

# IFHS NEWS

No. 001 — 01/14

## Anchor penetration tests in the German Bight

"How deep does an anchor penetrate the seafloor?" This question has been examined by a team of scientists and technicians in Germany. The motivation for this large-scale fieldwork was the use of sea cables for shore connections to offshore wind farms in the German Bight.

The current regulations prescribe a burial depth of 3m when sea cables cross shipping channels. The reason for this increase is to guard against the risk factors arising from anchor manoeuvres in emergency and disaster situations. Conversely, implementing a burial depth of 3m is technically very ambitious as well as being very cost-intensive.

The approving authority (Waterways and Shipping Administration of the Federal Government, GDWS) and the transmission system operator Tennet Offshore GmbH have therefore embarked upon these investigations in order to determine the real penetration depths of anchors into the seafloor. The results of the tests will potentially support and substantiate the enhancement of the regulations for the burial depth of sea cables in shipping channels. Alongside Tennet, the Federal Maritime and Hydrographic Agency (BSH), the Dutch research institute Deltares and the Federal Waterways Engineering and Research Institute (BAW) have been involved in the fieldwork, documentation and scientific evaluation of the results.

During the tests on three test sites in the German Bight one 8.5t HHP AC14 and one 11.5t Hall type anchor were dropped and dragged in a series of 18 trials following a precisely specified procedure. These anchors are considered to be representative of a container vessel of 294m in length and 80,000DWT. The anchor handling was conducted by the multirole offshore vessel Esvagt Connector with a maximum bollard pull of 107t. The behaviour of each anchor, especially the impact on the seafloor and the maximum penetration depth were documented and scrutinised before, during and after the anchor trials by two survey vessels. Different hydroacoustic methods such as sediment echo sounder (SES), sonar systems (MBES, SSS), video documentation and the measurement of pressure and pulling forces were employed.

The video documentation and sonar surveys were used to study the anchors' behaviour and to identify the anchors' track. But these methods are not suitable to detect the depth of influence because they are not able to penetrate the seafloor. The penetration depth of the anchors has been checked by high-resolution sediment echo-sounder surveys across the anchor tracks. The upper layers of the seabed sediments are influenced by the anchors' drag and will show a shift in the acoustic impedance level, which can be detected by a sediment echo sounder. The depth where this transition was found was compared to the depth level of the original (undisturbed) seabed. For all anchor tests a maximum depth of influence of not more than 1m was reported, accounting for all potential errors.

The results have been reported to the approving authorities and a re-evaluation of the present regulations is in progress.

### Read the full article

by Christian Maushake (in German and English)

Hydrographische Nachrichten, No. 96 (October 2013)

Proceedings of the 6th Workshop 'Seabed Acoustics', 14-15 November 2013

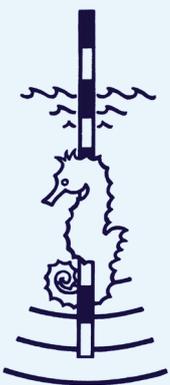
## Welcome

It is with much joy and anticipation that we, the International Federation of Hydrographic Societies (IFHS), celebrate the launch of our new biannual *IFHS News* reporting on advances in modern hydrography. On behalf of the Editorial Team, I would also like to extend a very warm welcome to the readership of *IFHS News*.

Today's world of maritime trade and transport is evolving quickly. Hydrographers are challenged daily to deviate from their beaten tracks and find innovative solutions for tomorrow's shipping and navigation needs, in offshore exploration and production, environmental monitoring and fisheries patrol, and many other applications. Therefore, the need for information about market trends, applications and technologies is growing exponentially. Finding the right information at the right time in the right place is key to success. IFHS is a unique partnership of learned national and regional hydrographic societies that, through our growing worldwide membership, is able to address every specialism within the hydrographic profession and related disciplines, at all levels of experience and expertise. IFHS is recognised throughout the world for promoting the development of hydrography and hydrographic learning by providing unrivalled opportunities for the exchange of ideas and practices.

