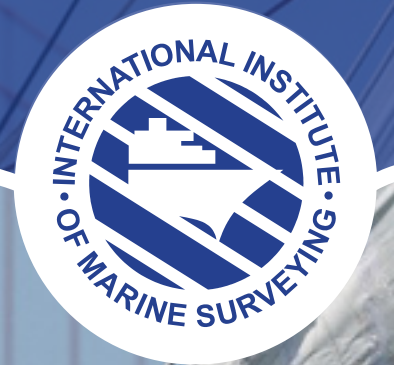


# THE REPORT

JUNE 2015  
ISSUE 72

The Magazine of the International Institute of Marine Surveying



## PREPARING THE CLIPPER FLEET TO SAIL

### THE IAN MILLEN INTERVIEW

Maritime surveillance  
and security

SURVEYING  
LARGE  
CREWED  
YACHTS





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# THE REPORT

The Magazine of the International Institute of Marine Surveying

JUNE 2015 • ISSUE 72

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Cover Image: Henri Lloyd, Clipper 13-14 Race, Race 10 finish San Francisco. Photograph by Abner Kingman 2014©



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# EDITOR'S LETTER

## Dear Member

So just where does the time go? I cannot believe it is three months since I sat down to write my last column. That is testament to the sheer amount of work that my colleagues and I are involved with at IIMS head office. It is busy.

Pleasingly there seem to have been a plethora of IIMS events organised for 2015 - so many so that it is hard to keep pace with them! It is rewarding to see the Institute providing so many opportunities for members to network, share knowledge and learn new skills around the globe. Read all about the events in member news from page 13. Of course one of the highlights this year promises to be the London Conference 2015 being held in the Old Library at the Lloyd's of London building.

And how fitting in such auspicious surroundings to be able to welcome Capt Nick Sloane, who will speak about his work leading the team that carried out the parbuckling project for the Costa Concordia, one of the most inspiring and exacting marine salvage projects in history. His presentation on the

first day is surely a reason to attend the Conference? And to close out that first day of Conference, we will dine aboard HMS Belfast, just a stone's throw from that most iconic of structures, Tower Bridge. See page 17 for full details about the Institute's Conference.

The IIMS is proud to be the coding Certifying Authority for the Clipper fleet of round the world yachts, the brainchild of Sir Robin Knox-Johnston, which is about to celebrate its tenth edition. We enjoy a close relationship with them. So I invited the Clipper team to write an article for The Report, not so much about the race itself, but more to do with what it takes to keep these vessels in good order and fit for the gruelling and sometimes unforgiving challenges that lie ahead. See pages 24 to 29.

In the first part of an insightful article by Capt Khalil Khan (pages 48 to 52), he talks about the importance of a good education before introducing readers to the vagaries of the Pakistan education system.

Jeffrey Casciani-Wood's technical article **An introduction to rust**

(**Part II**) concludes on page 30.

The subject of maritime security is never far from the news these days it seems. With this in mind, we interviewed Ian Millen from Dryad Maritime, an organisation that is totally immersed in this subject. See page 36 for some fascinating and thoughtful reading.

Two occasional articles make their debut in this issue. The first is **A day in the life of...** We went in search of Zarir Irani, a future IIMS President, to find out what he gets up to, only to discover he has a passion for Harley Davidsons when he is not working! Business tips and advice it seems are always welcomed, so in this issue we kick off a new series with **15 marketing tips**, an article aimed to give you some simple and practical advice to take into your marine surveying business.

Good luck

**Mike Schwarz**  
Chief Executive Officer  
International Institute of Marine Surveying

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## THE PRESIDENT'S COLUMN

### Dear Member

As you know, our Institute has an excellent reputation worldwide and especially in UK where IMCA (International Marine Contractors Association) has recently contracted IIMS to run an accreditation scheme for CMID inspections and audits.

The basic management of safety in the offshore industry, namely the ISM system, is the same as in the marine transport industry.

As a pioneer in this domain, I will try to explain the improvement of the ISM implementation in the offshore industry compared to our classic surveying world. Indeed the world of marine surveying in the offshore industry is not an easy one. Ships and offshore units are so different from one to another and the old culture of flag certification is still slowing down any effort of modernisation of the safety management culture.

Like us, the offshore industry was confronted with this legislation at the time of the ISM implementation process. As a result of some high profile disasters, such as the HERALD of FREE ENTREPRISE and the ESTONIA, the ISM process was a re-birth of safety management in our marine industry and consequently not really welcomed by the traditional world of maritime transport. Why? Certainly because this old industry was at that time

not happy to see anybody trying to modify its tradition and culture. Today, after 20 years, the situation is better while the mandatory certification is still slowing down the speed of progress inside an old culture of what I called the 'minimum conformity culture'.

I realised soon that the offshore industry was a fantastic world to improve the safety culture while keeping the same efficiency in any part of the job: drilling, laying pipes, subsea works, stocking and treating oil in huge floating FPSO and finally loading tankers. The ISM code was finally embraced in this rapid evolving industry (much more than in the rest of transport industry... even the passengers transport sector where I came from)!

My first feeling was, this industry has understood the poor conception of mandatory certification but has rapidly seen the advantage of self-assessment and continuous improvement which already exists in their own philosophy of the business. Internal audits were rapidly the main part of the ISM implementation. Their message was « we know our own business better than anybody else, we know that the major oil companies will choose the best ones, so quality and excellence via self assessment and self improvement will be our credo for this potentially fast growing business in the next decades!

Rapidly the offshore industry has evaluated that the internal audits culture was the key to success while owner, client were the first to ensure their own verification because they were never trusted the flag certification.

For them, in comparison to the regular maritime transport sector, money and time spent to prepare and run a safety management system is always profitable. Finally, to get the flag ISM certificates is a detail of the health, safety and pollution prevention at work management process.

Whilst focus is on the shoulders of the people managing the SMS (DPA, safety officers and masters essentially), the internal audits have been carried out intelligently by surveyors acting as an independent body.

Today, some improvement is necessary and IIMS, a strong group of experienced surveyors widespread all around the world, has been chosen to accredit these internal inspectors and auditors for the best interest of both the IMCA and its members, and the clients of the members at the same time!

Good luck!

**Capt Bertrand Apperry** *President International Institute of Marine Surveying FMIIMS, AFEXMAR President ISM/ISPS specialist*

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# MARINE NEWS

## NEW EMISSIONS COMPLIANCE GUIDANCE ISSUED BY LLOYD'S REGISTER

With key dates looming – 2016 NOx compliance and a 2018 review of fuel availability ahead of a global cap for SOx emissions, LR's new guidelines and updated technical information supports operators' investment decisions

This new emissions guidance addresses operational and in-service considerations reflecting further accumulated experience from working closely with clients, industry groups and regulators. As well as a focus on exhaust gas treatment (scrubbers) the guidance also examines the wider scope of options for SOx/NOx compliance beyond exhaust gas treatment.

Since an earlier version of this report was issued in 2012, early adopters of the technology, mainly

passenger ship and ferry operators, have committed to fleet-wide scrubber implementation programmes. Early adopters gain valuable operational experience as well as a head start in both understanding the technology and realising any benefits.

In the majority of the tanker, bulk carrier and container segments the uptake of scrubber technology remains slow. With shorter periods inside Emission Control Areas (ECAs), lower fuel consumption (especially due to slow steaming) and typically lower asset residual values, the business case for installing scrubber technology on deep sea tank, bulk or container ships is not, yet, either strong enough or urgent enough.

The bunker price collapse during 2014 has been another factor. While the price difference between heavy fuel and distillates has remained relatively

constant, the fuel costs inside ECAs have reduced giving operators more time to consider their options. Recently, several suppliers have released new hybrid fuel products for ECA compliance. These are aimed to address the operational risks of

operating on distillates but they also present several challenges of their own.

Looking ahead, there are two key years: 2016 and 2018.

Ships constructed after the 1st of January 2016 will need to comply with NOx Tier III when trading to US/Canada and we explore some of the technological options. Other ECAs for NOx may be introduced in the future affecting, however, only newly constructed vessels.

In 2018, IMO will publish a fuel availability study determining whether the global 0.50% sulphur limit will enter into force in 2020 or 2025. If it is 2020, the implications will be widespread: a possible rapid uptake of scrubber technology (with a question mark on whether supply could cover the demand) and the potential for a dramatic increase in operational costs for those who choose to operate on distillate fuels.

Whether LNG will make the leap from niche fuel to mainstream is a big question. Early adopters of LNG-as-fuel could start seeing a real return on their investment and any 'LNG-ready' ships may start converting to LNG-fuelled, if and when the bunkering infrastructure develops sufficiently.

The time for decisions is fast approaching. If in 2012 the industry needed to start considering their options, today, in 2015, time is running out. The compliance options are clear. Ship operators need to evaluate compliance strategies specific to their ships, operation and risk criteria.

## INTERWAR YACHT CARITAS SET FOR RESTORATION BY G L WATSON & CO

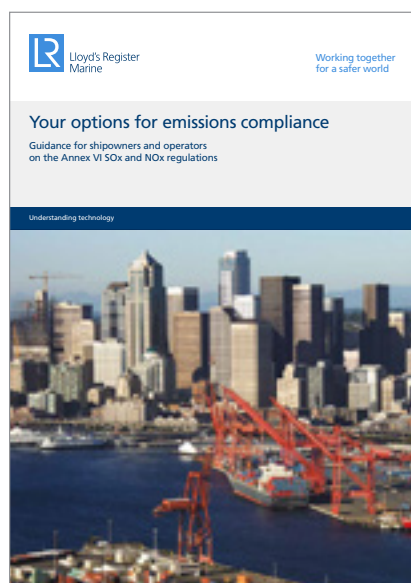
G L Watson & Co has discovered one of the last remaining large classic interwar motor yachts. *Caritas* is a fine example of a 1920's Cox & Stevens designed and Krupp built yacht and at 48m provides the last opportunity to save and restore a large significant high pedigree interwar yacht.

