# NEWS & EMERGING TECHNOLOGY

EMESENT LAUNCHED THREE TIME SAVING PRODUCTS FOR GEOSPATIAL PROFESSIONALS

Emesent, a provider of drone autonomy, LiDAR mapping, and data analytics launched three new products, which will help geospatial professionals save time while capturing accurate data for digital twins and BIM applications. The products include **Hovermap ST-X**, a new Hovermap variant with a sensing range of 300 meters and improved accuracy, a **Long Range Radio add-on** which increases the communication range with Hovermap up to 20 times further, and Emesent's **Aura platform** which offers an integrated SLAM processing and point cloud visualization environment for Hovermap users. **www.emesent.com**
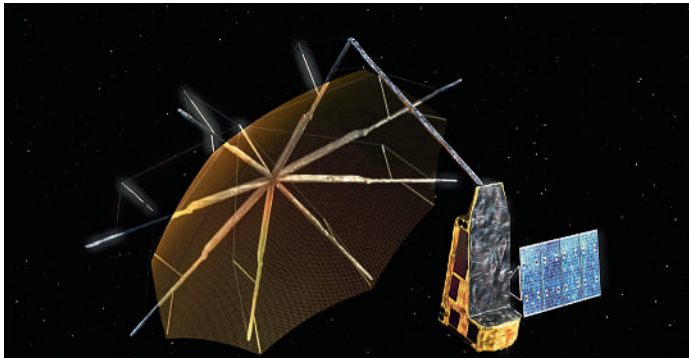
SWEDISH SPACE CORPORATION TO SUPPORT ESA'S NEXT EARTH EXPLORER MISSION

Swedish Space Corporation (SSC) has signed an agreement with the European Space Agency (ESA) for data reception support of the Biomass satellite scheduled for launch in late 2023. Biomass is set to explore and collect important data about the Earth's forests; it will take stock of the carbon stored globally and monitor the evolution over the 5 year's lifetime of the mission exhibiting **plant growth** and **deforestation**. As the only commercial GS provider, SSC will support the mission with X-band data downlink connectivity from its polar ground stations in **Inuvik** and **Kiruna**. Biomass is the seventh satellite to be launched within **ESA's Earth Explorer program**, a series of research missions dedicated to specific aspects of our Earth environment – from the atmosphere, biosphere, hydrosphere and cryosphere down to the Earth's surface and interior. **www.sscspace.com**

CLIMATE CHANGE MONITORING: CUBE4ENVSEC GROWING

Nato has launched a new multiyear Science for Peace and Security Programme project named **Cube4EnvSec** which aims at exploiting Big Earth Datacube Analytics for transnational security and environment protection. Its consortium continuously grows, and two additional partners have joined: the Centre for Aviation at ZHAW Zurich University of Applied Sciences in Switzerland and Istanbul Aydin University in Türkiye. The underlying technology used in all Cube4Envsec use cases is the **rasdaman (raster data manager) Big Datacube engine**, which is proven, mature, and operational on more than 140 Petabyte of satellite and climate data assets. Based on this platform, the Cube4EnvSec service developed will offer a capability which is relevant to NATO and partner nations in both military and civilian contexts. **www.rasdaman.com**

MOBILE LIDAR'S ROLE IN BRINGING 'INDUSTRY 4.0' TO NORWEGIAN FORESTRY

GeoSLAMs LiDAR technology is mapping forests as part of the Centre for Research-based Innovation (SFI) SmartForest in Ås, Norway. SFI SmartForest aspires to put the Norwegian forestry sector at the forefront of technological advances and **Industry 4.0. Advancements** in digital technologies and industry, trends toward an interoperable future, with high collaboration, a free flow of information, and real-time communication. Led by **The Norwegian Institute of Bioeconomy Research** (NIBIO), the SFI SmartForest aims to bring industry 4.0 to the sector over an 8-year period. The primary goal is to improve the efficiency of Norwegian forestry by enabling a digital transformation, using **innovative technologies.** Focusing on silviculture, forest operations, wood supply, and the overall digital information flow, SmartForest is investing in sensible enabling technologies such as **handheld LiDAR sensors**, to help achieve its goals. One such LiDAR solution is the GeoSLAM ZEB Horizon laser scanner. **www.geoslam.com**
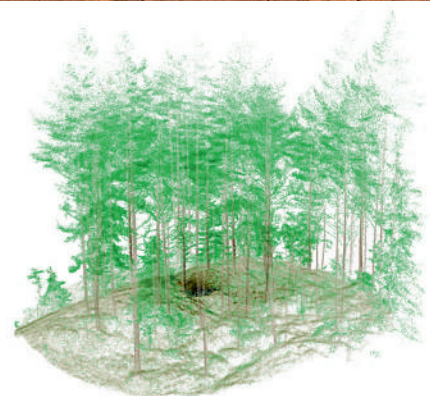
HEXAGON TO UPDATE AERIAL DATA OF EIGHT U.S. STATES AT SIX-INCH RESOLUTION IN 2023 FOR THE HXGN CONTENT PROGRAM

Hexagon's Geosystems division announced that the HxGN Content Program will refresh aerial data of eight U.S. states at **6-inch (15-centimeter) resolution** for the 2023 collection season, including Texas, Washington, Florida, South Carolina, Virginia, Maine, Montana and Idaho. Additional states may be added as the season progresses. Most notably, Texas will be refreshed as part of Hexagon's ongoing partnership with the **State of Texas** and the **Texas Natural Resources Information System** (TNRIS), a division of the Texas Water Development Board. The four-year program emerged from the HxGN Content Program's Content+ initiative, a cost-effective licensing model for state and local governments that offers the flexibility to obtain single-season aerial data to their desired specifications. The refreshed aerial data will be available starting in Q4 of 2023, adding **763,902 square miles** (1,789,497 square kilometres) of high-resolution orthoimagery, stereo imagery and imagery-derived digital surface models to the program. **www.hexagon.com**

FUGRO AWARDED MAJOR OFFSHORE WIND CONTRACT WITH ENERGINET TO SUPPORT DENMARK'S RENEWABLE ENERGY GOALS

Fugro has secured a contract with Energinet for geotechnical site investigations for the North Sea I offshore wind development. The Danish government plans to expand offshore wind capacity by 4GW by 2030, and the Geo-data acquired by Fugro will be used to inform future bids in the area. This award follows Fugro's success working on the **North Sea Energy Islands project** for Energinet throughout 2022, a project that is the first of its kind. Fugro's Geo-data will provide crucial insights on the **seabed and sub-surface conditions,** reducing uncertainty and helping installers make informed decisions on where best to position the wind turbines and export cables. With fieldwork set to start in 2024, Fugro will mobilise multiple geotechnical vessels equipped with state-of-the-art investigation tools such as the SEACALF Mk V Deepdrive system for seabed cone penetration tests and the WISON Mk V Ecodrive. **www.fugro.com**


