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1) GENERAL OCEAN NEWS

1.a) Unique seafloor data provides unprecedented insight to scientific communities

The release this month of bathymetry data by Geoscience Australia has revealed seafloor maps with a resolution 15 times higher than those previously produced using satellite data. The bathymetric survey, conducted by Fugro during Phase One of the search for missing flight MH370, has provided a detailed map of the seafloor topography in the search area.

Following the disappearance in March 2014 of the Malaysia Airlines flight, the southern Indian Ocean search, led by the Australian Transport Safety Bureau (ATSB), was acknowledged as one of the largest marine surveys ever conducted. Geoscience Australia supported the ATSB, providing specialist advice and capability and an understanding of the remote environment in which the search was conducted.

Fugro deployed specialist survey vessels, equipped with sidescan and multibeam sonar equipment mounted on towed and autonomous underwater vehicles, to collect high resolution sonar images of the seafloor. The 278,000 square kilometres of data collected also included additional bathymetry data from Fugro's survey vessels as they transited to and from the remote search area.

In January 2017, the governments of Malaysia, Australia and the People's Republic of China jointly announced the suspension of the deepwater search. Following their commitment to publicly release the data acquired during the survey and search operations, the Phase One data is now available in multiple formats via the Geoscience Australia website.

The seafloor data is expected to contribute to a better understanding of the formation of the southern Indian Ocean. The unique information could provide unprecedented insights for scientific communities, benefiting research in areas such as continental margin geology; plate tectonic history; seabed processes; unique flora and fauna; and future survey expeditions.

Geoscience Australia expects to release the complex Phase Two data in mid-2018.

For more information, visit <http://www.fugro.com/mh370>.

1.b) CGG extends Santos VII Multi-Client survey to optimize Saturno field imaging

CGG announced today the completion of an extension of its Santos VII broadband 3D multi-client survey offshore Brazil. The 1,867 sq km extension to the original footprint gives CGG a total of almost 16,000 sq km of newly acquired and imaged pre-salt coverage.

The extension was made to fully image this highly prospective area after images recently delivered from the Fast-Track PSDM over a priority area of the Saturno field clearly indicated further structure to the east. This addition will aid in the interpretation and understanding of the Saturno field well in advance of the May 2018 lease round.

Jean-Georges Malcor, CEO, CGG, said: "Having the fast-track data available so soon after acquisition and working in close client consultation increased our confidence to extend our

Santos VII survey. This addition to our already very large 3D multi-client library in the Santos Basin underlines our commitment to offering the industry ultramodern exploration data sets to support the next pre-salt licensing round.”

For further information, visit <http://www.cgg.com/en/Investors/Press-Releases/2017/07/CGG-Extends-Santos-VII-Multi-Client-Survey>

1.c) CGG GeoSoftware donates full software suite to Heriot-Watt’s Petroleum Learning Centre in Russia

CGG GeoSoftware has donated a full suite of its software technologies to the Petroleum Learning Centre, a joint educational project of Tomsk Polytechnic University in Russia and Heriot-Watt University in Scotland. The donation includes training licenses for each of the software solutions (HampsonRussell, Jason®, PowerLog, EarthModel FT, InsightEarth® and VelPro) in its product portfolio.

Based in Tomsk, Siberia, the Petroleum Learning Centre was established by Tomsk Polytechnic University and the Institute of Petroleum Engineering at Heriot-Watt University in 2001 to train qualified professionals to work in today’s oil and gas industry. Graduates of the Centre receive two diplomas, one from the Russian University and one from the British University.

The Petroleum Learning Centre runs two MSc degree courses, one in Petroleum Engineering and one in Reservoir Evaluation and Management. A large part of both programs is devoted to individual and group reservoir modeling projects using real data. The software donation will enable students to gain hands-on experience of conducting practical projects with real field data using industry-leading software.