Side-by-side with our well-known Hydro conference series, *IFHS News* will enable the hydrographic community to keep the pace with worldwide trends and developments and will help to foster truly global visibility and recognition of hydrography.

by Holger Klindt, IFHS Chairman



International Federation of Hydrographic Societies

serving the interests of the world hydrographic surveying community

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ABSTRACT

## Requirement for hydrographic surveying and nautical charting for Small Island Developing States within the South West Pacific region



Ever since waterways and seas became the primary mode of movement of trade and people between nations, the development and practice of hydrographic surveying has been vital to national development and the global economy. The provision of hydrographic data is essential for the proper management of the marine environment and achieving a strong economy within Small Island Developing States (SIDS). Hydrographic services provided are often overlooked in spite of, and because of, their fundamental importance. Whilst marine researchers often use the hydrographic products, the services and products are often overlooked and marginalised because of a lack of understanding of what they can provide. Strong hydrographic services are vital to SIDS for the facilitation of national trade, economic growth, defence and national wellbeing. These States depend on the marine environment for their economic survival with regard to exploration of marine resources, whether these resources are fisheries, minerals or tourism. The nature of hydrographic services, and the products they can provide, are so fundamental to environmental protection that they are often overlooked as a source of foundation or base line data on which to base marine management policies and action.

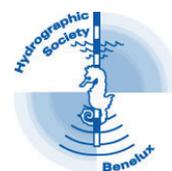
### Read the full article

by John Maschke

Proceedings of FIG Pacific Small Island Developing States Symposium, 18-20 September 2013

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ABSTRACT

## Improving monopile installations with Fugro's InclinoCam



The offshore wind market is developing rapidly. With more wind farms being established and ever-larger wind turbines being built there is an increasing requirement for verticality and thereby for accurate, efficient and safe verticality monitoring.

The need to measure verticality of wind turbines starts with the foundations. Most offshore wind turbines are sited on monopiles, typically measuring 70m in length, 6.5m in diameter and weighting 850 tonnes. These monopiles are driven into the seafloor using a hydraulic hammer – a process which can take several hours – with verticality as a key requirement. Previously inclinations of 1° were tolerated but, with the increasing size and development technology, 0.25° is now generally accepted as the maximum inclination tolerance.

Traditionally the verticality – or inclination – has been measured using handheld inclinometers. Owing to the irregularity of the outside pile surface, manual inclination measurements do not always result in an accurate representation of the inclination of the entire pile and may necessitate additional measurements to reach the required accuracy. This can result in delays in piling operations because the hammering must be stopped to take the measurements which must then be processed before being supplied to the crane and hammer operators. Furthermore, manual inclination monitoring has clear HSE disadvantages.

These disadvantages can be eliminated with Fugro's InclinoCam, an innovative inclination monitoring system that has already proved its value in practice. The system enables continuous real-time verticality monitoring without delays and without the need for personnel on deck. The system is based on intelligent visual object recognition combined with vessel motion compensation. Two high-resolution cameras are placed at an angle, pointing towards the monopile, thus measuring the inclination in two directions. To compensate for vessel movement the cameras are connected to Inertial Motion Units (IMUs). The camera images and IMU data are synchronised using the company's StarPort technology. All information is received in Fugro's comprehensive Starfix. NG navigation suite and the results are visualised on screen with a simple and intuitive user interface. With InclinoCam the hammer operator has access to crucial continuous real-time information on the inclination enabling immediate correction of any deviation in verticality. This is essential, especially during the first phase of hammering, in order to keep within the required verticality tolerance.

### For further information about this presentation

by Berend Potjer

HSB workshop, September 2013

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ABSTRACT

## e-Navigation: A user's perspective



Shipping is a business. Safe and efficient shipping is good business, a fact that ships' officers and ship owners are keenly aware of. Looking at accident investigations it is very often seen that the ultimate cause is attributed to human error but rarely, if ever, has an investigation into the underlying issues been undertaken; e.g. could the overall workload on the bridge in a given situation be a contributing factor to an erroneous decision? The paper explores the pros and cons of e-Navigation as seen from the user's perspective based on real-life examples.

Much of the information that is exchanged between ships and shore is already available in a digital format and is frequently also submitted digitally. However, in many cases the same information is re-communicated by various means, increasing the workload and the risk of misunderstandings. Information overload is certainly detrimental to the safety of navigation.