UP42 LAUNCHES ARCGIS PRO ADD-IN AS PART OF ESRI PARTNER NETWORK

UP42 made the first major announcement of its new partnership with the introduction of the UP42 ArcGIS Pro Add-in. Available on the **Esri ArcGIS Marketplace,** the UP42 add-in allows users to **access UP42 data sets** and **projects** from within **ArcGIS Pro**. UP42, a Silver Partner in the Esri Partner Network (EPN), unveiled the add-in at the INTERGEO 2022 Conference. Esri's ArcGIS Pro is a standalone application extensively used by geospatial solution builders, GIS professionals and developers to visualize, analyze, compile, and share geospatial data. The UP42 marketplace currently contains over **160 satellite and aerial image products** and **derived data sets** along with dozens of processing algorithms from leading geospatial organizations. **www.up42.com**

ESRI UK PROVIDES MAPPING EXPERTISE FOR DEPARTMENT FOR EDUCATION'S MAJOR NEW CLIMATE PROJECT

The Department for Education (DfE) has released further details of its National Education Nature Park, created to teach children of all ages about climate change and improve biodiversity across the country. Esri UK is providing a **digital mapping platform** and expertise in biodiversity mapping to help underpin this exciting initiative, first announced at COP26 by the **Education Secretary**. The National Education Nature Park will engage young people and teachers with nature, supporting them to play a driving role in mapping and monitoring biodiversity on their grounds using citizen science and, critically, taking action to enhance it. The DfE believe this could play an important part in **increasing biodiversity** across the education estate and have a real impact on halting the decline of nature in England. **www.esriuk.com**
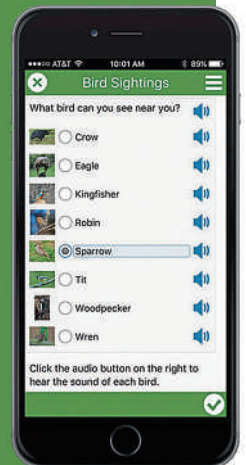
SILICON SENSING BROUGHT LATEST INERTIAL TECHNOLOGY TO SPACE TECH EXPO, EUROPE

Silicon Sensing joined almost 500 exhibitors at Space Tech Expo, Europe, where the company promoted high performance inertial measurement products focused on the small satellite and CubeSat markets. Showcased at Space Tech Expo were the highest performing **silicon micro electro-mechanical systems** (MEMS) inertial measurement unit (IMU) on the market today; an **IMU** created for high impact and vibration environments, such as satellite launch vehicles; a miniature, single axis, stand-alone gyro delivering precise performance that is stable over time and temperature. The CRH03 is lightweight and rugged with low power consumption; a family of rugged and compact accelerometers; a tiny, low-cost combi-sensor. The CMS300 is a single axis gyro and dual-axis, low-g accelerometer that offers class-leading performance. **www.siliconsensing.com**

AXIANS FRANCE ENTERS INTO A PARTNERSHIP WITH PIX4D

As a driving force in innovation and technology in the French telecommunication sector, Axians will collaborate with Pix4D to build a technological ecosystem intended to improve the accuracy of data capture. The creation of **BIM 3D models** and **digital twins** of its customers' infrastructures allows Axians to strengthen its offerings. Pix4D offers BIM services through the **Pix4D Digital Construction Team** (DCT), headed by Dr. Jacques Khouri, a BIM specialist, and digitization expert. Pix4D will leverage its digital twin and AI technology to automatically identify critical telecom assets and their dimensions. The DCT will create 3D BIM models for use in new 5G antenna installation, maintenance, and more. Telecommunication assets will be accurately recreated in smart 3D models. **www.pix4d.com**

FIELD IS THE NAME OF ONE OF EUROPE'S LARGEST GEODATA, COLLECTION AND ANALYSIS COMPANY

The former KVS Terratec has been relaunched under the name Field. A year ago, the technology company **KVS Technologies** bought Oslo-based **Terratec** (including **Blom**, **Foran AB** and **TerraPro**), a company in aerial surveying, mapping, and land surveying. The new KVS Terratec Group went from 30 to 300 employees. Since the acquisition, the company has had a new major owner join the team, the industrial investor DSD - and they have also acquired **Sevendof**, a company that specializes in building long-distance drone technology for industrial purposes. Cato Vevatne, CEO of Field, promises further growth for the company both through active recruitment of employees and the acquisition of technology companies that fit Field's product offering. **www.field.group**

CADCORP EXPANDS CLOUD OPTIONS FOR DESKTOP GIS, WEB MAPPING AND SPATIAL DATA IN G-CLOUD 13

Cadcorp has been awarded a place in the Digital Marketplace as a supplier of GIS, web mapping and data services under G-Cloud 13. The British geospatial technology company offers the following GIS software and services in the cloud: Cadcorp SIS Desktop, SIS WebMap, SIS Notice Board, Spatial Database Service and Map and Data Service. Cadcorp has included the recently released **Cadcorp Data Service** as part of its expanding G-Cloud services. The managed service provides direct access to a wide range of open data directly from a secure Cadcorp datastore. The service allows customers to **easily access data overlays** within **SIS Desktop** and **SIS WebMap**. It provides a central location for numerous datasets from multiple organisations. **www.cadcorp.com**

U-BLOX ANNOUNCES A SECURE HIGH-PRECISION DUAL-BAND GNSS TIMING MODULE

u-blox, a global provider of positioning and wireless communication technologies and services, has announced a new, compact dual-band timing module that offers nanosecond-level timing accuracy, thereby meeting the stringent timing requirements for 5G communications. The new u-blox NEO-F10T is compliant with the **u-blox NEO form factor** (12.2x16 mm), allowing space-constrained designs to be realized without the need to compromise on size. The NEO-F10T is the successor to the **highly popular NEO-M8T module**, providing an easy upgrade path to dual-band timing technology. This allows NEO-M8T users to access nanosecond-level timing accuracy and enhanced security. u-blox's dual-band technology mitigates ionospheric errors and greatly reduces timing error, without the need of an external GNSS correction service. **www.u-blox.com**
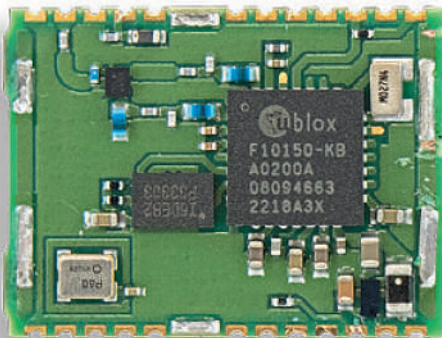
TRIMBLE INTRODUCES INNOVATIVE RAIL MODULE FOR REAL-TIME MONITORING SOFTWARE

