

oceanbuzz!

The weekly ocean technology e'Newsletter everyone's talking about

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1. OCEAN BUSINESS WEEK

1.a) OFFSHORE SURVEY CONFERENCE – REGISTRATION NOW OPEN

The Offshore Survey 09 conference will once again be held alongside Ocean Business 2009 at the National Oceanography Centre, Southampton from 1 – 2 April 2009. The full conference programme can be viewed at www.offshoresurvey.co.uk.

The conference features two days of technical presentations focusing on the essential sciences and data management critical to any offshore exploration or development project: from the first requirement of precise positioning to the acquisition and processing of geophysical data below the seabed, to collecting information on the quality and movement of the seawater at offshore sites and the interaction of oil and gas developments with wildlife habitats.

'The impact of dramatic oil price swings on the global Ocean Industry business make Offshore Survey 09 extremely timely. Over two days the OS09 Conference programme includes papers on market opportunities, latest technologies, essential techniques and reports on real-world milestone projects.' states Conference Chairman Alastair MacDonald.

Twenty speakers, all invited from international oil majors, service organisations and product companies, will be focussing on technology developments and business issues in the global field of offshore surveying.

The combination of the OS09 Conference with the Ocean Business exhibits and on-water demonstrations makes the Southampton-based event, a unique opportunity to highlight the many facets of the offshore surveying industry.

Conference delegate places are limited so we encourage you to book early by visiting <http://www.smartregister.co.uk/events/iehib/OB09/>

1.b) OCEAN BUSINESS & OFFSHORE SURVEY GALA DINNER – ONLY A FEW TICKETS REMAINING!

The gala dinner will once again take place at Dockgate 4. Dockgate 4 is situated in the former ballroom of South Western House, at the entrance to the popular Oxford Street area of Southampton. Once a hotel and restaurant for passengers sailing to the United States – including those of the Titanic – Dockgate 4 now reveals, not only in its historical and international influence but as one of Southampton's most exciting and prestigious restaurant and bar venues.

With a combination of live entertainment, excellent cuisine and 200 business colleagues in a historical setting, we are sure that you will agree that we have found the perfect setting for our Gala Dinner.

Individual Tickets cost £49 + VAT. If you wish to book tickets for the gala dinner please email info@intelligentexhibitions.com.

2. GENERAL OCEAN NEWS

2.a) RESON DELIVERS SECOND SONAR SYSTEM TO THE CHILEAN NAVY

S.H.O.A. Servicio Hidrografico y Oceanografico de la Armada de Chile (The Chilean Navy Hydrographic and Oceanographic Service) have recently taken delivery of a second new RESON Sonar System.

The complete system will be installed on the launch ALBATROSS, and will aid the Chilean Navy with the development of new nautical cartography for Chilean Waters. S.H.O.A develops charts in electronic formats that are increasingly accurate, making them more compatible with the modern navigation systems used by the ships currently in service.

The total system comprises;

SeaBat 7125-E - High resolution multibeam sonar, the NaviSound 410 Deepwater hydrographic and broadband echo-sounder, and the PDS2000 Software package.

The SeaBat 7125-E provides high-resolution bathymetry and imagery data in real time for extremely detailed 3-D re-presentation of underwater features and seabed conditions. It has an operational depth of 400m and has a swath coverage of $128^\circ - 4.2 \times$ water depth. The NaviSound 410 Deepwater hydrographic and broadband echosounder has an enhanced hydrographic echosounder that supports single channel operation, and has a high ping rate of 20Hz. The integrated software package, PDS2000 allows for seamless use of data files between data acquisition editing and chart production.

The ALBATROSS launch and the RESON SeaBat 7125 Sonar System will be exhibited at the forthcoming EXPONAVAL Exhibition in Chile from 2nd to the 5th December, 2008, and demonstrations will be given to visiting delegations and visitors by the Chilean Navy (SHOA).

For further information please visit www.reson.com or contact Carlos Ortiz at Carlos.Ortiz@reson.com.

2.b) ROV INDUSTRY TO BENEFIT FROM SMALLER LIGHTER BUOYANCY PACKS

Reports circulating in the industry predict that in excess of 650 new work class ROVs will be required to meet industry demands over the next five years.

While the industry is reported to have spent \$1.6 billion on ROV operations during 2008, this figure is forecast to rise to some \$2.4 billion by 2012. With a shortage of vehicles and personnel, demand will continue to outstrip supply, even in the medium term, with costs having escalated by almost 50% during 2008 alone.

Continued high levels of activity in deepwater hotspots such as West Africa and Brazil will ensure vital technologies such as ROV operations will continue to flourish even during short-term oil price dips.