For further information, visit <http://www.cgg.com/en/Media-and-Events/Media-Releases/2017/07/CGG-GeoSoftware-Donates-Full-Software-Suite-to-Heriot-Watt-Petroleum-Learning-Centre-in-Russia>

1.d) Saudi Aramco acquires Teledyne Gavia AUV to enhance agility in meeting high demands for hydrographic survey services

Teledyne Gavia announces the acquisition of a Gavia Offshore Surveyor AUV system by the Saudi Arabian Oil Company (Saudi Aramco). The Gavia AUV system is expected to enhance Saudi Aramco’s agility in meeting high demands for hydrographic survey services through the company’s in-house survey operations. The Gavia system will be utilized predominantly for debris survey and pipeline inspection in the Arabian Gulf, with a potential service extension for other type of surveys in water depths up to 1000m in the Red Sea region.

The Gavia AUV system purchased by Saudi Aramco is equipped with an Interferometric side scan sonar (Klein Marine Systems, Salem, NH), camera, and utilizes a high accuracy Doppler Velocity Log (Teledyne RD Instruments, Poway, CA) aided Inertial Navigation System, (Rovins 154, iXBlue, Saint-Germain en Laye Cedex, France). For pipeline inspection applications, the vehicle will be equipped with field proven SeeByte Autotracker

software (SeeByte, Edinburgh, Scotland), which provides autonomous pipeline inspection capability. In order to gather environmental data a variety of other sensors are carried in the new Gavia Science Bay module including the SeaOWL UV-A™ (Wetlabs, Philomath, OR) which is optimized for oil detection in water. In addition to the AUV, a small survey launch including all required peripheral components and a mobile launch and recovery solution is being provided by Teledyne Gavia.

For further information, visit www.teledynegavia.com

1.e) EdgeTech provides 6205 to UNH CCOM

EdgeTech, the leader in high resolution sonar imaging systems and underwater technology, recently provided a 6205 MPES system to the University of New Hampshire's Center for Coastal and Ocean Mapping/Joint Hydrographic Center (CCOM/JHC).

The EdgeTech 6205 Multi Phase Echo Sounder (MPES) produces real-time, high resolution, three dimensional (3D) maps of the seafloor while providing co-registered simultaneous dual frequency side scan imagery. EdgeTech's Multi Phase technology allows a user to collect wide swathe, wide angle, high resolution bathymetry data that's compliant to IHO Special Order S-44 in up to 9 times water depth. This can be done at coverage rate that is at least twice that of a conventional multi-beam echo sounder and is an order of magnitude faster than using a single beam echo sounder. The result is an effective shallow water hydrographic survey tool that is simple to use and cost effective.

The Center for Coastal and Ocean Mapping/Joint Hydrographic Center (CCOM/JHC) has a close affiliation with the National Oceanic and Atmospheric Administration (NOAA) and will utilize the EdgeTech 6205 for research and education dedicated to their missions of hydrographic science and ocean mapping. The 6205 will be utilized in The Fundamentals of Ocean Mapping course this fall and deployed in other research activities at the Center throughout the year.

For further information, visit www.edgetech.com

1.f) Data transmission tests underway in advance of tidal power test site

Engineers associated with the Bourne Tidal Test Site (BTTS) have been field testing a simulation of the data acquisition system that will be installed on the actual tidal turbine test structure. BTTS is going through its last paces for permitting and once the US Army Corps of Engineers, USACE, signs off, the actual test structure will be installed.

To enable tidal device designers and developers to understand how their turbine is performing in the Cape Cod Canal, they will need to know what the current velocity is during all tide cycles. In order to do that, a team of talented engineers, inventors and scientists are collaborating to see firsthand how fast the water is moving in the Cape Cod Canal and how much power one might be able to harness once a turbine is installed.

There have been several small scale demonstrations done in waters near Buzzards Bay, using a series of small parts and home spun resources to show how data from the FSI ACM Current Meter can be collected, processed and transmitted via sophisticated telemetry to computers anywhere in the world.

The real time current data was captured by an ACM-PLUS-200 acoustic current meter from Falmouth Scientific Inc. (FSI), measuring current in meters per second. That data is then being processed using software provided by piRshared (Wareham, MA). That “scrubbed” data will eventually be transmitted through a powerful computer that will be installed on top of the tidal test structure. The data will then be transmitted via Wifi and/or cellular service to the website for display (www.mreconewengland.org).

