

NEWS & EMERGING TECHNOLOGY

RIEGL VZ-2000i USED FOR PERMANENT FORESTRY MONITORING

The RIEGL VZ-2000i Laser Scanner has been implemented by a team of scientists from the **Finnish Geospatial Research Institute (FGI)** of the **National Land Survey of Finland (NLS)** for a long-term forest monitoring project. The world's first laser scanning station that continuously measures the small changes in a boreal forest, is in Finland and installed at the **Hyttiälä forest research station** maintained by the University of Helsinki. The RIEGL VZ-2000i Laser Scanner is so accurate, that it can detect even the new leaves and needles sprouting in the spring. www.riegl.com



NANOAVIONICS LAUNCHED THREE SATELLITES

NanoAvionics, a smallsat manufacturer and mission integrator, confirmed the reception of signals and healthy telemetry data from all of the three satellites launched into low Earth orbit via the successful **SpaceX Transporter-3 mission**. The rideshare mission that went into orbit on 13 January 2022 included one of the largest and heaviest CubeSats ever built and launched. The 16U small satellite, is the first of five satellites, contracted to NanoAvionics by British company Sen, to establish video streaming media to provide **real-time Ultra-High Definition (UHD) videos** of Earth. Also aboard the Falcon-9 rocket was **HYPSON-1**, a 6U nanosatellite built for the Norwegian University of Science and Technology (NTNU), to conduct ocean research. www.nanoavionics.com



BIGCHANGE ADOPTS WHAT3WORDS TO HELP LOCATE SITES FOR DELIVERIES AND FIELD SERVICE WORK

BigChange, the field service management software provider, has adopted location technology what3words to **provide more accurate addresses** for job locations, making it easier for field service teams to find their site. By integrating the technology into its **job management platform**, BigChange has made it possible for customers to add a what3words address to any job booking. what3words has divided the world into a grid of **3m squares** and given each one three random words from the dictionary: a what3words address. A what3words address provides an extra layer of accuracy to a traditional address, meaning that field teams will arrive at exactly the precise location. www.bigchange.com



MIROS' SENSORS PROVIDE VALUABLE INSIGHTS TO VALIDATE THE USE OF UNMANNED VEHICLES FOR PORT OPERATIONS

Miros has installed a tailored environmental monitoring system to support a three-year research project at the port of Gdynia in Poland. The bespoke system provides accurate **current** and **wave measurements** and **oil spill monitoring** from a strategic location in the bay of Gdansk. The expected results will be used to create recommendations for the operation of unmanned units in ports and will be made available to governmental organisations. The gathered sea state data will be combined with a **hydrodynamic model** to calculate and forecast hydro-meteorological conditions in the Gdynia harbour area. A major project milestone was achieved in February 2022 when data first became available via Miros Cloud. www.miros-group.com





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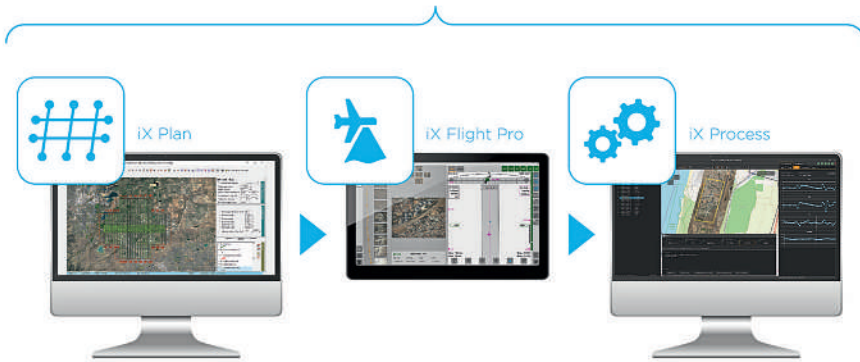
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PHASE ONE ANNOUNCES iX SUITE FOR SEAMLESS AERIAL MAPPING WORKFLOW