Expenditure on new-build ROVs is expected to top \$2 billion during the period 2008-12. High performance: increased uplift Balmoral Offshore Engineering, the Aberdeen-based subsea polymer engineering specialist, has been working with the industry to create a new range of ROV buoyancy to meet continuing deepwater demands.

The company's latest high performance low density composite is available in five standard grades: The 415kg/m^3 LD1500PF system is depth rated to 1500msw; LD2000PF is a 430kg/m^3 system rated to 2000msw; LD3000PF is 470kg/m^3 3000msw; LD5000PF is 510kg/m^3 rated to 5000msw while the LD7000PF at 540kg/m^3 is rated for work to 7000msw.

The improved low density materials allow for increased levels of uplift within a defined volume. These advantages can be used in a number of ways such as reducing vehicle dimensions or increasing uplift without changing the overall dimensions, or both. These high performance syntactic foams are now being specified in the construction of ROV and tooling pack buoyancy.

Setting deepwater standards Dr Bob Oram, Balmoral's technical director, said: "We're recognised as innovators and technical leaders in the field of subsea buoyancy and the introduction of these new materials represents a period of sustained R&D investment and effort from the company. "The components and production processes which have been developed are, to the best of our knowledge, unique to BOE. Ultra-high performance binder systems have been identified, and specially-processed glass microspheres adopted, to produce syntactic foams which set new standards of performance for deepwater syntactic buoyancy material.

For more information contact Steve Gibb, Group Public Relations Manager, Balmoral Group Tel +44 (0)1224 859000 Fax +44(0)1224 859123 Email s.gibb@balmoral.co.uk

2.c) NEW AUTHORISED SERVICE CENTRE AGREEMENT WILL BENEFIT ALL CONTINENTAL EUROPEAN EDGETECH CUSTOMERS

The MacArtney Underwater Technology Group has announced that MacArtney A/S in Denmark is now an authorised service centre. Service and repair of EdgeTech equipment can now be performed in continental Europe, making servicing, repair and spare parts delivery faster and more cost-efficient.

Sending equipment from continental Europe to the USA can be a timely and sometimes costly affair. Transport time increases overall servicing or repair time, or makes for longer lead times on spare parts.

The new servicing agreement between EdgeTech and the MacArtney Underwater Technology Group means that repairs and servicing can now be carried out in Denmark, making work on EdgeTech equipment more convenient and cost-efficient as customers benefit from shorter transportation times and lower freight costs. MacArtney Denmark will also stock a complete range of spare parts for fast delivery from January 2009.

Fully trained in EdgeTech equipment for total quality assurance Servicing and repair in Denmark are performed to the same high standard as in the US and two MacArtney engineers have been thoroughly trained by EdgeTech to ensure they have the necessary skills and expertise. One of the trained MacArtney engineers also has operational experience with EdgeTech equipment.

Existing relationship made closer MacArtney has been working closely with EdgeTech since 2001 before signing the Authorised Service Centre Agreement in October 2008 and has extensive experience in the supply and after sales service of EdgeTech equipment.

First repair order already received. The first repair order has already been received and MacArtney is stocked with spare parts ready to service continental European EdgeTech customers.

For further information or enquiries, contact Jes Højlund at MacArtney Denmark on jho@macartney.com or by telephone on +45 76 13 2000.

2.d) BOWTECH MAINTAIN THEIR LEAD IN EMERGING IMAGING SOLUTIONS

As the year draws to a close, Bowtech Products are proud to announce they have consistently led the market throughout 2008, in emerging underwater video and LED lighting solutions.

Bowtech were the first company to bring Extreme Low Light (Cooled BIT EMCCD) camera technology to the subsea industry. This was achieved by a rapid response to customer driven demand for a long awaited replacement for the SIT cameras of old. The result was that Bowtech produced the Explorer EXTREME.

This, added to their innovative AquaVision tooling and HD cameras along with their complimentary LED lighting systems, has helped Bowtech Products maintain their lead in emerging subsea video solutions.

For more information please visit www.bowtech.co.uk

2.e) SONARDYNE RANGER USBL TRACKS JASON TO NEAR 5000 METRES

A Ranger Wideband USBL (Ultra-Short BaseLine) acoustic positioning system from Sonardyne International Ltd has provided impressive performance for the engineers from the Deep Submergence Laboratory of Woods Hole Oceanographic Institution (WHOI) when it accurately tracked the *Jason* remotely operated vehicle (ROV) down to the seabed in 4,700 metres of water. The recent demonstration was carried out from onboard the *R/V Thomas G Thompson* in the Pacific Ocean off Hawaii where Woods Hole researchers regularly conduct deep ocean research cruises.