This paper explores readily achievable options and highlights concerns regarding additional new information exchange requirements introduced just because they are technically possible, rather than focusing on simplifying or reducing the requirements.

Issues such as the consequences for the bridge team workload of increased traffic control measures from the shore, liability in this context, as well as the need for a user-driven process to ensure the benefits of e-Navigation are discussed. Comparisons with past experiences of the implementation of new equipment are made, highlighting where enhancements to the development and implementation process may be possible. The differences between the navigating navigator and the monitoring navigator are debated and thoughts on the possible consequences of moving towards the monitoring navigator reviewed.

### Read the full article

by Ole Berg, Aron Sørensen and Morten Glamsø

Special Publication No. 60, Proceedings of Digital Hydrography on the Maritime Web, 29–30 October 2013

500  
WORDS  
ABSTRACT

## Costa Concordia: Removal of the wreck

The sinking of the MS *Costa Concordia* just off the coast of the Italian island of Giglio in January 2012 was an event of such spectacular tragedy that it captured the attention of the world. The operations to right and remove the wreck of the stricken vessel have, therefore, been of particular interest to both the public and, more particularly, those involved in salvage, marine engineering and shipbuilding.

Recognising the ongoing fascination with the salvage operation, the Eastern Sicily Section of ATENA (Italian Association of Naval Technology), in conjunction with the Officers' Club of the Italian Navy in Augusta organised a technical presentation on the subject on 18 June this year.

The meeting, which was held at the headquarters of the Officers' Club in the district of Vandone, Augusta, was sponsored by the College of Industrial Technicians and Graduate Industrial Technicians of the province of Syracuse, Assoportò Augusta (not-for-profit association of companies and port operators in Augusta) and IHS (Italian Hydrographic Society).

Following the welcome to delegates and opening remarks from Aldo Monaca (Chairman of the Eastern Sicilian Section of ATENA and also Chairman of IHS) and an introduction by Admiral Giuseppe Abbamonte (Director of the Italian Naval Base of Augusta and also Chairman of the host Club), the distinguished principal speaker, Chief Inspector Admiral Stefano Tortora, addressed the audience.

Adm Tortora has a deep understanding of all the issues pertaining to the wreck of the *Costa Concordia* and its removal. Indeed, the Italian Civil Protection Department has appointed him a member of the monitoring body overseeing the removal of the vessel.

The speaker gave an extremely comprehensive presentation, ranging from the tender to the current status of the work, focusing on the various stages of the project and complex activity involved in 'refloating' the vessel, whilst simultaneously complying with the best technological standards, minimising risk and inhibiting any environmental impact.

With the aid of abundant technical information and numerous illustrations, Adm Tortora outlined the operations already performed, and those anticipated in order to complete the project. These techniques are expected to be documented and long-remembered as being exceptionally innovative and unique within the history of naval architecture worldwide.

After exchanging their respective organisations' pennants, the chairmen of the Italian Navy Officers' Club and Eastern Sicilian Section of ATENA presented Adm Tortora with a commemorative plaque.

### Full article

by Gioia Indelicato

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ABSTRACT



## Validating the performance of a surface filter based on the CUBE algorithm for eliminating outliers in multibeam echo sounding



Multibeam echo sounders have shifted the methodology for hydrographic surveys. Since the introduction multibeam echo sounders, the volume of observed soundings has increased many hundreds of times. The increased soundings have resulted in an escalation in the cost, time and computing power needed to process the data. In particular, processing huge volumes of soundings has resulted in bottlenecks during hydrographic surveys, which in turn lead to increasing update cycles and associated costs for nautical charts. Improving the efficiency of processing the soundings will therefore shorten the entire update cycle and reduce the budget. Despite the development of various processing algorithms to handle outlier data, these have so far failed to achieve the same levels of discrimination and quality as attained by expert human processors. The validation process must be considered before including any automatic filtering process in the standard processing procedure.