Trimble announced Trimble 4D Control (T4D) software version 6.4, featuring an add-on rail-specific monitoring solution. T4D is a software suite for real-time displacement monitoring and detection. The rail module **simplifies the data collection process** and reduces up to 95 percent of the office work required to automate movement detection. Monitoring rail track geometry is necessary to **help identify deformations** caused by activities such as tectonic movement, heatwaves and nearby construction. The **real-time data** captured can be used to evaluate track conditions, which can enable operators to make informed decisions regarding track maintenance. This process provides support for continuous rail traffic flow and passenger safety. **www.trimble.com**
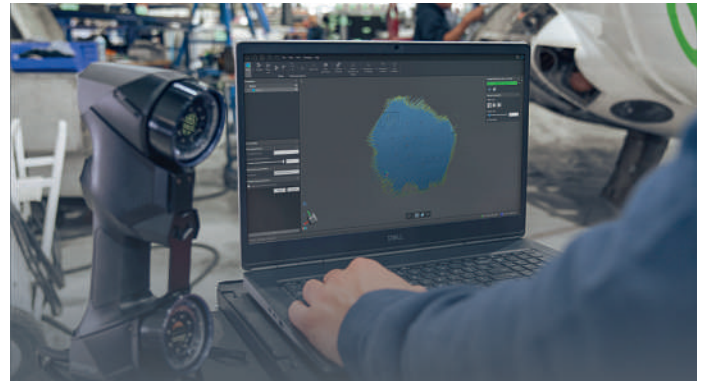
THE NEW VXINTEGRITY SOFTWARE PLATFORM: SURFACE DAMAGE ASSESSMENT MODERNIZED

Creaform, a business unit of AMETEK and provider of portable 3D measurement solutions and engineering services, announced the release of VXintegrity, the ultimate 3D scanning solution for surface damage assessment. Designed specifically to respond to the challenges facing industrial assets owners and NDT service companies, this new software platform contains **four different modules**, intended to tackle any surface analyses, as well as simple metrology applications. Making it possible to measure up to **80 times faster** than manual measuring tools, the new VXintegrity software platform, combined with **Creaform's 3D scanners**, represents the optimal solution to the current shortage of experienced technicians and aging and/or damaged infrastructures. Moreover, this user independent technology requires little training and few certifications, which means that technicians can be up and running faster than with other techniques. **www.creaform.com**

BENTLEY SYSTEMS ANNOUNCES BENTLEY INFRASTRUCTURE CLOUD, POWERED BY ITWIN

Bentley Systems announced Bentley Infrastructure Cloud, its combination of enterprise systems that span the end-to-end lifecycle and value chain of the world's infrastructure. Powered by the **iTwin Platform** and Bentley's infrastructure schemas and thus seamlessly integrating with Bentley's engineering applications, **Bentley Infrastructure Cloud** will enable better creation, delivery, and ongoing operation of better infrastructure, through complete and evergreen digital twins. Bentley Infrastructure Cloud encompasses **ProjectWise**, for project delivery; **SYNCHRO**, for construction; and **AssetWise**, for asset operations. These enterprise systems now leverage digital twin technologies, powered by iTwin, to open up data contained in engineering files through automated and intrinsic mapping to Bentley's infrastructure schemas. **www.bentley.com**
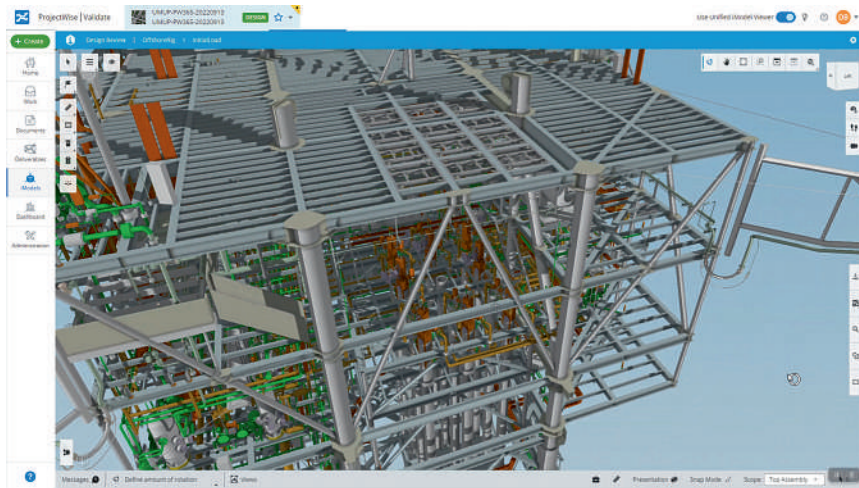
MOSAIC ANNOUNCES INTEGRATION OF HIGH RESOLUTION 360° CAMERA WITH LASER SCANNING SOLUTIONS

Mosaic announced that their new Mosaic X spherical camera is compatible with RIEGL's mobile mapping systems. RIEGL V-Line Scanners are currently some of the highest performing and most widely recognized mobile laser scan systems in the world. Mosaic is the designer and producer of **high resolution 360º mobile mapping cameras.** The development of the Mosaic X focused on delivering a high-resolution, global-shutter, 360° camera with precise GNSS time stamping to achieve extreme visual clarity and accuracy at once. Due to this, the Mosaic X meets the requirements to be integrated with mobile laser scanning systems such as the RIEGL VMX, VMQ and VMY series. **www.mosaic51.com**

NEW MAPS PLATFORM POSITIONS TOMTOM FOR ACCELERATED GROWTH

TomTom (TOM2), the geolocation technology specialist, announced it will introduce significantly improved maps, built on a new Maps Platform. The new maps offer broader geographical coverage, an extended set of supported data types, and faster update cycles. The company expects the product to improve its competitive position and enable it to enter new markets. The Maps Platform will allow TomTom to accelerate growth, both in the **Enterprise** and **Automotive businesses**. It supports the company's ambition to generate Location Technology revenue of **€600 million** in 2025, implying a compound annual growth rate in excess of 10%.2 With faster growth, TomTom should benefit from operating leverage, resulting in a free cash flow yield of 10% of group revenue by 2025. TomTom's record **€2.4 billion** Automotive backlog, meanwhile, provides a strong foundation for revenue growth. The Automotive backlog has increased by €500 million compared with the end of 2021. **www.tomtom.com**

