

PROMISING EVENT FOR OCEANOGRAPHIC AND HYDROGRAPHIC COMMUNITY

Oceanology International 2016 Provides Update on Ocean Technology



Hydro International traditionally prepares a preview of Oceanology International to help you prepare for the highlights of what businesses on the show floor will be presenting. The *Hydro International* preview offers you a selection of the more than 350 companies from 32 countries that will be present at the trade show. The total surface is over 8,000 square metres so consider wearing your walking boots!

Joost Boers, editorial manager, *Hydro International*

There will also be a conference during Oceanology focusing on streams like Trade & Innovation; Marine Technology and Services Sector Role in the Blue Economy; Marine Renewables; Positioning & Metrology; Green Shipping; Open Ocean & Observatories

Workshop; Unmanned Vehicles and Vessels; Aquaculture; Monitoring Structural Integrity; Handling Big Data and Hydrography, Geophysics and Geotechnics and a choice of side conferences and training sessions, on-vessel demonstrations and of course plenty of opportunities for networking and the exchange of experiences and knowledge.

3D at Depth, C301

3D at Depth produces subsea Lidar systems and solutions designed to help clients build, maintain, map and monitor underwater assets and resources. The 3D at Depth SL platform consists of integrated hardware and software technology developed to address the challenges of subsea data collection and survey applications for oil and gas, commercial, government and defence industries. Based in the technology hub of Boulder, Colorado, USA, the company and its partners have delivered hundreds of successful projects using the subsea Lidar systems and continues to innovate with enhanced 3D underwater data collection processes, tools and best practices.

ACSM Agenola Maritima, P375

The TITANROB M501 rated hydraulic manipulator has been fully developed and is ready to be supplied by the new company Titanrob Technologies. The M501 was extensively tested in different ROV systems over the past months and two manipulators have been supplied for a mid-size Light Work Class Electric ROV in the USA. Very good feedback was gathered from the ROV operators reporting very smooth performance in different projects including the delicate manipulation of wreckage objects, its robustness, and larger clear space in front of ROV forward cameras up to 1,300 water depth. The M700 7F Rated hydraulic manipulator has been fully designed and the prototype will be manufactured and ready for trials early 2016.

Advanced Navigation, B350

Advanced Navigation is a world leader in the development and manufacture of navigation technologies and robotics for the marine, automotive, aerospace, unmanned and defence industries. The company has a focus on generating products of the highest quality standard, both in terms of hardware and software. Advanced Navigation has specialised expertise across a broad range of fields including sensors, GNSS, inertial navigation, RF technologies, acoustics, robotics, AI and algorithms. Advanced Navigation is an ISO 9001 certified company and maintains a strict quality control system across the two research facilities and three manufacturing facilities that they operate

in Australia.

Airmar, K180

Airmar offers a full line of transducers for hydrographic surveying and scientific applications including models suitable for shallow water, harbour survey, deep ocean survey, and sub-bottom profiling. Airmar's high-performance, broadband transducers are supplied as original equipment with many commercial fishing and survey echo sounder systems from industry-leading manufacturers. When used as replacement transducers for already installed systems, they make the perfect, low-priced, high value, performance enhancement.

AML Oceanographic, D150

AML Oceanographic of British Columbia, Canada is a leading manufacturer of instrumentation and sensors for hydrographic surveying, environmental monitoring and more. AML pioneered the design of field-swappable sensors, which minimise downtime and maximise the utility of each X-Series instrument. Beginning with Sound Velocity, our Xchange suite has grown to include Pressure, Temperature, Conductivity, Turbidity, and now combined Conductivity-Temperature. New Base•X₂ and Data•Xchange bring WiFi and GPS to profiling, thereby streamlining data collection. UV•Xchange and Cabled UV, the industry's only proven UV biofouling control products, enhance in-situ CTD performance and prevent fouling on other subsea equipment.

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A.P. van den Berg , D250

A.P. van den Berg has been designing and supplying CPT technology to execute onshore and offshore soil investigation for foundations of civil works, oil and gas installations and wind farms since 1968. Various systems are available for shallow to ultra-deep water. The continuous innovations from its own engineering & development department ensure that customers are provided with the latest technology. After engineering, manufacturing and delivering, the engineers will take care of training, installation and start-up as and where required. Subsequently, A.P. van den Berg provides a full after-sales service, including fast dispatch of consumables & spares and on-site support.

Applanix, N401

Applanix, a subsidiary of Trimble, is transforming the world of marine mobile mapping. As pioneers of the first commercial position and orientation systems for marine survey vessels, we supply superior technology, expertise, and support to customers, partners, and equipment manufacturers around the world. With hundreds of systems in use worldwide, the Applanix POS MV is the 'industry standard' in providing robust, reliable, and repeatable positioning and motion compensation solutions from vessels.

Applied Acoustics, G400

Applied Acoustics will be adding further innovations to its existing product range and expanding the capabilities of the multi award winning company. A new range of acoustic transponder will be launched alongside a major evolution in its USBL tracking system product line. In addition, the company's geophysical portfolio welcomes the 5th generation seismic energy source, the CSP-V, which features all the safety and reliability of the current range but with an LCD display and advanced control features. These products will be displayed alongside other recent exciting developments – the DTS-500 deep-tow sparker and the Blowfish acoustic trigger.

ASV, G401

ASV, UK, will be showcasing the latest addition to its fleet of Autonomous Surface Vehicles: the C-Worker 5. The 5m long vehicle will sit on display inside the exhibition hall. While the vehicle can accommodate a variety of client payloads and applications, the C-Worker 5 is specifically designed as a hydrographic survey force multiplier. The vehicle can operate concurrently alongside traditional survey vessels, dramatically increasing survey efficiency. ASV has specialist experience and expertise in the supply of Autonomous Surface Vehicles having produced more than 75 vehicles and developed more than 30 different payload packages in the past five years.