Jason is a two-body ROV system designed and built by WHOI's Deep Submergence Laboratory. A 10 kilometre (6 mile) fibre-optic umbilical delivers electrical power and commands from the ship through *Medea* and down to Jason, which then returns data and live video imagery. *Medea* serves as a shock absorber, buffering Jason from the movements of the ship, while providing lighting and a bird's eye view of the ROV during seafloor operations.

On route to the trials site, a Sonardyne engineer had equipped *Jason* with an AvTrak 2 transceiver and *Medea*, with a directional Compatt 5 transponder. AvTrak 2 combines the functions of transponder, transceiver and telemetry link in one low power acoustic instrument that has been designed to meet the requirements of a variety of mission scenarios and vehicle types. Onboard the *Thomas G Thompson*, a Sonardyne 8023 Big Head surface transceiver, specifically developed for ultra-deep target tracking, was deployed on a temporary pole over the side of the vessel.

During the deepwater dive to almost 5,000 metres, the Sonardyne system was able to achieve a positioning accuracy of 0.32% of slant range, or +/-15 metres, despite the temporary, relatively flexible, over-the-side pole. This performance proved almost as good as WHOI's existing tracking system and far

more convenient to use as no seabed transponders have to be deployed first. In addition, *Jason's* position could be updated at 1Hz despite the water depth which helped with visualisation of the ROV's dynamics.

AvTrak2 was installed on the ROV to demonstrate the unit's Wideband positioning and bi-directional wireless communications capability as if it were an AUV or manned submersible. This proved that data and commands could be reliably and easily sent from the USBL system on the vessel and back again using SMS (Sonardyne Messaging Service) in ultra deepwater.

Because the Ranger USBL system had shown its capabilities so convincingly, the WHOI team subsequently had the confidence to use it as the primary positioning tool for two further research dives to 2,500 metres that they conducted shortly afterwards.

For further information: Paul Eastaugh PEMS Marine & Offshore PR tel: +44 (0)118 934 1101
mobile: +44 (0)7889 432014 Email: paul.eastaugh@btinternet.com

2.f) SAFE OPERATION OF MARINE POWER PLANTS - LATEST IMarEST TITLE

An analysis of ship accidents reveals that about 80% of them result from erroneous and incorrect actions of ship and shore personnel. Many accidents would never happen if the engines and automation systems had sufficient operational capacity in emergency situations, and if modern methods of team building and crew resource management were applied.

'Safe Operation of Marine Power Plants' by Professor Vladimir I Lanchukovsky, PhD, CEng, FIMarEST, the latest title in the Institute of Marine Engineering, Science and Technology Marine Engineering Practice Series, explains the safe control of marine automated engines, the role of governors, distribution of engine load, prevention of overload and incomplete fuel combustion, and includes algorithms of main engine safe control when malfunctions occur. It also draws attention to risk assessment, the identification of hazards and the importance of formal safety assessment of loss of propulsion. Finally the important safety benefits of simulator training based of full mission UMS engine room simulators are detailed.

Prof Lanchukovsky explains the definition of the safe operation of power plants: "Operation with the minimum risk of accidents or faults which can cause loss of ship propulsion. Safe operation is carried out in accordance with the rules of operation and maintenance of ships and is based on the maximum use of human resources and modern means of automation."

With its chapters on 'Problems of power plant safe operation', 'Diesel propulsion plant operation', 'Safe control of marine automated engines', 'Formal safety assessment of loss of propulsion', 'Simulator training of marine engineers', and invaluable glossary, the new book is written in accordance with the approved teaching syllabus of 'The safe operation of power plants' aimed at improving the safe operational skills of marine engineers before sending them to sea.

About the author - Professor Vladimir I Lanchukovsky, PhD, CEng, FIMarEST, graduated from the Odessa Higher Engineering Marine College (now Odessa National Maritime Academy, ONMA) in 1958 and began his career as a seagoing marine engineer. Since 1960 he has worked at the College, initially as a postgraduate student and, after the defence of his dissertation, during 1965-1981 held positions of assistant professor, Dean of the Marine Engineering Faculty and as the Pro-Rector of Training at ONMA.

For a period of more than 20 years he was a Head of Diesel and Gas Turbine Plants Automation Chair at ONMA and Chairman of the Black Sea Scientific and Technical Society of Water Transport.