ESRI ENTERS INTO AGREEMENT WITH UNITED NATIONS POPULATION FUND TO HELP MODERNIZE NATIONAL STATISTICS PROGRAMS

A population and housing census is among the most complex and massive peacetime exercises a nation can undertake, requiring careful planning, resourcing, and implementation. Success at this scale requires a geographic approach, so in support of this goal, Esri has entered into a memorandum of understanding (MOU) with the **United Nations Population Fund** (UNFPA). Under this new agreement, Esri will partner with UNFPA to help countries use **geographic information system (GIS) technology** and techniques in their census work with the aim of building inclusive, safe, resilient, and sustainable communities worldwide in areas where resources are scarce. Esri provides a statistics modernization program, which includes access to and use of Esri ArcGIS technology at highly subsidized rates, to national statistics offices in select developing countries, where it's most needed. **www.esri.com**

TERRADEPTH ANNOUNCES COMMERCIAL LAUNCH OF ABSOLUTE OCEAN MARINE DATA MANAGEMENT PLATFORM

Terradepth has announced the official launch of Absolute Ocean (AO), a secure easy-to-use cloud-based geospatial solution providing high-level visualization, analysis, collaboration, and management of all marine data. In addition to offering Absolute Ocean as a **software-as-a-service solution,** Terradepth leverages the platform to deliver its own marine survey products – including **Autonomous Underwater Vehicle (AUV) data** – as well as those of third-party ocean data vendors. Terradepth, a provider of **seafloor hydrographic** and **geophysical survey solutions**, developed Absolute Ocean to deliver greater operational efficiencies in marine data delivery and collaboration. Absolute Ocean has been available in beta since early 2022 with several early adopters exercising its functionality. Currently, the solution is being used for projects ranging from environmental monitoring and construction engineering to offshore energy production and telecommunications infrastructure inspection. **www.terradepth.com**

BLUESKY GEOSPATIAL LAUNCHES METROVISTA 3D AERIAL MAPPING PROGRAM IN U.S.

Bluesky Geospatial has announced the launch of its MetroVista 3D aerial mapping program in the United States. The service employs a hybrid imaging-LiDAR airborne sensor to capture highly detailed 3D data, including **360-degree views of buildings and street-level features,** in urban areas for use in creating digital twins, visualizations, and simulations. Bluesky's sister company, Bluesky International of Leicestershire, England, developed and introduced the **MetroVista program** in the United Kingdom in 2018 and has mapped more than **20 cities** across the England and Scotland in 3D. For the U.S. program, Boston is the first metropolitan area completed by Bluesky Geospatial. The MetroVista product is already being used in city management and urban planning for agencies as diverse as emergency services, transportation, environmental protection, and utilities. **www.bluesky-world.us**

AUSTRIAN FEDERAL RAILWAYS AND FREQUENTIS COLLABORATE ON HANGER-BASED DRONE OPERATIONS

Austrian Federal Railways (ÖBB) is not only one of the most punctual, but also one of the safest railways in Europe. A recently signed innovation partnership with Frequentis, to research hangar-based automated drone flights in Austria, will now bring ÖBB another important step towards **enhanced safety**, **economic efficiency**, and **service availability**. This is an important step in advancing the routine implementation of automated drone flights beyond line of sight. The focus of the cooperation will be on the prevention of railway incidents through routine maintenance flights, leading to early detection of damage to infrastructure, natural hazard management, monitoring route availability, as well as emergency management at major events. **www.frequentis.com**

VERIDAAS ACQUIRES 4DM

VeriDaaS Corporation, a provider and innovator in high-definition (HD) LiDAR acquisition and Data as a Service (DaaS) products, has completed its acquisition of 4DM, Inc., a GeoIntelligence company based in Toronto, Ontario, Canada. 4DM engages governments, NGOs, and private sector organizations in the areas of intelligent transportation solutions, environmental health, location-based services and risk assessment applications through **consulting projects** and **service-based work**. 4DM utilizes sensor technologies with data analytics, numerical modeling, and artificial intelligence with its extensive and deep expertise in science, engineering, and environment, to provide client-driven solutions. **www.veridaas.com**

1SPATIAL LAUNCHES THE MOST DISRUPTIVE TRAFFIC MANAGEMENT PLANNING SOLUTION IN 30 YEARS

1Spatial, the global provider of geospatial software and solutions for improved data governance, announced it is expanding its cloud offering with the launch of **1Streetworks' Traffic Management Plan Automation** (TMPA). The solution automates the consistent and compliant production of traffic management plans in a matter of minutes. 1Streetworks' TMPA solution automates the often costly, time-consuming, and error-prone process of planning works on the UK's roads. It produces a comprehensive, **site-specific traffic management plan**, usually in less than 60 seconds. The cloud-based software digitises traffic management regulations and ensures that all plans are compliant with the prevailing legislation. It works anywhere on any Internet-connected device. There are no costly software packages to purchase and maintain, no specialist training on CAD packages required and no expensive machines to buy. **www.1spatial.com**

FARO RELEASES FOCUS CORE LASER SCANNER

FARO Technologies, a global provider of 4D digital reality solutions, announced the release of the FARO Focus Core Laser Scanner. The new Focus Core broadens the Focus family's potential range of applications by providing the ideal combination of price and performance on the market. Fully integrated into FARO's workflow solutions for application-specific insights, Focus Core uniquely serves the company's key markets in **construction**, **building operations**, and **public safety** and is ideal for beginning a customer's 3D capture experience. Focus Core provides exceptional capturing efficiency, data quality and accuracy for professional applications, with scan speeds of **less than one minute per scan**. Features include up to a 70-meter scanning range, smartphone-enabled remote-control capabilities, and an improved and faster Wi-Fi wireless workflow. **www.faro.com**

GMV ASSESSES IMPACT OF TURKEY EARTHQUAKE FROM SPACE

As part of its emergency management efforts, GMV is conducting an impact assessment of the earthquake that struck Turkey and Syria in the early hours of Monday, February 6. It is already considered the deadliest earthquake in the last 10 years, with a death toll of 33,000 so far. GMV is using optical imagery of the highest resolution to keep the **EU Civil Protection Mechanism's Emergency Response Coordination Centre** (ERCC) apprised of the situation facing the population and infrastructure in several affected cities (Gaziantep, İslahiye, Düziçi and Bahçe). GMV is assessing how the population and infrastructure have been affected by one of the largest quakes in the last decade, compiling all information from high-resolution satellite imagery. **www.gmv.com**

