

MAKING Waves

INFORMATION AND INSIGHT FOR THE OFFSHORE MARINE CONSTRUCTION SECTOR

ISSUE 71 | JUNE 2014

Rising to the ROV challenge

How our initiatives are making a difference

Image: DeepOcean Group

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Strength in Depth

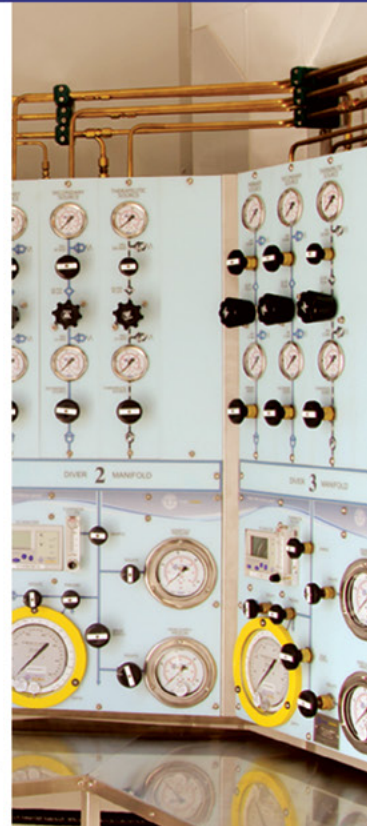
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Welcome to the new look Making Waves

From the President

We've made some changes and have a fresh new editorial style and approach. In addition to the stories about what's going on at IMCA, you'll find this issue is packed with features and opinion from the people that matter, on the topics that matter.

The changes are in line with the new objectives we have set ourselves, which will see us become more international, more inclusive, more relevant and more focused.

We've set our sights on tackling priority issues first. To this end, we've renewed our focus on the personnel shortages in the ROV sector, and our lead feature highlights initiatives taking place in Brazil, Canada and the UK to meet the growing world-wide demand for competent ROV pilots and technicians. Of course, the entire sector has this need, which is why IMCA continues to exploit opportunities, like those covered in this issue – for example, being centre stage at the careers day at Oceanology International, to educate and inspire students about opportunities and futures in the industry.

Elsewhere, work continues to increase our value to our members: we're talking to potential IMCA ambassadors in Central

& North America and Asia-Pacific regions; regional committees will be encouraged to develop locally, nominating potential recipients of charity awards; the concept of a suppliers' workgroup to represent, promote and manage the interests of IMCA supplier members is now being formally examined; and the new membership structure moves nearer.

Massimo Fontolan
IMCA President



Meet the team



Chris Charman
Chief Executive
chris.charman@imca-int.com



Jane Bugler
Technical Director
jane.bugler@imca-int.com



Chris Freer
Making Waves Editor
chris.freer@imca-int.com

Technical Team

Chris Baldwin
Technical Adviser

Emily Comyn
Technical Adviser – Regulatory Affairs

Genine da Cruz Harvey
Certification Schemes Co-ordinator

Neil Evans
Technical Adviser –
Competence & Training

Mark Ford
Technical Adviser – Marine

Ian Giddings
Technical Adviser – Marine

Meeta Gurtata
Certification Schemes Administrator

Nicholas Hough
Technical Adviser – Offshore Survey
and Safety, Environment & Legislation

Bryan McGlinchy
Technical Adviser – Diving

Peter Sieniewicz
Technical Adviser – Diving

Support Services Team

Kylie Griffiths
Operations Support Manager

Ann Barnatt
Document Production
Co-ordinator

Claudine Bleza
Events Co-ordinator

Jean Carmichael
Financial Administrator

Kayleigh Glasscock
Publications Sales
Co-ordinator

Gordon Kelly
Database Administrator
& Developer

Michelle Killington
Membership Co-ordinator

Parul Patel
Events Co-ordinator

Michelle Salway
Membership Administrator

Natasha Simmonds
Documents Administrator

Kayleigh Tucker
Accounts Assistant

Contact details for each of the IMCA team are available at:
www.imca-int.com/about-imca/imca-secretariat.aspx



52 Grosvenor Gardens,
London, SW1W 0AU
Tel: +44 (0)20 7824 5520
Fax: +44 (0)20 7824 5521
www.imca-int.com

Making Waves Editor:
chris.freer@imca-int.com
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Making Waves is published quarterly to promote knowledge of matters affecting the offshore, marine and underwater engineering industry. Ideas for articles of potential interest to a wide cross-section of our members are welcome.

The views expressed on these pages are those of their respective authors and do not necessarily reflect the policies or positions of IMCA itself. Send your contributions and ideas to chris.freer@imca-int.com

For details about advertising opportunities in Making Waves, please contact Paul Hopper at Ashridge Communications.
Tel: +44 (0)1442 870143 Email: ph1@ashridgecommunications.com

Vision & Strategy focus



“It is critical for us to focus first on the big issues.”

JANE BUGLER

Since unveiling our Vision & Strategy for the next five years, in Singapore in November, there has been plenty of hard work behind the scenes at IMCA. We've defined our objectives and the results are now being shared at our committee and regional meetings. So what does it mean for you?

Readers will recall that we redefined our core purpose to be 'Improving performance in the marine contracting industry' and that we set out a number of vision statements which described how we will achieve this (see box below).

We have now set some specific targets against these vision statements and the relevant committees have been tasked with meeting them. Here are a few highlights of the areas we're focusing on for our members' benefit:

- Identifying the critical issues for our industry over the next five years and discussing appropriate strategies to act upon them.

- Representing the interests and aspirations of all our membership, regardless of membership category or geographical location.
- Developing relationships at strategic, political and industry levels to influence the development of policy and legislation that will impact our industry and our members.

The Vision & Strategy documents are now available on the IMCA website for members to read and digest. You can find them by visiting: www.imca-int.com/about-imca/imca-objectives

IMCA's Vision & Strategy in brief

Core purpose:

- Improving performance in the marine contracting industry

Our core activities

(what we do):

- Championing better regulation
- Enhancing operational integrity

Our ways of working (how we do it):

- Engaging and developing our members and other core stakeholders
- Developing our people and organisation

Documents update

You'll find details below of all the recent publications we've been working on. These have been published since the previous issue of *Making Waves*. We've also given a short overview of the safety flashes and highlighted just a few of the important information notes. The full listing is available on our website by navigating to the relevant divisional page or by using the search function.

PUBLICATIONS

IMCA D 014 Rev. 2 – *IMCA international code of practice for offshore diving*

IMCA D 022 Rev. 1 – *Guidance for diving supervisors*

IMCA D 023 Rev. 1 – *DESIGN for surface orientated (air) diving systems*

IMCA D 053 – *DESIGN for the hyperbaric reception facility (HRF) forming part of a hyperbaric evacuation system (HES)*

IMCA S 006 Rev. 2 – *Inter-vessel survey data standard telemetry protocol*

SAFETY FLASHES

Since the last issue of *Making Waves*, IMCA has issued five safety flashes covering 27 incidents. These have included a number of reports of incidents involving small workboats in the offshore renewables sector. Other incidents include an air diving fatality and a fall from height in a confined space which led to another fatality. Dropped objects continue to be an issue for members, as are injuries caused by workers being “in the line of fire”.