In 1988 he was awarded the scientific rank of Professor. He created the simulation base and was a Head of the Maritime Simulation Centre of Power Plants at the automation faculty of ONMA. He is also an Associated Member of the Transport Academy of Ukraine and Member of the IMLA-ICERS International Steering Committee.

Prof Lanchukovsky has been a Fellow of Council of the Institute of Marine Engineering, Science and Technology (IMarEST) and Honorary Secretary of its Odessa branch for some years.

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2.g) BENEFICIAL CHANGES IN IMarEST MEMBERSHIP STRUCTURE

As a progressive and practical organisation the Institute of Marine Engineering, Science and Technology (IMarEST) constantly evolves to meet the needs of its members. Thanks to recent changes, Chief Engineers and Masters may now, once again, join as full corporate Members (MIMarEST) of the Institute rather than being Associate members (AMIMarEST).

"In recent months IMarEST has taken steps to ensure that the Institute has a more welcoming and less complicated membership structure and application process," explains Graham Hockley, Director, Policy & Professional Affairs. "The steps taken to achieve this enhance the Institute's ability to provide a more inclusive and representative structure, designed to meet the needs and ambitions of those engaged in the marine sector, and maintains the professional standing of those with appropriate qualifications."

As IMarEST has a Royal Charter, there were a number of formal steps that had to be taken before the amended Charter and Byelaws came into operation earlier this autumn. First an Extraordinary General Meeting had to be called in mid-June, which resulted in the Special Resolution to amend the Charter and Byelaws being carried by 96.2% representing just under 25% of the Corporate members eligible to vote. "This was an unusually high response for a membership organisation," says Graham Hockley. "It suggests that members hold their Institute in high regard, attach considerable importance to its activities, and agreed firmly with the steps we were proposing."

The IMarest approach to membership is not based on academic qualifications; it has to be a combination of academic and practical professional experience the exact mix varying from person to person. Membership demonstrates an appreciation and acknowledgement of the practical knowledge and experience of senior Merchant Navy officers, acquired after many years of managing technology, people, and complex business and regulatory relationships on board ships and other marine assets, often in unpredictable and hostile environments. The Institute also provides a valuable stepping stone of knowledge and professional development for those seeking to develop the next stage of their careers ashore, in another part of the industry, or in different industries.

Further information on IMarEST, the benefits of membership and on the Institute's work for, and on behalf of, members is available from www.imarest.org and from Tim Simms at the Institute at 80 Coleman Street, London EC2R 5BJ, UK; Tel: +44 (0)20 7382 2600, Fax: +44 (0)20 7382 2670, info@imarest.org

2.h) C6 MULTI-SENSOR PLATFORM NOW HAS DIGITAL DATA OUTPUT

The submersible C6 Multi-Sensor Platform, introduced in 2006, integrates up to six field-interchangeable Cyclops-7 fluorometers and/or turbidity sensors. And now the C6 is available with digital data output for integration with third party platforms. The C-Soft Windows-based user interface allows for intuitive calibration, data logging, and data management. And the digital data output allows for easy integration with existing water monitoring systems such as CTDs, dataloggers, vessels of opportunity and buoys.

Deployable up to a depth of 600 meters, C6 booster cables allow RS232 communication at depths greater than 5 meters.

Customers who already own a C6 can download a free software upgrade from the Turner Designs website.

For more information please visit: <http://www.turnerdesigns.com>

2.i) INTERNET CONTROL OF ROV

Internet users can now reach under the sea to pilot a remotely operated vehicle (ROV) docked at an unmanned experimental laboratory based off Vancouver Island.

It means researchers worldwide can view video images direct from a Saab Seaeye Falcon ROV as it undertakes its designated tasks, along with a 3D image of the vehicle in operation.

Conceived by the Ocean Technology Laboratory team at the University of Victoria, the subsea hub platform is the first undersea laboratory with its own resident ROV. Real-time access over the Internet will allow researchers to monitor or conduct tests on equipment from anywhere in the world. This makes it a vital resource for external groups wanting to test products or conduct research.

The subsea laboratory – called an Ocean Technology Test Bed (OTTB) – is designed to exploit the potential of the Internet in accessing subsea research projects relating to the development of ocean technologies.

This can include research into acoustic tracking and communications, together with ROV and AUV development, and research into a whole range of new ocean technologies, both for science and offshore exploration in the oil and gas industry.

Linked to the VENUS Observatory Node in Patricia Bay off Vancouver Island, the OTTB consists of a recoverable platform with connection points for power and communication; a service buoy for raising and lowering the platform; and an integrated acoustic system (IAS) for wireless communication and 3D tracking.