She has been long forgotten prior to being discovered, and G L Watson & Co has found her just in time to save her from being scrapped.

The plan, according to G L Watson & Co, is following restoration that *Caritas* should re-join her restored stablemates *Dona Amelia (ex Haida)* and *Talitha G (ex Reveller)*.

In her present state she is largely original with timber decks, some interior panelling and no welded repairs. All engines, pipework and wiring have been removed prior to her moving to her current location. Restored to modern superyacht standards and regulations, her interior volume will provide owner and guest accommodation for 10 with a spacious main salon and separate dining room on the main deck. The shade deck is large enough to provide ample space for dining, lounging or entertaining outdoors, as well as storage for a motor Launch, RIB and dinghies.

As is typical with American yachts of the period, the whole aft main deck is shaded by an elegant sun awning creating a comfortable and private space for dining and



Lloyd's Register has issued new emissions compliance guidance

lounging above the yacht's counter stern.

The current condition of *Caritas* makes her an ideal candidate for restoration in the same vein as *Blue Bird*, *Nahlin* and recently *Malahne*.

**History:**

- Built in 1925 for J.P. Bartram, a New York sugar magnate.
- Acquired by the Navy 1 December 1941.
- Commissioned USS Garnet (PYc-15), 4 July 1942.
- Decommissioned 29 December 1945 at San Pedro, CA.



Photo: [www.glwatson.com](http://www.glwatson.com)

*G L Watson & Co is set to restore Caritas, one of the last remaining large classic interwar motor yachts.*

**Dimensions:** Length: 47.7m, Beam: 7.8m, Draft: 2.9m, Displacement: 490GT

**WORLD'S FIRST LNG POWERED CONTAINERSHIP SET FOR LAUNCH**

On Saturday 18 April, a special event took place in San Diego to to christen and launch the world's first LNG powered containership built by General Dynamics NASSCO for TOTE.

The ship's sponsor, Mrs Sophie Sacco, the wife of Michael Sacco, president of the Seafarers International Union of North America, AFL CIO will christen the ship with a traditional champagne bottle break over the ship's hull.

Fireworks will commence immediately upon the christening and launch of the ship. The name of the ship will also be revealed during the ceremony.

As part of a two ship contract signed in 2012 with TOTE, when completed the 764 foot long Marlin class containerships will be the largest dry cargo ships of any kind in the world powered by liquefied natural gas (LNG). The Marlins are expected to formally enter service from late 2015 and will operate from the port in Jacksonville, Florida.

The vessels will operate on LNG, which will significantly decrease emissions while increasing fuel efficiency as compared to conventionally-powered ships. Each LNG powered containership will also include a ballast water treatment system, making them the greenest ships of their size anywhere in the world it is said.

General Dynamics NASSCO is the only major shipyard on the West Coast of the United States conducting new construction and repair.

As a complement to its government new construction business segment, NASSCO

maintains an extensive history of commercial shipbuilding. In the past decade, NASSCO delivered eleven commercial ships and currently has ten commercial ships in its backlog, including the two Marlin Class containerships for TOTE. For its commercial work, NASSCO partners with South Korean shipbuilding power, DSME, for access to state-of-the-art ship design and shipbuilding technologies.

TOTE is a leading transportation and logistics company, overseeing some of the most trusted companies in the US. TOTE Maritime companies Totem Ocean Trailer Express and Sea Star Line bring unmatched reliability and service to the Alaska and Puerto Rico markets. TOTE Services offers crewing and technical services to meet the needs of commercial, privately owned and US Government vessels. Carlisle Transportation ensures freight arrives in perfect condition to some of the world's most challenging destinations. TOTE is a Saltchuk company.

*The world's first LNG powered containership built by General Dynamics NASSCO.*



Photo: [www.worldmaritimeneews.com](http://www.worldmaritimeneews.com)



## ONE COASTAL TANKER HIJACKED EVERY TWO WEEKS REVEALS INTERNATIONAL MARITIME BUREAU REPORT

A small coastal tanker is hijacked by pirates in South East Asia every two weeks on average, a report from the International Chamber of Commerce (ICC) International Maritime Bureau (IMB) has revealed.

South East Asia accounts for 55% of the world's 54 piracy and armed robbery incidents since the start of 2015. After a steady drop in global piracy over the last few years, attacks rose 10% in the first quarter of 2015 on the same period of 2014. Worldwide, pirates took 140 hostages in the first three months of 2015, three times as many as during the same period in 2014. A total of 13 seafarers were assaulted and three injured.

In West Africa, a hotspot for violent piracy, one man was killed in the hijacking of a fishing vessel off Ghana. Five crew members were kidnapped by Nigerian pirates in two separate incidents in addition to a small product tanker being reported hijacked.

IMB has recorded 23 ship hijackings in South East Asia since April 2014, with six taking place in the last three months. Most are carried out by armed gangs targeting small coastal tankers to steal their cargoes of fuel. Five tankers and an offshore tug have been hijacked in the first quarter.

*"The frequency of these hijackings in South East Asia is an increasing cause for concern. There's a risk that the attacks and violence*



*could increase if left unabated,"* said Pottengal Mukundan, Director of the International Maritime Bureau, which has been monitoring world piracy since 1991.

Malaysian authorities have detained one gang of hijackers now awaiting trial. The International Maritime Bureau has commended this action and calls for a stronger, coordinated regional response to clamp down on piracy in South East Asian waters.

The country with the highest number of attacks is Indonesia, accounting for almost 40% of 2015 attacks, with two vessels hijacked and 19 vessels boarded. IMB reports that the overwhelming majority of incidents are low-level, opportunistic thefts, although the attackers here are usually armed with knives, machetes or guns.

With eight reports in the past three months alone, Vietnam has seen an increase in armed robbery incidents. More and more thieves are breaking into ships at anchor in and around Hai Phong and Vung Tau.

Somali piracy kept at bay  
The International Maritime

Bureau Piracy Report shows zero incidents for Somalia in the first quarter of 2015. However, it advises shipmasters to follow the industry's Best Management Practices, as the threat of Somali piracy has not been totally eliminated.

### MARINE PROPELLER MARKET WORTH \$5.94 BILLION BY 2020 SAYS RESEARCH

According to a new market research "Marine Propellers Market by Number of Blades (3, 4, 5), Type (Controllable Pitch Propeller and Fixed Pitch Propeller), Application (Ship-Defense and Merchant, Boat-Inboard Engine and Outboard Engine, Underwater Vehicles-Submarine and Unmanned), Material (Aluminum, Bronze and Stainless Steel) – Global Forecasts, Trends

& Analysis to 2014 – 2020?, the marine propeller market is estimated to be valued \$3.67 Billion by the end of 2015. It is projected grow to \$5.94 Billion by 2020 at a CAGR of 10.07%. The key challenge faced by the marine propeller market is that the life cycle of a propeller is fairly high and hence replacement occurs after considerable amount of time.

APAC accounts a significant share in the marine propeller market. Europe is projected to witness a strong growth due to the increase in trade and services in countries such as Germany, Turkey, and UK. Technological advancements in the marine propeller market are estimated to increase the demand, hence driving the marine propeller market by 2020.



*Latest research suggests that the marine propeller market will be worth \$5.94 billion by 2020*

The heavy weights of the propellers have significantly reduced the demand for certain propellers made with aluminum or bronze. The increase in new ship building is expected to contribute to the growth of this market, globally.

The market is segmented on the basis of the number of blades, type, application, and by materials. The competitive landscape includes an analysis of the market share of the leading companies in the marine propeller market. The report includes analyses of the impact of the main drivers and restraints country-wise, and region-wise to give better insight into the marine propeller market. Industry and market trends have also been highlighted, which would provide competitive market intelligence to utilize business opportunities.

The analysis of key players includes companies such as Hyundai Heavy Industries Co. Ltd (South Korea), Rolls-Royce Holdings (UK), Mitsubishi Heavy Industries, Ltd. (Japan), Man Se Corporation (Germany) and Caterpillar Inc. (US).

*The focus of the new Wärtsilä AHTS vessel design is on simplicity, efficiency, low fuel consumption, and a reduced environmental impact.*

## WÄRTSILÄ LAUNCHES NEW AHTS VESSEL DESIGN

A new AHTS vessel design has been launched by Wärtsilä at this year's Sea Asia exhibition. The focus of the new design is on simplicity, efficiency, low fuel consumption and a reduced environmental impact.

The equipment solutions are suitable for a medium to large size AHTS vessel, where one of the key components is a 2-speed gearbox system selected to meet the design targets of reduced costs and less complexity without compromising operational safety. Wärtsilä estimates that the new design provides a reduction of 20 to 25 percent in fuel consumption compared to conventional diesel mechanical four engine solutions. The exhaust emissions are reduced accordingly.

The hybrid 2-speed gearbox PTI (Power Take In) solution ensures a seamless transfer from one operational mode to another, with the ability to work efficiently in all operational modes. When changing propeller speeds, the arrangement produces no loss in PTO (Power Take Off) power. Crew requirements need not change to operate vessels featuring the new

Wärtsilä design as no special electrical skills are necessary.

"Wärtsilä has an impressive track record and extensive experience in producing efficient AHTS vessel designs, all of which are based on proven technology and the utilisation of high quality equipment. As a result, our ship designs consistently set new standards in terms of efficiency and environmental sustainability. Our unique expertise, knowledge, and global support are the keys to maximizing the profits and asset values of our customers," says Riku-Pekka Hägg, Vice President, Wärtsilä Ship Design

The new Wärtsilä series of AHTS vessel designs features Bollard Pull options of 180 tonnes, with options for 150 or 220 tonnes, and a hybrid propulsion system with a 2-speed gearbox. They are fully compliant with ABS and the latest SOLAS regulations.

Wärtsilä has more than 50 years of experience in ship design. The company's global capability combines sophisticated European ship design with an Asian cost saving structure. The result is a new generation of ships that deliver high performance plus significant fuel and cost savings.