Atlas Professionals, C350

Atlas Professionals, an international leading recruitment company, has been providing professionals to the Energy and Marine industries since 1982. The company has 24 offices worldwide, so as to be available for calls from the industry. Atlas Professionals is centred on high-quality account management with in-depth knowledge of the industries to which they provide their professionals. Their personnel are highly qualified in areas such as offshore survey & construction, ROV, diving & inspection, marine environmental and offshore management & QC. With over 30 years of experience, we meet the personnel demands by offering a full suite of taxation, administration, logistics and legal services, including up-to-date compliance advice.

Blueprint Subsea, N451

Blueprint Subsea manufactures a range of world class sonar, navigation and positioning systems for offshore and military markets. StarFish sonar offers fully featured professional capability in the world's smallest side-scan package. Artemis provides target identification and navigation for divers. SeaTrac provides USBL positioning and modem capability in a small yet powerful system.

BMT Group, N400

BMT Group, an international multi-disciplinary engineering, science and technology consultancy will be demonstrating its integrated approach to better understanding the operational complexities of the marine environment. Through a suite of solutions, BMT can forecast, measure and analyse, providing companies with the insight and knowledge to understand the response and operation of structures and vessels in complex environmental conditions. With offices located in Europe, Asia and the Americas, BMT draws upon a wide range of experience and expertise to offer cost effective, safe and reliable products and services across the oil & gas, renewables and coastal maritime industries.

CARIS, E595

CARIS has been leading the way in the development of marine GIS software for more than 35 years. CARIS offers a seamless solution from the echo sounder ping to the production and distribution of charts and data. The CARIS Ping-to-Chart solution addresses sonar processing, elevation data analysis, production of multiple chart types and spatial data discovery. The solutions also undergo continuous innovation, and have evolved to provide the marine community with the near real-time sonar processing solution CARIS Onboard, to realise even greater efficiencies and shorten the survey to product timeline.

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Cathx Ocean, L400

Cathx Ocean designs and manufactures advanced subsea imaging & measurement systems. Our products, designed specifically for subsea, allow AUVs and ROVs to capture UHD Stills, HD Video and 3D point cloud at greater ranges and speeds. The Cathx system includes Camera, Laser Profiler and Strobe lights with sequential imaging providing a high-resolution co-registered stills and 3D point cloud dataset.

Cefas, F409

The Centre for Environment, Fisheries and Aquaculture Science (Cefas) has an excellent scientific resource, with over 500 staff distributed across a number of UK and international offices, accredited laboratories and a purpose built research vessel (RV *Cefas Endeavour*). Cefas delivers high impact science for government, academic and commercial customers in support of developing innovative monitoring solutions, forecasting ecosystem change, sustainable blue growth and ensuring safe and sustainable seafood. Having developed a range of international partnerships, Cefas have the ability to deliver science to a wider range of customers.

Clinton, A250

Clinton is a Swedish survey company operating in Europe with over 50 employees working both on land and sea. Building on our 30 years' experience of survey operations, we are committed to handling your survey needs in a responsible manner. We are creative and motivated in pushing survey technology and techniques forward with innovation, competence and commitment; bringing cost-effective and standardised solutions to the market and our clients. We work constantly to develop and improve our personnel, operations and services so that each completed assignment shall be a recommendation for future missions.

CMS-Geotech Ltd, M600

CMS-Geotech Ltd is an independent marine geotechnical operational & hire company, specialising in Vibrocore, Sediment Sampling & Marine CPT throughout the world in both offshore and coastal waters. CMS-Geotech also provides geotechnical equipment and bespoke survey services to support those working within ports & harbour dredging & developments, civil engineering, subsea cables & pipelines, the aggregate & mineral mining industry & offshore energy. We will be showcasing a new thermal conductivity cone which will be deployed from our Neptune 5000 CPT system. The Cone allows fast, on-site measurements of thermal resistivity and conductivity of subsea soils.

Coda Octopus, C100

Coda Octopus will be presenting exciting additions to all their products including the new Echoscope C500, F180 Motion systems and Geophysical software at this event. Coda Octopus' president of Technology Blair Cunningham will be delivering a conference presentation on the unique work that was completed with UTEC in Alaska, when four Echoscope real-time 3D sonar were simultaneously used to install a huge monopod in challenging conditions. Additional, interactive presentations will be given, using live data from recent projects highlighting the capabilities of the 3D sonar and software range. Of course there will be time to relax and meet the team, sharing a dram of whisky at the Whiskey Tasting event on 16 March on the stand.

DEDAVE, H600

DEDAVE will be exhibiting at the booth of the German federal state Mecklemburg-Vorpommern/Rostock Business during Oceanology International, presenting its world's first product the AUV DEDAVE. This is a structurally very flexible AUV developed to mobilise various payloads used to compile topological underwater maps of the ocean floor, record the nature of the marine sediments and perform any related inspection and measurement tasks.

Deep Trekker, E600

Deep Trekker is a Canadian company that manufactures and sells mini-ROVs for underwater inspections. They are used as valuable tools in different industries such as hydro-electric, offshore exploration, aquaculture and energy platforms. Deep Trekker ROVs are 100% portable, with batteries that last between 6 to 8 hours on a single charge. They are extremely robust and easy-to-use. Deep Trekker shows their 200 gallon water tank to allow anyone the opportunity to pilot an ROV. They will be showing off their DTG2 and DTX2 ROVs as well as some new products such as their Diveable Control System.

Derinsu Offshore Turkey, H293

With almost 20 years of experience in the Turkish offshore survey business, Derinsu has become a major service supplier for offshore energy, marine environment, offshore engineering and subsea defence. Our capabilities enable us to perform offshore surveys for deepwater hydrography, oceanography, geophysics, geotechnical and environmental monitoring. Derinsu developed, designed and launched Turkish offshore survey vessels, RV *Derinsu* and RV *Beluga*, available in Turkey. Derinsu utilises the latest technology with high skilled engineers and an effective QHSE system for offshore project designs and modelling, marine surveys covering hydrography, oceanography, geophysical and geotechnical services, inspections services for subsea structures.

