

NEWS & EMERGING TECHNOLOGY

TRIMBLE ANNOUNCES NEW OFFLINE DATA TRANSFER AND POST-PROCESSING WORKFLOW FOR TRIMBLE TERRAFLEX SOFTWARE

Trimble announced its **Trimble TerraFlex field software** now supports the transfer of data between the field and office without the use of Trimble cloud services. The new software workflow—called offline data transfer—is possible through the integration of Trimble TerraFlex and the Trimble Positions Desktop add-in for Esri ArcGIS Desktop. TerraFlex is a field solution that enables mobile workers to easily collect, manage and edit their geospatial

feature data. The new workflow provides an alternative to using Trimble cloud services for storing and transferring GIS feature data collected with the TerraFlex platform. In addition, TerraFlex field data collected via this workflow using a **Trimble Global Navigation Satellite System (GNSS) receiver** can be post-processed directly inside the Trimble Positions Desktop add-in for improved positional accuracy. www.trimble.com



AIRBUS BUILT SEOSAT/INGENIO IS FINISHED AND READY FOR TESTING

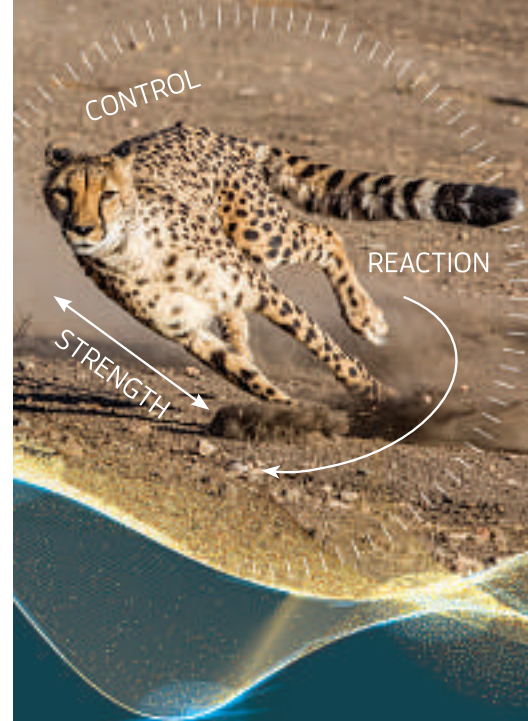
Airbus built **SEOSAT/Ingenio**, the first Earth observation satellite for the **European Space Agency (ESA)** and Spanish government has left Madrid and is ready for final testing. The spacecraft will now start a 3 month environmental test campaign which includes the Thermal Balance and Vacuum test, followed by Mechanical Vibration, Acoustic and Electromagnetic Compatibility testing. Fifty engineers and technicians from Airbus Spain will carry out all the different tests at Airbus in Toulouse. The launch is scheduled for the first half of 2020 onboard a Vega launcher from Kourou, French Guiana. Once in orbit, SEOSAT/Ingenio will complete Spain's Earth observation system, complemented by the PAZ satellite already in orbit since February 2018. Together, they will provide combined radar and optical images. www.airbus.com

G-CORE LABS INTRODUCED A UNIQUE CLOUD OBJECT STORAGE SERVICE INTEGRATED WITH CDN

G-Core Labs, the international provider of cloud and edge solutions for content delivery, hosting and security headquartered in Luxembourg, is expanding its product line and introducing a **unique hot class cloud object storage** with 99.99% level of data availability and safety. The solution is integrated with the company's international content delivery network consisting of 50+ points of presence on five continents and included in the Guinness Book of Records. It allows to provide the cloud storage with average response time of 30ms and this is one of the best results in the international market, according to the independent analytical system **Citrix**. The storage is suitable for any business and allows to effectively work with an expanding amount of data without any limits. Clients can choose storage in Luxembourg, Amsterdam, Singapore or in one of the USA cities: Miami, Ashburn or Hillsboro. Locations in the CIS also will be available soon. www.gcorelabs.com

FUGRO AWARDED MULTI-ANNUAL MARINE SITE CHARACTERISATION PROJECT OFF THE GERMAN COAST

Germany's **Federal Maritime and Hydrographic Agency** (Das Bundesamt für Seeschifffahrt und Hydrographie (BSH)) has awarded **Fugro** a multi-annual geotechnical site investigation contract in the German North Sea and Baltic Sea. The programme will be completed in three phases over the next three years and comprises geotechnical investigations at potential offshore wind farm development areas. Fugro's **site characterisation services** will provide geotechnical data acquisition from multiple geotechnical drilling vessels, and geotechnical laboratory testing and reporting by the company's German and UK laboratories. The total contract value is approximately EUR 25 million. www.fugro.com