## CARRIAGE OF BAUXITE CARGOES AND LIQUEFACTION RISKS

The potential liquefaction of bauxite cargoes has been the subject of a number industry bulletins in recent years. These concerns have been renewed following the recent sinking of the bulk carrier Bulk Jupiter, which was reportedly carrying 46,400 MT of bauxite loaded at Kuantan in Malaysia.

Writing in the April issue of the London P&I Club's bulletin StopLoss, Dr Martin Jonas, Brookes Bell LLP, Liverpool, makes the following observations.

Similar to other unprocessed ores, such as iron ore fines and nickel ore, grades of bauxite that contain a high proportion of fines capable of retaining significant moisture are potentially at risk of liquefaction, resulting in cargo shift which may cause the capsizing of the carrying ship. Such cargoes are classed as Group A cargoes under the International Maritime Solid Bulk Cargoes (IMSBC) Code and should only be loaded if their moisture content is less than their transportable moisture limit (TML). Bauxite with high levels of fines appears to be particularly common in Indonesia and Malaysia, but has also been reported from other origins, including Guyana and Brazil.

As the IMSBC Code does not explicitly identify bauxite as a potential Group A cargo, shippers may wrongly declare Group A bauxite as Group C, and may not provide the required TML and moisture certification. Members should be alert to potentially misdeclared bauxite cargoes.



Depending on its particle size distribution, bulk bauxite may be either a Group A cargo or a Group C cargo. However, the only cargo listed in the IMSBC Code is Group C bauxite. This existing schedule is potentially misleading, as compliance with the size criteria given in the Code is not sufficient to demonstrate that a particular grade of bauxite is a Group C cargo. In the absence of a Group A bauxite schedule in the IMSBC Code, it should not be assumed that all bauxite cargoes are Group C.

In view of the potential risks of carrying mis-declared Group A bauxite, the Club makes the following recommendations to those considering carrying bauxite:

1. Group C bauxite consists predominantly of large lumps and will not have the appearance of slurry or mud even when wet. Because of the coarse particle size, these cargoes can only retain limited quantities of water. Any cargoes that possess flow properties when wet, e.g. a mud-like or slurry-like appearance, or that contain a high proportion of fine particles, should be considered as Group A. These cargoes may or may not be visibly wet at the time of loading, but in any case require representative sampling prior to loading to determine the TML and the moisture content.
2. Any wet or damp cargoes that appear on visual inspection to contain a significant proportion of fine particles should be tested for flow properties prior to loading, even if shippers have declared them as Group C.
3. The Master, Officers and Crew should conduct frequent and regular cantesting in accordance with the method set out in

Section 8 of the IMSBC Code. Development of a flat surface with signs of free moisture (glistening or shiny surface) is indicative of a flow state and thus a "fail".

4. In the event of failed can tests or the presence of splatter marks on the bulkheads and/or pools of free water, the Club's advice would be to suspend loading until the cargo has been properly tested for flow characteristics in a laboratory.
5. Because of the presence of very large lumps in some cargoes of bauxite, flow testing using the methods listed in the IMSBC Code is potentially difficult. The penetration test method for determining the TML of mineral cargoes is suitable for materials containing particles up to 25mm, and is therefore more likely to be applicable than the more common flow table method.
6. In cases where laboratory flow testing cannot be carried out, or is inconclusive, and pending the approval by IMO of suitable size criteria specifically for bauxite, the criteria recently introduced by IMO for iron ore fines may be a useful guide to assess which bauxite cargoes are likely to be Group A and which are likely to be Group C. Under the forthcoming iron ore fines schedule (see IMO circular DSC.1/Circ.71 of 15 November 2013), Group A cargoes contain more than 50% particles below 10mm and more than 10% particles below 1mm in size. While these size proportions have IMO approval at present only for iron ore fines, they may be useful in resolving potential loadport disputes concerning the correct categorisation of bauxite cargoes.
7. Group A bauxite cargoes should only be loaded with prior authorisation from the applicable Competent Authority, and in compliance with the detailed IMSBC Code regulations for the sampling, testing and declaration of Group A cargoes.



Photo: [www.hullvane.com](http://www.hullvane.com)

*Motoryacht Alive, recently delivered by Heesen Yachts, is the first superyacht equipped with a Hull Vane.*

## FIRST SUPERYACHT TO BE FITTED WITH A HULL VANE

The 42 metre displacement motoryacht Alive, recently delivered by Heesen Yachts in the Netherlands, is the first luxury yacht equipped with a Hull Vane. After a 30m passenger catamaran and a 55m offshore supply vessel, MY Alive represents the third full scale application of the fuel saving device called Hull Vane. Full scale test results have proven fuel savings averaging 20% in the yacht's useful speed range (12-16 knots).

Even without Hull Vane, the hull shape of MY Alive is very fuel efficient, as it is based on the Fast Displacement Hull Form (FDHF) from Van Oossanen Naval Architects, the company where the Hull Vane was originally invented. Model tests at the Wolfson Unit showed unprecedented fuel economy for a yacht of these dimensions – and this was later confirmed at sea.

In November 2014, MY Alive was put to the test during sea trials on the North Sea. As the Hull Vane on MY Alive is integrated into the construction

In July 2014, such back-to-back comparison trials were done on a 55 m Fast Supply Intervention Vessel, confirming the predicted fuel savings for that vessel of 10% at 12 knots up to 15% at 21 knots. The speed trials on MY Alive did however correspond exactly with the predicted resistance curve using computational fluid dynamics (CFD) software and model tests, which showed that the Hull Vane reduces the resistance by 20% at cruising speed. With her pair of 1.080 kW main engines, MY Alive reaches a top speed well over 16 knots.

As the Hull Vane was incorporated into the design of MY Alive from the beginning, it already saved money and space during the build: smaller main engines could be installed for the same top speed and smaller fuel tanks to achieve the same transatlantic range. The Hull Vane is a particularly attractive option for newbuilds, especially large yachts, fast commercial ships and naval vessels, as the cost savings on the main engines often outweigh the cost of the Hull Vane. So for roughly

the same overall build cost, a ship can be built with more usable interior volume, significantly lower fuel consumption and better seakeeping in waves.

The main working principle of the Hull Vane is forward thrust: the hydrofoil generates a lift force in the upward flow under the aft ship. As this lift force is angled forward, a net forward thrust force is developed. The Hull Vane sometimes has been called “the bulbous bow of the stern” as it also reduces the stern wave created by the vessel and therefore the energy put into the wave system. Due to the vertical lift, the running trim is also influenced beneficially. As the Hull Vane dampens the pitching, rolling and yawing movements, the savings percentage is higher when sailing in waves, because the added resistance from ship motions is reduced.

### NEW RNLI LIFEBOATS TO BE DESIGNED BY NEWCASTLE UNIVERSITY STUDENTS

The approach to the design of all-weather RNLI lifeboats is set for a re-evaluation as part of a major study being led by Newcastle University and the RNLI with support from Lloyds’ Register. Set up to explore how new technology, materials and approaches can be used to improve the design, operation and maintenance practice of the RNLI’s Severn Class lifeboat, the four-year project will help to improve the performance of the craft while providing the safest possible environment for the RNLI’s volunteer crews.

Using computer models, small scale experiments



Photo: www.ncl.ac.uk  
The RNLI has 130 all-weather lifeboats in service.

and full size trials to analyse the behaviour of lifeboats at a range of speeds and in varying conditions, the findings will inform new design specifications around speed, safety and efficiency.

Richard Birmingham, Professor of Small Craft Design in Newcastle University’s School of Marine Science and Technology and the Principal Investigator on the project, explained:

*“The ability to safely perform at high speed and in extreme conditions is not only imperative for the safety of the volunteer crew but also has a direct effect on the efficiency and reliability of the search and rescue service.*

*Designing a boat that is capable of travelling safely at greater speed and under the most extreme conditions, means a better response to emergency call-outs and less transit time to reach the casualty.”*

Project lead Federico Prini, research associate at Newcastle University’s School of Marine Science and Technology, adds:

*“When the RNLI lifeboats travel at speed and in rough seas, they can be subject to frequent and significant slamming as the boat crashes against the waves.*

*Measuring these forces and the resulting impact on the vessel is crucial in order to design a craft that is capable of withstanding the loads experienced during rescue operations. That is what we are setting out to do – using the latest technology and equipment here at Newcastle University.”*

Today, the all-weather RNLI lifeboats are still expected to perform in the most extreme conditions, with a range of 100 nautical miles from the coast.

Restrictions to the allowable speed for a given sea state are due to the balancing requirements of optimum weight and structural strength together with the available propulsive power, the equipment functionality and the crew endurance and safety. The project seeks to provide a set of guidelines embedding all these limiting criteria. Guidelines that will be tailored to the needs of the RNLI’s design team as well as those of lifeboat

operators and maintainers.

Holly Phillips, Principal Naval Architect at the RNLI, said:

*“The ability of the crew to operate safely and efficiently has always been one of our major design drivers. We expect that the design improvements will contribute to increase the performance of the crafts as well as the safety of our crews.”*

The study is also supported by Lloyds’ Register (Marine), a leading global maritime classification society and engineering consultancy provider. They will bring some of that experience to the table, as a third party adviser and peer reviewer, and assisting the team draw up new guidelines.

Jesus Mediavilla Varas, Lead Specialist at LR’s Strategic Research and Technology Policy Group, added:

*“Lloyd’s Register has been committed to improving the safety standards of operation of vessels at sea for more than 250 years. This project will help to de-risk the operation of lifeboats, by improving the current knowledge, and potentially contribute to further improve our special craft rules.”*

# MEMBERS' NEWS

The IIMS has a number of events that are either coming soon, or have recently taken place. Here is a round up of some of those that are scheduled to take place in the coming weeks and months, followed by a report on those that have already happened since the last issue of The Report.

