Drone May Have Collided With British Airways Flight.

The Wall Street Journal (4/17, Subscription Publication) reports that on Sunday, a British Airways flight bound for London's Heathrow Airport appears to have collided with an airborne UAV in what may be the first such incident involving a major airline. Patrick Ky, chief of the European Aviation Safety Agency (EASA), Europe's primary safety regulator, said he wants to create an international standard for drone regulations, and hopes to coordinate with U.S. and Asian officials to achieve that goal. None of the 132 passengers and 5 crew members aboard the aircraft were hurt and the British Airways Airbus A320 didn't sustain any damage, but ABC World News Tonight (4/17, lead story, 2:01) reported that experts warn that the growing popularity of drones brings with it a "serious potential for disaster." Col. Stephen Ganyard, former deputy assistant Secretary of State, commented that "Sooner or later, we're going to lose an airplane due to a drone collision." Bloomberg News (4/17) adds that the FAA "requires operators to stay more than five miles from airports unless they get permission from air-traffic controllers." Hans Weber, head of consulting firm Tecop International Inc., said, "There's a real tug of war between drone users and regulators." He added, "If people kept to those requirements there would be no problem."

Australia Post Tests The Use Of Drone Delivery.

Fortune (4/15) reported that Australia Post announced that it will be operating a two-week field test of drone deliveries in Melbourne. The articlenoted that the results of the tests will determine whether Australia Post conducts a consumer trial of the technology in rural locations. The drones have been equipped with parachutes and alarm systems to prevent a malfunction from causing injury to pedestrians on the ground.

Reuters (4/16) also reported on the story.

DJI Unveils Two New Powerful UAVs For Hollywood.

The Verge (4/17) reports that on Sunday, at the annual summit of the National Association of Broadcasters in Las Vegas, UAV developer DJI unveiled "two new products aimed at the big budget productions rolling out of Hollywood." The article notes that Claudio Miranda, the Academy Award-winning director of photography on Life of Pi, helped introduce the Matrice 600 (M600), "a $4,599 drone with a laundry list of cutting-edge capabilities onboard." In addition, DJI also announced the release of the $1,599 Ronin-MX, "the first universal aerial gimbal the company has made."

Small, 3D-Printed UAV Aids British Royal Navy.

Gizmodo (4/17) highlights the SULSA UAV, a lightweight 3D printed UAV operating in the Antarctic that "can be launched from a deck and cruise at 60mph," and is capable of capturing real time aerial imagery for the British naval patrol vessel HMS Protector "as it tries to navigate Antarctic ice."

DARPA XS-1 Spaceplane Funded For Next Phase.

The Daily Mail (4/15) reported that the Defense Advanced Research Projects Agency (DARPA) is entering the second and third phases of the development of the "eXperimental Spaceplane 1," "an airplane-like vehicle that can fly to the edge of Earth's atmosphere and quickly boost small satellites into orbit." Speaking to attendees at the Space Access '16 conference in Phoenix last week, DARPA's Jess Sponable said, "I can tell you officially now that we have been funded by the [Obama] Administration for the next phase of XS-1 … we have $146 million."

OneWeb Said To Mass Produce Satellites Near Space Coast.

Reuters (4/17) reports that according to two sources familiar with the matter, space startup OneWeb plans to construct a factory near NASA Kennedy Space Center in Florida, where it will mass produce small satellites.

According to the article, OneWeb intends to initially produce 900 satellites to offer global, high-speed Internet access as early as 2019, with a network that would be more than 10 times larger than any other current satellite constellation.

FAA Confirms, It Is A Federal Crime To Shoot Down A Drone.

Popular Science (4/15) reported that the FAA has confirmed that shooting down any aircraft, including UAVs, is considered a federal crime, which "is great news for anyone who has a drone, and for anyone who doesn't want errant bullets falling from the sky," but "bad news for anyone eager to pump a quadcopter full of lead." When making the decision, "the FAA turned to 18 USC 32, a law that in part expands 'United States jurisdiction over aircraft sabotage to include destruction of any aircraft in the special aircraft jurisdiction of the United States.'"

FAA To Allow Commercial UAS To Operate At Higher Altitude.

Construction Equipment (4/15) reported on the FAA's decision "to raise the operating altitude for drones used in commercial industry" from 200 feet to 400 feet, which "is still lower than the proposed 500-foot range in the small UAS rule." The article also includes a graphic showing the 10 states with the highest number of FAA-approved UAS operators in the construction or building industry. Texas leads with 82 FAA-approved operators, followed by Florida with 71 and California with 67.

19Apr16

Drone Collides With British Airways Jet.

