NEWS & EMERGING TECHNOLOGY

ASTROSAT AND DRONESAR FORM PARTNERSHIP TO ENHANCE SEARCH AND RESCUE CAPABILITIES

Astrosat has formed a partnership with Irish start-up **DroneSAR- Search & Rescue**, to incorporate drone software with Astrosat's Recovery and Protection in Disaster (RAPID) system. The RAPID system is designed to provide intelligent situational awareness and support in the context of disaster scenarios to aid, inform and support decisions that are made in the operational theatre. **Steve Lee, CEO of Astrosat**, said: "DroneSAR's technology will fit beautifully with our RAPID system. With RAPID's ability to provide up-to-date mapping images in less than three hours, and the ability to interlace footage from drones, we are giving first responders the most detailed picture available." DroneSAR was developed through Donegal Mountain Rescue who were chosen as one of four European pilot tests sites by DJI, the market leader in consumer drone technology, and EENA the European Emergency Numbers Association. The software was refined based on the results of this project. **www.astrosat.space**

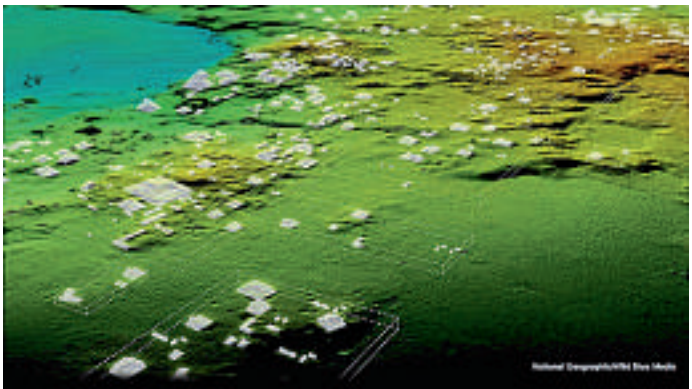
TATUKGIS SDK FOR ACTIVEX UPGRADE

TatukGIS has released version 11 of its GIS software development kit for **ActiveX** edition, with updated trial version and source code samples for evaluators. The Developer Kernel 11 for ActiveX is available to customers with license maintenance plan and for purchase by others. Though the ActiveX technology has been around for a while, some customers continue to use ActiveX to maintain legacy software products or just to postpone the costs of converting their GIS development from something that works to a new technology. For these customers, the DK 11 for ActiveX continues support also for Visual Basic 6 (VB6).

For customers considering ActiveX alternatives, TatukGIS offers pathways to more modern development platforms that do not require learning a new GIS technology. The TatukGIS SDK edition for each supported development platform features the same API, structure, and logic that every DK developer already knows. **www.tatukgis.com**

DUBAI AND HERE TECHNOLOGIES TO DEVELOP DATA INFRASTRUCTURE FOR DRIVERLESS TRANSPORTATION

The Roads and Transport Authority (RTA) of Dubai and HERE Technologies announced that they have signed a memorandum of understanding on a long-term technology collaboration with the aim of mapping the city with high definition technology for the first time. HD maps are a prerequisite to moving Dubai closer to its goal of having 25% of public transport self-driving services by 2030. Both parties plan to deploy newly available location technologies in the development of a data infrastructure to support safe, sustainable and efficient autonomous transportation. These efforts are in line with Dubai's Smart City strategy and its self-driving transport roadmap, which ultimately aims to increase the quality of life for people in Dubai. As part of their planned cooperation, RTA and HERE intend to conduct a number of pilots aimed at enabling HD Live Map, HERE's map for autonomous cars, for public service vehicles operating in Dubai. **www.here.com**



