NEWS & EMERGING TECHNOLOGY

ENGLAND'S NATIONAL HIGHWAYS EXTENDS ITS CONTRACT FOR TRIMBLE'S AGILEASSETS CLOUD SOFTWARE FOR BRIDGE ASSET MANAGEMENT

Trimble announced that National Highways, the government-owned company that manages the motorways and major A roads of England, has extended its contract for Trimble's AgileAssets cloud software. The software includes an **advanced decision-support solution** that helps infrastructure asset managers improve their understanding of **future maintenance needs** of bridges and other structures. The solution enables National Highways to forecast the condition of bridge assets on England's Strategic Road Network. These forecasts help the organization make efficient use of taxpayer funds to deliver reliable bridge infrastructure throughout National Highways' extensive network. **www.trimble.com**



LEICA GEOSYSTEMS ANNOUNCES 3D MACHINE CONTROL COMPATIBILITY OPTIONS FOR CATERPILLAR NGH EXCAVATORS

Leica Geosystems, part of Hexagon, announced a new option for Caterpillar Next Gen Hydraulic (NGH) excavator users to leverage Leica Geosystems' 3D machine control solution with Cat Assist features. To get the job done right the first time, civil contractors want solutions that are easy to use. Through this strategic cooperation, Leica Geosystems and Caterpillar now offer simplified installation of the Leica MC1 3D machine control technology into the Caterpillar Next Gen 2D excavators. The enhanced interoperability will provide customers with simpler installation of the Leica MC1 3D machine control solution as an aftermarket system on existing Caterpillar's standard NGH. www.leica-geosystems.com



SILICON SENSING PRESENTED ON PINPOINT AT IEEE INERTIAL, 2023

At the four-day IEEE Inertial international symposium on inertial sensors and systems Dr Mark Marshall, Chief Engineer, Silicon Sensing Systems, presented a paper on the construction and inertial performance of the company's smallest gyro - the Pinpoint. The presentation explored the **gyro's operating principles** and examine its specifications in detail. It described Pinpoint's construction including the **fabrication of the MEMS vibrating ring** and outlined the performance envelope of the unit in both flat and orthogonal mounts. The paper also described the properties of the PZT film that Pinpoint uses as both gyro actuator and transducer - and outlined the key performance benefits this brings to the gyro.

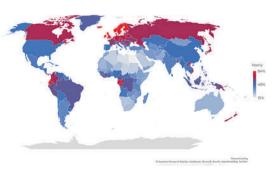
www.siliconsensing.com

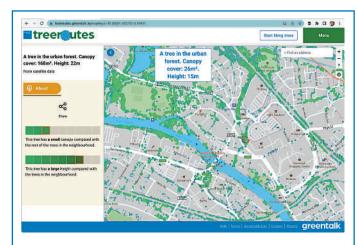


UBOTICA SLASHES SATELLITE DATA OVERLOAD WITH ON-BOARD AI SOLUTION

Ubotica Technologies announced the CogniSAT-CRC solution which maximizes Earth Observation asset utilization using flight-proven CogniSAT technology. Using state-of-the-art lossless image compression, and a flight-proven AI-based Cloud Detection and Removal algorithm, CogniSAT-CRC delivers at least a six-fold increase in useful data capture per orbit for Earth Observation (EO) satellites thereby maximizing the areas of interest scanned during each orbit. As more complex EO sensors produce more data and with more satellites flying, there is now a data bottleneck in space. The available downlink capacity is not keeping pace with the data generated and this results in the under-utilization of these complex EO assets which reduces the system's return on investment. CogniSAT-CRC directly addresses this challenge with an approach that can reduce downlink data costs by 80% while simultaneously trebling the amount of useful data gathered. www.ubotica.com