Phase One, a developer of digital imaging technologies, has announced its new iX Suite, a fully integrated software package for aerial mapping project management. Compatible with all **Phase One PAS airborne systems**, iX Suite handles mission planning, flight management, data acquisition, image selection and processing and in a common workflow. With the iX Suite, Phase One has taken a novel approach to **managing aerial mapping projects** by making quality control a key focus throughout the workflow to guarantee the generated image products meet end user specifications. A unique aspect of the iX Suite workflow is that imagery can be reviewed inflight and re-collected immediately if necessary, reducing the need for budget- and schedule-killing re-flights days or weeks later. www.phaseone.com

iX Suite



RTK FROM THE SKY TECHNOLOGY TRANSFORMS HEXAGON | NOVATEL TERRASTAR-C PRO SERVICE WITH THREE MINUTE GLOBAL CONVERGENCE

In late 2020, Hexagon's Autonomy & Positioning division announced their technological breakthrough of global RTK From the Sky, demonstrating a future where **instantaneous PPP** and **global RTK-level accuracy** is possible. Integrating this innovation into the core of TerraStar-C PRO, NovAtel's most trusted service, is the first phase of implementing RTK From the Sky technology into their diverse portfolio of correction services for users worldwide. Now, TerraStar-C PRO becomes the fastest global correction service to provide centimetre-level accuracy not just in open-sky environments but also across challenging conditions created by buildings and foliage. TerraStar-C PRO now converges in less than a few minutes by utilizing **quad-band receiver and antenna technology** to leverage modernized BeiDou III, GPS III and Galileo E6 signals. www.hexagon.com



JUNIPER SYSTEMS LIMITED LAUNCHES UINTA SOFTWARE FOR ANDROID OS DEVICES

Juniper Systems Limited, a manufacturer of rugged handheld computers and GNSS receivers, announced that its **Uinta Mapping and Data Collection Software** is now available for devices running on the **Android operating system**. This is particularly valuable for workers who prefer to use an Android tablet or smartphone as a data collector. The same data collection software loved by users of **Microsoft Windows** devices is now available for Android devices. Uinta's intuitive and customisable user workflow makes **land measurement** and **asset mapping** easier for data collection in the field. Uinta can now be used on a range of smartphones and tablets, including Juniper Systems Limited's Cedar CT8X2 and Mesa 3 Rugged Tablets running on Android. www.junipersys.com

TELEDYNE FLIR INTRODUCES NEUTRINO SX12 ISR1200 MWIR CAMERA WITH ZOOM LENS FOR GROUND ISR

Teledyne FLIR introduced the Neutrino SX12 ISR1200, the first model in the new Neutrino Ground ISR series of high-performance, MWIR camera modules with integrated CZ optics. The HD MWIR system combines a Teledyne FLIR MWIR camera module and **120mm to 1,200mm CZ optics** with industry-adopted imaging electronics from InVeo Designs LLC to provide a best-in-class ISR solution with low-switching-cost for defence and industrial integrators. Based on **Teledyne FLIR focal plane array (FPA) technology**, near diffraction-limited optics, and a long-life linear Stirling cooler with 25,000-hour MTTF, the Neutrino SX12 ISR1200 offers 1280x1024 resolution with 12µm pixel size. It also features dual-parallel outputs using a 60Hz Camera Link base with 1080P30 HD-SDI or 720P60 HD-SDI, ideal for tracking, turbulence mitigation, and artificial intelligence. www.teledyneflir.com

GEOSPATIAL SCHOLARSHIP FUND HELPS BLACK AND MIXED BLACK HERITAGE STUDENTS STUDYING GEOGRAPHY AT UNIVERSITY

Esri UK and Black Geographers announced that this year's Geospatial Scholarship Fund is now open to applicants. Two awards will be made this academic year, consisting of an **Undergraduate Award of £30,000** and a **Masters Award of £20,000**, to study within the disciplines of geography or geoscience. Supporting Black and mixed Black heritage students to achieve their full potential at university, by removing some of the financial burden, the fund is now in its second year. Successful students will also receive **support** and **training** during their time on the programme from Esri UK and Black Geographers, who co-created the fund. Statistics compiled by the Royal Geographical Society and Black Geographers organisation show that although the number of Black students taking geography increased significantly between 2008 and 2018, Black students are still under-represented on geography degrees. www.esriuk.com