Echologger, K20

Echologger's products of high-resolution scanning sonar and precision echo sounders will be exhibited at OI2016. It is expected that the upgraded Echologger RS900 with high-resolution sonar images will attract interest from a large audience. RS900 can work at multi frequencies from 500 to 900kHz with the help of broadband transducer technologies. Its rotational position is automatically compensated using built-in gyro and compass-first in the market. Dual frequency echo sounders EU-Duo, ECT-Duo and ECS-Duo will also be launched for this exhibition. Therefore, customers can now choose various frequencies, such as 450kHz, 200kHz or both, depending on range and resolution needed.

EdgeTech, H201

EdgeTech is celebrating 50 Years in Underwater Technology this year and the company will be exhibiting many of its well-known products and solutions at Oceanology International in March 2016. The company is known worldwide for its high-quality products which include: side-scan sonar systems, sub-bottom profilers, bathymetry systems, AUV, USV and ROV-based sonar systems, combined and customised solutions. In addition to the full line of underwater survey products, EdgeTech provides reliable USBL systems, transponder beacons, deep-sea acoustic releases, shallow water and long life acoustic releases, and customised underwater acoustic command and control systems.

EIVA, D500

The first day of Oceanology International will see EIVA's launch of the fourth generation of the NaviPac software solution. NaviPac 4 introduces both new and improved features, making for an even more effective tool as part of the NaviSuite software suite for offshore and shallow-water survey and construction operations. A reception will take place at EIVA's stand to celebrate the launch at 11 am on 15 March. Moreover, visitors to the stand will be able to get a demonstration of NaviPac 4 by NaviSuite experts and try it out themselves, including bringing their own datasets to play with.

Evologics, C251

What started as a project to improve the performance of fishing trawls a few years ago, has developed into a unique opportunity for the ship crew to see under the surface from the bridge for the first time. Up to 15 images per minute give the captain an idea of how the catch is progressing and if the right species are being caught. Since this is a wireless solution, it fits the harsh environment conditions where it operates, with no possibility for cable entanglement or breakage that would lead to operation interruptions.

Fugro, D100

Fugro will be shining a spotlight on technological developments, demonstrating how its investment in technology continues to deliver innovations for long-term sustainability. Focusing on cost efficiency, safety and ease of operation, a wide range of new technology includes Fugro's 'virtual surveyor' service - OARS - and the new ROCIS airborne technology for current-sensitive offshore operations. Offshore wind farm developers will learn how 3Direct determines the position, elevation, inclination and heading of monopiles and subsea jackets in real-time for safer operational control. Other innovations feature benefits in offshore hydrocarbon exploration, the efficiency of floating production assets and global positioning. Also on Fugro's agenda is its 'pairs-match' game, which brings the fun element as well as a daily prize!

General Acoustics, N151

General Acoustics produces sophisticated remote sensing technology systems including tide gauges, echo sounders, sub-bottom profilers, as well as software for tide prediction and flow charting. Applications cover coastal & offshore hydrological & meteorological monitoring, monitoring networks, complete turn-key solutions, etc. During OI'16 in London, General Acoustics will be exhibiting its products, including solutions for integrating remote sensing water level and current flow sensors. This integrated system can be used in coastal and offshore applications, including platforms and vessels. Come meet us to discuss your application and our possibilities!

Geo-Matching.com, L10

Geo-matching.com is the most complete product database for surveying, navigation and machine guidance. Since its introduction in 2012, it has grown steadily and now features over 1,100 products from more than 275 leading brands in 48 product categories. The newest product category is Doppler Velocity Logs (DVLs). Geo-matching.com provides a comprehensive overview of products and solutions including technical specifications, brochures, videos, case studies and peer reviews. In addition to product manufacturers, rental equipment suppliers and dealers can now also list which products are available for sale/rent. Geo-matching users can easily obtain detailed product information and contact suitable dealers and rental equipment suppliers directly!

GEOxyz, C150

GEOxyz is an independent service provider, specialising in Hydrographic, Geophysical & Geotechnical surveys, with a focus on Site investigations and O&M support for Offshore renewable projects. GEOxyz uses its own team of in-house professionals. Our dedicated vessels are equipped with the latest technologies and state of the art survey systems. Oceanology International 2016 will be Geoxyz's 6th event at this venue and the staff is looking forward to showcasing their services again. Please contact sales@geoxyz.be to arrange a meeting.

GNOM ROV, R200

The market of offshore survey and underwater monitoring require more technological solutions to perform tasks. GNOM ROV strives to satisfy these market challenges. The company will present all GNOM ROV models, beginning with the smallest ROV in the world, GNOM Baby (weighing 1.5kg) and ending with SuperGNOM Pro with a maximum depth of 300m. A GNOM is a personal ROV controllable by WiFi. Besides, GNOM Baby will participate in the German Evologics project: special inspection system consisting of two vehicles: RF controlled catamaran (ASV) and GNOM (ROV) underwater robot.

Harkand Andrews Survey, E350

Harkand Andrews Survey was established in 1978 and is a leading provider of survey and positioning services to the international offshore industry. We are predominantly active in construction and trenching support, ROV pipeline inspection support, wind farm installation support and rig positioning with tug management systems. We attribute our success to our ability to employ, educate and retain offshore personnel who are proactive, have a positive attitude and display a high degree of integrity, responsibility and ambition. Our pride and passion in what we do differentiates Harkand Andrews Survey from our competitors.

Hydro International, L10

Hydro International started out as a print magazine in 1997 and soon developed into the multimedia platform it is today, featuring a successful website and respected weekly e-newsletter. The magazine is international in scope and focuses on bringing topical overviews and the latest news and developments in the technology and management of hydrographic activities to its readership. *Hydro International* seeks and publishes the opinions of leading hydrographers on the state of the market, technical issues and national and international policies.

HYDRO-BIOS, N251

The AFIS technology – a must-have to achieve pristine samples for monitoring of microbial activities in the environment. The unbiased

detection of microbial activities in nature is a challenge because they are subject to considerable modification simply due to sampling procedures. Direct sample fixation in situ is the adequate sampling technique which HYDRO-BIOS is to present. The AFISsingle, a sampler for use at standard carriers (rosette / carousel systems), is already available. Furthermore, they will present the status of the autonomous multi-sampler AFISsys, which is currently under development within an EU funded Bonus project.