INFORMATION NOTES

COMPETENCE & TRAINING:

IMCA C 03/14 – Dynamic Positioning Training Executive Group Minutes

DIVING: IMCA D 03/14 – Rope signals

REMOTE SYSTEMS & ROV:

IMCA R 02/14 – Election Results: Remote Systems & ROV Division Management Committee

All the latest documents from IMCA are available online at www.imca-int.com



Meet Chris

IMCA's technical expertise has been bolstered by the recent addition to the team of Technical Adviser Chris Baldwin, whose role will be focused in the Marine and Remote Systems & ROV Divisions. Chris has spent 29 years in the Royal Navy and most recently held a position in the UK MoD's Defence Safety and Environment Authority, as the Diving Regulator and Superintendent of Diving. You can see Chris' full profile along with each of the IMCA team's by visiting www.imca-int.com/about-imca/imca-secretariat.aspx

Meet the new IMCA Europe & Africa Section Vice-Chairman

As part of the continual evolution of our committees, which ensures they provide representation which is reflective of the current membership, we recently held an election for the post of IMCA Europe & Africa Vice-Chairman and are pleased to announce that Sergio Cappelletti of Drass Energy has been elected to the post.

We caught up with Sergio, shortly after he had given a presentation on competence and training at our Safety and Environment Seminar in Houston, to hear his thoughts about being elected. Sergio, who is very enthusiastic about his new role, began by emphasising that first of all, he is here to listen and to learn.

"If I am to be useful, I must understand the environment and the expectation of the people around me. I have my ideas, but before expressing them, of course, I want to hear the expectation of the others involved. As soon as I

have done this, I will try to give my contribution in a way which will be in line with rest of the organisation."

"First of all, I am here to listen and to learn."



Complete listings of the IMCA committees are available to members here: www.imca-int.com/membership/imca-members-only-area/imca-committees.aspx

Welcome to our new members

IMCA is pleased to welcome the following new members (from 12 February – 25 March 2014)

- **ALDA Marine SAS**
- **Ashford Instrumentation Ltd**
- **DCNS Far East**
- **Interocean Co. Ltd**
- **MIS Rocket International Ltd**
- **NCS Survey Ltd**
- **OMC – Offshore Marine Consulting**
- **Precise Consultants Limited**
- **ROCOL**
- **Unitex Holding BV**

Ashford Instrumentation Ltd

Providers of diving, marine and subsea instruments, Ashford work with large organisations such as IHC Hytech, Subsea 7 and Technip, to provide depth, pneumo, and caisson instrumentation on new vessel builds, upgrades, re-fits, finding innovative solutions for their clients.

Stuart Cross at Ashford tells us how they had to think on their feet on a recent project, with IHC Hytech. "After we had provided pneumo instrumentation for the dive panels, we realised that, due to the gauges being mounted on an angle away from 90° and the effect that gravity was having on the movement, they were producing some inaccuracies. We improvised by recalibrating the gauges to the correct angle they were to be used at and refitted them, thus providing a bespoke solution for the client's panel."

ROCOL

ROCOL® is a lubricants manufacturer based in Leeds. ROCOL have developed a product to meet new VGP regulations that mean that it is now a requirement to use Environmentally Acceptable Lubricants on vessels in US waters. BIOGEN WIRESHIELD® is a high performance, VGP compliant wire rope lubricant which provides maximum corrosion protection and limits environmental impact.

Precise Consultants Limited

Providers of talented freelancers with opportunities to excel in offshore roles worldwide, Precise Consultants' current clients include: Deep Ocean BV, NSEA, Neptune, Zupt, DOF (Norway) and Fugro. Peter Thompson at Precise Consultants, explains, "We have made a commitment to offering more than your typical agency service - we want our

candidates and clients to share the same pride we experience by working in the industry. Our way of showing this commitment is by offering Professional Indemnity as standard to all our freelance personnel and investing in industry-specific content showing the hard work and dedication that is evident in every role. The hydrographic industry is not widely understood due to its specialist nature, hence we recently published our "Working Together" series of illustrations to enable our contractors to bring relevance to their friends and families about life offshore."

You can find links to the websites of all our members, old and new, at www.imca-int.com/membership/membership-directory

IMCA inspires next generation



A delegate raises a question during one of the interactive conference sessions, which are an important part of Oceanology International

Image: courtesy of Trevor Smeaton Photographer, Oceanology International

“the students do see it as a future, they do see it as exciting and they do see it as something they want to get involved with – and that is heartening.”

PETER AYLOTT,
Chief Operating Officer,
C-MAR Group

IMCA kept its profile high on the final day of Oceanology International 2014 with an interactive morning conference session dedicated to the promotion of careers in the offshore sector. The morning offered students a 360 degree overview of the marine offshore engineering industries within the context of IMCA's four technical divisions.

IMCA Chief Executive Chris Charman kicked off the event, looking at IMCA's broadening membership and profile in the industry, before experts from the various disciplines took to the stage to inspire and educate the student audience about the tremendously diverse career prospects available to them.

Nick Hough, Technical Adviser for IMCA and Duncan Allen of Fugro Survey presented on a range of opportunities available to students in the Offshore Survey Division defining offshore survey as “the operation which needed to happen before anything else could take place”. They spoke of technological advances in the equipment being used in the discipline, development which is being mirrored by that of remote systems and remotely operated vehicles (ROVs). Richard Warburton from Maritime Training and Competence Solutions (MTCS) explained how these continuing advances with ROVs and robotics mean there are a greater than ever number of exciting opportunities for people wanting to enter the industry in the future.

Man and machine

The evolution of robotics will not, however, only affect those above sea-level surveying and flying the ROVs. Bryan McGlinchy, Technical Adviser from IMCA stressed that the areas of expertise that the students may be interested in, such as engineering, survey and robotics, needed to be achieved with the utmost quality in order that offshore commercial divers could undertake their work safely and with confidence in the equipment they were operating.

Inspiring Generation Y

Peter Aylott, Chief Operating Officer from the C-Mar Group gave an even wider perspective of the offshore career paths available. He reiterated to the audience that, although they may be graduates from a marine biology or surveying background, and naturally more interested in “what's on the back of the vessels that are operating”, that there are “a great deal of opportunities in roles for operators of the vessels as well as the activities that the vessels are delivering”.

After the event he said, “There is a huge industry out there, not just for divers, surveyors, ROV techs, engineers etc. There is also an industry out there for people operating the vessels and using some pretty hi-tech equipment, some of it NASA level technology. I was trying to explain to the students how that can be a rewarding career, not just as a chance to go to sea and operating and working these vessels, but later on in management, in operating fleets of vessels. It's real and it's exciting stuff.”

Peter stated his view that, although the event was a success, collectively we'll need to find new ways to excite the students of “Generation Y”, used to modern technology like high-resolution video games. He reflected, “It is an important event to do for us, and I think we should keep doing it – and I think we can do it even better in the future.”

IMCA would like to thank all those that took part in the session and we look forward to returning to Oceanology in 2016.

New initiatives revealed in C&T strategy

The Competence and Training (C&T) Core Committee has developed a four-point strategy to support the IMCA vision of improving competence, skills and knowledge. The C&T action plan is to:

- provide training frameworks and seminars both locally and internationally;
- facilitate secondments between member organisations and the IMCA secretariat;
- identify appropriate accreditation bodies

and provide guidance on the accreditation of course syllabi and

- review how IMCA delivers competence and training solutions to its members.

Company competence management system accreditation, secondments between the IMCA secretariat and members, tools to help address industry personnel and skills shortages and the potential development of e-learning solutions have been identified as areas to explore and

research further as development of the plan continues.

Gavin Smith of Subsea 7 and Chairman of the C&T Core Committee says the strategy and action plan are central to IMCA's vision and also required by the industry. “The actions we have agreed are designed to anticipate the future needs of the industry and ensure the demonstration of competence remains high on the industry's agenda.”

IMO update



Air emissions – a hot topic

Discussions on further measures to reduce air emissions from shipping continued at a meeting in April, and IMO has agreed to develop a global framework for the monitoring, reporting and verification of CO₂ emissions.