## Forthcoming events...

### IIMS AUSTRALIA TWO DAY WORKSHOP

Although the event is almost upon us, there is still time for latecomers to reserve their place at what promises to be an engaging couple of days of debate, discussion and learning. The workshop is taking place on Thursday 18 and Friday 19 June 2015. The venue is the Australian Fisheries and Maritime Academy at Port Adelaide and the theme of the workshop is: 'Marine Surveying 2015-2020. Change and Challenge.'

## DAY 1

### 09.30-10.30

Registration and coffee/networking

### 10.30-10.35

Welcome to country and welcome to the workshop by CEO IIMS and Chair IIMS Australia Branch

### 10.35-11.00

Keynote: Mike Schwarz  
CEO IIMS 2015 Update

### 11.05-11.50

Non-destructive evaluation techniques and tools for marine surveys (hands on demos available throughout day 1) by Russell Fraser

### 11.55-12.30

Mr Bob Miller, CEO AFMA  
'Seafarer Training in Australia'

### 13.35-14.20

Becoming an AMSA Accredited domestic commercial vessel surveyor - Team Leader Surveyor Accreditation - AMSA

### 14.25-15.05

Kevin Jones, Director South Australia Maritime Museum: 'The challenges of keeping volunteer run heritage vessels in survey and operation'

### 15.15-16.15

Running a survey business in Australia in 2015 and into the future: opportunities, problems and challenges. Invited panel and workshop with Q&A's

### 16.15-17.15

Branch AGM. Members and prospective members may attend. Separate agenda will be supplied. Branch positions will be discussed as will finances, strategy and future activities. Your chance to have your say.

## DAY 2

By 08.00 assemble on wharf for practical demonstration of compass adjustment (exact location to be advised the previous day).

### 08.00-09.15

Compass adjustments: Theory and practice on vessel by Capt Peter Lambert FIIMS

### 09.30-10.15

Keynote: Professor Gary Wittert, University of Adelaide  
Men's Health Issues

### 10.45-11.15

Surveyors role in Safety management systems - Wes Oswin AMSA

### 11.20-11.50

Human Elements - risk, fatigue, bridge management and the surveyor- AMC

### 11.55-12.30

Final Workshop  
Open Forum

### 12.30-12.45

Final Remarks and Close - CEO IIMS & Australian Branch Committee

## Workshop cost

The workshop cost is \$100 per person for members of IIMS. Members of AIMS, RINA and IMAREst are able to attend at the same cost. Non-members cost is \$120 per person. This includes attendance, refreshment and lunches both days. A limited number of student places are available. Please contact the organiser for details.

## IIMS LONDON CONFERENCE 2015

The schedule for the IIMS London Conference, which is taking place on 7/8 September, has been finalised. There is a detailed article about the event itself, the speakers and their topics in this issue. Turn to page 17 to read the full details and to find out how to reserve your place at what promises to be an excellent and most worthwhile Conference.

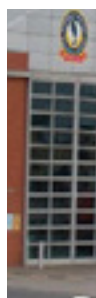


## IIMS SCWG 'SUPER' TRAINING DAY

After the success of the small craft working group meeting in March, the team is working hard to put together a full on day of surveyor training aimed solely at small craft surveyors later this year. The date for your diary is Monday 5 October at Portchester Sailing Club.

At the time of going to press, a number of speakers and presenters have been confirmed. Topics that will be covered during the day include, gas installations, smart marketing for marine surveyors, ultrasonic thickness gauges (new product), electrical installations, paint and coatings and insurance matters.

Tritex NDT has agreed to sponsor the event and our thanks go to them.



**To reserve your place at the workshop:** Places are limited so please do not delay in booking. Bookings and queries can be directed to Karin Powell by email at [karin.powell@bigpond.com](mailto:karin.powell@bigpond.com). Telephone: 0411 157 985

**CPD:** This event counts as a maximum 5 points and certificates will be issued to all attending.

**Dress:** Dress will be casual for the workshop and the dinner. It's the start of winter so expect about 20 degrees during the day and about 10 degrees at night.

The 4th Biennial IIMS UAE Branch Conference 2015: 'Marine Loss Prevention and Warranty'.



#### 4TH BIENNIAL IIMS UAE BRANCH CONFERENCE 2015

Capt Zarir Irani and the committee are putting together the finishing touches for the 4th Biennial IIMS UAE Branch Conference 2015 which will take place on 24 and 25 November. The theme of this two day conference is: 'Marine Loss Prevention and Warranty'. Keep an eye open for the finished speaker list coming soon.

#### IIMS SCWG TRAINING DAY PORTCHESTER

A group of nearly 30 small craft surveyors (the majority members of IIMS) met at Portchester Sailing Club on Monday 23 March for the first Small Craft Working Group training day of the year.



The agenda for this event looked rather different to previous ones and this was perhaps reflected by the numbers who turned up, in what was the largest such gathering for some considerable time. The aim of the day was to mix some presentations about business management skills with more specific surveyor training, including report writing, and judging from the feedback received at the end of the day, the format worked for the vast majority of delegates.

*Some of the verbatim comments written by those who attended the day were:*

***Very interesting and all of good use***

***Really useful and I'd like to see an IIMS head office update at every meeting Good fun learnt a lot***

***Very good enjoyed the whole day***

***The report writing practical group exercise was particularly interesting***

***Very good content with many useful tips***

***Generally fit for purpose!***

*Nearly 30 small craft surveyors (including some non-members) met for a training day at the Portchester Sailing Club.*



The two day conference, 'Available Tools and Technologies', was held at the Maritime Institute of Technology & Graduate Studies in Linthicum, Baltimore.

#### IIMS NORTH AMERICAN CONFERENCE SUCCESS

James 'Randy' Renn, the IIMS in-country representative for America, reported a good conference was held in April. Around 30 marine surveyors turned up for the two day Conference, which was themed 'Available Tools and Technologies' and held at the Maritime Institute of Technology & Graduate Studies in Linthicum, Baltimore, Maryland.

The opening day started with a presentation on 'Modern fuels condition, filtration, testing and polishing'. Next up was 'Thermography. Where we are, what is the latest'. After lunch delegates were introduced to the subject of "Solar Sails". Also on the first day's agenda as a slow given by BYK Gardner on 'Test equipment for Yacht finish clarity, density, luster, etc. which has been standardized per ISO'.

An early start on day two saw the first presentation delivered entitled 'Compliance with wash water runoff and methods of filtration. Vessel cleaning restrictions, Ship Yard, Barge and Vessel responsibility overview per statute mandates'. Electrical Surveys were next on the agenda. In

the afternoon, delegates heard about 'Sound and Vibration Reduction Technology'. There was also a useful session on 'Tools and measurements. Work Place and Accommodation Space Db measurements. Tools for Electronic Engines Plug and Analyze – Rinda. Use of the "Ideal" Hand Held Test Instrument, HIOKI meter. Refractometer for Antifreeze, Sodium Detection, Enclosed Space Gas Detectors'.

All in all the two day conference was a great success and many thanks are due to the presenters and speakers for thoughtful and insightful content.

#### WESTERN MEDITERRANEAN SCWG TRAINING DAY

A group of IIMS members and non members assembled for what turned out to be a full on day at the IIMS Western Mediterranean Small Craft Working Group training day, held at the Palma Superyacht show.

The day began with a couple of presentations by IIMS CEO, Mike Schwarz, given in an outdoor location within the show itself. This attracted an audience of 40 people, which apart from member surveyors, included representatives from



*The IIMS Western Mediterranean Small Craft Working Group training day was held at the Palma Superyacht show in Majorca.*

insurance companies, refit yards and yacht brokers. Mike spoke about the activities of the institute, operating in three core markets as a membership organisation, an educator and a certifying authority. He also explained the benefits of membership and talked about the values of engaging an IIMS member surveyor.

Members met up again after lunch at a nearby lecture room for the afternoon training session. Ken Hickling, Superyacht Business Development Manager for AkzoNobel, spoke eloquently on the topic of 'Lessons learned from superyachts' with particular reference to the coatings aspect and the paint job. Charles Whitehead from Electromarine Balear talked about 'Electrical control systems from digital switching to CAN BUS'. As a bonus, Tom Bettle came to complete the afternoon by giving a short presentation on a new service just launched by Clipper Venures plc called Clipper Telemed.

Thanks are due to John Walker locally for pulling together much of the day's events.

## CERTIFYING AUTHORITY TRAINING DAY

On 13 May, a group of 20 IIMS members and non members, including IIMS MCA coding and non coding surveyors, gathered at Trafalgar Wharf, Portchester on a beautifully sunny day for one of the two annual training days that are provided by the Certifying Authority.

The theme of this Certifying Authority training day was stability, stability, stability. The first class training, which was provided by IIMS CA Committee members, Fraser Noble (Chairman) and John Excell, included an inclining experiment followed by a heel test on a small fishing vessel and finally a heel test on a RIB.

The three exercises were filmed and the IIMS will soon be making these videos available to members via its YouTube channel for all to see and learn from as a training aid.

*The theme of the Certifying Authority training held at Trafalgar Wharf, Portchester on 13 May was stability, stability, stability. The training day included an inclining experiment followed by a heel test on a small fishing vessel and finally a heel test on a RIB.*



*The Association of Marine Surveyors of British Columbia is to amalgamate with IIMS to form IIMS BC, the British Columbia chapter of IIMS Canada.*

## AMSBC TO AMALGAMATE WITH THE IIMS

At a recent meeting of the International Institute of Marine Surveying's (IIMS) management board in Portchester UK, it was unanimously agreed to accept the proposal from the Association of Marine Surveyors of British Columbia (AMSBC) to amalgamate and form IIMS BC, the British Columbia chapter of IIMS Canada. The realisation of IIMS BC and IIMS Canada is the result of much due diligence work behind the scenes.



Commenting on the news, Richard Smith, President of AMSBC said, "Looking to the future I am convinced that this will prove to be a very positive and beneficial move for both our members and the profession at large here in British Columbia."

"Our access to an association with a sizeable realm of national and international knowledge combined with the considerable educational resources that will now be available to us will be of great value and help us to elevate the status of our profession and thus the level of service that we will bring to the marine industry in BC."