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MIGRATION TO CADCORP CLOUD HOSTED DESKTOP GIS AND WEB MAPPING SUPPORTS SOCIAL HOUSING PROVIDER'S DIGITAL STRATEGY

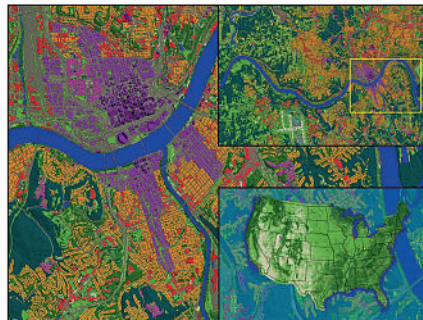
WDH has been using the Geographic Information System (GIS), Cadcorp SIS since 2014. As part of its strategy to transform its IT infrastructure to support an agile workforce and develop its digital capability to deliver improved customer service, WDH is taking the opportunity to migrate its desktop GIS and web mapping to a cloud hosted environment. Cadcorp SIS Desktop licences are being migrated to a **Cadcorp cloud hosted and managed environment**. SIS Desktop in the cloud can be accessed as a virtual desktop application or via a web browser. No specialist hardware or resources are required making it ideal for remote and flexible working. The software is maintained and upgraded by Cadcorp, allowing the housing association to immediately benefit from new functionality within the latest release. www.cadcorp.com



LAND INFO ANNOUNCES UPDATED 10M USA COUNTRYWIDE LAND USE LAND COVER MAPPING DATASET

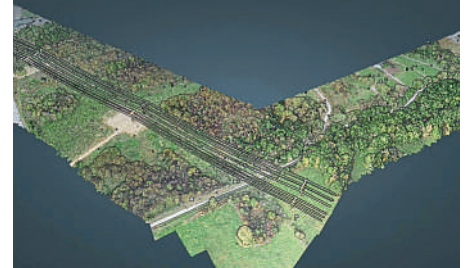
LAND INFO Worldwide Mapping LLC, the provider of mapping solutions for 5G wireless in North America, recently completed up-to-date 10m resolution thematic raster GIS data covering all 50 U.S. states. Optimized for low-band (broad-area coverage) **5G wireless planning**, the dataset supports additional applications including utilities, insurance and government, and complements LAND INFO's 1m resolution datasets that are used for mid-band and high-band 5G in more densely populated areas. The **HxGN Content Program** offers high-resolution, countrywide aerial imagery and elevation data of the contiguous United States and

Western European countries. Hexagon continuously advances the program with higher resolution products for digital twin initiatives. www.landinfo.com



SURVTECH USING SIMACTIVE SOFTWARE FOR ENERGY INFRASTRUCTURE PROJECTS

SimActive announced the use of its Correlator3D product by Survtech Solutions for use in energy infrastructure mapping and monitoring. Using aerial imagery to colorize **lidar point clouds**, a visual element is added to enhance the processing and development of mapping products. Spread across the US, SurvTech's projects often cover long corridors where **power lines** either exist or are in development. Data acquisition is performed with both **manned and unmanned aircrafts** depending on the total length of the project and the resolution requested by the customer. Lidar and imagery are imported into Correlator3D, which is used for orthorectification and colorization. www.simactive.com

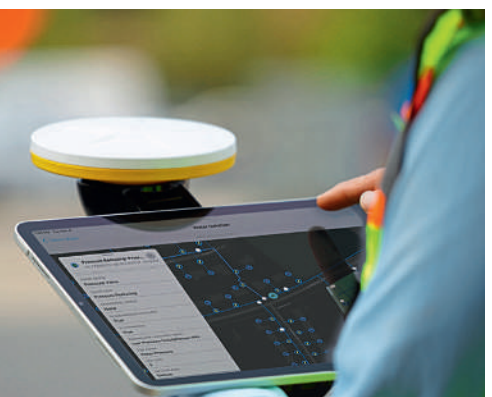


ESRI RELEASES UPDATED LAND-COVER MAP WITH NEW SETS OF GLOBAL DATA

Governments and businesses across the world are pledging to adopt more sustainable and equitable practices. Many are also working to limit activities that contribute to climate change. To support these efforts, Esri, in partnership with **Impact Observatory** and **Microsoft**, is releasing a globally consistent 2017–2021 global land-use and land-cover map of the world based on the most up-to-date **10-meter Sentinel-2 satellite data**. In addition to the new 2021 data, 10-meter land-use and land-cover data for 2017, 2018, 2019, and 2020 is included, illustrating five years of change across the planet. This digital rendering of earth's surfaces offers detailed information and insights about how land is being used. The map is available online to more than **10 million users** of geographic information system (GIS) software through Esri's ArcGIS Living Atlas of the World. www.esri.com