For further information, visit <https://www.mreconewengland.org/newsletters-press/>

1.g) ABIS seals agreement to support Spanish port development

ABIS Holdings Energy Services Ltd has signed an agency agreement to support the development and operation of an offshore supply base on the Spanish island of Gran Canaria.

The UK-based energy services provider will act as the agent for Gran Canaria Subsea and Offshore Base (GCSB), an organisation that operates in the Port of Arinaga, in attracting and negotiating with clients looking to use the strategic maritime port.

An ideal location for operators requiring port facilities ahead of work in West Africa and across the mid-Atlantic Ocean, the location is inside the Canary Special Zone (ZEC), is tariff free and incorporates corporate tax levels of just 4%.

The site includes 20 acres (90,000 sq m) of laydown and storage facilities.

The base offers a suite of services to support the marine industry with repairs, refurbishments and general maintenance while also being in the centre of Atlantic activity making it opportune for project mobilisation.

GCSB is a Norwegian inspired subsea and offshore base with an optimal strategic location for operations all over the world. The base offers a wide range of services adapted to the subsea and offshore sector.

These include; facility support services, port and harbour facilities, ships agent services and access to full technical and project support services.

For further information about both companies please visit www.abisenergy.com and www.gcsb.no

1.h) New Aquatec Expert service for AQUAscat

Aquatec Group is pleased to introduce a new service for the AQUAscat to help new and existing customers make the most of their instruments, and optimise data collection and analysis. Aquatec Expert provides advice and guidance at both the pre and post deployment stages, as well as data analysis and reporting services. For surveyors and consultants, the complete Aquatec Expert service allows the AQUAscat suspended sediment profilers to be used confidently and efficiently, in order to enhance the sediment monitoring and understanding of an area. For researchers, the service can provide a solid

baseline understanding of the instrumentation to aid future research. Aquatec Expert is also available for customers renting AQUAscat instruments.

Three service levels are available: gold, silver and bronze. Bronze level Aquatec Expert features a personal consultation to discuss the deployment in detail and pre-deployment advice comprising performance capability predictions and recommended instrument configurations. The silver tier adds a post deployment report, including a critical analysis of the gathered data, hand-tuned inversions and a processed dataset. Gold Aquatec Expert offers silver level service for two deployments within a 12 month period.

Find out more at www.aquatecgroup.com.

1.i) Sequoia Scientific announces powerful second generation holography instrument

Sequoia Scientific, Inc. is announcing its advanced second generation submersible holography instrument, LISST-Holo2. In-line digital holography is employed to measure the size, shape and concentration of plankton, marine snow, sediments, flocculated particles, and even frazil ice. Holography offers the advantage that, unlike traditional optical methods, the depth of field of holography spans the full optical path allowing every particle to be in focus. Holography also offers higher resolution in the image field.

The second generation LISST-Holo2 instrument retains the original high resolution in reconstructed images, but increases the maximum hologram capture rate from 0.2Hz to 20Hz, i.e. a 100-fold increase in speed. The new version also incorporates in-built memory of 237GB, capable of storing 118,000 holograms. A newly designed rechargeable NiMH battery is also included in the same original instrument housing, making it a totally self-contained, compact, high-speed, autonomous instrument.

For the scientist who wonders how to examine these tens of thousands of holograms, the company has developed an algorithm to rank the holograms by the richness of their information content. Consequently, a scientist can choose to view the library of holograms in order from most interesting to the least interesting.

For more information visit, www.SequoiaSci.com/Holo.

1.j) PhytoFind in situ Algal Classification Simplifies Identification of Harmful Algae

Environmental conditions are changing leading to significant shifts in algal populations. An example of this is the noticeable worldwide increase in Harmful Algal Blooms, primarily cyanobacteria. Identifying algal groups within a total phytoplankton population is critical as some groups can be toxic, affecting public health and economies. Turner Designs is excited to introduce products facilitating increased understanding of the composition of algae populations.