UBOTICA AND OPEN COSMOS AGREE TO LAUNCH AI CENTRIC SATELLITE

Ubotica Technologies, the provider of smarts for smart satellites, and Open Cosmos, space mission and data provider, have signed an agreement to deliver CogniSat-6, the first AI centric CubeSat mission to include autonomous capabilities. As part of the agreement, CogniSat-6 will carry the flight proven (TRL-9) **CogniSat edge computing platform** to low earth orbit and will provide reactive retargeting to optimise image gathering on specific areas of interest identified in-orbit without requiring any intervention from ground stations. This allows faster response times for satellite tip and cue operations resulting in higher value data gathering which significantly accelerates the mission return on investment (ROI). **www.ubotica.com**

SYNSPECTIVE AND GCRS ANNOUNCE PARTNERSHIP FOR SAR SATELLITE-BASED RISK ANALYSIS SOLUTIONS IN SOUTH ASIA

Geo Climate Risk Solutions, a solution provider, consultancy, and advisory services firm that focuses on natural hazards risk analytics and environmental and sustainability challenges, and Synspective, a **synthetic aperture radar** (SAR) satellite data and solutions provider, announced a new partnership for SAR-based analysis solutions for critical infrastructure and mining industries in India and across South Asia. Under this partnership, GCRS and Synspective will join together to **provide risk analysis solutions** for **critical infrastructure** and **mining industries** to accelerate net-zero initiatives in the region. Also, GCRS will apply Synspective's SAR satellite data to evaluate and map **land subsidence/displacement** along critical infrastructure systems and assets, including hydrocarbon and water pipelines, roads, and railway corridors. The two companies will pursue opportunities to estimate ground biomass using SAR data as well as develop near real-time predictive models to monitor floods and landslides. **www.synspective.com**

AGEAGLE INTRODUCES THE NEW EBEE VISION INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE DRONE

AgEagle Aerial Systems, a provider of full stack flight hardware, sensors and software for commercial and government/defense use, announced its introduction of the new eBee VISION, a small, fixed-wing unmanned aerial system ("UAS") designed to provide **real-time, enhanced situational awareness** for critical Intelligence, Surveillance and Reconnaissance ("ISR") missions. Scheduled for global commercial release in 2023, the eBee VISION delivers high resolution, medium-range video imagery made possible by its 32x zoom and powerful thermal observation capabilities. Its sensor payloads are capable of detecting, tracking and geo-locating objects in both day and night conditions. Offering up to **90 minutes of flight time** and the same ease-of-use that has earned AgEagle's eBee line of drones industry distinction, the eBee VISION can be deployed and operated by a single person. **www.ageagle.com**

NEW GEOSPATIAL DATA PROJECTS TO SHAPE THE FUTURE OF LAND USE

The Geospatial Commission has launched a series of projects to explore key land use pressures, such as energy, housing and decarbonisation, and how innovative data analysis can support better decisions about land use change. Through the National Land Data Programme, the Geospatial Commission is convening **regional pilots, national roundtables** and **expert workshops** to bring together stakeholders across local and national government, academia and industry. The Geospatial Commission's National Land Data Programme will demonstrate how spatial data can inform land use scenario planning. Through regional pilots and in dialogue with land use stakeholders, the programme will explore selected use cases and develop a blueprint of capability improvements to support land use decision making. **www.landusedialogues.gov.uk**

TELEDYNE ANNOUNCES NEW LADYBUG6 CAMERAS FOR HIGH ACCURACY 360-DEGREE SPHERICAL IMAGE CAPTURE

Teledyne FLIR Integrated Imaging Solutions announced the all new Ladybug6— the latest addition to its field proven Ladybug series. Ladybug6 is a high-resolution camera designed to capture **360-degree spherical images** from moving platforms in all-weather conditions. Its industrial grade design and out-of-the-box factory calibration produces **72 Megapixel (MP) images** with pixel values that are spatially accurate within **+/- 2 mm at 10-meter distance.** The new Ladybug6 builds on Teledyne's machine vision heritage with increased image resolution, enhanced on-board processing, and robust IP67-rated connectors. Building on the field proven Ladybug5+, the Ladybug6 captures, compresses, and transmits 8-bit or 12-bit pixel data delivering outstanding images across a wide range of lighting conditions with excellent color response, low noise, and a high dynamic range. **www.teledyneflir.com**

TDI-BROOKS COMPLETES THIRD GEOTECHNICAL PROGRAM IN THE BLACK SEA FOR DENAR

TDI-Brooks successfully completed a third geotechnical support project for DenAr Ocean Engineering S.A. for Phase 2 of the **TPOTC Sakarya Gas Field Pipeline Route Investigation** and **Site Survey Project.** The program consisted of Gravity Cone Penetrometer (gCPT) and T-Bar tests. TDI-Brooks deployed their geotechnical tools and geotechnical operators to the ongoing project off Turkey in the Black Sea. During this second leg of phase two, seventy-eight (78) gCPTs were collected in 34 to 2,168 meters of water. They also performed sixty (60) T-Bars in Box Cores (BC) acquired by DenAr. For the second program in July 2022, TDI-Brooks mobilized their research vessel, the R/V PROTEUS, to the Black Sea for 'heavy' geotechnical coring/CPT acquisition. **www.tdi-bi.com**

SPACE FLIGHT LABORATORY (SFL) AWARDED DEVELOPMENT AND PRODUCTION SUPPORT CONTRACT FOR 15 ADDITIONAL HAWKEYE 360 RADIO FREQUENCY GEOLOCATION MICROSATELLITES

Space Flight Laboratory (SFL) has been contracted to support development of Clusters 7 through 11 in the HawkEye 360 radio frequency (RF) geolocation microsatellite constellation. Under the Flex Production program, SFL is designing, assembling, and integrating Cluster 9 at its Toronto headquarters and is providing technical support for the integration of Clusters 7, 8, 10 and 11 at HawkEye 360's new manufacturing facility in Virginia. Each cluster includes **three microsatellites**. Created with NewSpace companies in mind, the SFL Flex Production program gives customers the option of contracting SFL to completely develop the first satellite, or satellite cluster, in a Microspace constellation at its Toronto facility. SFL then assists the customer in setting up subsequent mass production at their own site or another site. However, development can shift back to SFL when a new spacecraft design or technology update is needed. **www.utias-sfl.net**