TELEDYNE OPTECH TITAN LIDAR ENABLES DISCOVERY OF EXTENDED MAYAN RUINS IN GUATEMALA

Teledyne Optech's Titan sensor was used by the University of Houston's National Centre for Airborne Laser Mapping (NCALM) to reveal extensive Mayan ruins in Guatemala. Lidar technology was able to identify hundreds of previously unknown structures, including raised highways, and complex irrigation and terracing systems. After the collapse of the Mayan civilization, their cities and monuments were quickly covered by thick rainforest, hiding the ancient civilization from airborne observation and making it very difficult to survey on foot. Flying high above the rainforest, Titan's lasers penetrated the canopy to collect almost a million data points per second from the forest floor, giving archaeologists a "bare earth" view of the structures underneath. Having rapidly covered 2,100 km2, Titan's data revealed massive amounts of ruins hidden below the forest, showing that their urban centres were significantly larger than archaeologists had previously thought. **www.teledyneoptech.com**

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SEPTENTRIO LAUNCHES SECORX-60 CORRECTION SERVICE FOR NEARSHORE APPLICATIONS

Septentrio, a leading manufacturer of high-precision OEM and housed GNSS receivers for marine applications, announced the launch of the **SECORX-60** correction service. SECORX-60 is a subscription-based service providing over-the-air corrections for Precise Point Positioning (PPP). It uses TerraStar technology and brings sub-decimetre positioning to applications on land and up to 60 km offshore. "SECORX-60 represents the coming together of two great forces in PPP: TerraStar with its proven track record in providing high-quality clock and orbit correction data and Septentrio with an unmatched reputation in turning that correction data into highly precise and reliable positions." said **Chris Lowet, Product Manager at Septentrio**. He continued, "With SECORX-60 we're bringing continuity of operation from onshore, seamlessly to 60 km offshore offering the greatest flexibility to onshore and nearshore users." SECORX-60 activation plans are available for a range of time durations to suit the needs of the user and will be available from June. **www.septentrio.com**

SATELLITE IMAGES UNVEIL CHINESE MILITARY FORTRESSES IN SPRATLY ISLANDS

Recent satellite images supplied and analysed by **European Space Imaging** reveal the illegal construction of military bases in the contested Spratly Islands along the South China Sea are complete. Images provided at 30cm resolution by DigitalGlobe satellite WorldView-3 refutes China's promise to not militarise the artificial islands it has built in the South China Sea. Mischief Reef and Subi Reef are just some of the islands that show strong military construction. From examining the satellite images of Mischief Reef we can identify a large deep-water port, which also serves as a blue water naval base. There is a 2,700 meter runway on the Western quarter and since there are no passenger terminals or hotels visible, this airfield can only be described as a Joint Use naval airport, signifying its military connection.

Military barracks, communication antenna's, underground POL storage tanks and control towers are all visible in the images collected.
www.euspaceimaging.com

NATIONAL GENDARMERIE CONDUCTS POST-HURRICANE MISSIONS WITH SIMACTIVE

SimActive Inc., a world-leading developer of photogrammetry software, is proud to announce that the **National Gendarmerie of France** has been using **Correlator3D™** to support Saint Martin following Hurricane Irma. The software has facilitated rapid mapping from UAV images for damage assessment, aiding reconstruction efforts. "Correlator3D™ generated orthomosaics of excellent quality with the UAV missions post-Irma", said **Mathieu Cerciat, Geomatics Chief of the National Gendarmerie**. "Coupled with SimActive's exceptional responsiveness, we were able to complete the missions successfully, with processing done on-site". "We innovate to provide the speed advantage that makes Correlator3D™ ideal for emergency and disaster response", said **Dr Philippe Simard, President of SimActive.** "It is a privilege to continue collaborating with organizations like the National Gendarmerie to assist those affected in their rebuilding efforts."
www.simactive.com

BENTLEY SYSTEMS EXPANDS CONCRETE BUILDING DESIGN AND DOCUMENTATION OFFERINGS

Bentley Systems, Incorporated, announced the acquisition of Mumbai-based concrete building design and documentation software company **S-Cube Futuretech Pvt. Ltd.** The addition of S-Cube Futuretech's applications expands Bentley's offerings specific to the needs of concrete engineering design and documentation software users in India, South East Asia, and the Middle East. S-Cube Futuretech's applications, including RCDC, RCDC FE, RCDC Plan, and Steel Autodrafter, deliver flexible and powerful design and documentation solutions for structural concrete building engineers and designers. **Raoul Karp, Bentley's vice president of design engineering analysis** said, "More than two billion people will fill the world's cities over the next 30 years. This growth will continue to be concentrated in the developing markets of Asia, particularly India, China, and South East Asian countries. Efficient, automated, concrete design and detailing tools will be instrumental to every nation's ability to address this demand" **www.bentley.com**