PhytoFind provides in situ algal classification distinguishing among algal groups using specific fluorescence signatures. Real-time abundance estimates are calculated for PE-containing algae (mixed group), PC-containing algae (Cyanophyceae), and total algae (all other algal groups). Calculations include an automatic correction for interference from dissolved organic materials (DOM) providing more accurate real-time estimates. Optics are optimized to minimize interference from turbidity. Abundances are displayed and logged as

group percentages along with temperature, depth, and accurate chlorophyll ($\mu\text{g/L}$) concentrations.

PhytoFind's durable Delrin housing is highly resistant to harsh environments. Additional antifouling materials such as wipers and copper plates can be included to minimize biofouling for long term deployments. If deploying long-term, a high capacity external submersible battery with an estimated maximum deployment time of three months is available. All PhytoFinds have a large capacity for internal memory storage (over 60,000 data lines).

PhytoFind is factory-calibrated; no calibration standards or tools are required. Solid state optoelectronics ensure long term instrument stability. Solid reference standards are available for users wanting to confirm stability in the calibration.

For further information, visit <http://www.turnerdesigns.com>

1.k) ASL happy to announce its 2017 Acoustic Zooplankton Fish Profiler (AZFP) award winner

The recent submissions for the 2017 AZFP early career scientist award exceeded our expectations. The award selection committee of ASL is happy to announce that Dr. Susannah Buchan will receive free of charge a multi-frequency AZFP for a three-month deployment to conduct research on the spatial distribution of prey and baleen whale species off Isla Chañaral, northern Chile. This area, within the Humboldt Current System (HCS), is considered one of the most productive marine environments on the planet and sustains the highest fishery catches in the world. It hosts a number of reproductive colonies for sea birds, including the Humboldt Penguin, sea lions and otters, and is a feeding ground for endangered baleen whales, particularly blue and fin whales. Due to the unique biological characteristics of this area, the Isla Chañaral Marine Reserve (ICMR) was developed to protect a small part of the marine ecosystem of the coastal islands of the HCS.

Susannah, who serves as co-investigator with the Center of Advanced Studies in Arid Zones (CEAZA), and Associate Researcher at the Universidad de Concepción in Chile, as well as being a Guest Investigator at the Woods Hole Oceanographic Institution in the USA, has proposed a spatial boat-based survey consisting of continuous profiling transects. These transects will give insights into the distribution of various zooplankton and small pelagic fish species and will be coupled with boat-based baleen whale observations.

The use of the AZFP aligns well with the research goals of the CEAZA research center which has secured CONICYT (the Chilean government science and technology agency) funds for a three-year program to study the marine ecosystem of the coastal islands of northern Chile. Susannah will lead the research component in baleen whale ecology, collaborating with colleagues at CEAZA, the University of Valparaiso, the University of Chile, the Chilean NGO Centro de Investigación Eutropia and Woods Hole Oceanographic Institution.

For additional information, please visit www.aslenv.com or contact Jan Buermans jbuermans@aslenv.com

1.l) MTCS is Proud to be one of the Few Maritime Companies to reach the New ISO 9001:2015 Standard

MTCS (UK) Ltd is delighted to be awarded with International Standardisation for Organisation, ISO 9001 (2015).

ISO 9001 (2015) is the world's most popular quality management system standard. It's a framework to help companies manage their businesses effectively, so they can be operationally resilient, build long-term success and ensure customer satisfaction.

Competence is also a critical requirement in the industry. Both companies and individuals face a tough and competitive market, but fortunately, MTCS (UK) Ltd have a framework with robust procedures that ensure clients have the most reliable and effective processes. This will ensure their personnel can demonstrate the highest standard of competence.

MTCS (UK) Ltd have over 15 years' experience in working with Offshore Contracting companies to provide robust and fully accredited programs, with the aim of certifying their personnel are competent in safety critical activities.

A certificate of competence is considered mandatory by most oil & gas majors for many safety critical activities. MTCS (UK) Ltd fully accredited competence schemes provide an effective 'Risk Management' tool; whilst ensuring employers are fully meeting their obligations of relevant safety legislation.

For further information, please refer to www.mtcsuk.com, or contact MTCS (UK) Ltd directly on +44 15394 40200.

1.m) M2 Subsea verified by Achilles FPAL Verify network

M2 Subsea has had its ability to deliver high quality services to the oil, gas and renewables sectors verified by Achilles FPAL.