TRIMBLE CATALYST GNSS RELEASE

The new Trimble Catalyst GNSS system handle accessory puts the power of Catalyst precision directly into a user's hand. The lightweight, ergonomic solution provides a convenient handheld way to carry Trimble's Catalyst-enabled mapping and field data collection workflows. Mount an iOS or Android device to the **Catalyst DA2 Receiver** to get 1 cm Hz precision on GIS apps such as **ArcGIS Field Maps** or **Trimble TerraFlex**. The handle accessory supports horizontal and vertical orientation, and the magnetic mounts make it easy to rotate the device or remove it when needed for other tasks. The Catalyst handle provides new flexibility for the system. Users can choose their device, whether **iOS** or **Android**, which turns any smartphone or tablet into a Trimble-quality handheld positioning system, among others. www.trimble.com





UP42 PARTNERS WITH NEAR SPACE LABS TO OFFER VERY HIGH-RESOLUTION IMAGERY USING ZERO-EMISSION BALLOONS

The UP42 geospatial developer platform is now offering very high-resolution, high-frequency imagery captured by balloons flying in the Earth's stratosphere. The zero-emission "Swiftly" balloon fleet is operated by Near Space Labs, based in **New York** and **Barcelona**, to acquire detailed imagery that is more environmentally friendly and more affordable than traditional aircraft and satellite data. In commercial operations to date, Near Space Labs' imagery has been used to inform decision making by governments, energy utilities, insurance agencies, and conservation organizations. UP42 customers can now access the **Near Space Labs 30cm archive data** directly through the **UP42 API**. Near Space Labs 10cm data will soon be accessible via the platform as well and customers can already submit requests to be notified when the data is available. www.up42.com

EUROPEAN SPACE IMAGING RENEWS CONTRACT WITH MAXAR TECHNOLOGIES

European Space Imaging and Space Imaging Middle East have extended their ongoing contract with Maxar Technologies, provider of comprehensive space solutions and secure, precise, geospatial intelligence, to continue their longstanding partnership of acquiring and supplying **Very High Resolution satellite imagery** to Europe, North Africa and the Middle East. European Space Imaging has been acquiring satellite imagery from Maxar satellites since 2003 through their multi-mission ground station at the **German Aerospace Centre**. This renewed agreement will see the company expand on previous investments to upgrade the ground station. New upgrades will include the tasking of the upcoming **Legion satellites** with **near real-time provision**, as well as improving delivery times of currently orbiting satellites. www.euspaceimaging.com



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For mapping and inspection



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geospatial.phaseone.com



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EARTHCAM 4D BRINGS CONSTRUCTION DIGITAL TWINS TO LIFE

EarthCam, a provider of webcam technology and services, introduced EarthCam 4D, empowering virtual design and construction (VDC) teams to overlay and synch **live imagery** with their **digital twins**. An intuitive time-line allows users to scroll backward and forward in time to view live imagery in relation to their 4D models. Built on the **Bentley iTwin platform**, EarthCam 4D augments Bentley Systems' **SYNCHRO 4D models** with high-resolution photos from multiple cameras throughout the jobsite, overlaid in precise alignment. Viewers can zoom in and out, and the associated live images remain synched. Unique transparency/opacity and model colour adjustments enable new and powerful ways to compare and contrast models with reality over time. www.earthcam.net

1SPATIAL UNVEILS NEW SURVEY CAPABILITIES IN 1EDIT

1Spatial have extended the capability of their survey application, 1Edit, with increased support for photos and 2.5D data. 1Edit 3.1 allows users to attach feature photos, including **automated geotagging**, which enables surveyors to visualise assets and fine tune their observations. The latest version now includes new validation functions and improved handling for Heights (2.5D data), typically useful for **detailed asset and land management surveys**. Enhanced styling, including bitmap fills and dashed lines make it easier to identify and classify different asset types during surveys. Additional control of editable layers and fields provide protection for non-editable data and protects the quality of data. Significant improvements to rendering of thematic mapping, further enhances the speed and fluidity of the intuitive user interface. www.1spatial.com