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CYARK AND PHASE ONE PARTNER TO PRESERVE THE WORLD'S CULTURAL HERITAGE

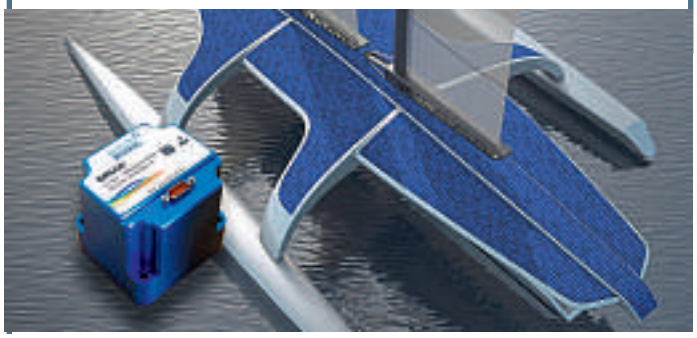
CyArk is partnering with **Phase One** to capture, process, render and preserve cultural history with unprecedented visual accuracy. Phase One is providing CyArk with its 100 Megapixel XF Camera System and Capture One software which together offer higher detail and greater accuracy of colour and texture, as CyArk documents every surface of a building. CyArk has kicked off this partnership with a project at the Waitangi Treaty Grounds, where the Treaty of Waitangi was signed between the British Crown and the indigenous Maori people in 1840, considered the most significant historic site in New Zealand. The Phase One XF Camera System was used to capture the intricate Maori carvings on the site, as well as other culturally significant pieces of art and performance. The data captured will be used to create accurate architectural drawings and plans which will support the nomination of the site for UNESCO World Heritage status.
www.cyark.org www.phaseone.com

NAVVIS SETS NEW STANDARD IN SLAM PRECISION

NavVis has announced new mapping software that significantly improves the accuracy of simultaneous localization and mapping (SLAM) technology in indoor environments, such as long corridors. The software update will be available for users of the **NavVis M3 Trolley** and will significantly improve the accuracy of the resulting maps and point clouds. NavVis' mobile mapping system, the M3 Trolley, builds upon SLAM to increase speed and efficiency when scanning buildings. SLAM is a technique originally developed by the robotics industry that is now increasingly being used in surveying and autonomous driving technologies. The innovative NavVis Precision SLAM technology significantly reduces drift error and improves the SLAM accuracy. This is particularly evident in cases where complementary techniques such as loop closures cannot be deployed if, for example, the building's layout does not allow for it. Precision SLAM even improves accuracy when SLAM anchors are used to incorporate ground control points into the mapping process. **www.navvis.com**

AUTOPILOT FOR THE MAYFLOWER AUTONOMOUS SHIP EQUIPPED

Silicon Sensing Systems Ltd.'s latest **DMU30** inertial measurement unit (IMU) is to provide highly accurate ship's attitude data to the autopilot that will navigate the ground-breaking **Mayflower Autonomous Ship** (MAS 400) as she travels the world. The mission of the MAS 400 project is to build an autonomous vessel capable of conducting scientific research, with the endurance and reliability to operate remotely in all corners of the globe. Silicon Sensing's DMU30 is the company's latest high performance micro-electro mechanical system (MEMS) IMU and is designed for use where there are exacting motion sensing requirements, as with the MAS 400. DMU30 is a full 6 degree of freedom IMU that uses the company's own gyros and accelerometers to create a small, rugged and cost-effective unit that offers the high levels of performance more typical of larger, heavier and more costly fibre optic gyro (FOG)-based devices. **www.siliconsensing.com**