Average Cloud Cover

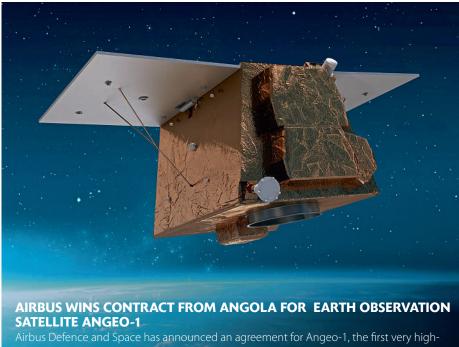




BLUESKY TREE MAP ENHANCES ONLINE URBAN FOREST MAPPING PLATFORM

Greentalk, a London-based ecotech start-up, is offering a map of trees from Bluesky International within its online urban forest engagement platform. Incorporating Bluesky's National Tree Map data, Greentalk will be able to provide accurate height, location and canopy coverage data for trees three meters and taller across the UK. Greentalk's platform has already been deployed by London's **Hounslow Council** and is designed to encourage greater interaction with the outdoors. It can also support corporate wellness programs, assist social prescribing initiatives, help identify **new tree planting locations** and **facilitate climate action plans**. Bluesky's National Tree Map data sits within a Mapbox environment, which includes base mapping of the urban landscape providing context for all the green and blue data presented by the Greentalk platform. **www.bluesky-world.com**

SIMACTIVE SOFTWARE USED TO COLORIZE LIDAR SimActive, a developer of photogrammetry software, announces the use of its lidar point cloud colorization capabilities by users of multi-sensor systems developed by LiDARUSA. SimActive's Correlator3D software allows profiting from imagery and lidar data in a complimentary fashion. Lidar point clouds are first imported in Correlator3D, to which the collected imagery is automatically registered. The lidar data are used as a control for the registration process. Each lidar point is then colorized using the images. "While lidar is great, everyone understands imagery. Colorizing lidar makes the data much more understandable", said Jeff Fagerman, CEO at LiDARUSA. "Correlator3D allows our clients to easily colorize lidar point clouds from their multi-camera system." www.simactive.com



performance Angolan Earth observation satellite, to be manufactured by Airbus Defence and Space in France, which strengthens the **collaboration** between the two countries. Angola has already developed various operational applications using satellite imagery from Airbus Defence and Space, such as **land use mapping, agriculture monitoring** and **maritime surveillance** and also operates its own telecommunications satellite

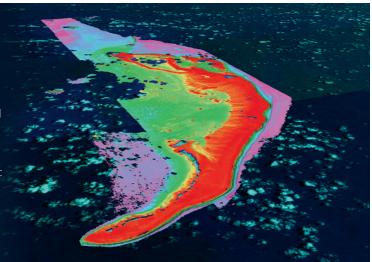
(Angosat-2). An Airbus S250 optical satellite, Angeo-1 builds upon Airbus' more than 30-year experience in building highly reliable space systems. Once in operation, it will become the most advanced satellite in its class in the region, positioning Angola as a leading space power. www.airbus.com

ORDNANCE SURVEY ANNOUNCES BIGGEST DIGITAL TRANSFORMATION IN OVER A DECADE

Ordnance Survey (OS), has announced its most significant digital transformation milestone in over a decade, providing faster and easier access to location data for customers across the public and and solutions company that has been providing accurate location data and insights for governments, than 230 years. This huge investment will enable faster and easier access location data, providing customers with enhanced access via the **OS** Data Hub, driving efficiencies and be at center of core decision-making, products, and services. The digital accessing the OS National Geographic Database (NGD) which contains over half a billion geographical features and is kept up-to-date with 20,000 daily changes. www.os.uk

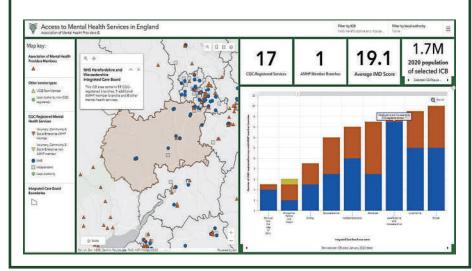
TCARTA EXPANDS ROLE IN SEABED 2030 OCEAN SURVEY PROJECT

TCarta Marine, a global provider of hydrospatial products and services, has expanded its role in the Seabed 2030 project that seeks to map the entire ocean floor by 2030. Having already directly contributed extensive **satellite-derived bathymetry** (SDB) to the endeavor, TCarta has developed capacity-building initiatives to train international hydrographic offices in creating their own SDB data sets for Seabed 2030 and other applications. Seabed 2030 was launched by The Nippon Foundation of Japan and the General Bathymetric Chart of the Oceans program (GEBCO) to produce a publicly accessible bathymetric data set of the seafloor. The project is officially endorsed by the UN Decade of Ocean Science for Sustainable Development. As a Seabed 2030 partner, TCarta has contributed **150,000 square kilometers** of 10-meter resolution seafloor depth measurements from its Global Satellite Derived Bathymetry (G-SDB) product line. **www.tcarta.com**