Richard went on to formally thank the Amalgamation Committee, and in particular Tim Ellis and Capt Andrew Korek, for all their efforts in helping bring this project to fruition.

Speaking on behalf of the IIMS, Mike Schwarz, Chief Executive Officer, said, "I am delighted that we have been able to facilitate and agree the amalgamation between our two organisations and look forward to welcoming AMSBC members into the IIMS family."

"I am most grateful to those involved in British Columbia, who have worked tirelessly to make

this a reality. Capt Andrew Korek (who will become Regional Director of IIMS Canada) and I have already forged a close working relationship and I look forward to developing things further in the coming months."

There is a formal gathering planned on 8 July in Vancouver to announce and mark the amalgamation.

### FREE TO ATTEND SEAWORK SEMINARS

Seawork International at Southampton, which takes place from 16-18 June 2015, is the largest international commercial marine and workboat exhibition and conference held in a European working port environment.

The IIMS is involved in helping to organise several presentations that are open for anyone to attend free of charge and will take place on Wednesday 17 June.

Unlike in previous years, the conference location at the show has been changed. These presentations will be given aboard the 'Ocean Scene' which will be moored up alongside the quay in the heart of the show itself by the catering area.



The Seawork International workboat exhibition at Southampton, will take place from 16-18 June 2015 this year.



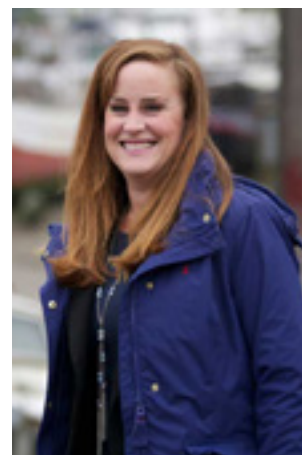
The presentations will be given alongside the quay in the heart of the show.

The Small Craft Surveyors Forum seminar starts at 13.30hrs and concludes at 17.00 hrs. The theme is "Workboats and Surveyors". The final line up of speakers is to be confirmed, but it is anticipated a member of the MCA's team will be on hand to present one year on from the revised Code. This will be followed by the topic of workboats in windfarm support. The final presentation of this session will cover workboat development and will be delivered by the RNLI.

Moving on to the next session, the IIMS has joined up with the Southern Branch of the Nautical Institute to run an one hour long presentation from 17.00 hrs to 18.00 on the same day at the same location – again on a complimentary basis. The theme is "The surveyor and the surveyed – on board interaction".



Kelly Tolhurst, an IIMS member, is now also the Conservative Member of Parliament for the Rochester & Strood constituency.



### IIMS MEMBER ELECTED AS A UK MEMBER OF PARLIAMENT

At the recent General Election held May in the UK, IIMS member, Kelly Tolhurst, won a handsome victory and is now the Conservative Member of Parliament for the Rochester & Strood constituency with a majority of over 7,000. Kelly Tolhurst and the Conservative party exacted revenge on defector Mark Reckless by re-taking the seat he handed over to UKIP at a by-election in 2014. Mr Reckless had represented the Kent constituency for the Conservatives from 2010 until switching allegiance to UKIP and beating Kelly Tolhurst at last November's by-election.

Speaking after her win, a delighted Kelly Tolhurst said: 'The economy comes first making the country able to move forward with stability.'

All involved with the IIMS wish Kelly a long and fruitful career as an MP.

Three IIMS members who attended the show were Sergio Testa, Peter Pope and Peter Kidd.

The speaker panel is: Commercial - Captain Ian Odd and Alan Bloor. Leisure – Geoff Waddington

This joint meeting will be in the form of a panel discussion to demonstrate the approaches taken by surveyors and the reaction by those surveyed in the small (leisure) craft and larger (commercial) ship sectors.

### OFFICIALS STAND DOWN

The IIMS would like to acknowledge the work of two member surveyors who have stood down from office in the past few weeks. Geoff Waddington has relinquished the position of Education Committee Chairman to be replaced by Capt John Noble. Tony McGrail has stood down from the Certifying Authority committee. The IIMS would like to thank them for the considerable effort they have put in to the Institute over the years.

### GOLD COAST MARINE EXPO AND SANCTUARY COVE BOAT SHOW

The Gold Coast Marine Expo and Sanctuary Cove Boat Show (21 to 24th May 2015) Brisbane Australia had over 3 kilometres of displays and boats. Pictured below is Sergio Testa, Peter Pope and Peter Kidd, three IIMS members who attended the show.



The International Institute of Marine Surveying  
**London Conference**  
**2015**



Monday 7 & Tuesday 8  
September 2015

**“MARINE  
SURVEYING  
TODAY”**



Venue: **The Old Library at Lloyd's**  
in the heart of the city of London

# 7 reasons to come to the IIMS London Conference 2015

- **Network** with fellow marine professionals in the surveying business
- Listen to **keynote speakers**
- Soak up the atmosphere of the **Old Library** and later aboard **HMS Belfast**
- Enjoy the delights of **London**, one of the most vibrant cities in the world
- Move on from the Conference to take in **London Shipping week**
- More than **15 presentations** to enjoy and learn from over two days
- Gain **5 valuable CPD points** too



## Iconic venue for the Conference

The IIMS London Conference 2015 will take place on 7-8 September in the historic setting of the Old Library within the Lloyd's of London building.

The modern Lloyd's building at 1 Lime Street incorporates the Old Library into the more recent structure. Lloyd's stands out as one of the most unique landmarks within the London skyline. But the Old Library (built in the 1920's) elegantly complements the traditional with the modern architecture.

Sponsors

At this stage, DGS Marine Group are the lead sponsor with Constellation Marine Services are confirmed as a headline sponsor.



**DGS**  
MARINE GROUP



**matrix**  
INSURANCE SERVICES LTD



**SYNERGIA**

Confirmed supporting partners are Matrix Insurance, Cygnus Instruments and Synergia.

## Dinner aboard HMS Belfast

The Conference dinner will take place aboard the historic HMS Belfast, which is moored in the River Thames adjacent to Tower Bridge. The ship is about 10 minutes' walk from the Lloyd's building.

- 18.30** The ship will be open for delegates so they can walk around the museum and vessel
- 19.15** Drinks reception onboard
- 19.45** Guests seated for dinner
- 23.00** Carriages



## About the venue

Built by Messrs Harland & Wolff of Belfast in 1936, Belfast was launched on St Patrick's Day 1938. Designed for the protection of trade and offensive action she was immediately called into service patrolling the northern waters in efforts to impose a maritime blockade on Germany.

After the Second World War HMS Belfast played an active role in the Korean War from 1950-1952. Her final years were spent performing peace-keeping duties until she was retired from service in 1963.

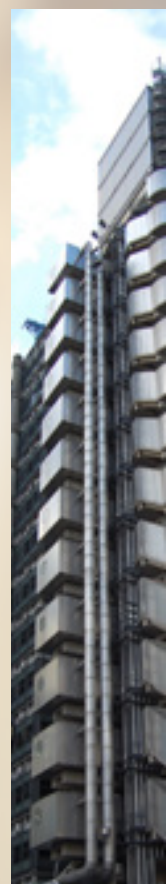
Today HMS Belfast is the last remaining vessel of her type – one of the largest and most powerful light cruisers ever built.

# Confirmed speakers and topics\* over the two days:

## DAY 1, MONDAY

- 08:30 hrs Registration
- 09:20 hrs **Opening remarks**
- 09:25 hrs **Welcome by the IIMS President - Capt Bertrand Apperry**
- SESSION 1**
- 09:30 hrs **Mike Schwarz: An overview of IIMS activities and initiatives**
- 09:50 hrs **Chris Baldwin: Why accreditation and standards matter**
- 10:10 hrs **Ken Hickling: This Boat needs painting! How the survey can help outline the alternatives**
- 10:50 hrs Coffee
- SESSION 2**
- 11:10 hrs **DGS Marine Group (topic to be confirmed)**
- 11:40 hrs **Uday Moorthi: The marine surveyor's role in new build supervision**
- 12:10 hrs **David Lawrence: Lloyd's Open Form and the role of a Special Casualty Representative**
- 12:45 hrs Luncheon
- SESSION 3**
- 13:45 hrs **Karen Brain: Mediation and the marine surveyor**
- 14:15 hrs **Ian Millen: The importance of maritime security and intelligence**
- 14:45 hrs **Capt Zarir Irani: Marine surveying today from a businessman's perspective**
- 15:15 hrs Coffee
- SESSION 4**
- 15:30 hrs **Capt Nick Sloane: Costa Concordia 'The Parbuckling Project'**
- 16:30 hrs **Capt Ruchin Dayal: Iron ore fines - new challenges in using the Code**
- 17:00 hrs **Mike Schwarz: Marine Surveying Academy update**
- 17:20 hrs Close Day One

**\*The Institute reserves the right to change the programme content and speakers.**



## DAY 2, TUESDAY

- 08:00 hrs Day Two Opens
- SESSION 5**
- 08:30 hrs **Breakfast briefing: KEY NOTE Andrew Winbow: Assistant Secretary-General/Director IMO - Maritime Safety Division**
- 08:50 hrs **Milind Tambe: The integrity of digital images – what marine surveyors ought to know**
- 09:15 hrs **Capt Drew Korek: Case study of the the m/v Happy Star Big Lift project**
- 09:45 hrs **Paula Finch: Knowing when to call in a business coach, mentor or external advice**
- 10:15 hrs **Dr Risto Talas: The application of technology in marine surveying and auditing**
- 10:45 hrs Conference close



## Details about some of the speakers who are presenting at the IIMS London Conference 2015



**Capt Nick Sloane presents:**  
*'Costa Concordia - the Parbuckling Project'* on 7 September at 15.30 hrs

Nick Sloane, the man behind the Costa Concordia salvage operation as he became known, had the unenviable task of righting the ship in the spotlight of the world's media. It was more than 30 years ago in 1980 that Nick started his career at sea with Safmarine. His first assignment was the rescue of a burning tanker filled with over 250,000 tons of crude oil. Since then he has gone on to repair oil and gas lines in the Middle East and salvage a tanker hit by pirates off the Yemeni coast. But it is for his extraordinary work on the Costa Concordia project and salvage that he is best known.