PRESAGIS LAUNCHES CLOUD-BASED VELOCITY 5D DIGITAL TWIN PRODUCTION PLATFORM

Presagis, a global provider of 3D advanced modelling and simulation software, has officially launched its VELOCITY 5D (V5D) cloud-based platform that quickly and automatically converts massive volumes of 2D geospatial data into **high-fidelity 3D digital twins.** V5D leverages **artificial intelligence** and **game engine technology** to run complex visualization and simulation scenarios that derive context from the digital twins. With no geospatial data processing expertise, V5D users can easily produce accurate digital twins from multiple 2D data sets, including GIS vector layers, remote sensing imagery, and other structured and unstructured data of any size, format, or type. V5D allows users to perform live editing of the digital twin and provides **built-in libraries of features** and **building templates** to populate the 3D visualization with people, vehicles, trees, structures, and other objects, making it possible to model both real and hypothetical scenarios. **www.presagis.com**

INTERMAP ANNOUNCES $3.1 MILLION CONTRACT WITH MULTIPLE EUROPEAN INSURERS

Intermap Technologies a global provider of 3D geospatial data and intelligence solutions, announced multiple members of the Czech Association of Insurers have agreed to sign multiyear, multi-license contracts, with a total value of USD $3.1 million, for Intermap's flood risk software, **Aquarius RMA**, and a new generation of **precision flood hazard maps.** The new suite of agreements includes substantial upfront payment by year end, followed by five-year recurring subscriptions. The Czech Association of Insurers underwrite 98% of the total premiums in the Czech Republic. This multi-license contract with the major insurers in the market will provide critical access to **flood hazard maps, high-resolution 3D data,** and **analytics** across the industry. Intermap's cloud-based software will be integrated seamlessly into the insurers' workflows, streamlining analytics and geocoding capabilities and providing a comprehensive evaluation of flood risk that insurers will use to underwrite property. **www.intermap.com**

TATUKGIS SDK FOR PYTHON

TatukGIS brings its GIS Developer Kernel, a professional GIS SDK, to the popular Python programming language. The comprehensive **TatukGIS object-oriented API,** with hundreds of classes and thousands of methods and properties designed for geospatial application development, is now available as a Python package for Windows, Linux, and macOS. Built using the same approach as built-in Python classes, the TatukGIS Developer Kernel for Python behaves like any other **Python package**, is compatible with IDE's supporting Python (Visual Studio, Visual Studio Code, PyCharm, PyScripter), and provides context-aware code completion. The SDK is **Jupyter Notebook compatible** and can be used with other Python packages, such as NumPy, Matplotlib and more to create custom scripts for geospatial data processing. Besides the new Developer Kernel for Python edition, TatukGIS offers GIS SDK editions for the Delphi, .NET, ASP. NET, Java, and ActiveX development platforms, all with similar API and geospatial functionality. **www.tatukgis.com**
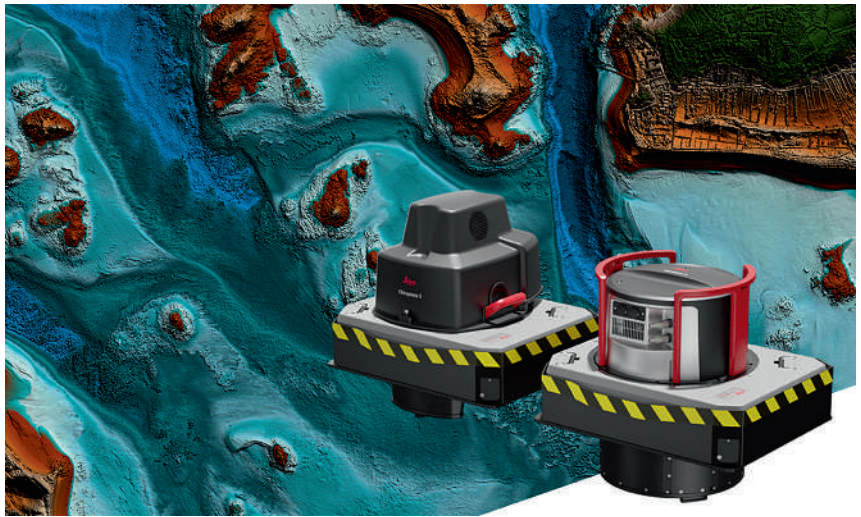

LEICA GEOSYSTEMS ANNOUNCES PERFORMANCE UPGRADES FOR AIRBORNE DEEP BATHYMETRIC SURVEYS

Leica Geosystems, part of Hexagon, announced the release of the Leica HawkEye-5, the new highly efficient **airborne bathymetric LiDAR solution** for deep water surveying. The upgraded technology increases survey efficiency by up to 25% compared to previous generations. The **Leica HawkEye-5** expands the capabilities of the Leica Chiroptera-5 bathymetric LiDAR system, enhancing the productivity of applications such as nautical charting, environmental monitoring, and maritime surveillance in deep waters. The HawkEye-5 is designed to fit the **Leica PAV100 gyro-stabilised mount,** which isolates the sensor from unwanted aircraft movements, resulting in consistent data density and more efficient area coverage. Greater flight efficiency leads to faster data collection and minimises the operational costs and environmental impact of each mapping project. **www.leica-geosystems.com**