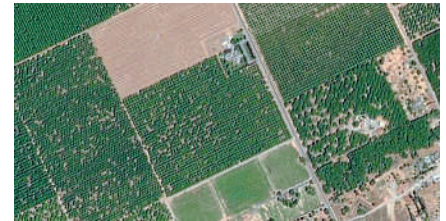


COMPACT INERTIAL SENSORS FROM SILICON SENSING VITAL TO MAYFLOWER AUTONOMOUS VOYAGE

The Mayflower Autonomous Ship (MAS) is set to re-embark on its three-week trans-Atlantic journey in April 2022 equipped with two **Silicon Sensing's AMU30 inertial measurement units (IMUs)**. These Silicon Sensing AMU30 devices send highly precise motion data to the new 'AI captain' that guides the vessel. They also assist in **measuring sea surface height** as part of detailed scientific analysis of ocean topography. AMU30 is a **micro electro-mechanical system (MEMS)** unit with impressive inertial performance, including exceptional bias stability and low noise characteristics, plus an embedded Kalman Filter based AHRS (attitude and heading reference system) algorithm. It delivers precise 3-axis outputs of angular rate and acceleration, plus roll, pitch and heading angles, altitude and pressure, and temperature, at 200Hz – all critical to precise maritime navigation. www.siliconsensing.com

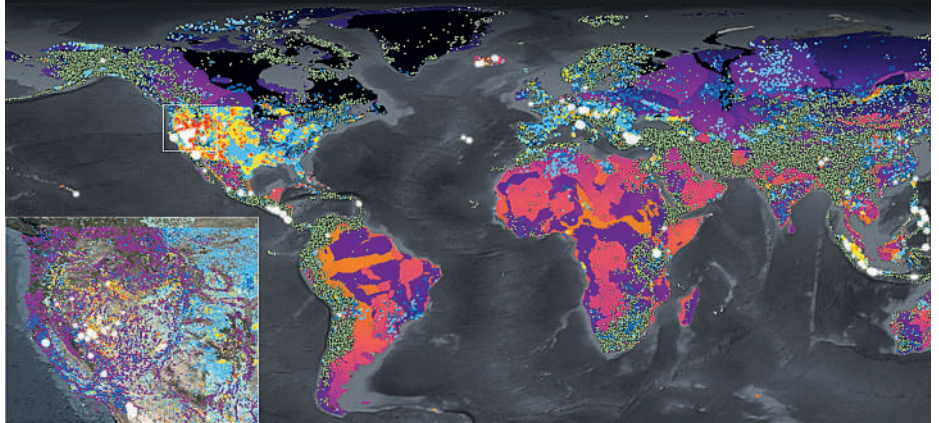
AIRBUS TO PROVIDE IMAGERY SERVICES THAT ENABLE INTELINAIR'S CROP ANALYTICS PLATFORM

IntelinAir and Airbus announced a multi-year collaboration agreement that will provide high-resolution, Airbus satellite imagery as an input to **IntelinAir's artificial intelligence (AI) powered crop analytics AGMRI platform** to deliver a complete view of every acre, every field from planting to harvest. High-resolution imagery services from the **Pléiades** and **SPOT 6/7 satellites** will provide **50cm and 1.5m geospatial imagery** into the AGMRI platform as an additional input, so that farmers can make data-driven decisions and proactively manage their operations with confidence. With satellite and other aerial imagery sources, farmers receive a new perspective of the agronomic conditions in the form of emergence, plant health, weed detection and harvest readiness in their fields throughout the growing season. www.airbus.com