FIRST NATIONAL PICTURE OF MENTAL HEALTH SERVICE PROVISION LAUNCHED BY ASSOCIATION OF MENTAL HEALTH PROVIDERS

The Association of Mental Health Providers (AMHP) has created the first-ever complete picture of mental health service provision across England via a freely available interactive map. By combining data from the AMHP's members and other mental health service providers, alongside demographic data, the map helps users understand where **gaps in provision** are located and can help build cases for future government funding. AMHP is the national representative organization for **voluntary, community and social enterprise** (VCSE) providers of mental health and wellbeing services in **England** and **Wales**. Designed to be used by Integrated Care Systems (ICS), Local Councils, Government and other decision and policymakers in the mental health and social care sector, as well as VCSE mental health providers, all stakeholders now have access to compelling data to help with planning, strategies and funding from national to local level. **www.esriuk.com**



INTERMAP EXTENDS EUROPEAN FLOOD RISK SOLUTION

Intermap Technologies, a global provider of 3D geospatial products and intelligence solutions, announced that its partner, NEMO Report, has signed a contract with the largest real estate broker in the Czech Republic, M&M Reality Holding, to offer real estate brokers access to Intermap's flood risk information in the Czech Republic. NEMO Report has completed its initial proof of concept subscription with Intermap and is preparing to introduce a service that will change how the market prices real estate properties. Statistically, every fourth property in the Czech Republic is located in a zone with a higher or lower degree of flood risk. NEMO Report is setting a new standard in the Czech market for verifying available risk information for properties. Intermap's flood risk solution for property valuation is now being offered to 2,000 real estate brokers through M&M Reality. www.intermap.com



FUGRO'S NEW CONTRACT IN LOUISIANA FOCUSES ON SAFE AND SUSTAINABLE ROADS

Fugro has been awarded a 6-year contract with the Louisiana Department of Transportation and Development (DOTD) for pavement distress mapping services. The contract is part of the state's ongoing efforts to improve the safety and sustainability of their roads infrastructure, which is challenged by environmental conditions such as **high heat and humidity, flooding** and **coastal erosion**. As a recognised expert in pavement engineering, Fugro will deliver the critical Geo-data and analysis needed to help the DOTD prioritize maintenance and rehabilitation projects. A fleet of **Fugro ARAN** (Automated Road Analyzer) vehicles will be used to collect pavement condition information across the state. Equipped with lasers, cameras, and other sensors, the ARAN vehicles operate at highway speeds, collecting detailed information about roughness, rutting, texture, and other conditions, along with pavement and right-of-way



ATMOS APPOINTS TOPCON SOLUTIONS STORE AS ITS OFFICIAL DISTRIBUTOR IN THE UNITED STATES

Atmos, a fast-growing Dutch drone manufacturer that develops high-end VTOL fixed-wing drones for mapping and surveying applications, expands its global reseller network and signs a reseller agreement with Topcon Solutions Store in the United States. Topcon Solutions Store will be responsible for the distribution of **Marlyn Cobalt drones** in the United States and will provide assistance and maintenance services to local UAV operators. Headquartered in Carol Stream (Illinois), Topcon Solutions Store consists of hundreds of highly experienced and cross-trained individuals spread over **15 locations**, fulfilling customer needs in **20 states**. Each location houses a full-service center and is home to Topcon Warranty Repairs.

www.atmosuav.com





FIG WORKING WEEK 2023

28 May - 1 June 2023 Orlando Florida USA

Protecting Our World, Conquering New Frontiers

Let's meet for a unique opportunity to explore, expand your knowledge and network with fellow peers across industries, countries and positions.

Focus will be on *Protecting our World*, *Conquering New Frontiers* emphasizing the importance of looking ahead and discover what will be needed in the future for our profession and at the same time make sure to preserve what works well today.

