is separate and distinct from any safety authority required by the Federal Aviation Administration (FAA)," the notice explains. https://unmanned-aerial.com/dot-takes-step-toward-expediting-drone-delivery-authorizations?utm_medium=email&utm_source=LNH+05-01-2018&utm_campaign=UAO+Latest+News+Headlines

New Zealand police tell residents not to shoot down drones following robbery

fears May 1, 2018 Feilidh Dwyer

A Facebook post in New Zealand informed Christchurch residents that drones were being used as a tool for thieves to case out properties in preparation for robberies.

New Zealand media reported that the post went viral and was making the rounds on community groups. Kiwi police stated there was no evidence that drones are being used in local burglaries. Police further stated that if someone believes a drone is being piloted above their property without consent, they should contact the Civil Aviation Authority (CAA), not take the law into their own hands.

There were in excess of 300 complaints made to the CAA about drones in 2017. The majority involved drones being flown over people's properties without consent. One incident saw a gentleman who felt a drone had invaded his privacy shoot at the drone with a shotgun (whether he hit the drone is unknown). https://www.wetalkuav.com/new-zealand-police-tell-residents-not-shoot-drones-following-burglary-fears/

First Full-Scale Model of European Medium-Altitude Long-Endurance RPAS

Revealed 30 Apr 2018 | Mike Rees

Airbus Defence and Space has announced that, in conjunction with Dassault Aviation and Leonardo, it has unveiled the first full scale

model of the European Medium-Altitude Long-Endurance Remotely Piloted Aircraft at the 2018 ILA Berlin Air Show.

The unveiling of the full scale model and the reaffirmed commitment of the industrial partners to jointly develop a sovereign solution for European Defence and Security comes after a nearly two-year definition study launched in September 2016 by the four participating nations, Germany, France, Italy and Spain.

"While still a lot of work lies ahead of us, this full scale model represents a first milestone of what Europe can achieve in a high-technology sector if it bundles its industrial strength and know-how, " said Dirk Hoke, CEO of Airbus Defence and Space. This innovative partnership also eases the countries' constrained budgetary situation through clever pooling of research and development funds." http://www.unmannedsystemstechnology.com/2018/04/first-full-scale-model-of-european-medium-altitude-long-endurance-rpas-revealed/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=3396deaae6-eBrief_2018_May_1&utm_medium=email&utm_term=0_6fc3c01e8d-3396deaae6-119747501

Rockwell Collins Demonstrates UAS Command & Control Datalink for NASA UTM 30 Apr 2018 | Mike Rees

 Rockwell Collins has announced that it has recently participated in two weeks of testing for the NASA Unmanned Aircraft System (UAS) Traffic Management program. As part of the test flights, Rockwell Collins served as the UAS Service Supplier for the safe management of a UAS flying beyond visual line of sight.

Rockwell Collins demonstrated how its CNPC-1000 Command and Control data links can be redundantly integrated to provide a fail-safe connection for operating the UAS. For example, if one link gets cut off, the operator still has a connection through another link to assure the safe operation of the UAS. The company also demonstrated how its webUASSM service can successfully manage multiple UAS in the air, redirecting aircraft set on conflicting flight paths as needed.

The test event was planned and orchestrated by the Northern Plains UAS Test Site staff under a NASA contract. The University of Iowa Operator Performance Laboratory, a Rockwell Collins partner, supported integration of the CNPC-1000 C2 links into its Pulse Aerospace Vapor 55

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unmanned test vehicle and successfully piloted the aircraft throughout the test event.
http://www.unmannedsystemstechnology.com/2018/04/rockwell-collins-demonstrates-uas-command-control-datalink-for-nasa-utm/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=3396deaae6-eBrief_2018_May_1&utm_medium=email&utm_term=0_6fc3c01e8d-3396deaae6-111778317

Xcel Energy to fly unmanned helicopter beyond line of sight, a first under FAA waiver, to inspect infrastructure April 20, 2018 Courtney E. Howard Chief Editor, Intelligent Aerospace

MINNEAPOLIS. Xcel Energy, a utility company using unmanned aircraft system or drone technology to inspect energy infrastructure, is on track to become the first utility in the nation to routinely fly unmanned aircraft beyond the operator's line of sight when it begins surveying transmission lines near Denver, Colorado. Federal Aviation Administration officials authorized the flights by approving a waiver.