The purpose of a study undertaken in Korea was to verify the filtering performance of the Combined Uncertainty and Bathymetric Estimator (CUBE), based on total propagated error and statistical estimation of MBES. Multibeam echo sounder data was collected onboard the R/V Badaro2 using a Kongsberg Maritime EM 3002, as part of the National Basic Maps of the Sea Project 2012, and processed using the CUBE model and discrimination methods employed during the fieldwork. To assess the data processed using CUBE, hydrographic experts from the Korea Oceanographic and Hydrographic Association also manually cleaned the same dataset. The comparison results from 24 datasets indicated a mean similarity of 95%, ranging from 90-99%. It was therefore concluded that the CUBE method does make optimal water depth determination simpler, providing reliable automation and efficiency, and can increase data processing efficiency by 30%.

### Read the full article

by Yosup Park, Seom Kyu Jung, Nam Do Jang, Jung Soo Kim and Jun Sik Lee  
Korean Journal of Hydrography, Vol II, No. 1 (March 2013)

500  
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ABSTRACT

## Ten ways to mess up your hydrographic survey

Let's take a look at some of the ways in which I, and others, have messed up hydrographic surveys:

- *By believing everything the salesman tells you*

There are two kinds of hydrographic surveyors: those who think they can survey ten times water depth and those who own and operate a multibeam system!

I'm sure there are those who will argue that in 5 feet of water, they can survey a 50-foot swath of the bottom. In my experience, there is too much noise and too much uncertainty to successfully collect data beyond 70° in 20+ feet of water.

For those of you who disagree, let's get together and do a performance test. It shows the 95% confidence in your ability to repeat depth measurements at different beam angles.

Oh, and stop saying "our multibeam system meets IHO specs". There are no specific IHO specifications regarding multibeam systems. There are IHO specifications with regards to the overall quality of your survey system results. The best multibeam in the world combined with a poor MRU is not going to meet IHO specs.

- *By misunderstanding datum transformations*

I'm amazed at the number of 'hydrographers' who don't have a clue what a datum transformation is about. I see them either ignoring datum transformations when they need one or setting one up when they don't need one. I see them using a 3-parameter transformation they found in a book for a particular county that is 1,000 miles across and then wondering why their positions are 6m off.

Spend a little time reading up on the subject. *Geodesy for the Layman* is a simple, decent explanation of geodetic terms and basics. It's available free online. Give your crew coordinates in NAD-83 (GRS-80) and NAD-27 (Clarke 1866) and have them compute the datum transformation. Send your crew outside with the dGPS, give them an x-y coordinate in NAD-27 and make them demonstrate they know how to set up the equipment to get the correct value.

- *By moving your data to make it look nice*

I sometimes see client's final products that look absolutely beautiful. Every sounding spaced like a band member in a Rose Bowl parade. That tells me that they either snapped their soundings to the planned line, or plotted a gridded data set obtained from a surface model. I won't object to plotting a nice-looking data set obtained by gridding a surface model, but I get upset when people snap their data to the survey line, just to make it look nice and uniform. It looks nice, but it's not where you surveyed that depth. Heaven help you if there is a volume dispute and you have to defend your product. The first thing a smart guy will ask you is "... and are these the exact locations of these soundings? No? Then I guess we better use my client's data set."



500  
WORDS  
ABSTRACT

### Read the full article

by Pat Sanders  
eSeahorse, Vol. 1, Issue 2 (Fall 2013)

# Civil Hydrography Programme

## A Contractor's Experience by Fugro EMU

According to the International Convention for the Safety of Life at Sea (SOLAS) mandate, all maritime nations have a responsibility to carry out appropriate hydrographic surveys and to produce suitable charts in order to guarantee the safe navigation of all shipping within their territorial waters. As an island nation with a significant percentage of international trade travelling to the British Isles by sea, maritime safety within UK coastal waters is of particular significance as it is not only vital for saving lives but also crucial to the sustainability of the national economy.

As a signatory of SOLAS, the UK is required to provide current and safe nautical charts to ensure maritime safety. Within the UK, the national authority responsible for implementing maritime safety policy is the Maritime and Coastguard Agency (MCA), an executive agency of the Department for Transport. One way in which the MCA works to improve maritime safety, prevent the loss of life and protect the marine environment is through delivery of the UK Civil Hydrography Programme (CHP).