Don't miss THE FIRST FIG ANNUAL CONFERENCE IN 20 YEARS IN THE AMERICAS, this will be one of the premier events within the surveying and geospatial profession in 2023

geospatial profession in 2023.

- **%** Keynote sessions setting the agenda for each day.
- A platform to discuss experiences, innovations, best practices, research and much more to support the shaping of the future.
- Access to an inspiring exhibition featuring the latest products and services.
- Unlimited networking opportunities with peers.
- Precious non-distracted time. Being at the Working Week gives you time for immersion – precious time for reflection.







OPEN COSMOS SATELLITE TO GATHER CRUCIAL AGRICULTURAL DATA FOR ANDALUCÍA SET TO LAUNCH IN 2023 A satellite designed and built by Open Cosmos to gather and monitor crucial agriculture data for Andalucía has passed

three milestone reviews and is on track to launch this year. The new satellite has been commissioned by the **Junta de Andalucia** through the Andalusian Agricultural and Fisheries Management Agency (AGAPA), co-financing by the ERDF (European Regional Development Fund) in the framework of the **SmartFood project.**SmartFood is one of the projects led by LifeWatch ERIC, a European Research Infrastructure Consortium providing e-Science research facilities to scientists to support society in addressing key planetary challenges. The satellite will monitor the effects of farming on the territory and its natural resources, to inform future policies on preserving the environment and enabling sustainable farming in the region.

www.open-cosmos.com





GMV PROVIDES THE CORE SOFTWARE FOR THE GREEK SST SYSTEM

The National Observatory of Athens (NOA), supported by the Ministry of Digital Governance of Greece - General Secretariat of Telecommunications & Posts, awarded a contract to GMV to supply the core software as a complement to the existing national SST capacity to run the Greek Space Surveillance and Tracking and **Space Awareness** (SST/SSA) **Program**. The system comprises an operations center, the GR SST NOC, located in Athens at the Operational Unit BEYOND/NOA, and a network of optical telescopes in locations throughout the country to support space tracking and survey operations. It will use GMV's state-of-the-art COTS software for SST (FocusSST) to support the core processing infrastructure. This includes SST capabilities and functionalities such as sensor tasking, orbit determination, collision avoidance, re-entry prediction (in the operations center), and optical data astrometrics and photometric reduction (in each of the network's telescopes). www.gmv.com

TDI-BROOKS ADDS MANTA-200 CPT TO THEIR GEOTECHNICAL CAPABILITIES

TDI-Brooks will be adding a Manta-200 CPT System to their geotechnical capabilities. The TDI-Brooks' Manta-200 Cone Penetration Testing (CPT) system is suitable for almost any project in shallow water up to 150 meters. The Manta-200 represents the latest generation Cone Penetration Test (CPT) system for **determining offshore seabed soil conditions.** Either deployed from TDI-Brooks' DP vessel or off a charter DP vessel with a large 50-ton crane, the Manta-200 is designed for reliable results. During CPT operation the Manta is controlled from the surface with a real-time link over a combined power and communication umbilical. Data can be viewed in real-time allowing operators to manage the push and react to local sediment conditions to provide the highest quality data to the greatest depths possible. **www.tdi-bi.com**



Antennas **designed** for autonomous vehicles





Multi-constellation, multi-frequency

Avoids vehicle skin currents

Tight out-of-band filtering

Precise positioning

tallysman.com



TALLYSMAN®

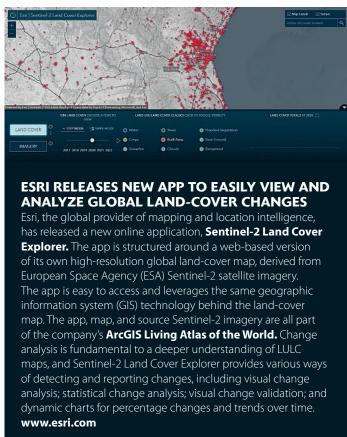
A CALIAN® COMPANY

When **precision** matters.®

Join us at ADAS & Autonomous Vehicle Technology Expo, **Booth #6332** to learn more.