Hydroid, D601

Located in the US and a subsidiary of Kongsberg Maritime, Hydroid is a manufacturer of autonomous underwater vehicles and marine robotics systems. Its flagship line of REMUS AUVs, together with Kongsberg Maritime's HUGIN, MUNIN and Seaglider underwater vehicles, provide marine professionals worldwide with intelligent marine robots they can rely on. These innovative full-picture AUV systems are utilised internationally in marine research, defence, hydrography and energy exploration. Our vehicles represent advanced, diversified and field-proven line of AUVs and support systems in the world.

Hydromea, R453

At Oceanology International 2016 Hydromea SA will be introducing its underwater, high-resolution environmental sensing service along with the proprietary hardware which makes that service possible. The new VERTEX AUV with an integrated Xylem EXO2 sonde is capable of sensing a wide variety of physical-chemical parameters. Its compact size (length: 70cm), high manoeuvrability and dedicated vehicle-to-vehicle communication and navigation hardware makes it particularly well suited for swarm operation. A swarm of VERTEX AUVs allows Hydromea to quickly provide a 3D map of water quality parameters with an unprecedented detail and consistency.

HYPACK, G251

HYPACK, a YSI company, has been a world leader in software development for the hydrographic and dredging industry since 1984. Make sure to stop by HYPACK's booth. At the show, HYPACK will be showing off their HYPACK 2016 software, along with updates and projects they have been working on. You can also learn more about HYPACK/HYSWEEP for Lidar and unmanned system solutions. Make sure to visit the stand and meet the HYPACK team to learn more about our software and recent projects!

IDRONAUT, S101

IDRONAUT is a research and manufacturing company located in Milan, which produces CTDs, sensors, hardware and software for profiling and monitoring, down to 7,000m depth, the physical and chemical properties of water (depth, temperature, conductivity, salinity, oxygen, pH, redox, chlorophyll, transmission, turbidity, suspended solids, radiance, etc.) and boreholes. The instruments that will be shown include the OCEAN SEVEN 304Plus probe, titanium housing; OCEAN SEVEN 305Plus probe, titanium housing; OCEAN SEVEN 320Plus probe, titanium housing and the OCEAN SEVEN 315 On-Line module.

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Innomar, N350

For more than 18 years Innomar has been providing parametric sub-bottom profilers (SBP) that are used to visualise sediment structures or objects within the seafloor or river beds. Our 'SES-2000' product line features high-resolution parametric SBPs for water depth ranges between less than 1m to full ocean depth. During OI 2016, Innomar will show re-designed 'SES-2000 medium-100' and 'SES-2000 quattro' models, which have proven to be valuable tools for burial-depth surveys of cables or pipelines. The new 'medium-100' generation with its pole-mounted transducer is easier to deploy than before and was successfully utilised for cable surveys in water depths down to 70 metres.

Ireland Pavilion, A500

Ireland is ranked as one of the most attractive locations in the world to do business. Our competitive advantage is due to the combination of a skilled workforce, a track record in FDI and an international reputation for research, development, innovation and technology infrastructure. The exhibitors on the Ireland Pavilion will be promoting new products and services in the rapidly expanding Irish Marine Technology sector: SonarSim - hydrographic sonar simulation software; Geomara - high tech subsea survey; JFC Marine - navigation buoys; Tfl Marine - mooring technologies; Marine Technology Ltd. - precision engineering, design and R&D; The Entrepreneur Ship - global hub for the maritime and energy companies.

KELLER, F702

KELLER, a Swiss manufacturer of high-quality pressure sensors, measuring to depths of 10,000m with a precision of 1 metre, $\pm 0.01\%$ FS. Market leaders in OEM pressure sensors, pressure transmitters, level data loggers and digital gauges. Products are available in corrosion resistant materials and with digital electronic outputs of RS485 and TTL. Also small I²C interface pressure sensors with very low power consumption. We are a leading supplier of high stability precision depth sensors for oceanographic applications, typical markets are, oil

and gas, ROVs, subsea hydraulics and ocean survey. We offer customer specific OEM solutions, along with a range of standard products specifically designed for oceanographic use.

Kongsberg Maritime, D600

With a focus on 'Integrated solutions for research vessels', KONGSBERG's stand features a MUNIN AUV, the latest generation HiPAP system, cNODE miniS transponders, new EM 712 shallow-to-medium depth multibeam echo sounder, a new portable multibeam (EM 2040 P) and the new EA 440 single beam echo sounder. GeoSwath Plus USV, wide swath bathymetry for unmanned surface vehicles and the PulsAR towed side-scan sonar will be on show. The new KONGSBERG Maritime Broadband Radio will transmit live video/data to the stand from the *Northern Wind* vessel, which has EM 2040 P, EM 2040 and TOPAS PS120 onboard. Product demos will be held on *Northern Wind* throughout Oceanology.

Koti-Dawson Ltd, S201

KOTI Industrial and Technical Brushes BV is a family-owned company and has grown to include 12 established companies worldwide. Being a family-owned company allows us to be more committed to customer service and gives us access to a wealth of knowledge in brush technology. The KOTI Group objective is to add value to their customer processes. The enormous quality and quantity of specialised knowledge allows the KOTI Group to provide the best possible support to its customers.

LinkQuest Inc., F10

LinkQuest Inc., a leading manufacturer of precision acoustic instruments in the world, will exhibit its SoundLink high-speed underwater acoustic modems, TrackLink USBL acoustic tracking systems, FlowQuest acoustic current profilers, FlowScout acoustic flow meters, NavQuest Doppler velocity logs and EchoSweep multibeam echo sounders.

MacArtney, D201

A broad range of their well established and recently introduced systems and products will be featured on the MacArtney stand. Visitors can experience the NEXUS MK VII (HD multiplexer) with a newly designed flange for the subsea unit, the new LUXUS Dual 360° P/T, innovative additions to the

SubConn connector range and, not least, the brand new FOCUS 3 ROTV system. The stand also includes a broad selection of our LUXUS cameras and lights, various connector types including our very own SubConn connector range. Furthermore, MacArtney will also be showcasing TrustLink standard steel terminations and a stainless steel winch.