The details are still to be agreed, but the new system is likely to be similar to the scheme proposed by the EU last year. IMCA will again be encouraging governments to ensure that the system is straightforward and based on information that is already available on board. It will also be important to ensure that any

subsequent requirements to calculate a ship's energy efficiency are practicable for service vessels such as offshore support vessels whose energy usage cannot be calculated on the basis of traditional 'transport work' (fuel consumption or CO₂ emissions in relation to cargo carried).



Lifting appliance requirements

IMO continued to discuss requirements for on board lifting appliances at a meeting in February. The next steps will be to carry out further analysis of data from lifting appliance incidents and a review of possible gaps in existing guidelines and regulations. The scope of equipment to be covered is still unclear, but IMCA will continue to encourage IMO to focus on addressing the root cause of incidents, such as maintenance and operation, rather than trying to duplicate design and construction standards.

Leeway for security certificates

A number of flag states have been unable to issue the new STCW security certification by the 1 January 2014 deadline, so IMO has recommended that, until 1 July 2015, evidence of having completed relevant training in line with the ISPS Code should be accepted in lieu of the new STCW certificates for security awareness training and designated security training. However, this is guidance only, and companies are advised to check that the local port authority is intending to follow the IMO advice.

For more information on IMO issues, contact emily.comyn@imca-int.com

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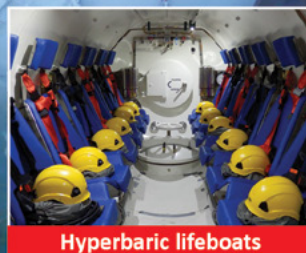
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RISING TO THE GLOBAL ROV CHALLENGE

This time it's personnel

Total ROV work-class operations expenditure is set to increase nearly 80% over the previous five-year period. This means that at least two thousand extra pilot technicians will be needed globally in the next three to five years. How can IMCA work with members to rise to the challenge?

Remotely operated vehicle (ROV) operations are expanding dramatically. Not only does the recently published 'World ROV Operations Market Forecast 2013-2017' from Douglas-Westwood predict total work-class ROV operations expenditure of \$9.7 billion for the five-year period 2013-2017, an increase of nearly 80% over the previous five-year period; but IMCA's membership and annual ROV statistics tell a similar tale.

Around a third (321) of IMCA's 973 member companies in more than 60 countries are members of the IMCA Remote Systems & ROV Division, compared to just 200 member companies a year ago.

Each year IMCA publishes ROV statistics, a snapshot of world-wide ROV activity on dates in February and August. The figures for 2012, released in July 2013, showed an increase of members' ROV-based construction, drill support and cable laying activities, with cable laying more than doubling since the collection of

statistics began in 2009 (with just 2011 showing a dip).

Huge challenges ahead

The successful expansion of the global ROV fleet brings with it a huge challenge. There is already an ongoing shortage of trained and skilled ROV personnel. It is estimated that at least two thousand additional pilot technicians will be required in the next three to five years to keep up with demand, with many in the industry agreeing that that could well be a conservative estimate.

Finding a solution

The biennial Oceanology International, the world's largest ocean science and marine technology show with large numbers of stakeholders from the global industry, gathered in London in mid-March. With a veritable forest of ROVs on display, it provided the ideal meeting place for IMCA and its members to work together to determine a global and transparent plan.



“The challenge is big, very big!”

STEVEN COWIE
Oceaneering International

Image: DeepOcean Group

The association held an afternoon-long seminar 'ROV Training & Competence: Global approach, local delivery' discussing and formulating a plan for a common approach to ROV training, and how it can be delivered in different regions.

Speakers included Jim Mann of Fugro Subsea Services and Chairman, IMCA Remote Systems & ROV Committee; Steve Ham, The Underwater Centre, Fort William who looked at 'ROV training in a contextual experience environment'; IMCA consultant Bill Evans, speaking on 'A syllabus framework for ROV training'; while Dwight Howse, Marine Institute of Memorial University and Giorgio de Tomi, University of São Paulo, talked about 'Delivery of ROV training in Canada & Brazil – a global vision' in view of their specific and closely linked initiatives.

Continued on page 10

RISING TO THE GLOBAL ROV CHALLENGE

Continued

Six compelling presentations

In introducing the seminar, Jim Mann provided background and history to illustrate the journey the IMCA Remote Systems & ROV Division, and the sector, has taken in relation to competence. Explaining that the industry was now in need of a common approach to training new entrants, he expressed the hope that thanks to input from the workshop's expert speakers a common approach to ROV training could be established, and a globally accepted syllabus to be followed by all training establishments and companies could result.

Steve Ham presented the current contextual training initiative, 'The ROV Industry Training Academy' supported by The Underwater Centre, Technip, Subsea 7 and Fugro Subsea Services. This project resulted from the IMCA ROV personnel action group, formed in the summer of 2012 to address perceived shortfalls in ROV pilot technicians entering the industry, and also to look at fast tracking skilled people to senior roles where appropriate.

Two courses were being developed. The first a five-week induction course for those entering the industry from an acceptable technical background; and the second, an advanced course designed to support those with the right abilities who have either been promoted, or are seeking to be promoted, to more senior levels such as supervisor. Steve aired the view that if not enough newcomers were being trained, future needs were of deep concern.

Looking overseas

Australia-based subsea consultant Bill Evans suggested a range of training was taking place but that assessing the training need was not the starting point and that a great deal of it was 'on the job' and not structured. Bill spent some time working through what were generally accepted as the 'core elements' to be covered in a typical ROV introductory training programme, and recommended spending more time on assessing what individuals needed in terms of the backgrounds they were coming from, and the existing skills sets possessed.

Transferability of competence was seen as an issue and there are often concerns raised with regard to the uniformity of assessments from one company to another, which contributed to this problem.

He suggested that three key things need to happen to address these issues:

- Standardised training with a modular approach able to be flexible to the needs of the individual and company
- Standardisation of competence schemes across the industry through the audit of company Competence Management Systems (CMS) by an external body, preferably IMCA
- IMCA did not need to accredit training itself but IMCA should map and recognise training accreditation bodies in different locations.

Moving on to Canada, Dwight Howse highlighted the current and expected future trends of high demand and low supply with an end result of higher wages, poaching, lower profitability and lost opportunities for companies. The Marine Institute runs a two year internationally recognised engineering technician programme taking high school graduates and equipping them with the skills to gain employment as ROV pilots and technicians in the industry on completion of the course. Giorgio de Tomi then presented the similar approach being taken in South America. Although their project was not as mature as that of the Marine Institute, it