**Paula Finch presents:**  
*'Knowing when to call in a business coach, mentor or external advice'* on 8 September at 09.45 hrs

Paula Finch has been running a successful business development business for the past 18 years. She is an approved Business Coach,

Mentor and Trainer supporting business owners and senior management teams to engage and deliver growth throughout their business. Paula is passionate about supporting success driven business owners to increase profits by giving them proven business development, sales and marketing strategies. Paula proved to be a popular and passionate speaker at the 2014 Conference. So she is back; and this year Paula tackles the subject of knowing when you might call in a coach or mentor and shares 7 reasons why you might consider doing so.



**Capt Drew Korek presents:**  
*'Case study of the the m/v Happy Star Big Lift project'* on 8 September at 09.15 hrs

At the end of last year and start of this one, Drew was involved in overseeing a mighty heavy lift project loading in China and unloading in Canada. Working in very cold temperatures in Canada as low as minus 30, Drew will talk about the scope of this project to transport two complete shiploaders and wharf conveyor and the significant challenges it presented him as the attending surveyor.



**Ken Hickling presents:**  
*'This Boat needs painting! How the survey can help outline the alternatives'* at 10.10 hrs on 7 September.

Ken Hickling is the Superyacht Business Development Manager for AkzoNobel and past president of the International Superyacht Society. Ken will tackle the rather bland subject of paint and coatings in his usual inimitable and engaging style. His vast knowledge of this complex subject means he is well placed to deliver an engaging presentation.



**Chris Baldwin presents:**  
*'Why accreditation and standards matter'* at 09.50 hrs on Monday 7 September

Technical Adviser with the International Marine Contractors Association, Chris Baldwin has been working closely with IIMS to develop and launch the CMID vessel Inspector accreditation scheme. In his presentation, Chris talks about why the need to develop an industry recognised scheme became overwhelming and some of the challenges of developing a world class accreditation programme.



**Ian Millen presents:**  
*'The importance of maritime security and intelligence'* at 14.15 hrs on 7 September

Ian is CEO of Dryad Maritime, specialists in maritime security and intelligence. With their command centre based in Portsmouth, Ian will share with delegates information about the work his organisation does and how surveyors can help to ensure security is maintained.

The nominated President's charity that will be the beneficiary from the IIMS raffle at the London Conference is SNSM. This article informs readers about their work.



## SNSM: The French NATIONAL ASSOCIATION of RESCUE at SEA

The French National association of rescue at sea (SNSM) is a national entity recognized as a public utility. It aims to save human lives in danger at sea on the French coast on a voluntary and free basis. Under the authority of the local CROSS (local MRCC) and on their request, it is dedicated to participate in public tasks in its area of competence.

In 2014, the SNSM performed 5,349 interventions to rescue 8,071 persons in difficulty; while sustaining nevertheless between 350 and 400 deaths a year at sea. 26% of the SNSM interventions take place at night and the average length of one operation is close to 2 hours.

With 32 training and intervention centres for lifeguards, the SNSM performs every year prevention and coastal surveillance. They train nearly 450 new lifeguards each year.

If rescue at sea is ensured all year round, monitoring of beaches is undertaken from May to September. Thus, 1500 lifeguards on beaches, undertake surveillance of the beaches and seaside up to a coastal distance of 300 meters. They hold a national safety and sea rescue diploma (BNSSA), coastal navigation license, team first aid diploma (PSE1 PSE2), the Radio Operator Certificate (RRC). They have all taken part in specific courses of sea coastal adaptation (sea Training).

In the Calvados region, there are three main activities:

### 1. RESCUE AT SEA

- **8 permanent stations:**  
Honfleur (V1 SNS-131),  
The Touque-Trouville (V2 SNS-264),  
Dives s / sea-Cabourg (V2 SNS-283),  
Ouistreham\* (CTT SNS-091),  
Courseulles (V2 SNS-259),  
Port en-Bessin (V2 SNS-267),  
Grandcamp-Maisy (V2 SNS-266),  
Isigny s / sea (SR-NHS 1491).
- **100 volunteer rescuers embarking**
- **2014 -134 interventions**

The SNSM Ouistreham station is twinned with the RNLI Lifeboat Station in Torbay since 6 August 1983.

### 2. RESCUE ON THE COAST

- **18 beach rescue stations on the coast of Calvados.**
- **110 lifeguards for 24 rescue stations, under the control of coastal town councils**

### 3. THE OUISTREHAM TRAINING CENTER (IFC)

- **120 lifeguards (NS) are trained each year at the training center of Ouistreham with 30 volunteer trainers.**
- **Sea training takes place on the beach of Cabourg.**

- **Off season, the Calvados NS ensure public safety during the local festivals (in Caen, Caen football club, etc.).**
- **The SNSM is able to carry out all these missions thanks to the generosity of public donations and private partners: in 2014 76% of the annual resources of the SNSM were from private sources and 24% from public sources (State and local authorities).**

The Sea Rescue financial needs are: The renewal and the maintenance of the rescue fleet.

- ◆ **The current costs of the stations and the training centre.**
- ◆ **The Sea Rescue is proud to share the strong "capital generosity" given by the French population and partner companies.**

Today, SNSM is particularly pleased and honored to show their activities to the members of the International Institute of Marine Surveying (IIMS).

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Intervention: "Fire on board a trawler, January 6, 2015"



Twinning Chart between Torbay and Ouistreham rescue centers



Map of Calvados



SNS 091" Ouistreham rescue boat:  
polyester L = 17.60 m - l = 4.20 m  
P = 2x279 Kw /Volvo TAMD 122A"

# IIMS set to publish a new series of self help guides under the title of 'WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT..'

***"A little knowledge is a dangerous thing. So is a lot."* - Albert Einstein**

*Designer's impression of the front covers:*



*"Just before Christmas 2014, I challenged a number of respected IIMS member surveyors, some retired and some still practising, to write down their knowledge on specialist topics relevant to the marine surveying profession. The aim then is to publish and share this knowledge with marine surveyors around the world. I was astonished (and delighted) at the desire by those I approached to do this and to get involved with this project. The result is that the IIMS has been offered over 30 manuscripts for publication in the coming months. I am grateful to all those who have agreed to contribute to this exciting and worthwhile venture."*

**Mike Schwarz,**  
IIMS Chief Executive Officer

## **ABOUT THE SERIES**

The 'What a marine surveyor needs to know about' series is not designed to teach a surveyor everything about a given subject. Rather it is a self help guide in booklet format, which will give a surveyor a good grounding in the subject matter, but will also act as a 'aide memoire' for an experienced surveyor to refer back to.

Some of the content is highly technical. Published in an easy to handle A5 format, the books will typically be between 15,000 and 20,000 words running from 64 to 80 pages, including illustrations (where appropriate).

## **PUBLISHING FORMATS**

The IIMS has decided to self publish this series of guides. After much thought, the books will be delivered in three formats. Format one is as a downloadable pdf from the IIMS web site that can be saved and/or printed. The second format is in traditional printed paperback; and finally the books will be available to download from Kindle in electronic format.

The cost of the books, whilst not finalised, will be kept to a minimum. The aim of the publishing programme is to make this knowledge and information available at a low and affordable price so that is it accessible by the majority and not the minority.

The first seven manuscripts are now in production and it is planned to formally launch the series once these are ready to go to give the programme some impetus in the coming weeks. As this is a rolling publishing programme, other titles will be added to the list as they become available.

*Here is a brief synopsis and extract from the titles currently in production.*

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT SMALL CRAFT ELECTRIC ARC WELDING**

Arc welding refers to a group of processes that use a power supply to create an electric arc between an electrode and the base material to melt the metals at the welding point. They can use either DC or AC current and consumable or non-consumable electrodes. The welding region is sometimes protected by some type of inert or semi-inert gas, known as a shielding gas and/or filler material.

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT IMAGING TECHNIQUES**

Photography is a combination of science and art. The more you master the science of photography the more of an art form it becomes. This book sets out to explain the science and aesthetics of photography that would benefit a marine surveyor. It is not to teach photography but to help surveyors understand their cameras better and then create better images, and if possible artistic ones that speak for themselves of the situation and condition that the surveyor has seen on board the ship or a boat. Of late it is hard or rather impossible to find teenagers and adults without an imaging device. Today cameras are included in every imaginable gadget - phones, tablets, computers, watches, pens. You name them and you would probably find a camera included in one or the other model of that gadget. If cameras are that handy would it not make sense to understand the science behind it? Especially when a marine surveyor should not leave the office without one?

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT KNOWLEDGE MANAGEMENT**

Knowledge management is an essential activity and key differentiator for professional services providers like marine surveyors. These are

people based businesses whose service delivery and value is intimately linked to the knowledge and skills of the practitioners (those delivering the service). This publication is a practical guide to Knowledge and Knowledge Management. It provides a background to the subject and a practical insight into what is required and how to setup a computer based Personal Knowledge management solution.

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT THE USE OF MOISTURE METRES ON SMALL CRAFT**

These days it is de rigueur for a marine surveyor inspecting a fibre reinforced plastic boat to use a moisture meter and the first thing to know about moisture meters is that they do not actually measure moisture. What they do measure is conductivity. A Tramex meter invariably shows a very high moisture reading on the solid and absolutely dry glass top of a living room coffee table as it is measuring the presence of minute traces of carbon (an electrical conductor) in the lightly smoked glass. The origins of the moisture meter lie in the building and construction industries and the original scale was based on the water content of brick and stone work. The scale has largely remained unchanged. There are a number of these machines available in the market and they were first introduced into the marine industry for checking how an frp hull had dried over time prior to rebuilding for osmosis treatment and for that they remain a useful tool.