Marine Electronics, E200

Marine Electronics will be presenting its Dolphin 2D sonar for AUV and ROV applications. It is a 720kHz system that has evolved from the company's existing Dolphin 3001 model while introducing several new key benefits. Its compact size and light weight now make it an ideal choice for use on small ROVs and AUVs as well as for other applications on surface craft. Its versatility and ease of use is also improved by an Ethernet connection to the underwater unit. The Dolphin 2D now joins a range of sonar products developed by Marine Electronics.

Marine Research, B551

Marine Research Ltd is a hydrography and oceanography service company, specialised in shallow and very shallow waters, from 0 to 100m deep. We can provide multibeam bathymetry, side-scan sonar imaging, water quality monitoring and various other related services. At our stand, visitors can find out more about our services and see live demonstrations of our Underwater Mass Spectrometer. Visitors will be able to notice how easy and cost-efficient measurements can be performed and find out more about the advantages of this revolutionary method.

MARIS, F600

MARIS will present the latest progress with the EU EMODnet Bathymetry project (www.emodnet-bathymetry.eu), which develops and publishes a medium resolution Digital Terrain Model (DTM) for all European seas with a resolution of 1/8*1/8 arc minutes (230m). The latest release is based upon circa 7,000 survey datasets and composite DTMs from 31 data providers from 18 countries. References to the used data and their data holders can be found in the source references layer. In addition, MARIS will organise a Sensor Web Enablement (SWE) Workshop on 15 March from 1.30 pm-5 pm in room 6 of the South Gallery, bringing together developments from a range of EU projects.

Maritime Robotics, A140

Maritime Robotics is a leading provider of unmanned robotic vehicle systems for data acquisition in the maritime environment. Products are Moored Balloon Systems, Unmanned Surface Vehicles and Unmanned Aircraft Systems. Main markets are geophysical data acquisition and surveying, environmental monitoring and the security&defence market. With technology developed with both civilian, governmental and military partners, our focus is delivering high-quality system solutions and products that are cost-efficient, reduce HSE risk exposure and are highly deployable, in any conditions. We believe that the future of maritime operations will enable more unmanned data acquisition, driving industry standards and continually broadening operational possibilities in extreme conditions.

MMT, F601

MMT celebrates 40 years in the marine survey business this year and the celebration starts at Oceanology International. MMT will showcase their latest developments and results on their ultra-efficient Surveyor Interceptor ROV. After a period with intense research and development work, MMT launched the survey ROV - Surveyor Interceptor (SROV) in 2015. It is now ready for new exciting projects. MMT will have presentations at 11 am, 2 pm and 4 pm about SORV, geotechnical expertise, data processing, reporting and their long experience of UXO services.

National Oceanography Centre (NOC), A235, A315

The National Oceanography Centre (NOC) will be demonstrating sensors and showcasing its science and marine autonomous systems capability at Oceanology International. The NOC's marine autonomous programme will be taking place in room nine over the morning of 16 March and will include a talk on the new Marine Robotics Innovation Centre as well as one on the use of sensors and AUV's in Carbon Capture and Storage. The Oceans of tomorrow stand will also be hosting demonstrations of pH and nutrient sensors developed at the NOC.

Nautikaris, F600

Nautikaris recently became the agent for OxTS Ltd. survey products and will show some products at the Netherlands Pavilion. OxTS designs and manufactures world leading products combining the best of inertial navigation and GPS/GNSS. They focus on low-cost INS using MEMS gyros and precision accelerometers. Their Kalman filter extracts the maximum information from GNSS to deliver high-accuracy measurements and low drift rates. OxTS focuses on designing simple-to-use products that deliver reliable and accurate results. All products are backed up with first class service and support.

Next Geosolutions, H450

Next Geosolutions is an international turn-key geoscience and engineering service provider operating in the energy, infrastructure & utilities markets. Established in 2006 as Oceanix and recently incorporated into the NG group, Next is already recognised as a leading player as it consolidates knowledge, expertise and resources of companies and individuals with a successful track record of over 25 years in the industry. The synergy between such a solid, renown and successful group of parties and professionals originated from a shared vision of an independent, QHSE mindful & technology driven contractor capable of providing integrated services, both on land and at sea, to support the entire lifetime of projects and assets.

NORBIT, B550

NORBIT-Subsea is part of the NORBIT Group, an industrial corporation with companies in SubSea, Intelligent Traffic Systems and Original Design Manufacturing of industrial electronics. Our engineers have pioneered groundbreaking innovations within monitoring, instrumentation, telemetry and communication solutions for harsh environments. NORBIT-Subsea manufacture wideband curved-array multibeam sonar sensors for bathymetry, NORBIT's multi-sensing concept combines multiple integrated sensors into one hardware platform with a single LAN connection to survey laptop. Supported sensors include any combination of bathymetric multibeam echo sounder, forward looking sonar and Lidar.

Nortek, G200

Nortek will feature its long awaited mid-range profiler Signature250. It has an optional centre beam for the patented SUV wave measurement mode. The instrument can be deployed on subsurface buoys at depths as great as 150m and measure ice keel depth, ice drift and directional waves. Signature250 has a specified current profiling range of 200m. The Signature family now includes instruments covering ranges from <1m to >1,000m (frequencies of 1,000, 500, 250 and 55/75kHz). With Signature250, professional users now have available the most versatile family of instruments in the industry.

NOVACAVI, N200

Special cable manufacturer Novacavi will show its commitment to providing exceptional engineered products for the marine technology and ocean science industry at OI 2016. The company sees an increasing demand for pressure resistant subsea cables and water blocking high-performance cables for extreme environments that they are ready to meet. Continuous development in ocean technology calls for innovation, also in cables, and Novacavi proudly supports this process with its resilient and reliable seismic and oceanographic cables. Novacavi will feature examples of realised custom projects.