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- AUTONOMOUS VEHICLES
- OIL AND GAS/MINING



#motionevolution
www.siliconsensing.com/general

SILICON SENSING

FARO INTRODUCES COBALT DESIGN™ 3D SCANNING SOLUTION

FARO announced the availability of the **Cobalt Design™** structured light scanner product family. Structured light scanning technology uses projected light patterns with a camera system to capture large areas at once and, as a result, significantly reduces data capture time and delivers quicker results. Cobalt Design™ combined with the recently introduced **RevEng™ software platform**, delivers a one stop, comprehensive digital design solution where small to medium objects can be scanned with precision, in colour with multiple levels of resolution. It is the first color structured light scanner from FARO specifically developed for design applications and is ideal for scanning complex surfaces, especially highly detailed organic shapes. Cobalt Design™ addresses a variety of design requirements, including reverse engineering, prototype design, packaging design, digital cataloguing and even jewellery and fashion design. www.faro.com

SECOND LOCKHEED MARTIN-BUILT NEXT GENERATION GPS III SATELLITE RESPONDING TO COMMANDS, UNDER SELF-PROPULSION

The U.S. Air Force's second next-generation GPS III satellite, built by **Lockheed Martin**, is responding to commands, under control and now using its own internal propulsion system to get to orbit following its successful launch. At 11:01 a.m. ET, Air Force and Lockheed Martin engineers at Lockheed Martin's Launch & Checkout Facility near Denver declared they had full control of **GPS III Space Vehicle 02 (GPS III SV02)** shortly after the satellite's separation from its United Launch Alliance (ULA) Delta IV rocket booster. The satellite, nicknamed "**Magellan**" by the Air Force, began its rocket ride to space with a 09:06 a.m. ET launch from Cape Canaveral Air Force Station.

GPS III SV02 is the second GPS III satellite designed and built by Lockheed Martin to help the Air Force modernize today's Global Positioning System (GPS) constellation with new technology and capabilities. GPS III satellites provide 3x greater accuracy and up to 8x improved anti-jamming capabilities. GPS III also provides a new L1C civil signal, compatible with other international global navigation satellite systems, like Europe's Galileo.

www.lockheedmartin.com



ORBIT GT OPENS ADDITIONAL DATA CENTRE IN WESTERN USA

Orbit GT opens an additional **Data Centre Online** totalling 5 Data Centres covering the globe. This Data Centre has been opened to better support the company's growing customer requests. The US West Data Centre provides a significant increase in performance of the company's 3D Mapping Cloud product for customers west of Chicago, USA. Content includes street-level Mobile Mapping (spherical imagery and LiDAR point cloud), Aerial Nadir and Oblique imagery and aerial LiDAR point cloud, Terrestrial scanning, UAV-based scanning, textured mesh derived from aerial imagery. The content is kindly made available to all by Geogram (Spain), Geomni (USA), RIEGL (Austria) and Ofek (Israel). www.orbitgt.com



THE INDUSTRIAL INTERNET CONSORTIUM AND THE OPEN GEOSPATIAL CONSORTIUM ANNOUNCE LIAISON

The **Open Geospatial Consortium (OGC)** and the **Industrial Internet Consortium (IIC)** announce they have agreed to a liaison to work together to advance their shared interests. Under the agreement, the IIC and OGC will work together to align efforts to maximize interoperability, portability, security, and privacy for the industrial Internet. Joint activities between the IIC and OGC will include: identifying and share best practices; realizing interoperability by harmonizing architectures and other elements; collaborating on standardization; supporting joint participation in conferences and events of mutual interest to provide technical expertise on removing digital integration and interoperability barriers, and more. The IIC Liaison Working Group is the gateway for formal relationships with standards and open-source organizations, consortia, alliances, certification, and testing bodies and government entities/agencies. The agreement with the OGC is one of a number of agreements made by the IIC's Liaison Working Group.

www.opengeospatial.org

RIEGL LiDAR Waveform Processing Technology for Professional UAV Surveying Missions