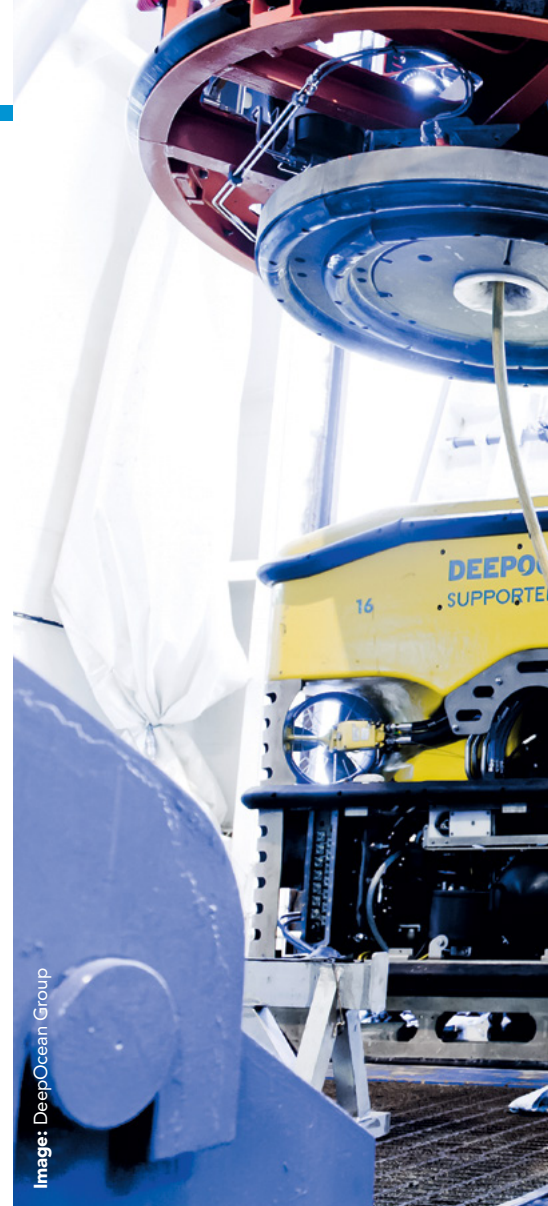


Image: DeepOcean Group

was based on the same model of a mixture of academic tuition, workshop time and placement in a company to acquire real workplace offshore experience.

The afternoon's presentations concluded with Steven Cowie providing an overview of how Oceaneering recruit, train, develop and assess their ROV personnel from pilot technicians through to leadership training for supervisors and senior managers around the world.

Between them the 'super six' provided much food for thought, and action.

Moving things forward

Importantly, the afternoon included a stimulating discussion, facilitated by Jim Mann, on the presentations and on how the ROV sector's recruitment, retention, training and competence could be improved; and the personnel shortages addressed collectively as an industry.

Agreement was reached that a common approach to ROV training was required and an industry steering group, co-ordinated by IMCA, was proposed. This could progress and sustain initiatives already underway such as The Underwater Centre's ROV Industry Training Academy; and to develop future projects and facilities around the world showcasing academic and private sector

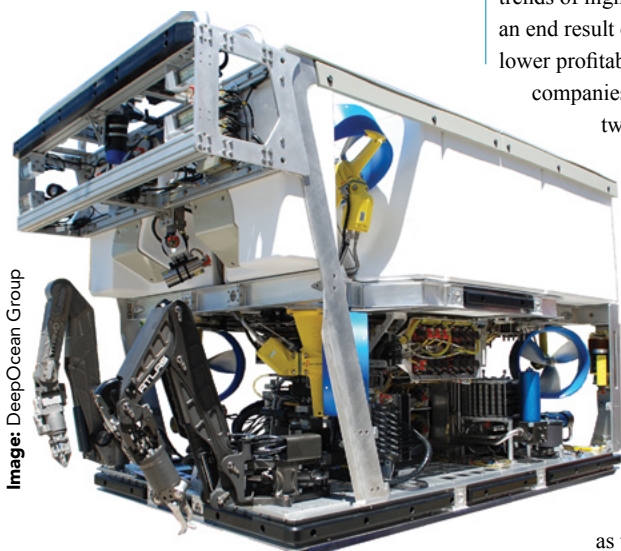


Image: DeepOcean Group



“Accreditation has to be a goal. Getting there we need a road map.”

JIM MANN
Fugro Subsea Services;
Chairman IMCA Remote Systems &
ROV Committee

engagement, such as those in Canada and Brazil.

It was clear that two routes into the industry had been presented at the workshop and that a global/common approach had to incorporate and recognise both approaches and their merits:

- People with a suitable technical background but with no offshore/ROV experience
- People with no technical background but with an interest and the right aptitude to be trained in the industry (this would include school leavers and those wanting to transfer from other non-technical industries with the funds to do so).

In terms of staff retention, it was clear that investing in existing staff would pay dividends.

The IMCA view

IMCA agrees that the solution for the problem is the development of a standard industry-wide syllabus to be delivered across a world-wide network of training providers.

This should be specific to the field of ROVs, but still broad enough to cover all the core basics and skills of different ROV roles. Extra manufacturer-specific training could then be done to supplement these core skills.

Accreditation of the syllabus was a talking

point which needs further consideration. IMCA is keen to help drive the development of the syllabus ‘script’, guidance and competence framework – but does not intend (and is not in the position to be able) to be the auditor of these courses. Local third party accreditation is the probable route forward.

From vision to action

The next step is for the IMCA Remote Systems & ROV and Competence & Training Core Committees to discuss establishing a steering committee which would comprise a broad spectrum of individuals from contractors, training establishments and ROV operators to consider as wide a scope of opinion and experience as possible.

Ultimately, this steering committee could look at defining what should be in the syllabus, how it should be delivered and how it should be accredited. “Accreditation has to be a goal. Getting there we need a road map,” says Jim Mann.

Commitment to supporting the interests and aspirations of both members and the wider industry rising to the challenge is of vital importance to IMCA.

JOIN THE DEBATE...

The accuracy and authority of IMCA’s annual ROV statistics rely on the contribution of IMCA members. If you wish to contribute please contact nick.hough@imca-int.com



Image: DeepOcean Group

Avoiding a social media disaster



“Social media channels tend to give people the most immediate, in-your-face, highly impactful and influential ideas of where the news is – way, way quicker than the traditional forms of media do these days.”

TOBY INGRAM
Helix Media

HOT TOPICS

Here are a few of the other hot topics on the agenda at recent and forthcoming IMCA meetings:

Asia-Pacific – 27 February

- IMCA FAIR contracting principles – still relevant 10 years on
- Caviblaster tools used to remove growth from offshore structures

Central & North America – 18 March

- Issues surrounding the employment of Maritime Academy graduates

Europe & Africa – 28 May

- Bribery and corruption issues

South America – 4 June

- Personnel shortages in South America

Middle East & India – 10 June

- Effective competence management systems and personnel shortages

Members can see the minutes from IMCA meetings online at imca-int.com
To find out about how to join the discussion and attend our events email us at events@imca-int.com

With Twitter feeds and Facebook posts at our fingertips and Instagram images spreading like wildfire around the world, when something goes wrong in our industry it can become big news in an instant. Here Toby Ingram of Helix Media, who gave a compelling presentation on the subject to IMCA members at the Asia-Pacific Section meeting, summarises the dangers presented by new media and the steps companies can take to protect their reputations.

We probably all know of incidents where employee indiscretions online have caused concern. And we are all only too aware of high profile cases where a disaster has been quickly followed by a proliferation of online images and stories which have fanned the flames and hit the headlines. In my opinion there is no doubt the resulting reputational damage could have been limited for the companies involved if their internal policies and communications responses had been as good as the state-of-the-art technical and operational responses.

Serious issue

In an industry like ours, which many people see as being about ‘dirty great ships fogging up the ocean’s highways with pollution’, when something goes wrong it’s hardly surprising it will be jumped on. Which is why taking social media seriously is so important. Even if it’s not ‘your thing’ as a company, there needs to be an awareness that someone, somewhere could, at any time, be damaging your reputation. You need both to keep a close eye on your employees’ social media use, as well as what other sources are saying about you, and to know how to deal with anything negative – instantly.

Damage limitation

Companies like Helix Media focus on damage control, enabling companies to engage with their audiences and stakeholders to reassure them that everything that can be done is being done: we make sure the right message about what you’re doing gets out there. But what can you and your company do to protect your reputation from the potentially lethal effect of negative information and images freely available online? Here are some tips for starters.