CCTECH'S HVAC-TWIN IS POWERED BY ITWIN

CCTech announced the addition of HVAC-Twin to Bentley Systems' powered by iTwin program. HVAC-Twin enables quick turnaround between HVAC design iterations—leading to energy and cost-efficient HVAC designs. Designers and engineers can add **sensor data,** make connections, and start visualizing data such as temperature, occupancy, and CO_2 levels—to diagnose and improve the performance of HVAC systems. HVAC-Twin is a web-based, physics-informed **3D digital twin** that is built for easy accessibility and **enhanced collaboration**, providing quick turnaround between design iterations leading to energy and cost-efficient HVAC designs. HVAC-Twin addresses multiple challenges of stakeholders involved in the HVAC industry, from the design phase to maintenance and operations. These stakeholders include architects, building occupants, general contractors, HVAC system designers, consultants, and building owners. **www.bentley.com**
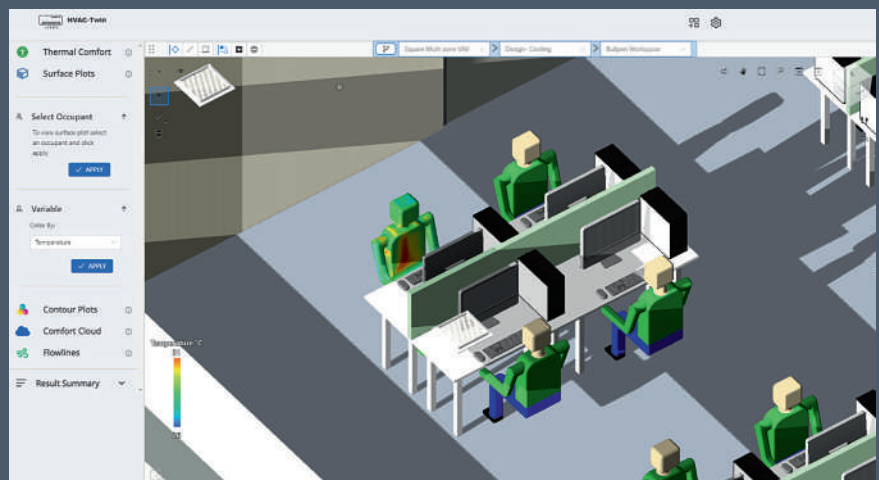
IMMERVISION PARTNERS WITH MODALAI TO OFFER A COMPLETE DRONE VISION SOLUTION

Immervision, a developer of advanced vision systems combining optics, image processing, and sensor fusion technology, announced its partnership with ModalAI, a Blue UAS Framework manufacturer of autonomous drone and robot technology. This collaboration will lead to an **advanced 'ready-to-fly' vision system** for drone manufacturers. This complete solution incorporates the Immervision Imviso-ML and the VOXL 2 platform to provide the full image pipeline, from the optics to the hardware platform running the autonomous navigation software. Thanks to its **190 degrees Field of View** and its **low-light capability**, the solution increases the perception and improves the performance of machine vision applications, running on its Qualcomm QRB5165 processor. The VOXL 2 computing platform, combined with the Imvisio-ML camera module, enhances mission critical navigation beyond visual line-of-sight to support safer, more reliable flight. **www.immervision.com**

GEOTERIC ANNOUNCED WORLD-FIRST SOFTWARE RELEASE

Global artificial intelligence (AI) seismic interpretation experts Geoteric have released another world-first software release. The new technology is game-changing for energy companies and will prove critical to operators; enabling them to de-risk well placement, reduce their environmental impact and increase profitability by better predicting future production. Building on Geoteric's **cutting-edge AI Fault interpretation** that accurately detects faults invisible to the human eye, the new release – Geoteric 2023.1 – now includes structurally-aware AI Horizons. The technology identifies every event from surface to region of interest in hours and comes at a crucial time for operators facing demands to fast-track production.
**www.geoteric.com**

AERO-GRAPHICS PURCHASES TWO 4TH GENERATION ULTRACAM EAGLE 4.1 AERIAL CAMERAS

The first two UltraCam Eagle 4.1 aerial imaging systems to land in North America have been purchased by Salt Lake City-based Aero-Graphics Inc. With delivery expected by March 2023, both **nadir photogrammetric cameras** are on track to be fully operational for the spring flying season. The 4th generation UltraCam Eagle integrates significant technological improvements, including a move to CMOS sensors, a significantly increased frame rate, and a revolutionary **Adaptive Motion Compensation** (AMC) feature. Not content with mechanical methods or the notion of eliminating blur through shutter speed, Vexcel developed the proprietary AMC software approach to address image blur caused by multi-directional camera movement during the flight. This game-changing technology is unique to UltraCam systems and is included in the UltraCam Eagle 4.1. **www.vexcel-imaging.com**

HEXAGON ADDS SPEED, SCALABILITY AND AUTOMATION TO DIGITAL TWIN CREATION WITH THE ACQUISITION OF LOCLAB

Hexagon AB announced the acquisition of LocLab, a provider of 3D digital twin content creation. LocLab's proprietary technology, enabled by a high degree of automation using proven workflows and **artificial intelligence**, allows the cost- and time-efficient creation of digital twins. LocLab's in-house developed toolchain can leverage several data input formats to balance speed, cost and accuracy – such as **terrestrial videogrammetry,** survey data and point clouds – but only requires photographs or videos at minimum. Videogrammetry is a highly scalable method that comes in handy when survey accuracy is not needed and speed is preferred. Whether creating 3D models of machines, buildings and manufacturing facilities or large-scale areas such as transportation networks or entire cities, the AI software compares detected objects with LocLab's vast object library of 3D elements to semi-automate the creation of a semantically enriched 3D model. **www.hexagon.com**
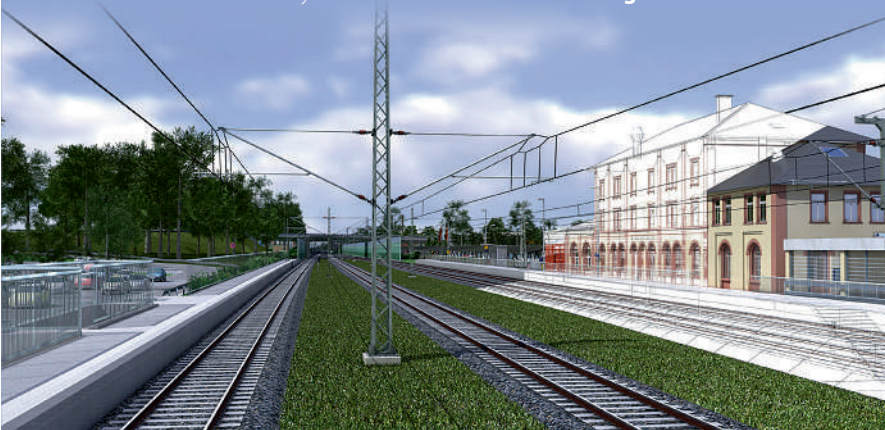

AIRWORKS AND DATASIGHT ANNOUNCE STRATEGIC PARTNERSHIP FOR MORE EFFICIENT MAP PRODUCTION

AirWorks and DataSight announced that they have entered a strategic partnership that will enable customers to quickly extract 2D and 3D linework, as well as breaklines, through each of the company's proprietary softwares. The two solutions will now be integrated into a single platform to offer users greater convenience and ease of use. Datasight has a SaaS product called **Breakline Builder** that assists topographic map production by quickly and accurately extracting breakline data from point clouds. AirWorks's Automate solution is powered by patented **AI models**, and quickly extracts planimetric features from ortho imagery and point clouds. The collaboration brings added value to customers who naturally want fast and accurate breakline creation along with their base maps. Both companies enhance the process of creating survey-grade outputs in record time, empowering companies to deliver more projects faster. **www.datasightusa.com**