Oceaneering, J301

As the trusted subsea connection specialist, Oceaneering solve beyond the status quo for subsea surveys and deepwater seafloor mapping. We connect reliable AUV technology to pipeline inspection and offer cost-effective, innovative solutions with accurate, high-resolution pipeline inspection information. We are connecting what's needed with what's next as the world's largest ROV operator and the leading ROV provider to the oil and gas industry with over 300 systems operating worldwide. With our safety-focused and innovative approach, we responsively and decisively react to subsea challenges while providing solutions swiftly and efficiently. We push the frontiers of deep water to execute with new, leading-edge connections to solve tomorrow's challenges, today.

OceanWise, N125

OceanWise will showcase the latest developments in its Environmental Data Sharing and Publishing (EDSP) and Enterprise GIS solutions. Demonstrating how good data management underpins all our solutions to reduce risks within your business. Port-Log.net centrally manages your Environmental Monitoring data and makes it available online for easy access. New functionality includes comprehensive analysis of complex datasets e.g. waves and acoustic current data and warehousing for long-term historical archive and analysis. Our Enterprise GIS and Productivity tools are increasingly being used to streamline many of your day-to-day workflows and giving new insights on existing data.

Planet Ocean, H500

Planet Ocean, UK, is taking a new approach at Oceanology 2016. They will have a coffee bar feel, with tables and seating to accommodate customers in a comfortable environment without the usual collection of equipment. The company is not abandoning equipment totally, featuring a 'What's New Corner' where only new technology will be on show featuring Sea-Bird Coastal HydroCAT-EP, multi-parameter system with CTD, pH, DO, Tu and Fl; Ocean Sonics "R Type" Smart Hydrophone with Reson transducer; XEOS Apollo IRIDIUM, GPS, LED FLASHER and Resolute GNSS receiver; Sequoia Acoustic Back Scatter system; dot-Ocean Gravi-Probe and ASV technology and Sea-Bird Scientific SeapHOx pH system and SeaOWL Oil in Water system.

QPS, H200

Acquire – Process – Visualise – Share – at Oceanology 2016 London, QPS will showcase the latest features to our products QINSy, Qimera, Fledermaus and Qarto. In QINSy you'll see we've completed a number of changes that help the data workflow with Qimera, there's a new contouring algorithm, and how we've added support for new sensors like Sub-bottom Profilers. In Qimera great progress has been made in improving the data editing experience, and the integration with the QPD files. Fledermaus now supports the Dynamic Surface gridded data files so bringing a link to the QPD files on-the-fly and show point clouds in the 4D scene. Qarto is QPS' brand new module for optimised ENC production.

Radac, F600

Radac will be presenting the newest version of the WaveGuide server, which is updated to the latest standard. It's faster, more robust and more stable. It also facilitates network connection, USB storage and RS232 output while still running at low power. The server is part of the WaveGuide, a high-quality radar system which monitors waves, tide and water levels. Mounted high above the water the WaveGuide is equipped to measure waves, regardless of the most extreme conditions. Mainly used by offshore wind parks, oil/gas platforms, harbours and vessels.

Resinex Trading, B451

Resinex offers a wide choice of floating and underwater equipment for any Oceanology need. With items that are really versatile, this means that you have only to propose your projects and Resinex's expert team will be glad to manufacture tailor-made products, also for small quantities. Our Oceanology range gathers: cable floats, seismic buoys, oceanographic buoys, marker buoys, ultra-deep water floats, elastic beacons equipped for technical instruments, coming from their natural markets of the Offshore Field and Navigational Aids sector thus finding a perfect function in the Oceanology market. We boast collaborations with important research institutes such as Kigam, Geomar, INGV and INFN.

Rokem, S10

Rokem, founded in 2000, an IALA industrial member, is a professional supplier of AtoN products and marine products in China. Its product scope includes various buoys, lanterns, light towers, racon, remote monitoring systems, etc. Meanwhile, they are a producer of side-scan sonar (SSS), echo sounders, etc. in China. The company has also exported to many countries in the world including the US, Indonesia, Korea, Australia, South America, Africa, the Middle East etc.

RTsys, L550

RTsys is to present its latest developments and improvements made on the whole RTsys listening systems range. Firstly, the integration of modems and multi-parameters probes are available with our recorders. RTsys also proposes its designed rechargeable battery packs, which are transportable by air. RTsys will present the RB-SDA14, its rugged remote buoy for real-time noise monitoring and explain how it can provide cost savings for offshore operations. Visitors are invited to join the conference on underwater listening systems and offshore renewables that will be given on Tuesday 15 March at 11 am. RTsys will be present during the whole exhibition to welcome you to their stand.

Saderet, G500

Hemisphere GNSS and their European Distributor Saderet will feature their full navigation product range including the new AtlasLink smart antenna. The system uses the Hemisphere GNSS Atlas L-Band RTK correction service to provide global 10cm positioning. Optionally, the receiver can be used to re-broadcast RTK corrections to enable rover systems to work at 1cm level. This capability is also available on the latest VS330 Vector and R330 navigation systems. Saderet will also feature products from their other principles including Teledyne RDI, Odom and TSS, plus QPS, Satel, Deepwater Buoyancy and Chesapeake Technology.

SBG Systems, M401

From miniature to high-accuracy inertial navigation systems, SBG SYSTEMS always provides an optimal Performance / Price ratio. The Apogee Series is a new INS/GNSS, which integrates the latest generation of MEMS sensors and Tri-frequency GNSS receiver. Apogee delivers attitude data accurate to 0.008° in real-time, and 0.005° in post-processing. With two antennas, it delivers a robust and precise heading. Heave calculation achieves 5cm in real-time. Apogee supports RTK and PPP services (Marinestar, TerraStar, etc.). Already compatible with Hypack, QINSy and Teledyne PDS 2000, Apogee is ready to deliver its extreme precision.