Social media starters

- Start out by ‘lurking’ – reading and digesting information and posts without actively contributing and engaging – it’s a sensible way to begin
- Keep your eyes and ears open – what are people saying about you in traditional and social media?
- Put a social media policy in place so employees know what is expected of them in terms of their rights and responsibilities
- Task someone with monitoring social media streams
- Respond quickly in a crisis – nothing is more harmful than silence or the fatal words “No comment”
- Respond where the crisis started first; follow up on other venues/platforms later
- Ensure everyone in your organisation knows the company has an issue that day; the most dangerous person in the office is the person who does not know what is going on
- Have a ‘dark site’ ready – a site or simply a page on your website which is ready for immediate use if a social media crisis engulfs your company
- Acknowledge the issue: simply saying “yes we are aware of this development and we are prepared to handle it” is a good start in your social media engagement

Canada gets diving update

Recent changes to the key diving industry document, IMCA D 014 – *IMCA international code of practice for offshore diving*, was the focus of IMCA Technical Director Jane Bugler's presentation when she spoke at the 2014 Canadian Underwater Conference and Exhibition, Man and Machine Underwater, in Toronto in April.

She told delegates how D 014 had been brought up to date this year with updated references to other IMCA documents and new information about diving management and hyperbaric evacuation. Jane also described how the

important information submitted by IMCA members for our safety flashes is also used to update IMCA documents, such as the new guidance currently in development on underwater air lift bags and subsea lifting and rigging.

Embedding safety culture

The key message from the 12th IMCA Safety and Environment Seminar – Opportunities and exposure in marine operations – was to do with safety culture: the message was that safety culture must be embedded at the heart of what we do, putting safety at the centre of marine operations.

A highlight was Don Groover of Behavioral Science Technology using the example of Brunelleschi's dome in Florence to show how one person committed to safety can make a difference to safety culture. Novel elements of

the build included the invention of a hoist with the world's first reverse gear, allowing an ox to raise or lower a load at the flick of a switch, and a tactic to ensure workers remained sober – providing lunch and watering down the wine!



MLC impacts considered

It is six months since the ILO Maritime Labour Convention (MLC, 2006) entered into force and Emily Comyn, IMCA Technical Adviser for Regulatory Affairs, considered the impact it has had in her presentation at the 2014 Offshore Support Journal Conference in London in February.

At the event, a major offshore industry conference, Emily went into detail about the recent port state control detentions and the implementation problems, particularly for the offshore sector, that might come to light as the Convention is more widely enforced.



WORLD-WIDE EVENTS

The full listing of the events we are running and supporting can be seen at www.imca-int.com/events

● IMCA events are highlighted below

JUNE

- 10:** **Middle East & India Section meeting and Competence Seminar**
Dubai – UAE ●
- 11:** **Europe & Africa Section briefing**
Luanda – Angola ●
- 11-12:** **Global Offshore Wind**
Glasgow – UK
- 18-19:** **European Dynamic Positioning**
London – UK
- 20:** **IMCA Midsummer Charity Ball**
Aberdeen – UK ●
- 23-24:** **Dynamic Positioning Asia Conference**
Singapore
- 26:** **Central & North America Section meeting**
Houston – USA ●

AUGUST

- 12-13:** **Americas OSJ**
Houston – USA
- 25-28:** **ONS (Offshore Northern Seas)**
Stavanger – Norway
- 27:** **Asia-Pacific Section meeting & Competence Seminar**
Singapore ●

SEPTEMBER

- 3-5:** **Oceanology International China**
Shanghai – China
- 15-18:** **Rio Oil & Gas**
Rio de Janeiro – Brazil

OCTOBER

- 7-8:** **Asian OSJ**
Singapore
- 9:** **Asian Dynamic Positioning**
Singapore
- 14-15:** **MTS DP Conference**
Houston – USA

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WORLD-WIDE

Aasta Hansteen: A project of firsts

In the first of a regular new series in ***Making Waves*** bringing you news of cutting edge and best practice projects from around the world, we look at the Aasta Hansteen development in the Norwegian Sea.



Statoil will be notching up a number of firsts during the project. This represents the first major Norwegian deepwater development with surface facilities offshore to use a spar platform, and will involve a host of IMCA member companies.

Although it has been a pioneer for both surface and subsea technologies – Norway witnessed first use of a concrete tension leg platform at the Heidrun field installed by Aker Solutions in June 1995 and subsea processing and deepwater development were pioneered at Tordis, Snøhvit and Ormen Lange – this represents another progression in applying floating platform technology in greater depth.

Back in 2012, Statoil finalised the offshore concept for Aasta Hansteen and delivered a plan for development and operation (PDO) to the Norwegian Ministry of Petroleum and Energy for approval towards the year-end, based on using a spar hull. Project costs were put at NOK 32 billion (US \$5.35 billion).

World record in the pipeline

The PDO came with a plan for installation and operations (PIO) for the Norwegian Sea Gas Infrastructure (NSGI) pipeline, known as Polarled, a new 480 kilometre 36-inch diameter trunk line. Polarled will carry gas from the field area to the Nyhamna terminal on Norway's west coast, where production from the Ormen Lange deepwater field is also landed, allowing Aasta Hansteen and other Norwegian Sea fields



Illustrations: Statoil Image: IHC Merwede

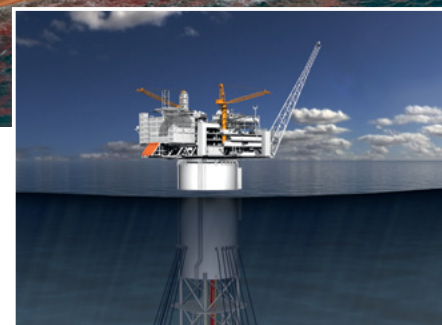
to be exploited. Offshore pipelaying is due to take place in 2015, at maximum depth of 1,265 metres (4,149 ft), which Statoil says will set a world record for the deepest laying operation for this pipe size.

Rising to the challenges

But the depth isn't the only factor presenting challenges; the harsh environment is throwing up a few of its own. To cope with the environmental loading on the platform, the risers carrying gas from the seabed to spar and into the pipeline will be pure steel; another first for the Norwegian Continental Shelf.

By providing a taut mooring system and a small seabed footprint, the steel catenary risers (SCRs) will, combined with the deep draught of the Aasta Hansteen spar, provide a very stable platform. The SCRs, which are regarded as stronger, can take more loading and allow less platform movement, which in turn also means they will suffer less fatigue. According to one industry expert, SCRs are also regarded as stronger than flexible risers, which would require buoyancy resulting in top tension in the risers being too high. Despite the weight of the SCRs they are within the capabilities of the Seven Oceans, the installation vessel being used by Subsea 7 for the riser installation programme next summer.

To overcome the severe weather in the area, continual water column current monitoring will be used to inform operations during the



riser installation process. "We will at any time know what the current is, so we can use less conservative values," explains one of the engineers on the project. He also points out that Subsea 7 has confined its offshore operations to a summer weather window, to ensure work is completed before severe winter weather hits the region with adverse marine conditions. "You need to get work done from early May to early September," he adds.

Aasta Hansteen is due to start production in 2016.

SPARRING PARTNERS

Here are just a few of the IMCA members involved with Aasta Hansteen:

Technip – Leading the project (in consortium with Hyundai Heavy Industries)

Dockwise – Performing the mating of the topsides and hull
CB&I – Engineering and design: topside project

ABB – Safety and control systems

Subsea 7 – Fabrication and installation of rigid flowlines and SCRs

Rope futures face growth challenges and demanding clients

The key message from the IMCA Wire Rope Workshop, held in Amsterdam in March, was that the future of wire rope will see continuous growth in terms of loads, sizes, depths and weights and clients will demand more proof and risk assessment.