In continuing coverage, NBC Nightly News (4/18, story 9, 1:55) reported that on Sunday, a British Airways flight bound for London's Heathrow Airport collided with a drone. None of the 132 passengers and 5 crew members aboard the aircraft were hurt and the British Airways Airbus A320 landed safely. In 2015, the FAA reported some 1,400 close calls between planes and drones. *NBC* reported that "some experts want to require software that keeps [drones] away from airports and other sensitive locations."

NBC News (4/18) reports that the FAA "said pilots reported more than 650 drone sightings in the first eight months of last year, up from 238 during 2014." Kevin Kochersberger, a Virginia Tech mechanical engineering professor and AIAA Associate Fellow, conducted research that found drones destroy "a chunk of the engine's blades." He said, "It's probably something we should have looked at a few years ago."

Analysis: Robots Poised To Challenge UAVs For E-Commerce Delivery.

In an analysis, Bloomberg News (4/18) reports that small, Earth-bound delivery robots may be more likely than UAVs to effectively overcome the "Last Mile" of an e-commerce transaction, which is "the least efficient and most problematic step in the delivery process." However, Gur Kimchi, who heads the Prime Air program at Amazon, said that while the global e-commerce giant considered delivery robots and driverless trucks, it "decided drones were a better bet." Kimchi explained, "The other options cannot guarantee very fast, very economic and very safe delivery," adding that while UAVs can service a range of rural, suburban and urban environments, delivery robots operate best in urban areas, while autonomous trucks would lead to congested roads.

Australia Post Testing Drone Deliveries. In continuing coverage, Mashable (4/18) reports that the Australia Post announced last week that over the next few weeks it will start testing the delivery of small packages using UAVs as it considers whether to expand the experiment to include customer trials at a later point. Ahmed Fahour, Australia Post managing director and group CEO, said that the tests aim to determine "what it can deliver, how far it can travel, and ultimately, how our customers could receive a parcel." Fahour insisted that the safety of people is paramount, asserting, "We'll only bring it into play once we are 100 per cent sure that it's safe and reliable."

Airbus Joint Venture Aims To Mass Produce Satellites.

The Wall Street Journal (4/18, Subscription Publication) reports that on Tuesday, Airbus and OneWeb are expected to reveal plans for a satellite mass production plant in Florida. In an interview, OneWeb founder Greg Wyler said that the plant would be able to automatically assemble and test up to 15 300-pound satellites per week. He added that production is set to begin next year.

DARPA Conducts Successful Sense-and-Avoid System Flight Tests

Published: 13 Apr 2016

A research effort associated with DARPA's Aircrew Labor In-Cockpit Automation System (ALIAS) program recently conducted the first successful flight tests of a shoebox-sized, plug-and-play system designed to enable manned and unmanned aircraft to automatically detect nearby aircraft and avoid potential mid-air collisions. An unmanned air vehicle (UAV) repeatedly used the technology demonstration system to detect and track in real time a Cessna 172G aircraft approaching from various vertical and horizontal distances.

The integrated sense-and-avoid (SAA) system includes a single optical camera that provides imagery for detection and tracking. The system also incorporates passive ranging features that assess the likelihood of an incoming aircraft intersecting the flight path of its host aircraft, and collision-avoidance capabilities to determine the best way to steer the host aircraft out of harm's way. The work is part of a DARPA effort to create a low-cost, easily installed system to detect oncoming or crossing aircraft and determine the best avoidance strategy compliant with standard rules that set minimum vertical and lateral distances between aircraft during flight.
http://www.unmannedsystemstechnology.com/2016/04/darpa-conducts-successful-sense-and-avoid-system-flight-tests/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=598800f509-Unmanned_Systems_Technology_eBrief&utm_medium=email&utm_term=0_6fc3c01e8d-598800f509-111778317#sthash.P6oBN6AR.dpuf

Unmanned Aircraft Launched from UK Royal Navy Icebreaker Vessel

15 Apr 2016

The brainchild of experts at Southampton University, the Laser-Sintered Aircraft – shortened to SULSA – is made of nylon, printed in four major parts and assembled without the use of any tools – it is the world's first 'printed' airplane.