MAURITANIAN HV ELECTRIC TRANSMISSION CORRIDOR TO BE SURVEYED WITH SP60 GNSS RECEIVER

The **Spectra Precision SP60 GNSS** receiver has been selected to perform survey work for construction of a new 450-kilometer electric power transmission corridor. Connecting Mauritania's two largest cities, the capital Nouakchott and to the south Nouadhibou, the 225/90Kv transmission line parallels the Atlantic Ocean as it traverses the Sahara Desert. The Mauritanian Electricity Company, SOMELEC awarded the sub-contract for surveying the transmission line and infrastructure to **ETAFAT,** a geospatial data acquisition and processing firm. ETAFAT tested the SP60 data with RTX corrections and obtained consistently successful results. The geodetic survey was related to several Ground Control Points (GCP) used in airborne survey. The measurement itself was conducted using two methods, dependently: the classical statistical method, and the RTK GNSS method. The SP60 met or exceeded the required +/- 15 cm order of accuracy. According to baseline processing and adjustment reports, the SP60 delivered superior results under all conditions.
www.spectraprecision.com

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BARTHAUER AND THE CITY OF SOUSSE: JOINED BY SHARED ROOTS

Joint discussions about infrastructure management in Tunisia and Germany were held for the first time at the company headquarters of **BARTHAUER. Anis Saad, Managing Director of Barthauer Software GmbH**, welcomed Maher Amara, Deputy Director of the Construction Department in Braunschweig's partner city of Sousse, and other municipal representatives. The six-member delegation that spent several days in the Lower Saxony metropolis visited the company headquarters of Barthauer Software GmbH. Aside from the cultural exchange, the focus was mainly on technical networking between the two sides. A detailed presentation of Barthauer Software GmbH's business objectives and philosophy was followed quite quickly by a lively and constructive discussion about the optimum administration of municipal infrastructure data. With the help of extensive know-how accumulated by the BARTHAUER development team through decades of national and international expertise in the network information system field, a few starting points have now been defined for the future exchange with Tunisia. **www.barthauer.de**

OGC SEEKS PUBLIC COMMENT ON WEB COVERAGE SERVICE (WCS)

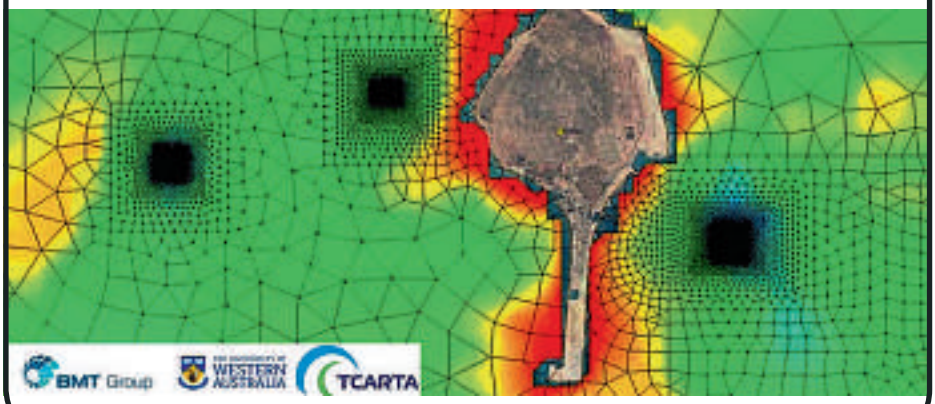
The **Open Geospatial Consortium** (OGC) seeks public comment on the Web Coverage Service (WCS) 2.1 candidate standard. The **OGC WCS** standards suite defines methodology to access coverages (regular and irregular grids, including spatio-temporal datacubes, point clouds, and general meshes) from the Web. OGC has offered WCS standards since 2005, reflecting the importance and maturity of providing such data to Web clients. The definition of a coverage is given by the **OGC Coverage Implementation Schema** (CIS). In 2017, CIS 1.1 was released as a backwards-compatible extension of coverages to CIS 1.0, with a unified grid model supporting any kind of spatio-temporal sensor, image (timeseries), simulation, and/or statistics data. By supporting the more general datacube model of CIS 1.1, the WCS 2.1 standard will simplify access to spatio-temporal 'big datacubes', with an operation spectrum ranging from simple subsetting in space and time up to complex spatio-temporal analytics through Web Coverage Processing Services (WCPS). **www.opengeospatial.org**