The event, at which the 10 speakers discussed 'Optimum System Design for High Value Subsea Construction Ropes', was the fourth in a series run by IMCA. These free workshops have proved very popular, attracting representatives from various subsea contractors, wire rope manufacturers, system designers/suppliers, equipment suppliers and academic institutes.

Over 90 industry professionals attended the event to hear stimulating presentations and to take part in sessions discussing what is required by the subsea construction industry, the approaches taken by the wire rope and system designers, developments to overcome the increasing future requirements and how the theory can be used or developed further to bring optimum design solutions for rope life, system size and performance.

Topics discussed at the workshop included:

- Operators' views – current and future system requirements
- System designers' approaches for wire rope interaction (storage, routing, winches, sheaves and active heave systems)
- Rope qualification methods for specific systems
- Fully integrated monitoring systems and interaction with rope system
- Multi-fall and parallel winch systems in deepwater.

Presentations covered various aspects of rope design including current and future system requirements, deep sea winch design, optimum system design for subsea construction work, rope qualification process, drum winch design and double drum capstan winches with active heave compensation.

David Cannell, Chairman of the IMCA Wire Rope Workshop, said the event proved really valuable. "The workshops have proven a great success through creating the opportunity to talk,



Image: Franklin Offshore

discuss and network within the selected topic, bringing together the operators of the systems, rope manufacturers, NDE suppliers, lubrication suppliers, system designers and those at the forefront of academic research. Working relationships have been formed and already the industry as a whole is beginning to make the necessary step change in how we handle and maintain the type of high value subsea construction now being used."

The next rope workshop is in October in Amsterdam and will focus on high performance fibre and hybrid ropes used in subsea installation.

The Experts

As well as David Cannell from Technip, who also chaired the event, other speakers included:

- Caspar Berends from Technip
- Nigel Simpson from Subsea 7
- Ilaka Mupende and Frank Dawes from Liebherr
- Robin van Nieuwkerk of Huisman
- Sara Fletcher from Bridon
- Laura Lombardi of Usha Martin
- Armin Lohrengel from the University of Clausthal
- Roland Verreet of Wire Rope Technology Aachen.

WORD ON THE WIRE

Here are just a few of the comments we heard during the discussion sessions of the Wire Rope Workshop:

"We have come a long way in 180 years of wire rope, but we have an even longer way to go"

"Rope suppliers are being pushed on tolerance"

"Engineering is an art of intelligent compromise"

"Large diameter ropes are assets not consumables"

"There is not enough information on multi-layer winches"

"Minimum breaking load is not the only criterion in rope selection"

"With every wire you put in, you reduce the radial stiffness and radial stability"

"More wire rope performance modelling is needed"

To book your place and join the discussion, contact us at events@imca-int.com



CMID Update

New in Issue 9

Following a successful steering committee meeting on 18 February, work is progressing on CMID Issue 9. One potential change to the document will be to reintroduce the vessel supplements, as non-mandatory sections, relating to particular vessel types. These supplements had previously been removed from Issue 6 as it was (and still is) the intention that the CMID should not be used as a suitability survey, but as a means to ensure that a vessel is safe to those onboard, safe to those around the vessel and would not harm the environment.

New mandatory certification such as MLC 2006 and other changes suggested at previous CMID workshops are also set to be included in the new version.

Word requests

The secretariat continues to receive requests from CMID inspectors for a Word version of CMID Issue 8. The Word version is no longer available for download.

The e-CMID software can be used to create an inspection which can be uploaded to the database, for existing vessels, or to create a secure PDF, which can be emailed directly to the client for vessels which have not yet been added to the database. The M 149 PDF form can be downloaded and printed from the website for reference or use as a rough working copy on board the vessel.

Call for accreditation

As a result of industry demand for some form of accreditation for inspectors working with IMCA inspection documents, IMCA is currently talking to the International Institute of Marine Surveyors (IIMS) about establishing a scheme which will provide IMCA CMID vessel inspectors, for offshore vessels and/or for small workboats, with accreditation to perform IMCA CMID inspections.

Workshops in 2014

It is anticipated that workshops will be held during the second half of 2014, after CMID Issue 9 has been released. Further details will be sent out when potential venues and dates are identified.

If you have questions or queries regarding CMID please contact gordon.kelly@imca-int.com

More DP and meaningful analysis needed



IMCA continues to focus on increasing the number of Dynamic Positioning (DP) incidents that are reported and producing more useful output from their analysis. There has been a lot of activity on the subject recently, as we strive to improve performance in the marine contracting industry by sharing the important lessons learnt. Here are a few of the highlights.

Following the presentation, 'Do DP incident reports reflect reality?', by Tron Resnes of Ålesund University, and the subsequent workshop on DP incident reporting and analysis at IMCA's Annual Seminar in Singapore, IMCA has continued its work to raise awareness.

Ian Giddings talked about it at this year's TEKNA DP and mooring conference in Trondheim, Norway in February. He drew attention to the need to improve the IMCA system through greater reporting and better feedback. Haibo Chen, of Lloyd's Register, presented his recommendations for consideration, related in particular to statistical analysis, in his paper 'Risk Analysis of DP Operations: Practices and Challenges'.

The topic is being recognised and discussed globally: a specialist IMCA workgroup met in the Central & North America region in March

to discuss it and it is anticipated that there will be further progress made in the near future. A number of sources have called for additional information to be recorded on DP incident reports in future. The suggestion is that it would be useful to record how long the vessel concerned had been on DP for prior to the incident. This new initiative will certainly be on the agenda at the next date in the diary – a meeting Ian and representatives from member companies are attending in Norway with Statoil, who also have proposals for developing DP incident reporting.

IMCA responds to need for hyperbaric reception facility guidance

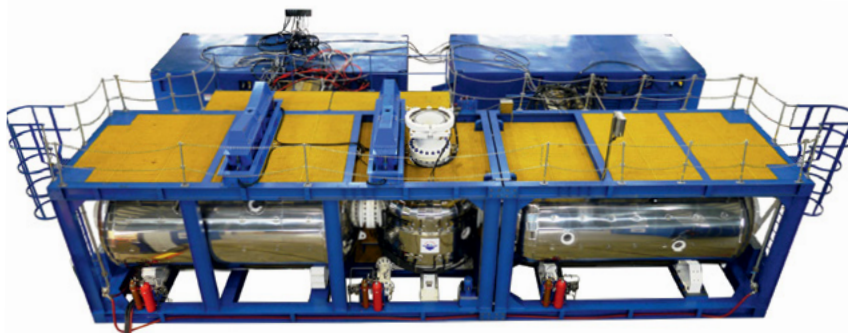


Image: Submarine Manufacturing Products Ltd

After three years of hard work and development from the IMCA Diving Division Management Committee and its members, the third in a series of brand new guidance documents on the topic of hyperbaric evacuation is now available. Essential diving guidance document IMCA D 053 – *DESIGN for the hyperbaric reception facility (HRF) forming part of a hyperbaric evacuation system (HES)* has now been published.

Mark Shenton, International Diving Equipment Manager of McDermott International, who have owned, managed and operated hyperbaric reception facilities since 2002, gave us his view on the importance of the new guidance. “Each of the HRFs we operate has been designed to mate with more than one hyperbaric rescue unit (HRU), and in the case of our own HRFs, the units can mate with self propelled hyperbaric lifeboats (SPHLs) and a side mating hyperbaric rescue chamber (HRC). Therefore, as a company we fully recognise the

safety and compliance issues that have been associated with hyperbaric evacuation systems in general, and in particular with HRFs.