The CHP is a multi-million pound Government initiative delivered in association with the UK Hydrographic Office (UKHO), which aims to survey the waters surrounding the UK to International Hydrographic Organization (IHO) Order 1a standards for the primary purpose of updating nautical charts and publications, thus fulfilling critically important SOLAS obligations and ensuring vital trade routes are kept safe for shipping. These surveys are typically carried out by contractors offering turnkey solutions. Fugro EMU is just one of two commercial service providers currently engaged on CHP operations.

Within an industry becoming so diverse in its professional requirements, the field of hydrography has evolved into a profession that requires far more than simply measuring seabed depths and the subsequent plotting of soundings onto nautical charts. However, amidst an industry where a hydrographer can be expected to position an ROV on a seabed gas manifold 1500 metres below the sea surface, or guide an offshore platform into position over an oil well in the North Sea, the CHP allows a return to the grass roots of hydrography. Ensuring that accurate soundings are obtained within the correct horizontal reference frame and that those soundings are reduced to the correct vertical datum are the fundamental skills and knowledge required from a hydrographer, and are the precise skills required for working on the CHP.

From the initial establishment of the horizontal and vertical control through the installation and calibration of the multiple sensors on the survey vessel, to the acquisition of the data and final submission of the fully processed and reduced sounding data to the UKHO, the surveyor can feel an overwhelming sense of achievement that data collected will allow the production of updated nautical charts which highlight known maritime dangers and provide the mariner with the essential information required to undertake safe sea passages. The importance of the hydrographer working within the CHP is firmly underpinned by the fact that from the time a chart is compiled, through its production stage, storage, issue and use up to the point where it is either discarded or marked 'Not for navigation', the chart must be corrected and maintained by the user with accurate sounding data which can only be supplied by the hydrographer.

### Read the full article

by Brian Gamet

Soundings, Issue 59 (February 2013)



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## About IFHS and IFHS News

The International Federation of Hydrographic Societies (IFHS) is a unique partnership of learned national and regional hydrographic societies that, through its worldwide membership, is able to address every specialism within the hydrographic profession and related disciplines, at all levels of experience and expertise. It has considerable international influence, and is respected by hydrographic professionals and organisations at governmental and intergovernmental level. IFHS is recognised throughout the world for promoting the development of hydrography and hydrographic learning by providing unrivalled opportunities for the exchange of ideas and practices.

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## Australasia

### Small Island Developing States Symposium

In September, the International Federation of Surveyors (FIG), partnered by the UN Food and Agriculture Organization (FAO), the Fiji Institute of Surveyors (FIS) (a member association of FIG), the University of South Pacific (USP) and the Fiji Ministry of Lands and Mineral Resources (MLMR) held a regional Small Island Developing States Symposium addressing the challenges faced by small Island developing states (SIDS) within the South West Pacific (SWP) region, Suva Fiji. Also supporting the symposium were the United Nations Global Geospatial Information Management (UN-GGIM), the United Nations Regional Committee on Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP), United Nations Human Settlement Program (UN-Habitat) and Global Land Tool Network (GLTN). The symposium themes were: improved governance of tenure of land, fisheries and forests; geospatial information management; and secure land and property rights for all. Cross-cutting themes included capacity development, professional development and climate change. The overall goal was to deliver professional knowledge, engage professionals and stakeholders and contribute towards in-region information dissemination and capacity development, achieved via some interesting papers ([www.fig.net/fiji](http://www.fig.net/fiji)). While most of the symposium was dedicated to the maritime environment – by virtue of considering ‘small island developing states’ – it seems that ‘The Blue Economy’ has a way to go before such a simple concept, with such wide-ranging impact on SIDS, is understood by those who must have their own jargon and acronyms to describe their worlds.

## Benelux

### World Hydrography Day 2013 in Scheveningen

The Hydrographic Society Benelux (HSB) celebrated World Hydrography Day 2013 (WHD) with a special workshop devoted to the International Hydrographic Organization’s WHD theme for this year: “Hydrography – underpinning the Blue Economy”.