It is controlled from a laptop on board, cruises at nearly 60mph and is all but noiseless thanks to its tiny engine. Each one costs no more than £7,000 – cheaper than an hour's flying time by a Fleet Air Arm helicopter. Having been tested off the Dorset coast last summer with HMS Mersey, the 3kg aircraft has been given a much more rigorous work-out over Antarctica. After flights of up to 30 minutes' duration, it is fished out of the icy waters by one of HMS Protector's boats so it can be launched once more. http://www.unmannedsystemstechnology.com/2016/04/unmanned-aircraft-launched-from-uk-royal-navy-icebreaker-vessel/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=598800f509-Unmanned_Systems_Technology_eBrief&utm_medium=email&utm_term=0_6fc3c01e8d-598800f509-111778317#sthash.TpgBmrKJ.dpuf

Community college students fly drones over Wallops Island to help with sea level rise studies By Cindy Clayton, The Virginian-Pilot

Several local community college students recently worked on a sea level-rise project for the NASA Wallops Flight Facility as part of a new pilot online course. The course, Topics in Service Learning in Geographic Information Systems, is offered by Thomas Nelson Community College as part of a

partnership with the Virginia Space Grant Consortium, a news release from the consortium says. The goal was to show the capability of small unmanned aircraft to gather images and other data about invasive species and shoreline information to help determine the impact of sea level rise on the facility in support of the Wallops' Coastal Resilience Initiative, the release says.

A DJI Phantom 3 quad-copter flew over 52 acres on the north end of the island, collecting 211 high definition photos for a high-resolution map, the release says. A DJI Phantom 2 quad-copter flown manually and equipped with a near-infrared camera was flown over a smaller area on the south end of the island. Students used GIS to analyze the images and data. Students from Thomas Nelson and Tidewater Community colleges participated. http://pilotonline.com/news/local/community-college-students-fly-drones-over-wallops-island-to-help/article_f1b60ebc-3d89-5d63-a1b1-6fe1f052b352.html

20Apr16

FAA Bill Reinforces Federal Supremacy In Drone Legislation. USA Today (4/19) reports that the FAA reauthorization bill that was approved by the Senate "would reinforce federal supremacy in drone legislation." The Senate bill says that states are prohibited from enacting laws about the "design, manufacture, testing, licensing, registration, certification, operation, or maintenance of an unmanned aircraft system." Sen. Dianne Feinstein (D-CA) sought to "drop that language" from the bill "so that states could set their own standards.". However, Feinstein's amendment was not included in the measure that passed on Tuesday.

FAA Bill Includes Five-Year Extension Of Drone Test Site Program. The Rome (NY) Sentinel (4/19) reports that the FAA reauthorization bill that was approved by the Senate includes an amendment that "would extend the authorization of every unmanned aircraft systems test site...for an additional five years." According to the article, the bill "would extend the presence of the six test areas for another five years after the initial period ends on Sept. 30, 2017."

NASA Tests UAV Air Traffic Control System In Six States.

Popular Science (4/19) reports that since there are no flight-tracking systems for flights at lower altitudes, and because small UAVs do not broadcast their location while flying, the FAA has partnered with NASA to develop the Unmanned Aerial System Traffic Management system, essentially providing air traffic control for UAVs. Following an earlier test at just one site last fall, NASA tested the system once again on Tuesday using 24 UAVs at six different FAA test locations across the country, including in Alaska, Maryland, Nevada, New York, North Dakota, and Texas.

"Smart Market" Needed To Regulate Drone Airspace. Jia Xu, David Manheim, and John F. Raffensperger from the RAND Corporation contribute a piece to TechCrunch (4/19), which pushes for the creation of a "smart market" to regulate drone air traffic. A smart market, which is currently used to allocate electricity and for Google AdWords, "is an auction that relies on mathematical optimization to resolve complex rules associated with allocating a resource," which can allow for self-regulation. They describe a drone airspace smart market as a public auction where drone operators could "bid for a particular flight path and time slot to fly a specific drone," and then a "computer-based market-clearing mechanism would ensure that each drone had a valid flight and that each path had enough capacity." The contributors argue that such a system is more "flexible than complex regulation, allowing for improvements without the need for new laws."

How North Dakota Is Becoming Drone Hub. In an article for Popular Science (4/19), Mark Sundeed examines North Dakota as a hub for drones, where drone startups such as Botlink are based. The state "has been an early and enthusiastic adopter" of drone technology, and it is one of the FAA's six drone test sites. The U.S. Air Force, border patrol, and the Air National Guard all fly drones from Grand Forks Air Force Base, and Northrop Grumman [BO1] is constructing a new facility next door "at the Grand Sky unmanned aerial systems business and

aviation park – the nation's first." Sundeed mentions that due to FAA regulations limiting drones to flying within the pilots' line of sight, Amazon has been testing drones in Canada, Denmark, and the UK.

OneWeb To Mass Produce Satellites At Florida Space Coast Plant.