The ability to evacuate divers safely from an offshore hyperbaric environment to a place of safety, and subsequently decompress them in a safe and controlled manner, is quite rightly a priority issue for the diving industry and we are very pleased to see that IMCA is now providing specific and detailed guidance on the subject.”

Guidance focused on HRFs

IMCA Technical Director, Jane Bugler, describes how, since conception, the document has evolved into what we see today. “Originally we intended to include sections in D 053 covering HRUs. These sections were about the

HRU itself, its interface with the diving system, its launch & recovery system and the life support package.

But during the process we decided that it would actually make more sense for these sections to be included in another document. So, IMCA members can expect to see those topics covered in IMCA D 024 – *DESIGN for saturation (bell) diving systems*, when its revision is complete later this year.

We concluded that the audit of the HRF was likely to take place independently of the audit of the saturation diving system and this warranted a separate DESIGN document. As a result, the final version of D 053 is an HRF specific document for the industry which is second to none.”

“The ability to safely evacuate divers from an offshore hyperbaric environment and decompress them in a safe and controlled manner, is quite rightly a priority issue for the diving industry.”

MARK SHENTON
International Diving Equipment
Manager, McDermott International

Diving supervisor manual updated

14 years since its first publication, IMCA D 022 – *The diving supervisor's manual* has been renamed *Guidance for diving supervisors* and revamped to bring readers the latest diving industry good practice for diving supervisors all over the world. Some of the most noteworthy changes to the document include new or revised guidance on:

- the safe movement of moored vessels acting as dive platforms
- the safe conduct of DP diving (example vessel hazard drawings have been added)
- secure isolation of hazardous machinery, valves or other equipment that could affect diver safety
- wet-bell diving
- minimum chamber sizes
- planning for hyperbaric evacuation and the operation of hyperbaric evacuation systems
- the safe use of lifting bags
- bell diver recovery drills

You can find all the latest diving documents, information notes and statistics at www.imca-int.com/diving-division

Offshore Survey documents under review

IMCA S 003

Guidelines for the use of multibeam echosounders for offshore surveys. First published 10 years ago, this technical document is undergoing a thorough revision as technology and practice have moved on. It will include a whole new section on MBES sensor calibration, inclusion of other new developments, and removal or revision of outdated references and bibliography.

IMCA S 006

Inter-vessel survey data standard telemetry protocol has been republished and is now available for download after being revised and brought up to date.

IMCA S 008

Digital video offshore: A review of current and future technologies was the first IMCA document that was designed to “educate and inform” members, clients and other stakeholders rather than provide more formal guidance. IMCA has reformed the Digital Video Workgroup, and this group has already begun the task of revising this document. Technical change in this field is rapid, and there is much to capture in this new revision. The workgroup will look at developments on video quality standards; on the methods of transmission of video data from subsea to surface – umbilicals, fibre-optics, multiplexing and digitising; on the use of very high resolution digital video as both a sensor and as subsea metrology, and will continue to address common misconceptions – “why can David Attenborough produce cinema quality video of what goes on at the bottom of the ocean, but the offshore industry can’t?” It is hoped that the new document will be available in the spring of 2015.

IMCA S 009 & S 010

Guidelines for the shared use of DGPS for DP and survey operations and *Guidelines for the shared use of sensors for DP and survey operations*: These two documents will be revised and merged into one, and technical input will be sought from the marine and DP communities as well in this important update.

IMCA S 013

Deep water acoustic positioning. This thorough technical review has stood the test of time, and the revision has changed very little except updating the references and links.

IMCA offshore expert at Oceanology



IMCA was out in force at this year's Oceanology trade show at the ExCeL centre in London. Oceanology International is the world's largest exhibition showcasing marine science and ocean technology solutions – this is one of the main trade shows for members of IMCA's Offshore Survey Division and Remote Systems & ROV Division.

IMCA's Nicholas Hough gave one of the presentations in the Metrology and Subsea stream of the conference. He talked to delegates about IMCA's Offshore Survey Division work programme. His presentation covered some of the existing published work of the Offshore Survey Management Committee, as well as some of the documents under preparation.

As part of the on-going alignment of the IMCA technical divisions and committees with the IMCA five year Vision & Strategy, the Offshore Survey Committee has been reviewing many of its documents (see box left).

IMCA also had a stand at the exhibition, allowing delegates to meet with and ask questions of members of the IMCA technical and support teams. Many of the Offshore Survey and ROV supplier and contractor members were present as exhibitors, delegates and speakers at the associated conference.

IMCA experts will be presenting and exhibiting at the next show in 2016, and also be exhibiting at the Ocean Business show in Southampton, in April 2015.



Close encounters of the ROV kind



Image: Oceaneering International

“Kids are really interested in ROVs, the challenge is getting them enthusiastic in the subsea world as a whole. Flying an ROV is the cool bit, but it only accounts for 15% of the ROV tech’s role. The rest is maintenance, electronics, and engineering so a strong background in these disciplines can be a real advantage.”

STEVEN COWIE

Oceaneering International

With the marine contracting industry facing a shortage of competent ROV personnel, how can IMCA members get youngsters interested in our trade? Well, some have taken the initiative. Here’s how.

On 23 November last year, IMCA member Oceaneering International threw their doors open and invited local students into their workshop as part of an initiative to get youngsters excited about the career opportunities available in the subsea world. The day was in support of the global ROV MATE competition which is run annually by the Marine Advanced Technology Education (MATE) Center in Monterey, California. The competition, which began in 2001, is now a world-wide affair, with students of all ages taking part in its 23 regional events, hoping to qualify for the final in Alpena, Michigan in June.

As *Making Waves* goes to press, the UK regional leg of the competition is taking place at the Robert Gordon University (RGU) in Aberdeen, and several IMCA members will be present, with Oceaneering International, Fugro, i-Tech, Bibby, ROVOP, BP, Subsea 7 and DOF Subsea all providing judges and professional experts to mentor and assist the students.

Generating enthusiasm

Steven Cowie, ROV Manager Europe of Oceaneering International, told us a bit about the open day. “It was a great opportunity to get students thinking about the industry we work in. Our hope was to try to generate some

enthusiasm towards our industry, not only with the kids but also with the teachers.

As this was their first encounter with ROVs, our aim was to provide the students and teachers with a basic understanding of the systems, why we use them in the oil and gas industry, considerations for designing one, piloting and controlling one and the importance of ROV tooling.”

Subsea skills

The main objective for the students to complete

in the competition is to design and build, from scratch, a working ROV to perform set tasks. Steven explained, “These are a mixture of exploration, observation, measurement and retrieval tasks which mimic the work carried out by real ROVs, but on a smaller scale.

The competition is a great way for the students involved in the competition to directly connect with the subsea industry, learning some of the key skills required at the same time. And it’s not just about building and operating an ROV, but there are several other criteria to fulfil, designed to make them think about technical detail, engineering processes, safety and the importance of teamwork – all key skills in our industry.”

New Vice-Chair appointed

A recent election has taken place for the Remote Systems & ROV Division Management Committee. IMCA would like to thank the outgoing Vice-Chairman, Richard Benzie of Subsea 7 for his efforts over the past two years, and welcomes long-standing committee member Dave Rhodes of Harkand, into the role.

Dave was flattered to have been elected to the position and expressed a desire to be proactive in the role, saying, “Being an active member of IMCA, involved at committee level, is an opportunity to help set the industry standards for the benefit of all the member companies, my own included.”

The make-up of the new committee can be seen online in information note IMCA R 02/14.

“It’s an opportunity to address issues we face – and do something about them.”