GOLDEN SOFTWARE ADDS POWERFUL NEW 3D SUBSURFACE VISUALIZATION FUNCTIONALITY TO SURFER SURFACE MAPPING PACKAGE

Golden Software's Surfer package now provides robust subsurface visualization and modeling functionality. In the latest Surfer release Golden Software has incorporated many **true 3D gridding and visualization tools**. The new functionality literally adds a new dimension to Surfer's gridding, mapping, and visualization capabilities. Users can now model a fourth "C" variable, such as contaminant or chemical concentration, along with the traditional X, Y, Z values. Equipped with fast and powerful contouring algorithms, Surfer has been relied upon for the past 40 years to easily visualize, analyze, and interpret complex data sets. It is used by more than **100,000 professionals** worldwide, many involved in environmental services, engineering consulting, oil & gas exploration, mining, and geospatial projects. **www.goldensoftware.com**
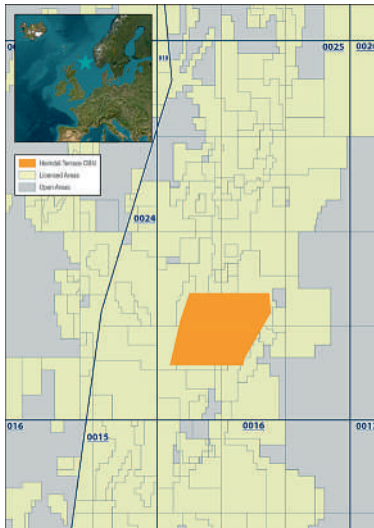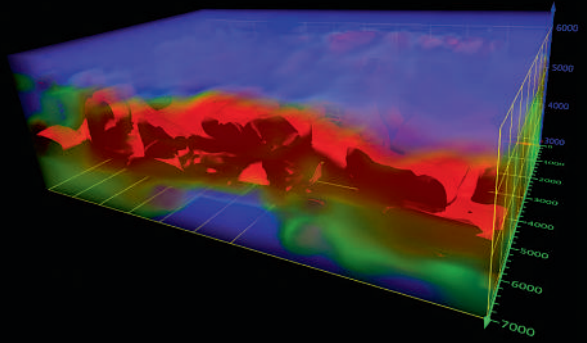
CGG AND TGS ANNOUNCE A DENSE OBN SURVEY IN BALDER AND RINGHORNE AREAS OF NORWEGIAN CONTINENTAL SHELF (NCS)

CGG, a global technology and HPC provider, and TGS, a global provider of energy data and intelligence, have been jointly awarded the acquisition and imaging of a **dense ocean bottom node (OBN) multi-client seismic survey** in the Balder and Ringhorne areas of the Norwegian Continental Shelf (NCS). The Heimdal Terrace OBN survey, located directly north of the Utsira OBN survey in the North Sea, will span an additional **500 square kilometer** area under receivers (AUR) to increase the contiguous multi-client OBN coverage in the region to **3,778 square kilometers** AUR. The survey area covers a mature part of the North Sea, including the Balder and Ringhorne fields, the Iving/Evra and Enniberg discoveries, and surrounding infrastructure-led exploration (ILX) areas for potential tiebacks to existing infrastructure. **www.cgg.com**

KONGSBERG NANOAVIONICS OFFICIALLY OPENED ITS MAIT EXPANSION FACILITY, DOUBLING OVERALL PRODUCTION CAPACITY

Small satellite mission integrator and bus manufacturer Kongsberg NanoAvionics (NanoAvionics) has doubled its satellite production capability by officially opening their manufacturing, assembly, integration, and testing (MAIT) facility in **Vilnius, Lithuania.** After a gradual occupancy the facility is now fully operational and an expansion to the company's existing facilities in Lithuania (HQ), the UK and the USA. In addition to the production scale-up, the facility provides additional workspace and supports NanoAvionics's aim of growing its global number of **250 employees** and hiring more than 100 people across all of its offices this year alone. The expansion of its production capabilities enables NanoAvionics to meet the demands for satellite constellations and larger satellites by commercial, civil, and governmental organisations. **www.nanoavionics.com**

INTEGRATED GIS, WEB MAPPING AND SPATIAL DATA FOR PEEL L&P

Peel L&P has opted to consolidate its spatial data licensing requirements with its Geospatial Information System (GIS) and web mapping supplier, Cadcorp. This includes the supply of OS MasterMap Topography, 1:25K Raster, OS Terrain 5, Vector Map Local, and OS MasterMap Imagery. As part of the Cadcorp spatial data package, Peel L&P will be provided access to the **Cadcorp cloud hosted Open Data Service.** Peel L&P has been integrating Ordnance Survey data with the GIS and web mapping software, Cadcorp SIS since 2004. Cadcorp SIS is used to support land redevelopment activities and distribute mapping to a range of Peel consultants, in the file formats they require. **www.cadcorp.com**

VISIONTRACK LAUNCHES GROUNDBREAKING AI-POWERED VIDEO ANALYSIS

VisionTrack, the AI video telematics and connected fleet data specialist, is transforming commercial fleet safety with the launch of a sophisticated AI-powered post-analysis solution. **NARA (Notification, Analysis and Risk Assessment)** will revolutionise how vehicle camera footage is assessed and help vehicle operators to dramatically reduce road deaths and injuries.

NARA is device agnostic so can be integrated with existing connected camera technology – whether VisionTrack or third-party hardware – and adds another powerful layer of analysis to AI vehicle cameras, installed with **edge-based AI technology**, that are often limited by the processing capacity of the device. NARA represents a huge step forward for video telematics as it uses ground-breaking computer vision models with sensor fusion to assess footage of driving events, near misses and collisions.

www.visiontrack.com

BAAM.TECH NAMED NORTH AMERICAN DISTRIBUTION PARTNER FOR RIEGL USA MOBILE LASER SCANNING SOLUTIONS

BAAM.Tech, headquartered in Lenexa, Kansas, announced that it has reached an agreement with RIEGL USA in Winter Park, Florida, to become their North American distribution partner. BAAM.Tech will assume sales, training, and technical support services for the entire line of **RIEGL's Mobile Laser Scanning (MLS) Solutions,** including the: VMY-1 and VMY-2, VMX-2HA, and VMQ-1HA product lines, as well as the accompanying cameras, software bundles, and accessories. Their main focus will to be expand RIEGL's reach in the Midwest and to help new clients in the Midwest region become RIEGL MLS super users in no time. **www.baam.tech**