RIEGL Laser Scanners for Small Unmanned Aircraft



RIEGL VUX-1UAV

versatile & powerful sensor for wide area UAV surveying

- up to 550 kHz Laser PRR
- range up to 1050 m @ $\rho \geq 80\%$
- 330° field of view
- accuracy 10 mm, precision 5 mm
- up to 15 target returns
- 3.5 kg / 7.7 lbs



RIEGL miniVUX-1UAV/2UAV

minaturized LiDAR sensors for integration to various small UAVs

- 360° field of view
- accuracy 15 mm, precision 10 mm
- up to 5 target returns
- extremely lightweight 1.55 kg / 3.4 lbs

RIEGL miniVUX-1UAV 100 kHz Laser PRR
range @ 100 kHz: up to 330 m @ $\rho \geq 80\%$

RIEGL miniVUX-2UAV 100 kHz / 200 kHz Laser PRR selectable
range @ 100 kHz: as given for miniVUX-1UAV
range @ 200 kHz: up to 280 m @ $\rho \geq 80\%$



RIEGL miniVUX-1DL

„Downward-Looking“ tailored design for corridor mapping

- 100 kHz Laser PRR
- range up to 260 m @ $\rho \geq 80\%$
- 46° field of view
- accuracy 15 mm, precision 10 mm
- up to 5 target returns
- 2.4 kg / 5.3 lbs

RIEGL offers a broad line of LiDAR scanners for integration to unmanned aircraft. Choose the scanner exactly right for your application and benefit from the proven RIEGL LiDAR technology: a sophisticated design, Multiple-Time-Around signal processing, multi-target capability, highly accurate and informative scan data, a wide field of view, customized configurations, and user-friendly integration options.

RIEGL Laser Scanners for Medium-Sized Unmanned Aircraft



RIEGL VUX-240

for high point density corridor mapping

- up to 1800 kHz Laser PRR
- range up to 2150 m @ $\rho \geq 80\%$
- 75° field of view
- accuracy 20 mm, precision 15 mm
- up to 15 target returns
- 4.1 kg / 9 lbs



RIEGL VQ-840-G

topo-bathymetric scanner for coastline surveying

- up to 200 kHz Laser PRR
- water penetration ≥ 2 Secchi depth
- 40° field of view
- optional high-resolution digital camera or infrared laser rangefinder
- 12 kg / 26.5 lbs



Scan this QR code to watch the RIEGL videos on our YouTube Channel.

www.riegl.com

newsroom.riegl.international



SIMACTIVE SOFTWARE USED FOR GOLD MINE MAPPING

SimActive, a developer of photogrammetry software, announced that **Correlator3D** is being used for gold mining projects in Ivory Coast by Newcrest Mining Limited. SimActive software is employed to produce dense digital terrain models (DTMs) using small format digital cameras. Newcrest Mining also extracts high-quality contours lines from the DTMs with Correlator3D. The accuracy of the outputs allows for precise volume calculation and leads to efficient maps for the blasting teams. www.simactive.com



AND LAUNCHES NEW SUITE OF API FOR LOCATION-AWARE CONTENT

AND's location-aware data such as digital maps, global admin boundaries, ZIP+4 information and new innovative AND content will increasingly be available via APIs. AND APIs are designed to make industry applications, such as Transportation Management or Geo-Marketing Solutions more efficient by enriching them with additional location-aware content.