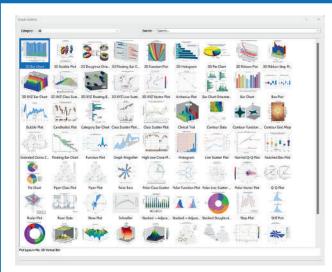








A new 'Space City Leicester' cluster has been launched in Leicester that will create one of the largest and most connected Enterprise Zones for space-related activities in the UK. Leicester Space City MapSpace City Leicester represents up to £233 million of investment in new and planned facilities on the former Pioneer Park development to the north of Leicester city center. This includes the University of Leicester's science and innovation hub Space Park Leicester, the award-winning National Space Centre visitor attraction and the flexible working space and high-tech business incubator facilities at Dock and Dock 2. Workspace will be expanded soon to include Dock 3 innovation workspace and newer industrial and business incubator facilities at Abbey Court. www.investinleicester.com



GOLDEN SOFTWARE MAKES GRAPHER PACKAGE FASTER TO LEARN, EASIER TO USE

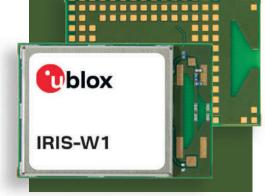
Golden Software, a developer of affordable software for visualizing and analyzing diverse data sets, has focused on improving the **user-friendliness** of its Grapher scientific graphing package for both existing and first-time users. The new version of Grapher includes enhancements that make it easier to use and faster to learn. Grapher is used extensively by **scientists** and **engineers** in environmental services and consulting, climate research, exploration, and academic pursuits. The package offers **deeper insights** into diverse data sets, including chemical, physical, geologic, and geospatial data, through 80 different 2D and 3D plotting types.

www.goldensoftware.com



U-BLOX ANNOUNCES ITS FIRST TRI-RADIO STAND-ALONE MODULE FEATURING DUAL-BAND WI-FI 6, BLUETOOTH LE AND THREAD

u-blox, a global provider of positioning and wireless communication technologies and services, has compact stand-alone Wi-Fi module combining dual-band Wi-Fi 6, Bluetooth LE (Low Energy) 5.3, and Thread including support for Matter. IRIS-W1 comes in **four variants**, each enabling the user to select among various antennas and software environments. automation, medical equipment, EV charging, smart building and smart home (including intelligent appliances), after-market telematics, and industrial power tools will find this module an excellent ally. Its dual-band Wi-Fi 6 is adequate for those segments searching for the latest Wi-Fi technology. can obtain significant benefits such as fewer data congestion and more power efficiency. www.u-blox.com



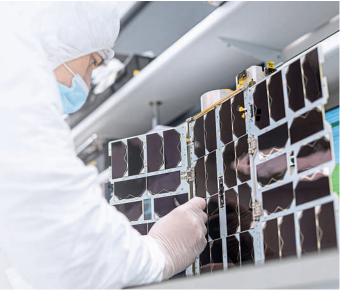
TOPCON FURTHER EXPANDS MC-X PLATFORM WITH ALL-NEW GNSS OPTION FOR COMPACT EQUIPMENT

Topcon Positioning Systems has announced the availability of a new global navigation satellite system (GNSS) option for its MC-Mobile compact machine control solution. Rounding out the company's compact solutions portfolio, this GNSS option allows contractors to easily integrate their compact machines into fleets already powered by GNSS technology. This expansion gives owners of skid steers, compact track loaders (CTL) and mini excavators the broadest offering of machine control options to date. The MC-X architecture combines multiple communication technologies, such as the Sitelink3D connectivity platform, support for numerous elevation sensors, IMUs and GNSS receivers, to tailor solutions directly to a contractor's workflow — maximizing return on investment (ROI) at every phase of an operation. www.topconpositioning.com



KONGSBERG NANOAVIONICS TO BUILD THREE MORE SATELLITES FOR WORLD'S LARGEST 5G NARROWBAND-IOT CONSTELLATION IN LOW EARTH ORBIT