In continuing coverage, the Orlando (FL) Sentinel (4/19) reports that on Tuesday, Internet satellite company OneWeb announced that it is opening a $85 million manufacturing and testing facility on the Space Coast near the Kennedy Space Center in Florida, with a goal of eventually building 15 satellites per week at the site for commercial and government customers. The article explains that OneWeb "hopes to eventually launch about 900 satellites, many from the Space Coast, in an effort to expand broadband access globally," adding that the new facility "could eventually add more than 250 jobs to the region, as OneWeb ramps up production."

   Reuters (4/20) adds that state-backed economic development agency Space Florida plans to invest about $80 million to construct and equip the facility, which will then be leased to OneWeb. The article also notes that OneWeb, overall, raised $500 million in an initial round of financing from a consortium of investors including Virgin Group, Qualcomm, Coca-Cola, Intelsat, TotalPlay, and Bharti Enterprises.

21Apr16

DJI Complying With Requests To Share UAV Data With Chinese Government.

The New York Times (4/20, Subscription Publication) reports that during a press briefing at DJI's headquarters in Shenzhen, China on Wednesday, DJI spokesman Zhang Fanxi said that DJI is still looking to reach a deal with China concerning the collection of UAV flight data, but added that the company is currently complying with requests from the Chinese government to share information, and that it may also provide the government with data regarding flights in Hong Kong. Additionally, Zhang remarked, "This data, exactly how we use it, when we use it and which government departments we give it to" is an ongoing discussion. Zhang maintained that DJI will not provide Chinese authorities direct access to UAV data unless requested, and that users would be informed in such cases.

UAV Filmmaking Raising Safety Concerns, Interest In Hollywood.

Variety (4/21) reports that as versatile as UAVs are for the purposes of moviemaking, the tiny aircraft have downsides, as they "can be hard to handle and are sometimes flown carelessly." The article explains that what makes UAVs "so compelling are the priceless shots they can capture," noting that major studios, aware of the safety issues surrounding UAVs on set, have begun requiring that UAV pilots "have certification from the FAA through its newly created Section 333 unmanned aircraft systems authorization program." The article also highlights some of the safety issues still outstanding, as well some of the logistical issues involved with UAV filming.

Drone Makers Hope To Keep Products From Becoming Terrorist Tools.

Fox News (4/20) reports online that according to experts, drone manufacturers are trying to devise methods to prevent their products from being used as weapons of terror. The issue came to the forefront earlier this week after a drone collided with an airliner landing in London. "Although no one was hurt and officials have not called the incident an act of terrorism, the following day, SITE Intelligence Group reported that terrorists were using a secure messaging app to encourage the use of drones to take out commercial planes," *Fox News* reports. Drone maker DJI Technology has incorporated "geofencing software in its drones to prevent inadvertent incursions."

   Drone Neutralization Technologies Explained. The Verge (4/20) examines "some of the best methods for grounding" drones. The article lists some of the technologies, such as spoofing and radio jammers, as well as the companies developing those technologies.

FAA Issues Its First Approval For Nighttime Flights Of Commercial Drones.

The Wall Street Journal (4/20, Subscription Publication) reports that for the first time, the FAA has issued approval for flying small commercial drones at night. According to the report, the approval will allow Industrial Skyworks Inc. to conduct evening inspections of roofs and buildings with drones. The move signals that federal regulators are moving quickly to authorize expanded uses of drones.

22Apr16

UK Official Criticizes Amazon Over UAVs, But Advocates Against Excessive Regulation.

Bloomberg News (4/21) reports that in testimony before the House of Lords, UK Minister of State for Transport Robert Goodwill criticized Amazon for providing customers inadequate guidance for the safe operation of UAVs purchased from the retailer. Goodwill "said that Amazon had so far refused to include a government pamphlet that outlines British laws that relate to flying small unmanned aircraft safely," which other major British retailers generally do. However, he stressed that the UK should be careful that "inflammatory" media coverage pertaining to UAVs does not result in excessive regulation, saying, "We must not allow the regulation to stifle innovation and must be sure that the regulation is proportionate to the risk."

FAA Clears First Nighttime Drone Flights.

Bloomberg News (4/21) reports the FAA "granted the first approval for commercial drone flights at night" to Ohio-based Industrial Skyworks USA, which "uses drones for industrial inspections." Company president Michael Cohen said the FAA is "trending in the right direction." The article reports the FAA "will require more stringent pilot requirements than it has imposed on other commercial operators to ensure they understand the potential risks of flying at night, according to the agency's exemption dated April 18." In addition, drones will be required to be equipped with lights in order for operators and other aircraft to be able to spot them.