The Aberdeen-based company, which launched in 2016, was audited under the Achilles programme. The extensive independent assessment determines an organisation's capabilities across several areas including QHSE, competence and training.

Achilles FPAL, a service provider of global supply chain risk management, works on behalf of more than 860 buying organisations to collect, validate and maintain essential data about more than 133,000 suppliers. This allows organisations to gain visibility of their suppliers' capabilities and compliance before making important sourcing decisions. With one standardised approach, organisations can raise standards consistently, and easily connect with credible and qualified suppliers worldwide.

The verification comes just one month after M2 Subsea was awarded two internationally recognised ISO certifications, 14001: 2015, 9001: 2015 and OHSAS 18001: 2007, for its quality management systems, both to the latest 2015 standards.

For further information, visit <https://www.m2subsea.com/>

2) EVENTS, TRAINING & DEMONSTRATIONS

2.a) 2017 IMCA Lifting and Rigging seminar presentations now online

The presentations from the 2017 International Marine Contractors Association (IMCA) Lifting and Rigging Seminar with its theme ‘Slings and rigging: ‘The soft revolution’” held on 14 June at the Novotel Amsterdam Schiphol are now online, as is a full report on the seminar and details of the workshops held as an integral part of the day.

Eighty-five members and guests attended the Seminar which was a continuation of previous IMCA rope workshops, which focused on defining the issues related to high value subsea construction ropes. There was representation from rope manufacturers, rope users, third party assurance suppliers and academic development institutes.

This year’s seminar focused on high performance slings and grommets used for subsea construction, with its title ‘Slings and rigging – the soft revolution’ indicating the steady move over the past five years from wire to high performance fibre based rigging. Topics covered included the current codes and standards (IMCA has published one of the main guidelines), operational experience, supplier updates and test house/academic studies.

The first workshop saw delegates discussing actual experiences and hot topic issues such as ‘Satisfying clients’ requests – specifically with heavy lifting gear’ and ‘Certification for intended purpose?’ The second embraced ‘Requirements – now and future’ when code/guidance improvements, testing and future R&D needs were discussed.

The presentations and workshop discussions will be used to influence, shape and develop existing and future IMCA guidance. The report and presentations are at www.imca-int.com/events/lifting-rigging-seminar-2017-amsterdam/

For further information on IMCA, visit www.imca-int.com and imca@imca-int.com. Follow IMCA on twitter @IMCAint

3) JOB POSTINGS

3.a) Marine Autonomous and Robotic Systems (MARS), National Marine Facilities (NMF), National Oceanography Centre (NOC), Southampton

About the role: As a Glider Engineer you will be focused on Slocum glider, Seaglider and Unmanned Surface Vehicle (USV) operations. This includes preparation and mobilisation, piloting and sea-going support and time at sea and at shore-bases. Your role will also involve the maintenance of gliders, unmanned surface vehicles and associated sub-systems and sensors. You will contribute to external relationships with vehicle users, manufacturers and centres and prepare material for knowledge exchange.

As a Mechanical Engineer, you will undertake mechanical design work, both within the glider group and more broadly across MARS. This will involve taking designs from initial concept through drawing to production and final testing.

Fixed Term 3 years. Salary will be £28,200 per annum depending upon skills and experience. Sea time may be required for this role, which attracts a daily allowance.

About you: You will have a degree or HND in engineering or other numerate subject, or equivalent higher/further education in a related field, with experience in mechanical design and a strong track record of solving engineering problems.

NOC offer a competitive remuneration package, including RCUK pension scheme, 30 days annual leave with a further 14 Public/local days off and free car-parking. <http://noc.ac.uk/>.

How to apply: Applications are handled by UK Shared Business Services Ltd (UK SBS); for further information about the role and to apply, please visit http://www.topcareer.jobs/Vacancy/irc241919_7317.aspx. If you are unable to apply online please call 00 44 (0) 1793 867000.

Closing date: 28 August 2017

For general enquiries only regarding this role please contact David White dwh@noc.ac.uk + 44 (0) 2380 596154 or Ella Richards ella.richards@noc.ac.uk + 44 (0) 2380 596004. Please do not send CVs.