CGG DELIVERS NEW MULTI-CLIENT STUDY FOR SCREENING GEOTHERMAL RESOURCES

CGG has released a new GeoVerse Geothermal Resource Assessment study to support the evaluation of geothermal energy potential and help identify new sites and regions for future development. This global study, available for license, provides a baseline dataset and analytical resource evaluation aid for explorers, operators and investors to discover, assess and compare opportunities. The Geothermal Resource Assessment study draws upon CGG's unique **well, seismic and interpretation database** and experience in over **130 completed geothermal projects** and applies a proprietary methodology to evaluate over **700,000 subsurface temperature data points**. CGG's Geothermal Science experts investigated high-energy volcanic geothermal systems as well as lower-temperature but far more extensive systems associated with sedimentary basins that represent a significant emerging resource opportunity. www.cgg.com





XMAP CLOUD GIS BRINGS GOVERNMENT FLEXIBLE WORKING CLOSER TO HOME

XMAP, the local government geographical information system (GIS), has been developed to underpin the UK government's latest proposals for flexible working. If adopted, the initiative will give **millions of workers** the right to request flexible working, including remote working, from the moment they start a new position. XMAP, a service by **Geosphere**, is a **native cloud-based web application** that can be accessed from any, web-enabled device, without plug-ins, bolt-ons or additional installations. This ensures users working remotely on laptops or in the field using tablets or mobile phones can access the geospatial data they need when they need it. www.xmap.geosphere.com

ULTRACAM EAGLE DELIVERS EFFICIENCY AND QUALITY FOR ARROWHAWK IMAGING

Arrowhawk Imaging selected an UltraCam Eagle Mark 3 aerial camera system with a 100-millimeter (mm) lens as its first airborne imaging system. Since purchasing the sensor from Vexcel Imaging in 2019 and installing the unit in a Cessna 206 single engine aircraft, the mapping company has successfully completed numerous projects. The UltraCam Eagle is capable of capturing **10-centimeter (cm) GSD at 5,000 meters (m)** above the ground. At this high elevation, the **450-Megapixel footprint** collects more data in less time, shortening the hours needed for collection and optimizing flying windows. The Thrasher Group is a well-established architecture, engineering, and field service provider that handles all image processing and value-added product development for Arrowhawk. Using UltraMap, Vexcel's photogrammetric post-processing software, the team rapidly generates quality data products from every UltraCam flight. www.vexcel-imaging.com



INTERMAP CONTINUES TO GROW DATA AS A SERVICE WITH NEW MULTIYEAR SUBSCRIPTIONS

Intermap Technologies announced a new two-year subscription for NEXTMap data as a service with a U.S. clean energy company for planning wind and solar projects. This new subscription further expands Intermap's relationship with one of the world's largest generators of renewable energy to make **geospatial intelligence** more accessible to the client's entire organization. When budgeting and permitting for new renewable energy projects such as wind and solar, data availability, consistency and quality are essential. The **NEXTMap subscription** provides an **enterprise-wide data as a service solution**, offering global coverage with consistent, high-quality digital elevation models to support projects in all areas of operation. www.intermap.com

EAASI SUMMIT HIGHLIGHTS ROLE OF AERIAL SURVEY IN TECHNOLOGICAL RESPONSE TO GLOBAL CHALLENGES

Participants from around the world came together to discuss the role of aerial surveying in the technological response to challenges such as the global pandemic, climate change, and societal issues at The European Association of Aerial Surveying Industries (EAASI) Partner Summit. In a series of presentations, workshops, and networking events, representatives of **30 organisations** attended to learn more about the aerial surveying industry and the opportunities for sustainable development while also considering barriers to the use of **aerial-mapping-derived intelligence**. Highlights of the 3-day Summit included a lively discussion panel featuring leading aircraft manufacturers and an investigative workshop facilitated by The Next Lab. www.eaasi.eu



SCIENTISTS DEPLOY GLOBALSTAR SPOT TRACE TO MONITOR CURRENTS AND BIODIVERSITY IN THE WORLD'S OCEANS

Globalstar Europe Satellite Services, a wholly owned subsidiary of Globalstar, announces that German research institution The Helmholtz Center Hereon is using **SPOT Trace satellite GPS trackers** to conduct worldwide oceanography research. Hereon has designed and engineered innovative ocean drifter devices built around SPOT Trace which monitor ocean surface currents and reveal how biodiversity levels change in the world's major rivers and seas. Hereon is also collaborating with the EU-funded **Atlanteco project**. Changes in ocean currents affect transport and connectivity patterns. Hereon's studies are helping researchers to understand how currents interact with plankton. www.globalstar.com