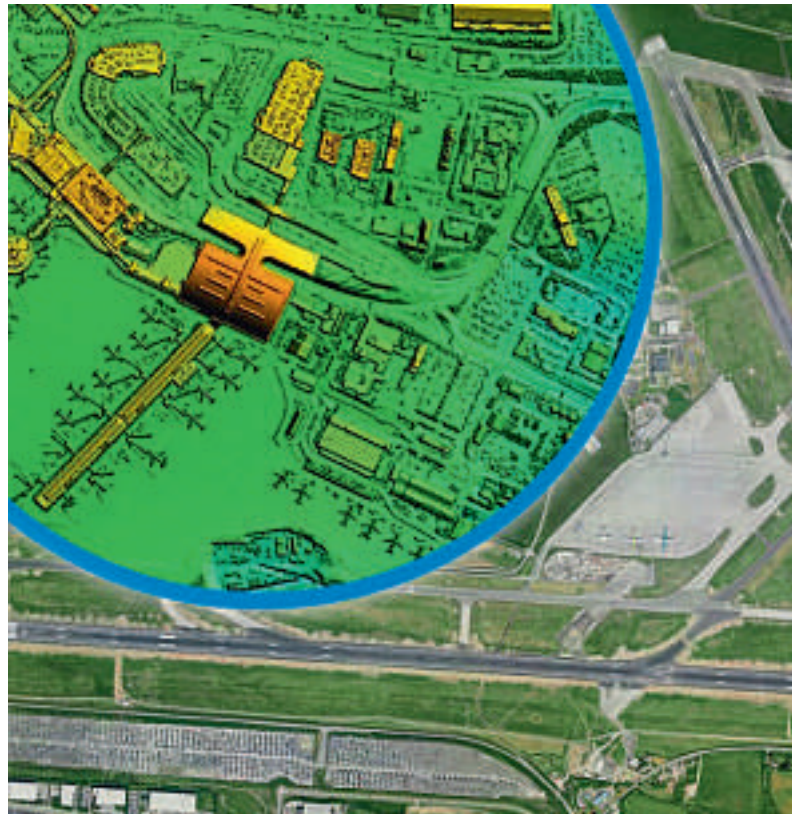
Two new APIs have been launched. First, the **AND ZIP+4 API** which has two types of requests: from coordinates to ZIP+4 codes; from ZIP+4 codes to ZIP+4 polygons. Second, the **AND Geocoder API** has two types of requests: from a postal address to coordinates and reverse Geocoder, from coordinates to a postal address. www.and.com

HERE TECHNOLOGIES TO POWER WORKWAVE'S MAPPING FUNCTIONALITY

HERE Technologies announced that **WorkWave**, a provider of cloud-based software solutions that support every stage of a service business's lifecycle, has replaced Google's Map and Geocoder products with the HERE Location Suite. WorkWave's cloud-based GPS and route planning solutions will utilize industry leading mapping data, reliable routing options and robust geocoding functionality from HERE to enable WorkWave's solutions to maintain scalability and reliability for its customers. WorkWave provides its service-oriented customers with cloud-based software solutions that support every stage of a business lifecycle - including route planning and optimization tools that enable route planners and fleet managers to streamline operations, making it easy for employees to deliver orders and next-level customer service. By implementing its routing solutions with GPS tracking, WorkWave customers can increase efficiency by 30 percent, plan 20 percent more deliveries, provide real-time ETAs, and more. www.here.com

BLUESKY LIDAR SURVEY HELPS DUBLIN AIRPORT PLAN DRAINAGE INFRASTRUCTURE AND REDUCE RISK OF FLOODING

Dublin Airport is using data collected by laser scanning aircraft to accurately measure land surface elevation to help reduce the risk of flooding at the international transport hub. The specially commissioned survey by **aerial mapping company Bluesky** involved the capture of LiDAR (Light Detection and Ranging) data for the entire site and surrounding area as part of a Dublin Airport Drainage Masterplan (DMP). Dublin Airport commissioned Bluesky to complete the LiDAR survey following a competitive tender process. Using aircraft mounted lasers Bluesky captured 50 centimetre point spaced height measurements across the complete campus and immediate vicinity. The captured height data was delivered in a variety of formats for use by the authority's Drainage Masterplan consultants in **InfoWorks ICM hydraulic modelling software**. The Bluesky data will be used to inform modelling projects which will help understand the airport's drainage network, analyse flood risk relating to rainfall events and measure capacity in local watercourses. The Bluesky LiDAR data will also be used to model the flow of contaminants relating to aircraft de-icing an operational requirement required by safety regulations during the winter season. www.bluesky-world.ie



PIX4D REACHES NEW HEIGHTS WITH AN OFFICE IN THE MILE HIGH CITY

In August 2019, **Pix4D** opened a new office in downtown Denver. It is the company's seventh office after Lausanne, San Francisco, Shanghai, Berlin, Madrid, and Tokyo. The move to Denver signifies Pix4D's strong commitment and alignment with the thriving Geospatial Technology and UAS industries, where Denver is a major hub. With potential for expansion, Denver will become the base from where Pix4D will develop enterprise solutions tailored to the North American market. As well as attracting new customers and employees, the new location will allow the team to better serve existing customers. www.pix4d.com