The workshop took place in the fish auction house in Scheveningen, the port of The Hague, where the fishing industry is the principal port user. By coincidence, two of Jaczon BV’s large deepsea trawlers (over 110m in length, 6,000gt) were berthed in the port for maintenance on the day. The company gladly offered delegates the opportunity to visit their ships and hear a detailed explanation, from the skippers, of their use of oceanographic parameters and sonar equipment in pelagic fishing operations. An interesting subject for hydrographers. . . water column imaging. Rijkswaterstaat’s survey vessel Zirfea was also conveniently berthed enabling the participants to visit this ship too.

During the workshop presentations were given on topics including:

- OpenEarth Data: a community approach for managing and visualising dynamic coastal bathymetry data
- Zandmotor (Sand Engine): Pilot project for coastal defence using nature
- Military Hydrography: rapid environmental assessment and capacity building
- Netherlands Hydrographic Institute (NHI)

Following this interesting selection of presentations, and in keeping with the fishing port venue, delegates were offered traditional Dutch refreshments in the form of herring and Jenever to kick-start the networking session.

## Denmark

### Transitional phase

The Hydrographic Society Denmark (Hydrografisk Selskab Danmark, HSD) is currently in a period of transition with many of its long-standing incumbent officers and/or board members having recently decided that the time has come to hand-over responsibility to younger members with fresh ideas and enthusiasm.

For further information about HSD and its activities visit the Society’s website at [www.hydrosoc.dk](http://www.hydrosoc.dk).

## Germany

### 30 years DHyG

For 30 years the German Hydrographic Society (DHyG) has been supporting the interests of hydrographers in Germany. DHyG has been promoting practical and scientific hydrography as well as the national and international cooperation since 1984. Today the society offers a forum for discussions and exchange of ideas. Each year DHyG organises a conference known as “Hydrographentag”. Furthermore, the society also publishes “Hydrographische Nachrichten” the only journal of hydrography and geoinformation in the German language.

### Hydrographentag 2014 in Lübeck

The 28th Hydrographentag will take place in Lübeck from 2nd to 4th June 2014. The three-day conference and trade exhibition offers manufacturers and service providers the opportunity to present their products. A wide spectrum of hydrography related topics will await visitors. Presentations can still be submitted until February 28th. Further information: [www.dhyg.de](http://www.dhyg.de).

### DHyG Student Excellence Award

In 2014 the DHyG Student Excellence Award will be presented for the first time. The Award honours students for outstanding achievements in any field of hydrography. The winner of the DHyG Student Excellence Award will be put forward to the contest for the international IFHS Student Award. Information about participation conditions: [www.dhyg.de](http://www.dhyg.de).

## Italy

### The seventh member of IFHS

After almost two years as an Associate Member of the organisation, the Italian Hydrographic Society (IHS) was unanimously elected the seventh full Member of the International Federation of Hydrographic Societies (IFHS) in February last year.

Founded in July 2010 and based in Catania, Sicily, the IHS is a non-profit enterprise representing leading hydrographic surveying individuals and organisations throughout Italy.

Speaking about his society's membership of IFHS, IHS President Aldo Monaca commented: "It is a real honour for the Italian Hydrographic Society to be a member of the Federation and we look forward to pursuing common objectives together with the other member societies. I would like to thank all the people who have played an active part in getting the Italian Hydrographic Society to this point, without their help and support we could not have achieved this."

IHS was able to describe itself as the newest member of IFHS for just eight months before passing that moniker on to the Hydrographic Society of Korea (HySK) in October.

## South Africa

### The German offshore wind industry and applications of hydrographic surveying

During 2013 Dave Sinclair of Southern GeoServices gave a presentation to members of the HSSA about the growing offshore wind energy industry and also provided some examples of how hydrographic data is used in the planning, construction and asset management of offshore wind farms (OWF).

Germany is the sixth largest power consumer in the world and already has about 20% of its power generated from renewable energy sources. Another significant contributor to the German power generation industry has been nuclear energy, but following the accident at the Fukushima Daiichi nuclear plant in Japan, the German federal government made the decision in May 2012 to decommission all nuclear power generation. This reduction in nuclear generation, along with a commitment to ambitious plans to increase the contribution made by renewable energy, has firmly placed the spotlight on OWF as a method of bridging this gap.