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT REPORT WRITING**

This book sets out to provide a basic set of rules to assist marine surveyors as to what writing a good report entails and how to approach what can be a daunting task, especially for a less experienced surveyor. It explains the clauses you should include, where you should use them and generally how to be sure you have provided an accurate and factual report whilst at the same time not left yourself exposed (and minimising the risk) to litigation by an unsatisfied client.

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT SMALL CRAFT METAL HULLS AND ULTRASONICS**

Hull survey methods are the means and procedures necessary to detect defects and damage at an early stage in order to avoid premature failure and/or breakdown. They

are, therefore, not only a comprehensive means of detecting such deficiencies and/or monitoring the vessel's structural condition but also defining schemes for inspection between the last overhaul and before the occurrence of failure. The means of detection of defects and condition monitoring are inter alia:

- Visual inspections.
- Non-destructive testing (NDT) and calibration.
- Examination of tightness and function.
- Measurement of thicknesses, condition and vibration.

#### **WHAT A MARINE SURVEYOR NEEDS TO KNOW ABOUT SMALL CRAFT, SHIP AND BOATBUILDING TERMINOLOGY**

These glossaries give definitions of many of the ship/boat construction and related terms the marine surveyor will find. They include some very ancient terms and a few that are now obsolete but were still in use when the author was a shipwright. Where appropriate the (slightly modified) definitions of IACS Recommendations 82 have been included. The first glossary is confined to words used on small wooden, or metal pleasure boats and words relating to the construction and survey of vessels built of other materials have been given in separate glossaries. It is useful to include such of these definitions as are appropriate as an appendix to any report prepared by the marine surveyor for expert witness or other legal purposes.

Some of the other books in the series which are being written, or which will be written in the coming months, will cover the following subject matter:

- Working in enclosed spaces
- Conducting underwater surveys
- Surveying steel hulls
- Modern dredging technology
- Surveying wooden hulls
- Electrical systems for small craft surveyors
- Plumbing & Pumps
- Acting as an expert witness
- Hatch covers
- Anti piracy measures for ships
- Preserving evidentiary value of photographs
- Wire ropes: a hand book for marine surveyors
- Salvage related surveys
- Dynamic positioning

So keep an eye open for notification of the launch of the IIMS publishing programme in due course.

Photo credit: Abner Kingman 2014 ©

# 15-16

The Clipper Round the World Yacht Race is the longest ocean race on the planet and is open to everyone. Now approaching its tenth anniversary edition, what does it

**Follow the race:**

**To find out more, visit [www.clipperroundtheworld.com](http://www.clipperroundtheworld.com)  
Facebook: [www.facebook.com/clipperroundtheworld](http://www.facebook.com/clipperroundtheworld)  
YouTube: [www.youtube.com/user/ClipperRTW](http://www.youtube.com/user/ClipperRTW)  
Twitter: [www.twitter.com/clipperace](http://www.twitter.com/clipperace)**



take to complete the extreme challenge;  
and more importantly what are the  
refit and engineering challenges  
that go on behind the scenes  
to ensure the fleet is  
fit for purpose?



# *Preparing the Clipper fleet to sail*

*“There is nothing like the intensity of running along the top of a wave in the Southern Ocean and deciding to turn down the front of it into chaos. We ran on adrenaline for days on end.”*



Round the world crew member and company director Peter Brumby, 50, left his job before the race, swapping it for the thrill of taking on Mother Nature's toughest conditions for a year. Sailing through hurricanes, waves the size of several houses and facing threats of cyclones, pirates and icebergs were all part of life on board his team's yacht Qingdao.

The team experienced a lightning strike in the North Pacific, helped another Clipper Race yacht during an urgent Mayday mission and narrowly missed a waterspout. Other teams dealt with medical evacuations, a Man Overboard rescue, knockdowns and a tornado.

An endurance test like no other, the Clipper Round the World Yacht Race is 40,000 nautical miles long, takes almost a year to complete and is the only global race of its kind for Corinthian sailors.

The ocean odyssey was conceived by Sir Robin Knox-Johnston, the first person to sail solo, nonstop round the world in 1968/9. He created the Clipper Race to give everyone the chance to experience the thrill of ocean racing.

No previous sailing experience is necessary to take on the challenge as full training is provided. Organisers supply a fleet of twelve identical racing yachts and a fully qualified skipper guides their non-professional crew.

Up to 40 per cent of crew members have never sailed before they sign up. They come from all over the world and include everyone from midwives to chief executives, lawyers, actors, doctors, students and many more.

- The countdown to the 2015-16 tenth anniversary edition is on, with the race starting on 30 August from the UK.
- There are still places available on most legs including on Leg 4 – the All Australian leg – which includes offshore classic the Rolex Sydney Hobart Yacht Race as part of circumnavigation. This sees the Clipper Race crews pit themselves against some of sailing's biggest names in the Boxing Day event which leaves from Sydney Harbour with massive crowds of spectators.

Divided into eight legs which include a series of individually-scored races, crew can choose to complete the full circumnavigation or one or more of the legs that are around five to seven weeks long each if you have limited time.

The full circumnavigation round the world visits nine countries on six continents. Stopovers take place in ports including Sydney, New York, Rio de Janeiro, Cape Town, San Francisco and Singapore.

*“To become a Clipper Race crew member is to become part of a very special club of people who share a thirst for adventure and challenge,”* Peter continues.

*“More than 3,000 people have taken part in the Clipper Race since the first edition in 1996 but still more people have climbed Mount Everest than have circumnavigated the globe.”*

*Often it was tough and uncompromising but always rewarding. The Roaring Forties in the Southern Ocean was amazing. The high seas, waves over the deck constantly and the speed of the boat as it dives down the waves creating huge jets of water either side of the boat was incredible.*

*At night it was just plain scary. The noise of the wind, the jets of water and the breaking waves completely dominate your senses. I was constantly cold and damp. It was completely dark - whatever moonlight available was demolished by deep cloud cover. You were sailing by braille and certainly needed to trust your fellow crew.*

*The journey of highs and lows we went through as a team was incredible. Overall it was an amazing year and totally different from your normal travel experience.”*

## What it takes to keep the fleet sailing: Refitting the Clipper 70s

After each of the 12 Clipper 70s clocked up an average of 50,000 miles during their inaugural circumnavigation, the Maintenance Team at Race HQ has been hard at work since October 2014 to refit the yachts in preparation for next edition.

Each of the 70-foot yachts is motored from Race HQ in Gosport to Hamble Yacht Services where they are lifted and refitted.

The yachts are stripped of their inventory and soft furnishings, which go off for cleaning prior to departing Gosport, and their engines and generators are serviced.

On arrival in Hamble, the masts are removed and all of the standing rigging is replaced. Once washed off and in the shed, there is a complete sand and repaint throughout the interior and a varnishing of the wood surrounds in the galley. On deck, all of the kit is serviced or replaced as needed.

Rudders are dropped in order to check the shafts and blades and to allow access to service the rudder bearings; the full steering system is given an overhaul. The hulls are antifouled, propellers serviced and anodes changed.

As with all refits, there will also be some changes to the yachts in accordance to lessons learnt from the past race. New parts will be fitted in various places around the yacht and a little reorganisation made here and there in order to make life easier for the crew, and from a maintenance perspective.

After four to five weeks, the yachts are then launched off and returned to Gosport for re-commissioning. Final defects are rectified, the inventory and safety kit are reinstated, final checks are made and the paperwork is reinstated.

Lastly the rig is retuned before the yachts return to service and crew training continues.

The refit period lasts nine months, with each yacht out of action for eight to nine weeks in total, before being declared fit and ready to be called home for the next generation of ocean racers.

## Meet the 'Chief' who keeps the fleet sailing

From rotten fish inside engines to shark bites damaging rudders and Australian cockatoos destructing masthead wind instruments, Clipper Race maintenance manager Jay Haller has seen it all.

The South African has worked on some comical mishaps as well as more serious repairs for six editions of the Clipper Race over 12 years. 'The Chief' as he is known can always be seen with his team waiting to leap on board as soon as the boats start arriving in port.

Under fleet operation manager Simon Johnston, Jay leads his shore crew assisting on all kinds of technical issues.

As a child, Jay always loved tinkering with toy trucks and model boats and a career as a specialist technician beckoned.

After completing his National Service in South Africa in a medical corps, Jay did a college apprenticeship in engineering.

He then went to Antarctica for an adventure as a technician with machinery company Caterpillar, representing the South African government to help build a new research post.

It was when he started working for holiday company Sunsail in 1995 that Jay learnt to sail.

He worked as flotilla engineer and then as a skipper in Greece, Turkey and Croatia and soon fell in love with the lifestyle. He met his English wife Lynda in 1996 when she was working on a flotilla.

After a season on America's Cup boats France 2 and France 3, Jay joined Clipper Ventures in 2002.

*"Once you get onto a boat it's addictive. No day is ever the same. I could never be stuck in an office,"* he says.

*"It is more of a lifestyle than a job and I have loved meeting so many like-minded people round the world."*

*"When a crew member sees you coming with your tool kit and know you'll fix it, it's a good feeling when you fault-find the problem straight away and know they will be very relieved."*

*"You can't say it can't be done. There is always a way. The crew have a certain expectation."*

*"The pressure is huge – more so this race than ever before."*

Jay says the Clipper 70s held up very well during their first race.

*"The rudders caused a lot of problems which we quickly resolved, but there are always teething problems with new boats if you look back at the Clipper 68s."*

*"It was a big challenge when we had to take the keels off the Clipper 68s in the Philippines during the 2005-06 edition of the race and the whole fleet had to stay there for seven weeks."*

*"A boat had to be rebuilt in Cape Town in 2009-10 edition of the race after a t-boning on the start line. I was chuffed after fixing the boat quickly and all we could do was look back and laugh."*

*"It's always a challenge trying to work around the corporate commitments and juggle that. You always worry they won't be ready to sail but they have to be. We do 14 hour working days to make sure they are."*

Jay says he didn't believe Olly Cotterell, the skipper of OneDLL, when he told him his boat's rudder had been bitten by a shark on Race 8 to Singapore in last year's edition.