Smallsat mission integrator and bus manufacturer Kongsberg NanoAvionics (NanoAvionics) has received an order for three further satellites from 5G telecoms operator OQ Technology. They will be added to OQ Technology's existing constellation, turning the company into the largest 5G NB-loT (narrowband Internet of things) satellite operator in the world. It is NanoAvionics's **fourth contract with OQ Technology**, having previously supplied Tiger-2, Tiger-3, and MACSAT missions. Through the collaboration with NanoAvionics, OQ was able to launch the world's first commercial nanosatellite, Tiger-2 in 2021, which provided 5G coverage for IoT devices based on NB-IoT and the first expansion of their services with Tiger-3 in 2022. As part of the agreement, OQ Technology will provide the **5G payload**, which is based on standard 3GPP Rel. 17 technology and will take care of launch, satellite operations, spectrum licensing, service and market access. **www.nanoavionics.com**



UAVOS USED BOREY FIXED-WING DRONE FOR SOIL MOISTURE MAPPING

UAVOS, a developer and manufacturer of security and commercial solutions based on advanced Unmanned Systems, has recently completed a drone-based inspection in the agriculture sector to **measure water content in the soil.**Combining digital data and UAVOS's customized software has allowed providing innovative analysis for water management in agriculture and land management. UAVOS's inspection technology offers timely and accurate insights into the dynamics of soil drainage and moisture content which can contribute to the productivity of the land. **www.uavos.com**



MCLAREN APPLIED BRINGS NEXT-GENERATION CONNECTIVITY TO MOVING VEHICLE APPLICATIONS WITH NEW 'HALO 300' 5G INTELLIGENT EDGE ANTENNA

McLaren Applied has announced the development of its 5G intelligent edge antenna technology for a wide range of moving vehicle applications. Thanks to a smaller, lighter, yet equally durable design, the substantial benefits of the game-changing connectivity solution for rail are now available to a broad spectrum of operators and industries. While existing connectivity solutions require complex installation, bulky additional hardware and a steady signal to function, McLaren Applied's Halo 300 offers not only **increased performance** but **lower cost** and **complexity** as well. Installation and maintenance considerations are greatly reduced with dual modems built in, fewer cables and no need for a separate router or access point. **www.mclarenapplied.com**



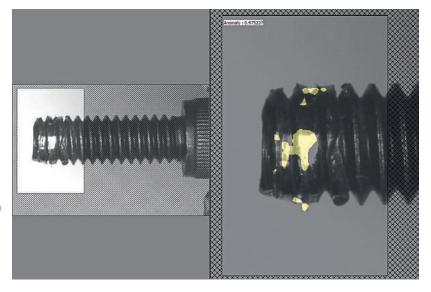
EUROSENSE RELIES ON VEXCEL IMAGING AND RHINOTERRAIN TO GENERATE WATERTIGHT AND TEXTURED LOD 2 CITY MODELS

Eurosense has achieved outstanding results in creating high-quality watertight building models of Old Town Graz, Austria, at Level of Detail (LOD) 1 and 2, using Vexcel's state-of-the-art **UltraCam large-format aerial systems** and UltraMap photogrammetric processing software in conjunction with RhinoTerrain and DAT/EM software solutions. The Vexcel and RhinoTerrain products have proven to be a perfect match for Eurosense, as they complement each other seamlessly. Eurosense has been utilizing Vexcel imagery with RhinoTerrain for several years to produce **3D city models**, and the workflow has become a familiar and trusted production tool within the company. **www.vexcel-imaging.com**



TELEDYNE ANNOUNCES ADVANCED AI ENHANCEMENTS TO ITS IMAGE PROCESSING SOFTWARE

Teledyne announced its Sapera Vision Software Edition 2023-03 is now available. Teledyne DALSA's Sapera Vision Software provides field-proven image acquisition, control, image processing and artificial intelligence functions to design, develop and deploy high-performance machine vision applications. The new upgrades include enhancements to its Al training graphical tool Astrocyte 1.40 and its image processing and Al libraries tool Sapera Processing 9.40. "The new features offered by this new release of Sapera Vision Software are focused on providing our users with enhanced ease of use, improved accuracy, and accelerated processing time across the platform," said Brandon Hunt, Product Manager for Teledyne's Vision Solutions group. www.teledynedalsa.com