Starting this summer, Xcel Energy will routinely operate UAS beyond visual line of sight within a designated area approximately 20 miles north of Denver International Airport. Licensed pilots will remotely operate a small, unmanned helicopter weighing less than 55 pounds. When the transmission inspections are completed in the Denver area, Xcel will work with the FAA to extend beyond line-of-sight operations in other states where the company provides electric service.
http://www.intelligent-aerospace.com/articles/2018/04/xcel-energy-to-fly-unmanned-helicopter-beyond-line-of-sight-a-first-under-faa-waiver-to-inspect-infrastructure.html

HAZON Partners With PrecisionHawk for Beyond Visual Line of Sight (BVLOS) Training May 1, 2018 News

HAZON Solutions and PrecisionHawk today announced a strategic partnership where HAZON will serve as the preferred training partner for PrecisionHawk's Beyond Visual Line of Sight waiver consulting program.

While BVLOS flight operations offer an increase in return on investment over traditional visual line of sight drone flight operations or manned aircraft operations, expanding the area of operation by up to 50 miles, pilots must have sufficient experience in VLOS and receive BVLOS-specific training. Under the Pathfinder fieldwork,

PrecisionHawk recommends a practical performance evaluation and at least 15 to 20 hours of VLOS flight before BVLOS is attempted.

"BVLOS flight operations require significant hands-on training due to the inherently complex technical and operational requirements," said Tyler Collins, VP airspace services at PrecisionHawk. "This partnership with HAZON is not a test case or a proof of concept – we will be enabling production-level, routine BVLOS flight for commercial operations." http://uasweekly.com/2018/05/01/hazon-partners-with-precisionhawk-for-beyond-visual-line-of-sight-bvlos-training/?utm_medium=push_notification&utm_source=rss&utm_campaign=rss_pushcrew

2May18

Intel Wants Its New Drones to Find Jobs Outside the Spotlight Ian King May 1, 2018

Intel Corp. drones played starring roles at the 2018 Winter Olympics, the music and arts festival Coachella and danced above the Bellagio Hotel's fountains in Las Vegas.

But while those stunts, involving hundreds of Shooting Star drones that create a light show in a modern twist on fireworks, are great PR, what's going on behind the scenes is much more valuable to Intel.

 The latest effort is Intel's Falcon 8+ aircraft, designed for less-glamorous roles at oil refineries, over farmers' fields and on building sites. Software packaged with the drone can help

businesses map out pre-planned flights using simple overlays on satellite imagery.

Data is the key. The Falcon 8+ is armed with either a high-end digital camera or array of sensors, and generates a massive amount of information very quickly. A 15-minute flight taking high-resolution pictures -- possibly combined with thermal-image information -- can generate more than 10 gigabytes of data. Taking that and turning it into something useful, such as a three-dimensional map, can take a high-end computer a couple of days of work. That's the kind of new industry that Intel -- the world's largest maker of computer processors with a growing sideline in memory chips -- wants to see flourish.

The data transformation that's possible with the drone is the most intriguing aspect of the device, said Anil Nanduri, who heads up Intel's drone efforts. To support his goal, Nanduri's group is introducing a new software and service package that will allow data generated by Intel's drones to be rapidly processed into usable reports and three-dimensional models.

https://www.bloomberg.com/news/articles/2018-05-01/intel-wants-its-new-drones-to-find-jobs-outside-the-spotlight

Black Swift Launches New UAS for Scientific Research Jason Reagan May 02, 2018

Announced at AUVSI's EXPONENTIAL 2018 today, the Black Swift S2 UAS is being described as a "tightly integrated small Unmanned Aerial System designed to meet the needs of atmospheric and earth-observing scientific field campaigns."

