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Damaged by War, Syria's Cultural Sites Rise Anew in France

By MARLISE SIMONS DEC. 31, 2016

PARIS — When the Islamic State was about to be driven out of the ancient city of Palmyra in March, Yves Ubelmann got a call from Syria's director of antiquities to come over in a hurry. An architect by training, Mr. Ubelmann, 36, had worked in Syria before the country was engulfed by war. But now there was special urgency for the kind of work his youthful team of architects, mathematicians and designers did from their cramped offices in Paris: producing digital copies of threatened historical sites.

Palmyra, parts of it already destroyed by the Islamists who deemed these monuments idolatrous, was still rigged with explosives. So he and Houmam Saad, his Syrian colleague, **spent four days flying a drone with a robot camera over the crumbled arches and temples.**

"Drones with four or six rotors can hover really close and register structural details, every crack and hole, and we can take very precise measurements," said Mr. Ubelmann, who founded the company Iconem. "This is the stuff architects and archaeologists need."

They need it in a new push for virtual preservation that scientists, archaeologists and others, like Mr. Ubelmann, are compiling on a large scale. The records could be used to create computer models that would show how monuments and endangered historical sites might one day be restored, repaired or reconstructed. http://www.nytimes.com/2016/12/31/world/europe/destroyed-by-isis-syrias-cultural-sites-rise-again-in-france.html?smprod=nytcore-ipad&smid=nytcore-ipad-share

Your New Vacation Photographer: A Drone By NORA WALSH DEC. 28, 2016

Vacation photography is hitting new heights. The luxury travel company Black Tomato has introduced a service called "Drone the World," which sends a professional drone photographer to capture their clients' adventures. The service is included in trips from $5,500 a person for a three-night itinerary, including flights, accommodations and excursions. Once home, travelers receive a three-minute edited video that features sweeping aerial footage of their trip. According to a co-founder, Tom Marchant, "It gives our guests a chance to see where they traveled from a brand-new perspective."

The InterContinental David Tel Aviv just started a five-night honeymoon package (from $3,277) that counts a drone photo shoot among its array of offerings. And Shangri-La's Hambantota Resort & Spa in Sri Lanka (rooms from $250) provides guests with the opportunity to fly a drone themselves or be filmed by one while engaging in a wide-range of on-site activities, including golfing and trapeze-flying. Footage is available on CD or via email for a $20 fee.

http://www.nytimes.com/2016/12/28/travel/drone-new-aerial-vacation-photographer.html?ref=todayspaper

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How drones will reshape the enterprise Posted Nov 13, 2016 by Alexander Niehenke

Most people associate drones with troops and mad scientists tinkering around in their backyards. Thanks to technological breakthroughs — including longer and safer flights — and new federal guidelines enacted this year, drone use is expanding beyond military and consumer markets and is seeping into the enterprise. Analysts at PwC forecast the emerging global market for drone-powered business services to be valued at more than $127 billion.

DJI has ushered technical innovation into the mainstream with its popular Phantom series of off-the-shelf drones. The newest models now have enhanced gyro-stabilization capabilities and the ability to fly for triple the duration of what was possible only a couple of years ago — at a digestible cost of $1,000.

Simply put, the cost and hardware have reached a point where drones are easily accessible for most enterprise use cases. The tipping point, however, came with the Federal Aviation Administration's decision to pass Part 107 in June — now, anyone with an online certification can operate a drone for commercial purposes. Previously, the industry was limited to having individuals with a pilot's license operate drones (both costly and cumbersome).

We're seeing a wide range of mainstream business applications for drones crop up, the breadth so esoteric it becomes hard to track. Intel just unveiled a drone designed specifically for industrial use-cases like construction site and field inspections. Oil and gas companies are using drones for rig safety and maintenance, and Amazon has made its aspirations for drone deliveries known.

Seed companies marketing to the agriculture industry are giving farmers free drones and training them to survey their crops. UPS recently used a drone to deliver medicine to an island near Boston. I also recently spoke with a company that mapped whole swathes of freeway in Mexico to identify sections that needed the most repair. Resolution was not high enough with satellite imagery and car-based mapping would have taken too long, but drones completed the project in a matter of days.