DAVE RHODES

Harkand – IMCA Remote Systems & ROV Committee

GETTING CONTROL of working at height

We've come a long way since men sat on girders above New York wearing cloth caps, and a safety net saved the lives of 19 working on the Golden Gate Bridge. But working at height is still a killer that we need to get under control.

“Industry has not made a substantial impact in reducing the number of fatal falls from heights in the previous 20 years.”

ED GROSSE

Shell Oil Company



Working at height is a perennial challenge. It remains one of the biggest causes of fatalities and major injuries in our industry, as Ed Grosse of the Shell Oil Company highlighted at the IMCA Safety & Environment Seminar in Houston in March. His presentation ‘Sharing Best Practices for Working at Height’ started with a slide showing some bare facts:

- Three people climbed into a ballast water tank
- Their task was to check the environment inside the tank
- The last person climbing near the top of the ladder was wearing a gas detector that became stuck.
- While trying to free the meter the victim lost his grip and fell 10m to the bottom of the tank.

This was no work of fiction designed to make his audience sit up and take notice, but a fatality report on a crew member who wasn't wearing any personal fall protection. It appeared in a February 2014 IMCA safety flash together with details on the primary and secondary contributing factors, conclusion, recommendations and ‘lessons learnt’.

Ed's presentation took his audience back to the 1930s as he showed a video highlighting the forward thinking for safety during the four years it took to build the Golden Gate Bridge, which included the innovative idea of a safety net suspended the entire length of the bridge. Nineteen men fell into that net and survived:

they became known as the ‘Half Way to Hell Club’. Unfortunately, when a scaffold collapsed, twelve men on it fell into the net but, because of the weight of the scaffold, all fell on into the water – only one survived. Ed also showed the iconic ‘Lunch atop a Skyscraper’ picture with its 11 cloth-capped construction workers enjoying their break on a suspended beam, high above the streets of Manhattan. Yes, we have come a long way since then, but deaths and serious injuries still occur.

It is generally accepted that ‘work at height’ means work in any place, including at or below ground level, where a person could fall a distance liable to cause injury; IMCA's safety statistics for 2012 published last year highlighted the fact that of 467 lost time injuries (LTIs) recorded by the 227 IMCA members who supplied statistics 45 of the LTIs (so approximately 10%) were falls from height.

As IMCA's Technical Director Jane Bugler explains: “Looking through our 2013 safety flashes, which are issued when we feel that others can learn from the experience within them, so not merely ‘run of the mill’, we have recorded ‘Fall from height leading to multiple fractures’; and ‘Serious working at height incidents’; as well as flashes relating to pilot ladders – which are another form of working at height.”

“Now with the rapid expansion of offshore

wind we have a new area where working at height incidents are happening, and with tens of hundreds of turbines being installed it is an area over which we need to take control, and inject awareness – and solutions.” This was a seminar topic addressed by Alan MacLeay of Seaway Heavy Lifting and Chairman of IMCA's Renewable Energy Workgroup in ‘Safety in the offshore renewables sector’.

“According to the Bureau of Labor Statistics (BLS), the annual number of US deaths resulting from slips, trips and falls from heights in the workplace has remained above 600 since 1992,” explains Ed Grosse. “Attitudes that keep us from properly protecting workers at heights must be replaced by acceptance of evidence-based best practices and advanced technological solutions. In addition to adopting new technologies we must share our successes and learn lessons from our failures.”

“Almost all our accident reports from around the world are the same,” says Jane Bugler. “Someone has been hurt because they didn't follow the rules. They didn't bother with the safety harness because ‘the job was only going to take a minute’. It wasn't worth going back to the store to get the gear – ‘I've done it dozens of times before’.

We have got to do better! A wrong step; one moment's carelessness can injure or kill.”

Details of IMCA's safety promotion materials (DVDs, posters and pocket safety cards) are available at www.imca-int.com

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SPOTLIGHT ON DOUG KORTH



Having been in the offshore oil and gas industry for nearly 20 years, and holding project management and business development roles with McDermott and Subsea 7 on just about every continent, there aren't many people better qualified to give us their view of the challenges facing those active in our industry across the globe than IMCA's South America Section Vice-Chairman, Doug Korth. Here is what Doug, who is currently Director of Projects, Brazil for McDermott, had to say when we caught up recently.

Pathway to success

"The combination of being inspired by my father, who had a career of more than 30 years with ExxonMobil, and my study of Ocean Engineering at university helped me decide that the path I wanted to pursue lay in offshore oil and gas. And so far that path has seen me work on and manage projects in the Gulf of Mexico, the Caspian Sea and Angola just to name a few.

What got me where I am today? A willingness, I suppose, to say, 'This is what I do – but it's not all I'm going to do.' I've always wanted to remain flexible, to move around and do different things.

Brazilian rewards

I've found something that I enjoy about the culture, the people and the challenges of doing business wherever my career has taken me, but I probably take the most satisfaction from what I have achieved during my tenure in Brazil.

Coming here presented me with the greatest challenges to overcome. When I arrived I had to set things up, remotely from the main offices. I had to look at people's ways of doing business or work and organise and lead to get the best results.

I was successful at doing it with Subsea 7 and the task was even bigger when I joined McDermott again in 2011 as, in Brazil, we were starting with pretty much zero infrastructure. Yet here we are today doing US \$500 million of business! It's been a rollercoaster, it's been a challenge, it's been difficult – but it's certainly been rewarding.

Peaks and troughs

The big issue facing the Brazilian market today is a case of two peaks and a trough. There are two parts of the market which are doing very well: exploration and operation. In terms of exploration, they've got the rigs out working

hard, drilling new holes in the Pre-Salt. And the operational side, where McDermott is involved, providing pipelay support vessels on long term charter, is also doing well. Our vessels are constantly moving around the fields, hooking up one well or disconnecting another, to keep them producing and bring new ones online.

The trough in the market is in development. Legislation says that Petrobras has to be the operator of all the Pre-Salt fields, which are the real deepwater, difficult, expensive and long-term developments, and require huge resources. And when I say resources I mean it in the entire sense of the word – financial, human, physical. So, even for a nationally funded company, it is an enormous task.

Energy independence

In my opinion, globally the three areas of the market seem more balanced, but what's interesting is that we are starting to see nations searching for energy independence.

The United States and Europe are exploring the possibilities of tapping into onshore gas to change their purchasing profile. Asia is seeing individual countries get a little bit more 'nationalism'. We're witnessing national oil company participation, if not leadership, rather than an international oil company (IOC) with the national oil company as a partner.

What that is going to create for us, potentially, is some very diverse regulatory and contractual requirements, as individual national oil companies do their own thing. This may be local content, contractual terms and conditions or environmental rules and regulations, as we move to different places. It could lead to increased cost, or even exclusion, depending on severity or difficulties faced.

"One thing I can say about the offshore oil and gas industry is: it's frustrating, it's exciting, it's rewarding and it's challenging. There is never a dull moment!"

Meeting the demands

We cannot expect the environment to change for us though, we need to be able to adapt to it. We, as companies, can't be too rigid. We also have to recognise that if we are facing different regional requirements we may need to, for example, localise or nationalise our labour force to reduce risk or make it more amenable to go and work in an area – and that's where IMCA comes in.

IMCA's strength is in the work it does to standardise across industry lines, like in the competence of personnel, or with the operational guidance it provides for how you do the work. Also, the efforts IMCA makes with regulatory bodies is of great importance: whether it's with global entities like the International Maritime Organization, or with local entities, to try to tie them into existing global frameworks.

Bright future

It was always going to happen, but I think certain events in the last six months sped up the drive towards energy independence. And although there will be challenges, the accelerated timeline will create a lot more opportunities and demand for exploration, production and oil and gas development – I see a really good future for us."

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