Scantrol, F405

Scantrol is a Norwegian control specialist developing class-leading solutions for monitoring and control systems. With a well-established history for marine, offshore and research vessels, the company is now focusing its expertise on control systems for the buoyant subsea market. Through the development of an Active Heave Compensation System, Scantrol has become an important supplier to the Offshore as well as the Oceanography Industry. Today, there are more than 1000 vessels deployed worldwide using Scantrol systems. The company has established an international network of service-partners for distribution and support, with an average export share at 80%.

Scientific Management Associates Ltd, L301

Scientific Management Associates provide hostile environment cable harnesses and connectors where the demand is right first time, every time. Our thermoplastic hot injection termination processes ensure complete amalgamation with cable jackets. Thermal energy maximises the bond strength between moulding and connector back shell, which means that dual jacket sealing provides optimum reliability – fit and forget. Other methods using heat-shrink or thermoset polyurethane moulding do not achieve high integrity sealing and are not as robust. We continuously develop technology applying innovative solutions using fibre optics and embedded sensors. 10,000 installations - zero leaks - fit and forget.

Seabed, F550

We aim for the right balance in sales, support and engineering. We have a unique combination of technical knowledge, practical experience and a broad sales network to support your organisation. A young team of highly qualified professionals with a variety of expertise put's their precise thinking to work by developing and producing products for the offshore as well as the onshore industry. We have grown into a company that serves a variety of organisations worldwide.

SEACON, C650

SEACON's 55 series of underwater electrical dry-mate connectors have significant design improvements over other industry standard connectors, whilst maintaining compatibility and interchangeability with them. Pressure rated to 10,000psi (22,500ft/7,000m), the 55 series

is available in 5 shell sizes with up to 24 contacts with PBOF (Pressure Balanced Oil Filled) options. Manufactured from 316L Stainless Steel as standard, other materials are also available including PEEK (Polyetherethketone), titanium, aluminium bronze and alloy 625. This connector range is suitable for a variety of applications including ROVs, underwater cameras, diver communications, lights and pan and tilts.

Sensor Technology, P201

Sensor Technology Ltd. designs and manufactures bespoke acoustic transducers, hydrophones and piezoelectric ceramics. We provide our components to systems builders in need of custom sensor performance not available from an off-the-shelf product, as well as engineers and scientists in need of a unique, one-off device. Our flexible manufacturing facility can meet any volume requirement, whether it's for a single unit, a small batch or a high volume production run. We perform all processes at one location, providing fully optimised product designs, end-to-end quality assurance and tight control over delivery scheduling. Sensor Technology Ltd. is an ISO 9001:2008 registered company.

SENSYS, H600

SENSYS is a specialist for magnetometer solutions used to survey UXO spots or to track/inspect infrastructures. The latest SENSYS development is the SEARACK system - a modular light-weight frame to be mounted on any ROV with integrated magnetometers and acquisition unit. SEARACK facilitates live tracking and cable recording underwater, only restricted by the performance of customers ROV. Designed as a low logistics solution, it is compatible with most survey software (e.g. SeeByte, Hypack, QUINSy). The SEARACK solution offers additional software modules for area cartography/UXO pin pointing. Visit us to see this and other SENSYS products.

Shell Ocean Discovery XPRIZE, F700

Shell Ocean Discovery XPRIZE, the world's leader in incentive competitions, will be sharing its latest USD7 Million Shell Ocean Discovery XPRIZE- a 3-year global competition incentivising breakthrough technologies for rapid and unmanned deep ocean exploration, including high-resolution seafloor maps and high-definition underwater images. Embedded in this XPRIZE is a USD1 Million National Oceanic and Atmospheric Administration Bonus Prize to develop pioneering technologies to detect biological and chemical signals underwater and track them to their source. This competition is currently open for Team enrolment.

SIG France, K200

SIG France will be demonstrating the latest high voltage technology. The SIG energy sources are portable, low cost, and famous for their robustness, reliability and safety. The new SIG Pulse series is an upgraded energy source, setting it apart from the competition. Easily taken aboard any small boat, the SIG Pulse S1 is a 20-300 joules energy source used for sparker or boomer seismic survey. The medium source SIG Pulse M2 is 100-2000 joules used for all continental shelf and slope environment, and still hand portable with 50kg.

Sonardyne International, F300

Subsea technology company Sonardyne International will be presenting technical advances in surface and subsea positioning, navigation, imaging, communications and monitoring. New additions to the company's Lodestar AHRS and SPRINT inertial product lines mean that there is now a model to suit all ROV/AUV applications and budgets. As all versions use the same small and lightweight subsea housing, users can switch capability without having to fit different vehicle hardware. Sonardyne will also be presenting its expanded line-up of Syrinx DVLs, acoustic and optical modems, NOAS obstacle avoidance sonar and SMART, an instrument designed for asset monitoring and analysis.

StormGeo, K450

StormGeo is a leading global weather service provider offering operational support and monitoring to ensure safety, increase efficiency and minimise environmental impact at every stage of an offshore project. Services to the offshore industry include site-specific forecasting, response forecasting for offshore floating units, route and tow forecasting, historical research and on-site meteorologists. StormGeo's weather forecasting solution uses the best global meteorological models, which we enhance with regional, in-house, high-resolution models. StormGeo supports its clients with a 24/7/365 worldwide team of meteorologists and researchers. StormGeo is an ISO-9001:2008 certified company.

SubCtech, M250

SubCtech is a manufacturer of Li-Ion Subsea Batteries, CO2 analysers and special data loggers and is further positioning itself in the subsea and offshore market. The safe and reliable Li-Ion Batteries with ultimate capacity have been proven for Offshore Oil+Gas and as batteries for equipment carriers e.g. AUVs. The long-term developed Battery-Management-System guarantees highest availability, simple

operation and diagnosis, also during onboard operation under harsh conditions. The battery systems are qualified according to MIL-STD as well as ISO 13628:6 and could be produced according to IPC-A-600/610 class 3 on request. For standard applications - e.g. data loggers for condition monitoring – off-the-shelf batteries are available on request.