German offshore wind energy faces some unique challenges in bringing power ashore along the German Bight with its strong tidal currents and sediment movement. Hydrography is used not just as a tool for water depth measurements, but also derivative data sets – slopes and backscatter information are used to both plan routes whilst avoiding sensitive marine habitats. During construction repeat hydrographic surveys enable scour and cable free-spanning to be identified and plans to be put in place to mitigate these problems. The same technology used by multibeam echo sounders has been used to assist in the identification of submerged, unexploded ordnance which continues to pose a hazard to marine operations some 70 years after the end of World War II.

## Korea

### MoU signed between Australasian and Korean societies

During the Australian Hydrographic Society's (AHS) meeting at Doltone House, Pyrmont, Sydney in August last year, a historic memorandum of understanding (MoU) between AHS and the Hydrographic Society of Korea (HySK) was signed by the societies' respective Presidents/Chairmen Alec Millett and Dr Dae Choul Kim.

The document, signifying the first such international MoU entered into by the Australasian society, outlines areas of future cooperation between the two organisations. The MoU is also timely in terms of shared interests, particularly in relation to boundary delimitation.

During the meeting HySK delegation member Dr Hyun Soo Kim gave a presentation on 'Principles and relevant circumstances in maritime boundaries' which covered several contentious Korean maritime boundary issues.

The topic was very relevant to ongoing Australasian boundary issues; however the consequences of the disputes discussed by the Korean guest speaker are more significant, involving his country's current and future national security. Dr Hyun Soo Kim emphasised the need for cooperation between all parties in these situations, with the hydrographic community playing an important role; this MoU is one aspect of that cooperation.

National maritime boundary delimitation issues are becoming increasingly significant within the Asian maritime countries. It is hoped the MoU can form the basis of mutual understanding and cooperation between the Australasian and Korean hydrographic communities, which can be built upon in the future.

## United Kingdom

### Dalrymple Award presented to William Heaps

William Heaps, Assistant Marine Advisor and Hydrographic Manager of the UK's leading port group, Associated British Ports (ABP) – and a Director of both THS UK and IFHS – was recently presented with the United Kingdom Hydrographic Office's (UKHO) Alexander Dalrymple Award at a ceremony in Southampton. This prestigious award, dedicated to the man who founded the hydrographic office in 1795, recognises outstanding commitment and contribution to world hydrography.

William was honoured for his exceptional dedication to hydrography over a long career with ABP, initially as Port Surveyor and more recently as Hydrographic Manager for the twenty-two ports and harbours within the ABP Group. As a specialist in Port Marine Safety, he also provides guidance to Harbour Masters within the Group.

The award also acknowledged many areas of William's past and present active roles within THS UK and IFHS – both of which he has previously chaired. William's devotion to making these organisations effective and inclusive has, in addition to other things, involved his contributions to numerous seminars and conferences within the hydrographic community.

Presenting the award UKHO Chief Executive Ian Moncrieff commented: "William is hugely respected and recognised. He has selflessly devoted much of his time outside of core work towards raising awareness and importance of hydrography, as well as furthering CPD for those working in this sector."

Speaking about his achievement, William Heaps noted: "I am both delighted and surprised to receive this award as it recognises civil hydrography and its essential role in contributing to the 'Blue Economy'."

## Digital Hydrography on the Maritime Web

### A two-day THS UK-IFHS-IHO conference in Southampton

The annual habit of the International Federation of Hydrographic Societies (IFHS) to organise a multi-day event, this year took a somewhat less extravagant shape than the usual Hydro conferences. Last year we had Hydro12 in Rotterdam, next year we will have Hydro14 in Aberdeen. This year's gathering took place in Southampton, on 29th and 30th October.

The Hydrographic Society UK stepped in to fill the gap between years with this smaller version, in association with the IFHS and the International Hydrographic Organization (IHO). Smaller, not necessarily less stimulating. The number of delegates was around 65, among whom many with leading positions in government and industry. Although the conference objective was not to take any decisions on future developments, the conference format allowed a most interesting exchange of views.

The event in the Southampton Solent University Conference Centre was sponsored by ESRI as Principal Sponsor, and also by Caris, ITIC and QPS. The Exhibition in the refreshment room also provided space for Autonomous Surface Vehicles, OceanWise and TeamSurv to show their wares alongside those of the four sponsors. At the end of Day One a Drinks Reception was arranged, sponsored by ITIC and QPS.