There are a ton of niche applications too — from insurers assessing hail storm damage on crops to cities surveying storm water drains. The new enterprise drone market has created the need for an ecosystem to support it. On-demand "drone entrepreneurs" are working as consultants to companies that need drone pilots and service providers — think Uber for drones. For example, companies are contracting with drone operators for remote facility inspection rather than risking the safety of an employee or hiring a specialist solely for the assignment.

https://techcrunch.com/2016/11/13/how-drones-will-reshape-the-enterprise/

This Tech Giant Has Kicked Off Drone Delivery in Rural China Tekendra Parmar

Updated: Nov 15, 2016 12:48 AM Eastern

A Chinese company has just publicly launched its drone delivery service. JD.com has started a trial of the program in rural China, testing drop-offs outside of Beijing and in Jiangsu, Shaanxi, and Sichuan provinces, during the country's "Singles' Day" shopping festival this past Friday.

"There have been thousands of trial flights, with a portion of those delivering packages to customers," Josh Gartner, spokesperson for JD (JD, -0.78%), told Fortune. Gartner did not say how many customers have participated in the program to date. Everything went very smoothly with packages being delivered from four different bases across the country."

Singles' Day is the world's largest online retail festival, amassing $17.6 billion in sales over the 24-hour period—far more than America's Cyber Monday's reported sales of $3 billion last year. JD may be on its way to becoming the first e-commerce giant to roll out a commercial drone delivery program at a large scale. http://fortune.com/2016/11/14/jd-china-drone-delivery-singles-day/

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Government's "Slow Pace" Increases Demand For Counter-UAV Technologies.

Reuters (1/2) reports that the "slow pace of government regulation" for UAVs and the increase in consumer UAV sales "has spawned a counter-industry of start-ups aiming to stop drones flying where they shouldn't, by disabling them or knocking them out of the sky." The article reports that dozens of start-up firms from around the world "are developing techniques – from deploying birds of prey to firing gas through a bazooka – to take on UAVs that are being used to smuggle drugs, drop bombs, spy on enemy lines or buzz public spaces." Reuters mentions that the FAA "is testing various counter-drone technologies at several airports" in the US.

Orbital Signs Agreement with Insitu for UAV Propulsion Systems

Published: 23 Dec 2016

Orbital Corporation has announced that it has signed a long-term agreement (LTA) with Insitu, valued at up to US$91m (A$120 million) over a three year period. The agreement covers the supply of new Insitu-Orbital UAVE N20 propulsion systems to Insitu for near term program requirements projected to run over the next three years. A supporting agreement that will cover engine rebuilds, spares and services is currently under development and is expected to be completed in the next calendar year. Further extensions to the LTA are anticipated with likely growth in the military and commercial Unmanned Aerial Vehicle (UAV) markets.

The LTA provides secure minimum volumes that will enable Orbital to forecast production volumes with surety and put in place necessary long lead time supplier arrangements. The Agreement can be adjusted for future potential increased volume requirements based on projected growth in the military market, potential retrofit opportunities and anticipated significant growth in the commercial UAV market

segment. http://www.unmannedsystemstechnology.com/2016/12/orbital-signs-agreement-insitu-uav-propulsion-systems/

FAA OKs North Dakota UAS Test Site for Beyond-Line-of-Sight Operations Ramona Adams December 30, 2016

The Federal Aviation Administration has authorized an unmanned aircraft system test site in North Dakota to oversee UAS operations that go beyond operators' line of sight. Sen. John Hoeven's (R-North Dakota) office said a release posted Wednesday that the Northern Plains UAS Test Site can now support efforts to develop, test and evaluate new applications for UAS technology through FAA's certificate of authorization.

"This authorization will help companies like General Atomics, Northrop Grumman and future tenants at the Grand Sky technology park test and evaluate complex UAS operations possible nowhere else in the nation," said Hoeven. He added BLOS operability could encourage government agencies such as NASA, the U.S. Air Force and the Department of Homeland Security to bring UAS integration efforts to North Dakota.

The Northern Plains UAS Test Site will use a chase plane until the Grand Sky technology park completes a software update that will link the test site to the Grand Forks Air Force Base's DASR-11 digital radar system. http://www.executivegov.com/2016/12/faa-authorizes-north-dakota-uas-test-site-for-beyond-line-of-sight-operations/

$975,000 grant will help scientists employ UAVs to improve wheat breeding

Pat Melgares, K-State Research and Extension Dec 30, 2016

The National Institute of Food and Agriculture has awarded $975,000 to Kansas State University for work that incorporates unmanned aerial vehicles in the process of breeding better wheat varieties. The university's work is designed to give scientists deeper understanding of in-field conditions so they can improve breeding programs in the United States and internationally.