NEW EU REPORT STRESSES IMPORTANCE OF GNSS ALTERNATIVES FOR PNT

The European Union's Joint Research Centre (JRC) released a new report on its trials of Alternative Position, Navigation and Timing (A-PNT) technologies, conducted between 2021 and 2022. The demonstration tested technologies from seven different companies on their ability to address vulnerabilities and serve as a complement to Global Navigation Satellite Systems (GNSS) – the satellite-based PNT technology that includes the EU's Galileo and the United States' **GPS systems,** among others. Although widely used, GNSS technology suffers from **unique shortcomings,** and without alternatives in place, the effects of an outage would be far-reaching and damaging to the European economy. The JRC recognized NextNav's TerraPoiNT as a mature solution that meets or exceeds all relevant benchmarks to serve as a resilient layer to existing GNSS technology. **www.nextnav.com**



Septentrio, a provider of high-precision GNSS positioning solutions, announces the start of the Agnostic Corrections Partner Program. This program facilitates the use of Septentrio receivers with various high-accuracy services, which offer varying levels of accuracy, coverage and delivery methods. This also allows integrators and users to select the service which is most suitable for their specific application and business model. GNSS-based positioning is limited in accuracy due to several errors caused by GNSS satellites as well as the Earth's atmosphere. To compensate for these errors and achieve decimeter or even centimeter-level accuracy the receiver needs to get additional information from a corrections service. As the demand for high-accuracy positioning is increasing with our ever-growing reliance on automation, the GNSS corrections ecosystem is rapidly expanding with new services offering varying levels of accuracy, delivery methods and geographical coverage. www.septentrio.com

PROJECT LAUNCHED TO PROTOTYPE LARGE-SCALE HIGH-VALUE PAN-EUROPEAN DATASETS

National providers of geospatial information have announced plans to create a prototype for harmonized large-scale, high-value pan-European open datasets. **Open Maps For Europe 2** (OME2) will develop a new production process and technical specification for free-to-use, edge-matched data under a single open license. Authoritative **1:10 000 scale data** for 10 countries will be delivered via the user interface built by the award-winning Open Maps For Europe Project. The prototype will provide three datasets, identified as key themes by users and defined as high-value in the European Commission's implementing rules for the Open Data and reuse of **Public Sector Information Directive** – administrative boundaries, transport and hydrography. OME2 will also enhance the five existing Open Maps For Europe datasets, including the pilot Open Cadastral Map. **www.eurogeographics.org**



IMPACT OBSERVATORY SECURES \$5.9M SEED ROUND TO BRING AI-POWERED SPACEBASED MONITORING FOR SUSTAINABILITY, CLIMATE, AND ENVIRONMENTAL RISK

Impact Observatory, a provider of Al-powered global mapping and monitoring, announced that its seed funding round has closed, raising more than \$5.9M. The funding will help accelerate Impact Observatory's go-to-market for its Al-powered monitoring products for governments and commercial customers. The funding will also support ongoing research and development (R&D) to build additional monitoring capabilities utilizing the full spectrum of commercial space-based data sources. The latest round included investment by Esri International LLC, an affiliate of Esri, the global provider of mapping and location intelligence. Impact Observatory's maps are being released via Esri, Microsoft, Amazon, and the UN, and have been accessed over one million times. www.impactobservatory.com

UP42 AND VEXCEL TEAM UP TO EXPAND AERIAL IMAGERY AND GEOSPATIAL DATA PORTFOLIO ON THE MARKETPLACE

UP42, the geospatial developer platform and marketplace, has significantly expanded its aerial imagery and elevation data portfolio through a partnership with Vexcel–a 30-year provider the **photogrammetric** and **remote sensing space**. The Vexcel Data Program delivers geospatial data products with high accuracy, spatial resolution, and consistency. Vexcel's aerial data collection initiative is the largest in the world capturing ultra-high-resolution imagery (at **7.5 to 15cm resolution**) and related geospatial data in more than **30 countries**, including the U.S., Canada, U.K., Western and Eastern Europe, Australia, New Zealand, and Japan. Known for their remarkable image quality, Vexcel products are used extensively by local governments, utilities, telecoms, and AEC (architecture, engineering, construction) companies. **www.up42.com**