In choosing a vehicle rugged enough to live and work reliably under the sea for long periods, the University opted for the Falcon ROV for its advanced communications and control architecture that allows fingertip manoeuvrability, and its ability to hold steady whilst undertaking delicate tasks in strong cross currents.

The Falcon will also be used in service support of the facility including routine maintenance, re-positioning of instruments and assistance during deployments. The OTTB is located in 100m of water and has an operating area that spans 2.5 square kilometres, within which the IAS provides precision 3D tracking via a number of cabled acoustic monitoring satellites.

The OTTB was designed and built by a team at the Ocean Technology Laboratory. This group develops undersea technology including underwater structural design, autonomous underwater vehicles and underwater acoustics.

For more information visit Saab Seaeye Ltd. www.seaeye.com

2.j) BOWTECH SIGN EXCLUSIVE AGREEMENT WITH CONCEPT CABLES

Bowtech Products have further expanded their product range, signing an exclusive Scottish distribution agreement with Concept Cables.

This brings further manufacturing capacity to compliment Bowtech's underwater cameras, lamps and electrical connectors.

Concept Cables Limited is an independent insulated wire and cable manufacturer. With extensive experience in the subsea cable industry, their committed teams of professionals provide cabling solutions from the standard range of equipment wires and multicores, through to high performance insulating and jacketing materials together with a proven manufacturing capability for bespoke underwater cables.

Whether the application requires non-standard core configurations, improved flexibility, or the ability to perform in harsh environments, Bowtech and Concept Cables offer a full design service, through prototyping to completed manufacture.

Be it ROV umbilical's, low density jackets for buoyant and neutrally-buoyant tethers, cables for subsea cameras, lights, underwater control or instrumentation – Bowtech can take you from conception to all your underwater cable connections and beyond....

For more information, please contact: Mike Winstanley on Tel: +44 (0)1224 772345 or Email: bowtech@bowtech.co.uk. www.bowtech.co.uk

2.k) NEW VERIPOS DP SOFTWARE PACKAGE

Veripos, has introduced Verify DPx, an advanced status monitoring and display software package specifically designed for dynamic positioning applications.

The package operates in conjunction with Veripos LD3 integrated mobile units and is available as standard within a compact 15-inch touch screen panel PC. It can also be supplied to run on customers' own hardware.

The system provides optimum levels of quality control supported by comprehensive high-resolution graphic displays via simplified touch screen controls. Screen displays in turn provide continuous QC information using Veripos' traffic light system which enables users to monitor positional and system performance status continuously. A key feature also is a 12-hour satellite prediction tool that is updated every 5 minutes which can be used for planning when critical vessel operations are undertaken using satellite positioning.

Other main features include a continuous 48-hour historical logging facility for automatic retention of position provided to DP systems as well as raw satellite observations and received service data. Information can be analysed using a complementary Verify QC package providing a detailed account of vessel station-keeping and satellite service availability within the 48 hour period.

Over 20 Verify DPx packages have already been commissioned by users worldwide. They include Rolls-Royce Marine in Norway, Zamil Offshore in Saudi Arabia and Cotemar in Mexico.

Further details are available from Veripos at Prospect Road, Arnhall Industrial Park, Westhill, Aberdeen AB32 6FE, UK Tel: +44 1224 526000 Fax: +44 1224 527000 Web: www.veripos.com

3. EVENT, TRAINING & DEMONSTRATION NEWS

3.a) WINCH COURSES INCREASE SAFETY AND CAN EXTEND WORKING LIFE

Increasing focus on safety and training from major customers has prompted MacArtney to design and introduce a range of winch operation and maintenance courses. The courses are designed for operators and supervisors, and not only do they increase understanding and safety in working with winches, they also have the added bonus of helping to extend the working life of winches.

Training ensures safe, responsible winch operation. Winches used offshore and on vessels are often large, heavy pieces of machinery, and like all other large moving machines need to be operated properly and safely. As winches become more advanced and have more complex functions, knowing how to use them correctly becomes increasingly important.

In response to increased customer focus on safety and correct use, MacArtney has introduced a range of winch training courses. They are designed to ensure that supervisors and operators have a complete understanding of how the winch functions and how to operate it safely and responsibly.

Two types of courses have been developed; a supervisor course that lasts 3 days and a one-day operator course. Both courses combine theory and practical elements, and this "hands-on" approach can include the customer's own winch system on their site, or can be conducted at the production site.

MacArtney has run eight winch courses since the scheme started in the summer of 2008 and has many more planned for 2009.

For more information, please contact Erling Christensen on +45 76 13 2000 or ec@macartney.com.