Unmanned aerial vehicles, more commonly known as drones, are quickly becoming recognized as a valuable tool for mapping agricultural crops. Kansas State University has been developing uses of UAVs to collect data on thousands of plots, including work in Kansas, Mexico and India.

"Perhaps the greatest bottleneck currently in plant breeding and genetics is effectively generating precision measurements of plant characteristics in the field," said project director Jesse Poland, assistant professor of plant pathology and agronomy at Kansas State University. The goal of this project is to deliver in-season yield predictions by building models that combine genetic information from DNA sequencing and crop physiology that we will gather from UAV measurements on tens of thousands of breeding lines."

For this grant, Poland said the university will use information from UAVs to evaluate large populations of candidate varieties under field conditions in wheat-breeding nurseries, then build a database that

breeders can use when developing future varieties. http://www.hpj.com/crops/grant-will-help-scientists-employ-uavs-to-improve-wheat-breeding/article_d126458f-2244-577f-81d4-cfd734e63b24.html

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Singapore-based University to Create Traffic Management System for UAS Flown in Country By AUVSI News

Researchers from Nanyang Technological University (NTU) are looking to create a traffic management system to help safely manage UAS flown in Singapore. NTU's Air Traffic Management Research Institute (ATMRI) will lead the research for the project, known as the Traffic Management of Unmanned Aircraft Systems. "At NTU, we have already demonstrated viable technologies such as UAV convoys, formation flying and logistics, which will soon become mainstream," said NTU Professor Low Kin Huat, who is one of the leaders on the project. In a school press release, Huat continued, "this new traffic management project will test some of the new concepts developed with the aim of achieving safe and efficient drone traffic in our urban airways."

One of the main features of the system will be designated air-lanes and blocks, similar to cars on the road with lanes and traffic lights. Other features will include technology for detect and avoid systems, as well as traffic management to help coordinate air traffic. Louis Phee, a professor at the university and Chair of NTU's School of Mechanical and Aerospace Engineering, said, "this research will pave the way for appropriate rules and regulations to be implemented amidst the rapid growth of UAVs. The findings can help improve safety and address security concerns, which are especially important given today's climate of uncertainty."

NTU is also considering creating coordinating stations for UAS traffic, which would handle everything related to air traffic, from tracking UAS while they're in the air to scheduling traffic flow.

http://www.auvsi.org/blogs/auvsi-news/2017/01/03/singapore-based-university-to-create-traffic-management-system-for-uas-flown-in-country

Predicting the future of drones

With the new year brings predictions of what may be in store for the next 12 months. On Jan. 11 in San Jose, California, the Telecom Council of Silicon Valley is gathering a group of experienced and insightful communications and technology executives, along with some futurists and researchers, to talk about what they predict for 2017. AUVSI President and CEO Brian Wynne will join the panel to talk about the "Next Step for Drones" and the prospects and opportunities for the commercial unmanned aircraft system industry in the new year.

Other areas that will be subject to the Crystal Ball will be the Internet of Things, cyber security, the Federal Communications Commission and doing business in the European Union. Go to the Telecom Council website for more information and registration.

Israel's Urban Aeronautics Tests Cormorant UAV.

Reuters (1/4) reports on the Cormorant rotor UAV, developed by Israel's Urban Aeronautics to carry loads of up to 500 kg, including human passengers. Urban Aeronautics envisions the UAV being used to "evacuate people from hostile environments and/or allow military forces safe access." CEO Rafi Yoeli "[said that the UAV] is safer than a helicopter as it can fly in between buildings and below power lines without the risk of blade strikes." The Cormorant "completed its first automated solo flight over terrain in November," and could be on the market by 2020.

Argodesign Reveals UAV Ambulance Concept. The Daily Mail (1/3) reports on an ambulance UAV developed by Argodesign, "modelled on a standard quadcopter," that can land "almost anywhere, even in busy traffic – unlike larger helicopters." The UAV is "still only a concept," with developers estimating that it would cost $1 million to build a prototype.