BLUESKY LIDAR SURVEY REVEALS MORE THAN 400 ARCHAEOLOGICAL SITES

A high precision terrain mapping project has revealed more than 400 'new' archaeological sites in England's first Area of Outstanding Natural Beauty (AONB). Commissioned by the **Quantock Landscape Partnership Scheme** (QLPS) and undertaken using the world's first hybrid airborne sensor by Bluesky, the survey has also helped identify a rare early example of a nationally important monument. The QLPS is a **£2.6 million National Lottery Heritage Fund** (NLHF), 5-year project, created to address changing pressures on the Quantock Hills AONB and the surrounding parishes in Somerset. The scheme comprises **23 individual projects** spanning natural and historic heritage, community engagement and education. Each project is intended to contribute to the long-term future of the hills by protecting, restoring and increasing understanding of the distinctive features of the Quantock landscape. www.bluesky-world.com

L3HARRIS COMPLETES IMAGER INTEGRATION FOR NOAA'S ADVANCED ENVIRONMENTAL SATELLITE

The fourth Advanced Baseline Imager (ABI) built by L3Harris Technologies has been successfully integrated into **NOAA's Geostationary Operational Environmental Satellite-U (GOES-U)**, completing the series of advanced weather sensors for the GOES program, slated to launch in 2024. The ABIs onboard the GOES series of satellites provide revolutionary technology by advancing weather observation and environmental monitoring services, and also by providing more advanced notice of fires, hurricanes, tornadoes and floods. The ABI provides high-resolution video of weather and environmental systems using **16 spectral bands** delivering three times the amount of spectral coverage, four times the resolution and five times faster than the previous generation of GOES satellites. www.l3harris.com



TERRAGO JOINS THE ESRI ARCGIS MARKETPLACE WITH GEOPDF PUBLISHER FOR ARCGIS PRO

TerraGo Technologies, a provider of geospatial solutions to the US Department of Defense and other government and commercial organizations around the world, has added their flagship product **GeoPDF Publisher** for ArcGIS Pro to the Esri ArcGIS Marketplace. TerraGo is offering an extension to Esri ArcGIS Pro that allows users to produce and consume GeoPDFs. GeoPDF Publisher for ArcGIS Pro gives users unmatched capabilities for configuring, compressing, and optimizing interactive GeoPDFs for data dissemination and collaboration. Additionally, the GeoPDF documents are enabled for use with the free **GeoPDF Toolbar**, an extension to free Adobe Reader, that provides a host of interactive capabilities that can be utilized by non-GIS users. www.terragotech.com

TDI-BROOKS ADDS DITEM NEPTUNE 5000 CPT TO GEOTECHNICAL CAPABILITIES

In the Summer of 2021, TDI-Brooks took delivery of a Neptune 5000 (N5K) CPT System from Ditem. The image shows the N5K deployment on TDI-Brooks' multi-use oceanographic research vessel, **R/V BROOKS McCALL**. TDI-Brooks conducted two projects with this tool on the East Coast of the US in 2021. The first program was conducted in October for and **Offshore Wind Farm project**. It involved the acquisition of approximately ninety (90) PCPTs. The N5K CPT soundings for this project were acquired with a 5 cm² cone and achieved up to 5-m penetration in these mostly sand/gravel seafloors. The second program was conducted in November for a pipeline design installation. For this program over sixty (60) N5K CPT soundings were acquired using both 5 and 10 cm² cones. www.tdi-bi.com