The fruits of a partnership with NASA and University of Colorado (CU) Boulder Integrated Remote and In Situ Sensing (IRISS), the S2 platform encompasses airframe, avionics, and sensors specifically designed to measure atmospheric parameters such as temperature, pressure, humidity and winds; the system can hoist up to 5 pounds of additional payload.

The S2 relies on the SwiftCore Flight Management System, described as "specifically engineered to meet the demanding requirements of nomadic scientific campaigns."

Potential scientific uses for the S2 include measurement of soil moisture content, atmospheric volcanic phenomenon, and fire-conditions/weather, as well as providing satellite calibration via multispectral cameras. The platform is already being used by NOAA and NASA to gather data in harsh environments including tropical volcanoes, Arctic permafrost, and high Alpine ranges. https://dronelife.com/2018/05/02/black-swift-launches-new-uas-for-scientific-research/

3May18

This drone ambulance could one day save your life! May 3, 2018 Thomas Luna
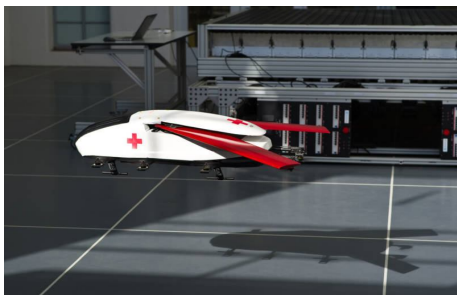
Researchers from California Institute of Technology (Caltech) have designed a 1/5th scale autonomous drone ambulance with hopes of one day creating a car-size "rescue pod," according to KQED News.

The self-flying drone will be designed to rescue a single person in areas where first responders have trouble reaching, and it could even be used to air lift an injured victim. Caltech also announced plans to install sensors inside of the drone to monitor a patient's vital signs. Since the drone is autonomous, an artificial intelligence system will be

created to pilot a patient to safety. Even though it'll take an estimated five years to develop a full-size version, the drone ambulance's design is already being tested to see how it responds to adverse weather conditions.

 In a Physics World article, Caltech said the final design would resemble the size of a Toyota Prius, and it would be capable of hitting speeds up to 75 mph.

 The drone is being developed in a 10,000-square-foot facility Autonomous Systems and was designed to create next

called Center for Technologies. This center generation autonomous systems, which includes submersible vehicles, walking robots and even aerial delivery systems for Earth and Mars.

The drone ambulance has potential to drastically cut the response time it takes to reach a victim. The Caltech project is still in the early stage. When this technology actually becomes reality, it'll change how emergencies are handled. https://www.wetalkuav.com/this-drone-ambulance-could-one-day-save-your-life/

4May18

Gang used swarming drones to attack FBI; 'high-speed' passes targeted hostage rescue team Douglas Ernst - The Washington Times - Thursday, May 3, 2018

 Attendees at this year's AUVSI Xponential conference on drone technology were given new examples as to how far criminal gangs will go to thwart authorities. In addition to counter surveillance measures against U.S. Customs and Border Patrol agents, a "law enforcement-sensitive" incident last winter demonstrated offensive measures employed by criminals.

Joe Mazel, the head of the FBI's operational technology law unit, shed some light on an attack aimed at a Hostage Rescue Team. "[Agents] heard the buzz of small drones — and then the tiny aircraft were all around them, swooping past in a series of 'high-speed low passes at the agents in the observation post to flush them. We were then blind. It definitely presented some challenges."

Mr. Mazel also noted how criminal organizations are using drones to surveil police departments. Witnesses are intimidated as a result of a gang's ability to monitor "who is going in and out of the facility and who might be co-operating with police."

https://www.washingtontimes.com/news/2018/may/3/gang-used-swarming-drones-to-attack-fbi-high-speed/