New UAV-Testing Site To Be Built In Henderson, Nevada.

The Las Vegas Sun (1/3) reports that officials will break ground on a UAV-testing range called the "Henderson Unmanned Vehicle Range" on Wednesday, in the hopes that it will "deliver new businesses, jobs and tax revenue" to the area. The site is "a project of Henderson and the Nevada Institute for Autonomous Systems (NIAS), a nonprofit corporation created by the Governor's Office of Economic Development to promote the development of the drone industry." Mark Barker, director of Business Development for NIAS, specified that the site is intended for "commercial entities and organizations, in some cases those tied with the Defense Department."

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Uavionix Introduces "Ping200S" ADS-B Transponder For UAVs.

Avionics Magazine (1/4) reports that "Uavionix Corp. has introduced a new Mode S transponder with Automatic Dependent Surveillance-Broadcast (ADS-B) functionality" for UAVs. The "Ping200S" device, which having received FCC approval, has the "ability to provide visibility to other aircraft up to 200 miles away," allowing the "same type of functionality featured on manned aircraft transponders for UAS operators." The Ping200s "allows an aircraft to respond to interrogations by traditional radar and TCAS," and "reports the unmanned aircraft identification, type, position, velocity and course at one-second intervals."

Airbus Subsidiary Introduces Counter-UAS Portable Jamming System.

ExecutiveBiz (1/4) reports that an Airbus subsidiary "has introduced a new portable jamming system" to its counter-UAV product line. The system can "detect illicit intrusions of small drones" and deploy electronic countermeasures, according to a report released Tuesday by Trade Arabia. Created in partnership with several firms, the product line "will be christened as Xpeller at the Consumer Electronics Show in Las Vegas," ExecutiveBiz reports.

India Plans To Launch 103 Satellites In One Rocket Mission.

The AFP (1/4) reports that India plans to "launch 103 satellites in a single rocket mission next month" from Sriharikota spaceport, including "three Indian satellites and 100 foreign ones." If successful, "it will set a world record as the...country to launch the most satellites in one go."

AirMaps CEO: 2017 Will Be Monumental Year For UAVs.

For Venture Beat (12/31), AirMap co-founder and CEO Ben Marcus predicts that 2017 will be "the year of the drone," as a result of "a shifting adoption landscape combined with new sources of funding and advanced improvements in technology." Among his predictions, Marcus said Amazon, DHL, and other logistics companies will fly an increasing number of UAVs, while traditional retailers will announce plans utilize the technology.

UAVs Discussed As Top Tech Issues In 2017.

In an op-ed in The Hill (1/2), Co-executive Director of the Commercial Drone Alliance Lisa Ellman provides recommendations for the Trump administration and incoming Transporation Secretary Elaine Chao to "enable the

success of" the UAV industry "by accelerating current efforts to integrate drones into our national airspace." She suggests streamlining regulation and cooperating with the industry, which will create jobs and allow the US to regain "leadership on commercial drone policy."

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Denver International Airport Receives Award For NextGen, UAV Work.

Aviation News Today (1/4) reported that Denver International Airport announced that it has received a 2016 Regional Administration Aviation Partnership Award from the FAA for its "work with the agency's NextGen and Unmanned Aircraft Systems (UAS) programs." The article added that the "award also specifically recognizes the airport for its commitment to FAA's UAS program, which seeks to safely integrate remotely piloted aircraft into the nation's airspace system."

Army Team Demonstrates Progress On 3-D Printed UAV.

The Washington Times (1/5) reports that an Army Research Laboratory Team last month updated officials on their progress to create a "3-D printed On-Demand Small Unmanned Aircraft System (ODSUAS)," according to an Army Times report published Wednesday. In a demonstration for the Army Expeditionary Warrior Experiments for Training and Doctrine Command at Fort Benning, the team showed "the viability of making a mission-worthy drone in less than 24 hours for reconnaissance needs." Project Manager Eric Spero said he is "very optimistic" on ODSUAS' prospects.

Thales Receives Contract For 35 Mini-UAVs Surveillance Systems.

Reuters (1/5) reports that France has provided Thales Group with a contract for 35 "mini-drones surveillance systems" with an option to grow the contract to 70 units. According to a source, the full value of the contract with all options exercised is $109.4 million.