UNITED STATES AIR FORCE SELECTS GARMIN® D2 CHARLIE AVIATOR WATCH

Garmin International, Inc. announced that the **D2™ Charlie** aviator watch has been selected by the United States Air Force (USAF) for use by the pilots of the Lockheed U-2, one of the most iconic aircraft in the history of aviation. The high-sensitivity WAAS GPS-enabled D2 Charlie aviator watch incorporates global navigation capability, rich and colourful moving maps and more, providing pilots in the USAF with an exclusive, back-up navigation timepiece in the cockpit. The USAF is expected to take delivery of over 100 D2 Charlie aviator watches for the specialized pilot group that flies the Lockheed U-2 aircraft. With a service ceiling of 70,000 feet, the D2 Charlie will provide unique benefits such as barometric-based O2 alerting and GPS-specific features including track, distance to the next waypoint, estimated time enroute and more.
www.garmin.com

SATELLITE DERIVED BATHYMETRY FROM TCARTA PLAYS KEY ROLE IN AQUACULTURE

British Engineering and Scientific Consultancy Firm, **BMT**, is using Satellite Derived Bathymetry from **TCarta** as a critical dataset in the selection of new fish farming sites in the Arabian Gulf. BMT is performing the site selection work on behalf of Environment Agency – Abu Dhabi. As a primary input for the modeling phase of the project, BMT obtained five-meter resolution Satellite Derived Bathymetry products from TCarta for the waters around Delma. BMT also used TCarta Marine Habitat Maps, which differentiate the surface compositions of the seafloor around the island in waters to approximately 10 meters deep. TCarta created the Satellite Derived Bathymetry and Marine Habitat Map products for EAD during a 2015 environmental mapping project conducted by Abu Dhabi. "Aquaculture development is emerging as a major market for highly accurate bathymetric data products," said **David Critchley, CEO of TCarta**, a global provider of marine and terrestrial geospatial solutions based in Bristol, UK.
www.tcarta.com

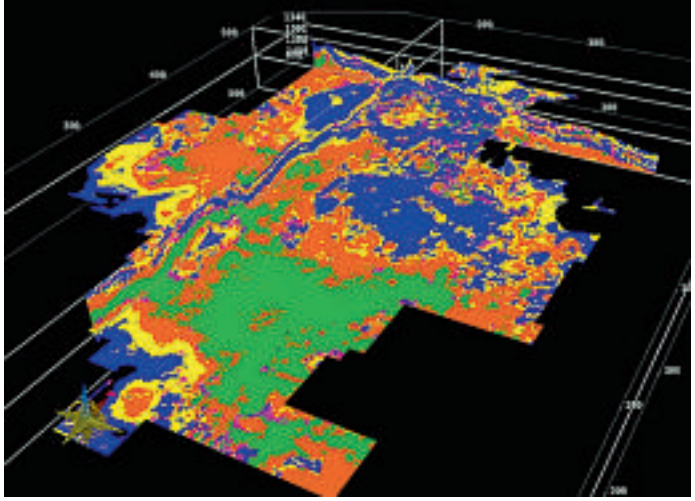


GLOBAL MAPPER V19.1 NOW AVAILABLE WITH NEW FEATURES

Blue Marble Geographics is pleased to announce the immediate availability of Global Mapper version 19.1. Highlights of this release include a completely redesigned attribute querying tool; a new option to save and export 3D lines from the Path Profile tool; support for drag-and-drop docking of most floating windows; and the ability to create a 3D mesh in the LiDAR Module's Pixels-to-Points tool. Driven by the ever-changing needs and requirements of the GIS community, Global Mapper has earned a worldwide reputation as a low-cost but fully-functional alternative to traditional GIS applications. Over its 20-year history, the software's evolution has followed an aggressive and ambitious development path with each successive version introducing a broad array of new features and functions. The release of version 19.1 is no exception with new and enhanced capabilities throughout the application. **www.bluemarblegeo.com**