OKEANUS ENHANCES HYDROGRAPHIC SURVEY EQUIPMENT OFFERING

Okeanus Science & Technology, LLC (Okeanus), an established provider of oceanographic rental equipment and turnkey survey systems has announced that it has acquired an additional **Geometrics G-882** marine magnetometer and associated transverse gradiometer (TVG) array to complement its existing suite of marine scientific rental equipment. Okeanus offers a wide variety of marine scientific rental equipment and can provide turnkey rental solutions to oceanographic projects on a global basis. www.okeanus.com



www.geoconnexion.com

Earthwatch



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SENSOROR LAUNCHES NEW HIGH-ACCURACY TACTICAL-GRADE IMU

The new high-accuracy tactical-grade **STIM318 inertial measurement unit (IMU)** from **Sensoror** provides greatly increased accelerometer performance to support demanding guidance and navigation applications. Its performance can in many applications competitively replace fiber-optic gyros (FOGs). Offering improved system performance with respect to robustness, reliability, size, weight, power and cost, it is designed for use in autonomous machine control, UAV payloads, satellites, portable target acquisition systems, land navigations systems, turret stabilization, missile stability and navigation, and mortar aiming systems. STIM318 is comprised of three highly accurate MEMS gyros, three high-stability accelerometers and three inclinometers. Its development took place in close cooperation with a global customer developing autonomous machine control for accurate contour guidance. The IMU is built on the established STIM design that is field proven in commercial and military applications. www.sensoror.com



2019 FIG COMMISSION 7 ANNUAL MEETING

The Annual Meeting of FIG Commission 7 was held in **Seoul, Korea**, for 5 days from August 5th to 9th. More than 100 people from 23 countries participated in the event sharing their knowledge and experience in the field of cadastre, land administration and geospatial information. LX, the Korean public entity affiliated with the Ministry of Land, Infrastructure and Transport (MoLIT), organized the **2019 Commission's Annual Meeting** in Seoul (Korea). LX's main functions include land surveying, and administration of geospatial information, global projects, research and education. The Annual Meeting was impeccably organized, and every need of participants was met with the generous and warm hosting spirit of the Koreans. The result was an outstanding annual meeting with high-quality technical presentations, great friendly discussions and a lot of camaraderie among Commission 7 delegates. The next meeting will be in **FIG 2020 Working Week** in Amsterdam and then the 2020 annual meeting later in Switzerland. www.fig.net

SATELLITE IMAGERY OF AMAZON WILDFIRES

Fires continue to burn across Brazil throughout the **Amazon region**. While the overall scope and magnitude of the hundreds of fires can likely best be visualized by using broad area, low-resolution weather and NASA satellites, **Maxar satellite images** help to provide a closer view of the fires and demonstrate the type of activity that has led to this historic amount of burning. In the image below, large areas of forested land have been cleared and multiple fires can be seen burning and smoldering nearby. The image shows one area of fires in the State of Rondonia, just southwest of Porto Velho, Brazil in the upper Amazon River basin. The image was collected by Maxar's **WorldView-3 satellite** on August 15th. www.maxar.com



Satellite image ©2019 Maxar Technologies.

NANOTRON PARTNERS WITH MEGLAB TO IMPROVE MINING PRODUCTIVITY AND SAFETY

Nanotron Technologies GmbH, a wholly owned subsidiary of Sensera Limited has agreed to work with mining technology specialist **Meglab** to improve safety and productivity in mines. Meglab is incorporating nanotron's innovative location-awareness technology as a key component of its Imagine platform, an intelligent, modular mine management system. **Imagine** is a web platform that provides real-time visibility of the underground mine environment. Nanotron's **swarm bee modules** are enhancing Imagine's functionality by enabling users to efficiently track the location and status of mining equipment and workers, as well as any dangerous proximity to other vehicles or machines. By monitoring the location of workers, vehicles and machines in real time throughout the mine, Imagine facilitates smart ventilation automation, face reports, lamp assignment, mine evacuation support, call for assistance and collision awareness. The result is a safer, better manageable and more effective work environment. www.nanotron.com/EN



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SMALL PROFILE, BIG IMPACT

Take the high-visibility functionality of a tablet and the go-anywhere performance of a truly rugged handheld and combine them, - and you'll end up with one device that could take you through your workday with ease: it's the Nautiz X6 ultra-rugged Android phablet.

Learn more at www.handheldgroup.com/nautiz-x6

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