Tarka-Systems, F600

Tarka-Systems presents their Marine Operations Survey System MOSS, a practical, robust and portable measurement solution for monitoring and surveying. MOSS is a multipurpose solution for many different measurements. The functionality of the MOSS can be applied for Marine, Offshore, Salvage and Civil applications. For special functionality the basic system can be extended on clients' request. The handheld MOSS model provides readout and storage of connected sensors. The sensor values are gathered, displayed and stored internally or on a USB stick. Average values can be calculated and displayed during the measurements. There are also possibilities to forward data to an overall main measurement system through the ports on the MOSS.

Teledyne Marine, F100, G100, J100, D10

Teledyne Marine's newly formed One Team will be out in full force at OI London. Spanning 4 stands, 23 brands (amongst them Teledyne AG Geophysical, ATLAS Hydrographic, Benthos, BlueView, Bolt, Bowtech, CDL Systems & Solutions, Cormon, DGO, Gavia, Geophysical Instruments, Impulse, Impulse PDM, ODI, Odom Hydrographic, RD Instruments, Real Time Systems, RESON, SeaBotix, Storm Cable, TSS, VariSystems, and Webb Research) and the full team of professionals, OI attendees will want to make this their first stop. Boasting the largest span of marine technology in the industry, the Teledyne Marine companies offer a vast array of technology solutions ranging from tiny hydrophones and connectors to one-of-a-kind turn-key systems. Teledyne Marine will be launching several new products, conducting dock-side and on-water demos and hosting a Learning Centre with presentations spanning new product innovations, customer applications, and tips and tricks to better utilise Teledyne Marine's products, software and services.

The Hydrographic Society UK, C750

An official endorsing associate of OI 16, The Hydrographic Society UK is also representing the interests of its affiliate organisation, the International Federation of Hydrographic Societies (IFHS), comprising other member societies in Australasia, Benelux, Denmark, France, Germany, Italy, South Korea and South Africa. On display will be extensive ranges of Society literature including the latest issue of its quarterly newsletter, Soundings, as well as current IFHS literature. Full details on Hydro 2016, the IFHS's 24th symposium and exhibition in Warnemunde-Rostock from 8-10 November under the auspices of The German Hydrographic Society (DHG) are also available.

Trelleborg Applied Technologies, P100

Trelleborg Applied Technologies, based in Rochdale, UK, will showcase its range of high-performance TG materials. Specialising in the manufacture of low density syntactic foam materials for deep-sea buoyancy applications, our composite foams provide ultra-low densities through the selection of only the highest specification hollow glass microspheres. Combining microspheres within a rigid, high strength resin system makes Trelleborg's TG range of syntactic foams the first choice for large buoyancy modules, which can be readily machined in-house, to custom configurations, for use on ROVs, AUVs and manned submersibles.

Tritech, H400

Tritech International Limited, a Moog Inc. Company, is a high-technology business dedicated to providing reliable imaging and ancillary equipment for use in underwater applications. Visit stand H400 to learn about the latest technologies including the latest in ROV control. The AquaTrak is a Correlation Velocity Log (CVL), which provides greater accuracy than a 1,200kHz DVL, greater range than a 300kHz DVL, with none of a DVLs limitations.

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Tritex NDT, M630

Tritex NDT manufacture accurate robust Ultrasonic Thickness Gauges for measuring metal thickness without removing coatings. They use Multiple Echo in accordance with class society regulations to check corrosion levels in applications including hulls, offshore platforms, wind farms, pilings and pipelines. The range includes the popular Multigauge 3000 Diver Handheld Underwater Gauge and the Multigauge 4000 for mounting onto ROVs. Intelligent Probe Recognition (IPR) and Automatic Measurement Verification System (AMVS) enhances performance and ensures accurate reading even on the most heavily corroded applications. Only one single crystal probe type is required for all measurements above 3mm, even where heavy corrosion exists.

TSL Technology Ltd., N706

TSL Technology are a multidisciplinary engineering company based in the UK who take on difficult engineering challenges in the energy and marine industries. Since the first prototypes in 2001, TSL's commercial range of rim driven propulsors and controllers has expanded to

include sizes from 50mm to 700mm with power exceeding 100kW. So if you have a marine technology problem, why not contact us for a solution or see if we already have the product for you?

U Boat Worx, F600

U Boat Worx presents its manned submersible C Researcher 3. The U-Boat Worx submersibles are the most advanced private submarines ever built and have set the standards for 21st century underwater exploration. The C-Researcher 3 brings a whole new world with a compact three person research and leisure submersible that can explore the artefacts and seascape of the ocean for up to twelve hours of multiple dives in safety, comfort and luxury. Features such as leather seating, automatic climate control and a Bluetooth audio system complete the ‘out of this world’ experience. It is the first time that a spherical acrylic pressure hull is applied to reach a depth of 1,700m.

Valeport, H301

Valeport are looking forward to meeting old friends and engaging with new at OI2016. An independently owned company, Valeport continue to manufacture high-quality instrumentation to serve the oceanographic and hydrographic communities worldwide. As a recognised brand leader, prime products include sound velocity probes / sensors, altimeters, radar level sensor, current meters, tide gauges, fluorometers, wave recorders, CTDs, multi-parameter CTDs and GPS echo sounders. Bespoke products, OEM and engineered solutions are also available upon request.

Veripos, C400

Veripos will launch a new GNSS augmentation service during OI2016. This service expands on its world class Apex global PPP service that will deliver even more robust and reliable positioning for satellite navigation and positioning. Also debuting will be new Veripos visualisation software that has been developed to provide a new graphical interface to meet the needs of users plus provide a framework for Veripos to add new modules and features. More details will be announced at OI2016.

WASSP, S121

Outstanding performance, versatility and value. It’s what you expect and exactly what you get with the new S3 sonar from WASSP. This next generation multibeam sonar has been redesigned from the ground up around a new fully digital DRX transceiver. And it delivers on every front. More accurate, more versatile, more user-friendly and, most importantly, scalable to your exact needs. WASSP is a New Zealand based company and part of the ENL Group. WASSP is an award winning multibeam sonar system sold globally in over 30 countries.

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Aliwal Reef, South Africa, captured using
WASSP multibeam echo sounder.