NEW CGG GEOSOFTWARE TECHNOLOGY DRIVES GREATER E&P EFFICIENCY

CGG GeoSoftware has announced new releases across its entire geoscience portfolio. Its complementary HampsonRussell, Jason, PowerLog, InsightEarth, VelPro, and EarthModel FT solutions are the industry's preferred set of tools and support for multi-disciplinary teamwork at every stage from exploration and development to life-of-field production management. Recent developments bring exciting new capabilities within each individual solution while offering increasingly integrated workflows from geology and geophysics to reservoir engineering. As an example, the new 'Load-Once-Use-it-Everywhere' capability enables Jason users to operate on HampsonRussell seismic stores and vice versa without the need to duplicate, move or reload seismic volumes. This integration unleashes the power of cross-solution workflows. **Kamal Al-Yahya, Senior Vice President, GeoSoftware, CGG,** said: "We are committed to delivering continued innovation across our entire portfolio. Our newest technology and intuitive interfaces reveal key information from geophysical data that helps E&P companies hit drilling targets and improve production of their assets." **www.cgg.com**



EARTH-I RECEIVES £2.7 MILLION FROM UK GOVERNMENT TO IMPROVE CROP YIELD FOR AFRICAN COFFEE FARMERS

Earth-i has been awarded a grant of £2.7 million from the UK Space Agency's International Partnership Programme, which supports UK space firms tackling global challenges. The grant will enable Earth-i to launch the ACCORD programme in Kenya and Rwanda. It combines Earth-i's very high-resolution satellite imagery with WeatherSafe's data platform to provide extensive crop, weather and pest analysis - and shares the information via a mobile app. ACCORD will enable farmers to identify where more water, fertiliser or pesticides are needed to address unpredictable weather, pests, diseases, nutrient depletion or other factors which reduce coffee quality and quantity. ACCORD evolved from work carried out by Earth-i and Weathersafe in Burundi. Together the two companies performed surveys of Burundi coffee farms using very high-resolution satellite data, conducted crop yield analysis and developed bespoke web applications to deliver the results of this analysis. **www.earthi.space**

AND SIGNS MAP LICENSE AGREEMENT WITH MAPBOX

AND is pleased to announce that it has entered into an agreement to license location and boundary data to **Mapbox**, a company that is revolutionizing mapping and location services for consumer, enterprise and automotive markets. Mapbox provides cloud-based services that allow developers to add location features like maps, search, and navigation into any digital experience. With over 1 million registered developers, Mapbox reaches more than 300 million people each month around the world. **AND CEO Hugo van der Linde** stated, "We are happy that we have entered into an agreement to license location and boundary data to Mapbox. Mapbox is a highly innovative company whose developer-focused model is rapidly gaining ground in the location market. This agreement strengthens our belief that we offer a quality mapping product, matching current market needs." **www.and.com**

SIGNALIS BECOMES AIRBUS

SIGNALIS, a subsidiary of **Airbus** since its creation in 2011, has been fully integrated into the Airbus CIS (Communications, Intelligence and Security) business becoming the Maritime Surveillance Centre of Competences within Airbus Defence and Space from 3 January 2018. The move is Airbus Defence and Space's response to its growing interest in serving the maritime surveillance market as a whole. Airbus has decided to integrate the subsidiary in line with its 'one brand' strategy to ensure customer satisfaction and to secure the future of the business. Digitisation and digital services are key and strategic components for Airbus Defence and Space. **Evert Dudok, Head of CIS**, said: "With the reorganisation, we have brought all the Maritime Surveillance experts in the Security Solutions domain together in order to structure and strengthen Airbus Defence and Space´s position as a leading maritime company. Airbus Defence and Space has the ability to become one of the leaders in the maritime security market." **www.airbusdefenceandspace.com**