The conference was divided in four Sessions, each consisting of a keynote speech, two or three lectures and a one hour Stakeholder Forum discussion, inviting views from anyone present. The main conference theme was divided into four sub-themes: The User's Perspective, Products – Quality & Presentation, Survey Innovation and Training for All.

### The User's Perspective

The keynote speech was a 'View from the bridge' by Capt Harry Gale, Technical Manager of the Nautical Institute. Next Ole Berg addressed e-Navigation, the transition from the navigating navigator to the monitoring navigator. The lecture from Capt David Wheal was entitled 'the question facing us is not how much work the human can do safely, but how little'. One of the main items of the subsequent discussion was how to make good use of the zones of confidence categorisation (CATZOC). Or should we perhaps not give the CATZOC principle much emphasis but use the navigation surface instead?

### Products – Quality & Presentation

A playful but interesting distinction made by Rear Adm Nick Lambert in his keynote speech 'The user's faith in technology' was between digital immigrants, born before 1990, and the youngsters of today as digital natives. The lectures in the session provided technical details, for example how to achieve really quick ENC updates with frequent survey data in highly dynamic estu-

aries like the Humber. During the panel discussion various examples were given, whereby participants highlighted still-existing misunderstandings and false perceptions of existing chart products and systems. Here, concerns were shared that future users might lack appropriate basic training and operational knowledge and might therefore put themselves and their ships at risk when using highly complex and demanding ECDIS systems.

### Survey Innovation

The limitations and future developments of satellite multispectral imagery were discussed along with the possibility to develop bathymetric applications based on other satellite techniques, such as SAR. A framework for data quality assessment and usefulness of crowdsourcing was discussed and further clarifications were sought. The panel was also questioned on their views about the likelihood of alternatives other than acoustic or laser techniques emerging in the future. The need to 'educate', rather than 'train', future surveyors, so that they can adapt and foster innovation, was stressed.

### Training for All

The keynote speaker Nicholas Seube was head of the leading French civil hydrography education at ENSTA in Brest and the newly elected chair of the International Board on the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. The standards provide a useful framework for the education of surveyors operating internationally. The other speakers in the session were Capt Zakirul Bhuiyan with a critical view on ECDIS display management and Dr Richard Thain inviting a scheme of individual rather than institutional recognition. All participants in the ensuing panel discussion agreed that proper and extensive basic training of elementary navigation skills will remain as a top prerequisite, no matter how 'clever' modern navigation systems might become. Furthermore the need for participation in an extensive generic ECDIS course was deemed necessary. The organisers of the mini-Hydro event were praised for the effective and efficient arrangements, as demonstrated, for example, by the very well laid-out Delegate Handbook & Proceedings, Special Publication 60.

Copies of the Proceedings are available to purchase priced at £35 (including postage within the UK; price on application for overseas delivery). For further information or to place an order please contact [helen@hydrographicsociety.org](mailto:helen@hydrographicsociety.org).

The keynote and paper presentations from the conference will be made available at [www.hydroconferences.org](http://www.hydroconferences.org) in March 2014.

## IFHS Student Awards

IFHS recently launched two annual student awards linked to the Hydro conference series.

Each member society may nominate one candidate for the **IFHS Student Award**. The successful student will get to present a paper at a Hydro conference and receive both a cash prize and help with travel and subsistence costs. A second cash prize will be awarded for the **Best Presentation** during the dedicated Student Presentations session at Hydro.

The inaugural presentations of both awards will be made during Hydro14 in Aberdeen. For details see [www.hydrographicsociety.org](http://www.hydrographicsociety.org).

## Hydro14 in Aberdeen

Hydro14 will take place at the Aberdeen Exhibition and Conference Centre (AECC) from 28-30th October 2014. In recognition of Aberdeen's status as the oil capital of Europe, the conference will take '**Energy & Enterprise**' as its theme.

Further details including sponsorship and exhibition opportunities and the call for abstracts will be published shortly at [www.hydro14.org.uk](http://www.hydro14.org.uk).