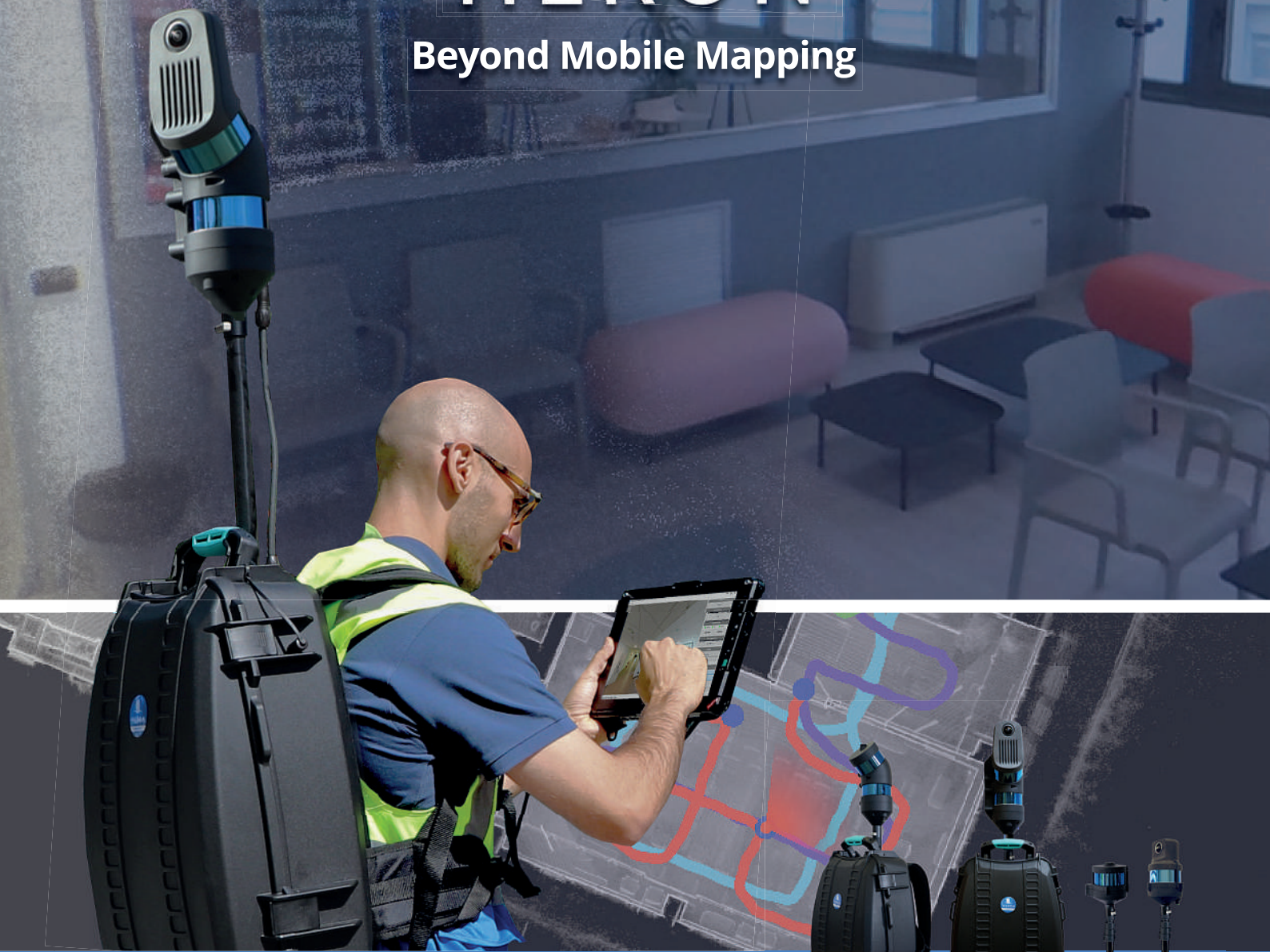
KOREC GROUP ANNOUNCES NEW PARTNERSHIP WITH MOVE SOLUTIONS

KOREC announced a new partnership with Italian company and monitoring specialists, Move Solutions. This new partnership will see KOREC offering Move's range of **monitoring solutions** in the UK and Ireland to make the structural health monitoring of vital infrastructure clear, simple to understand, easy to operate, and affordable. The KOREC supplied and supported range of Move solutions will include wireless sensors, the Move online data platform and LoRaWAN communications gateway. This partnership will reinforce a strong KOREC monitoring offering based on **Trimble Robotic Total Stations**, 3D Laser Scanners and T4D Monitoring software and KOREC's own in-house software and monitoring expertise. KOREC customers will now have access to a complete range of 'start to finish' monitoring systems backed up by a renowned support and consultancy service. www.korecgroup.com



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