However, on inspection, a foot and a half-long bite and even shark's teeth were discovered - a first for Jay in his career.

He says his biggest ever challenge was during the 2002-03 edition of the race when a skipper had started the generator without doing the engine checks which pumped all the oil out. Jay got an engine flown in from the UK to Batam, Indonesia, and fitted it in 45 minutes.

During the 2009-10 Clipper Race he had to rebuild an engine after jumping on the boat 11 miles out of Singapore after the pistons went in 40 degree heat.

When not fixing things, Jay and his wife like to camp around Cornwall and will be staying in a yurt on their latest holiday.

He enjoys hiking, museums and culture, including seeing the Southampton Philharmonic Choir perform, and as a South African, loves barbecuing.

Jay remembers looking at the Whitbread round the world boats in the early nineties and adds it is very satisfying to know he is now part of the team that helps get the Clipper Race yachts round the world now.

*"It's great to see the public astounded when they see the boats and you know you are part of the team. I am very proud and love it when they ask questions. Mingling with the crew members is also a highlight.*

*I have a great team around me and know I can rely on them to get on with the job at hand. We are very close outside of work as well and that is important when you are working such long hours abroad away from family.*

*It is a very satisfying job and seeing so many cultures around the world has been amazing."*

## Life at the top: Meet Clipper Race Rigger Greg North

*"My office is 90 foot up, but after nine years I don't feel apprehensive or worry about falling. I get my tools, put my headphones in and work away. There is nowhere better to be than at the top of the mast somewhere sunny. I've never wanted to be stuck at a desk pushing paper."*

An extreme sports fan, Clipper Race rigger Greg North originally looked at a career in forestry and ranger work because of the climbing and heights aspect of the job.

Following a degree in Sustainable Design and Environmental Management at the University of Portsmouth, a friend set Greg up with some maintenance work, antifouling a Clipper Race boat in 2005.

That job led to more, and he continued his work on the maintenance team for the next month.

*"The 'Chief' [maintenance manager Jay Haller] hugs the rig like a koala when he has to go aloft, he's not a big fan of heights, whereas I enjoy climbing so I naturally stepped into the role working up masts. My first stopover experience came in China on the 2005/06 race. Since then I have been a permanent member of the race team."*

Greg assisted a spar manufacturer and riggers fitting out the Clipper 68s and learnt how to fit and tune rigs, and build masts on the job.

His most amusing, yet frustrating moment came in Sydney on the Clipper 2013-14 Race in an incident known as CockatooGate, which was hilariously documented on the front page of national broadsheet, The Australian.

Flocks of cockatoos decided they had an appetite for the wire in the masthead instruments and chewed their way through hundreds of pounds worth of material, rendering the speed devices useless.





***“CockatooGate got me angry with the local wildlife,”*** Greg reflects. ***“We were already very busy changing elements of the coding ahead of the Rolex Sydney Hobart Race and the fleet had to also come out of the water for antifouling.”***

***“As soon as I told a local sailor about what had happened, he said, ‘That will be those bloody Cockies. They have an appetite for expensive mast wiring. You could see the beak snips. But suspiciously, the only Clipper Race boat with an Aussie skipper did not get chewed!’”***

Once all the wiring was re-spliced, Greg had to rush around with his spanner hitting the mast and sending a shock up the rig whenever he saw a cockatoo flying towards a rig. Even Christmas tinsel and cable ties failed to stop the birds having a go.

His most challenging work times have come after boats have lost the rig. ***“The worst thing is to get that call saying a boat has lost its mast. When you hear everyone on board is safe you relax a little, but knowing you have to build a new rig and set it up against the clock is quite daunting.”***

When two rigs came down in the 2007/08 race, the whole fleet came into Hawaii as a diversion.

***“We had to fly two new masts out to Hawaii and build them as quickly as possible, then change some of the standing rigging on the rest of the fleet. Then you have to tune the rig, test it out sailing, and re-tune until you are happy.”***

***“We were working solidly for a month doing 12-hour days. I was sat at the top of the mast wondering when it was going to end, when I saw a humpback whale breaching. Not everyone’s office has that type of view. It made me stop and appreciate the positives of the situation.”***

Another big job came after a collision on the start line in Cape Town in the 2009/10 race.

***“The ‘Chief’ called me with the news as I was packing up the container to say keep hold of the fibreglass kit.”***

***“He then called me back shortly after saying he could step through the hole in the aft quarter of the damaged boat, it was that big. That was a massive fix. We worked with a local composites crew day and night to rebuild it.”***

Another memorable moment came when lightning struck Qingdao in the Pacific Ocean on the 13-14 race. The top of the masthead instrument blew up and what was left disintegrated into a stick

of carbon, causing hundreds of pounds worth of damage.

Greg had to re-wire and re-fit new instruments to the yacht in San Francisco.

Greg and the other Clipper Race maintenance team members are fondly known as the ‘Blackhand Gang’.

***“We are a good cheerful team,”*** adds Greg. ***“It is amazing to work with the ‘Chief’. No one knows their way round the fleet like he does.”***

***“You also get good friends with the crew and build a rapport with the mechanically minded ones who are interested in the yacht’s running.”***

For Greg, the non-race year is almost as hectic as the race year while the boats are in refit. All the masts will come off the Clipper 70s and all running and standing rigging gets replaced - several kilometres of wire rope will be used during that process. Then the fleet has to be re-tuned several times as the wire settles in.

In his downtime, Greg likes to head inland to the mountains to snowboard, hike and mountain bike with his wife Charlie. In October 2014, the couple’s first baby was born.

Greg says this last race saw new challenges with the new Clipper 70s. There were maintenance issues he had not seen before.

The skippers’ competitive nature on the matched fleet race keeps him on his toes too. ***“There can be a lot of pressure trying to juggle skippers’ expectations. I have to make sure the rig set up is as close as possible throughout the fleet for both safety and scrutineering.”***

The challenges of each race aside, Greg’s philosophy remains the same. ***“Every day is different. It can be long, hard hours but I’d rather be doing that 90ft up in Australia or Hawaii than behind a desk any day,”*** he adds.

*“Mighty ships upon the ocean  
Suffer from severe corrosion  
Even those that stay at dockside  
Are rapidly becoming oxide”*

*T. R. B. Watson (Canada)*

## AN INTRODUCTION TO

# RUST

- part two -



BY **Eur. Ing. JEFFREY  
N. CASCIANI-WOOD**  
HONFIIMS

Jeffery concludes ‘An Introduction To Rust’.  
This part two focuses on corrosion, including:  
Galvanic and/or Electrolytic Corrosion (Pitting),  
Crevice Corrosion, Jacking Corrosion, Poultrice  
Corrosion and Stress Corrosion Cracking

## Galvanic and/or Electrolytic Corrosion (Pitting)

Unlike iron, steel is granular in microstructure and many of the grains are anodic to the others. That results, when the metal is placed in seawater, in a series of local galvanic cells being set up which then develop the characteristic pitting. The marine surveyor should know and understand the difference between galvanic and electrolytic action. See Figures 2 and 3 below. Iron does not, in general, pit for simple galvanic reasons and so has, incorrectly, gained the reputation that it does not corrode. The marine surveyor should be fully aware, however, that iron does rust and corrode given the right conditions in exactly the same way as does steel. True pits are those where the depth is equal to or greater than the diameter. Where that is not so the pits should be called dimples but it is a distinction that is usually ignored in the marine world. Galvanic pits usually have a jagged edge and are widely scattered whereas true electrolytic pitting is usually but not necessarily clustered and the pits are usually circular in planform.

Rusting is, of course, an electro-chemical process but surface pitting is often more serious and will be separately discussed under that heading. Often in the marine industry the terms galvanic corrosion and electrolytic corrosion are used loosely and

interchangeably giving the impression that the terms are two different names for the same thing. That is not true and the marine surveyor must know and understand the difference between the two. Galvanic corrosion occurs between two dissimilar metals in the presence of moisture or some other electrolyte when, under these conditions, an electro-chemical cell is formed and an electric current will flow from one metal to the other carrying the ions from the first metal with it. Clearly this type of corrosion does not require an external electromotive force (e.m.f.) but does depend directly upon the nature of the metals involved and their precise relative position in what is known as the galvanic series. On ship's hulls it can be kept within reasonable control by the fitting of a cathodic protection system such as zinc, magnesium or aluminium anodes as appropriate to the electrolyte. Galvanic corrosion can often be found taking place between two parts of the same shell plate for example. Electrolytic corrosion occurs, on the other hand, when an externally impressed direct electric current flows between two metals in the presence of a conducting fluid and the rate of corrosion only depends upon the nature of the metals involved but also upon the strength of the electric current and the precise nature of the conducting fluid. Electrolytic corrosion usually occurs where bare wires or other electrical defects are found in either a DC or an AC current system.

It is to avoid this type of corrosion that, in a DC system, the hull must not be used as an earth return. The confusion between the two types of corrosion arises from the fact that, in both cases, the process involved is usually in boatyards, totally incorrectly, called electrolysis. In most metal boats these days the marine surveyor is much more likely to meet galvanic corrosion rather than electrolytic corrosion but that does not mean that the latter never occurs. Given an electromotive force in the circuit, it does. Pitting due to galvanic or electrolytic action has the same general characteristics of low surface area/depth ratio and a conical cross-section.

**N.B.1** Galvanic and electrolytic action can take place at the same time on a given vessel.

**N.B.2** The power source in the electrolysis diagram may be an earth leak from electrical equipment not necessarily on the vessel herself.

General rusting or the electro-chemical decay of steel is a form of galvanic corrosion which has often been described as a great industry in reverse. For such an electro-chemical reaction to occur there must be a metallic anode which corrodes by oxidation and a metallic cathode where a reduction reaction occurs, the two being connected by an electrolyte through which the electrons flow from the anode to the cathode.

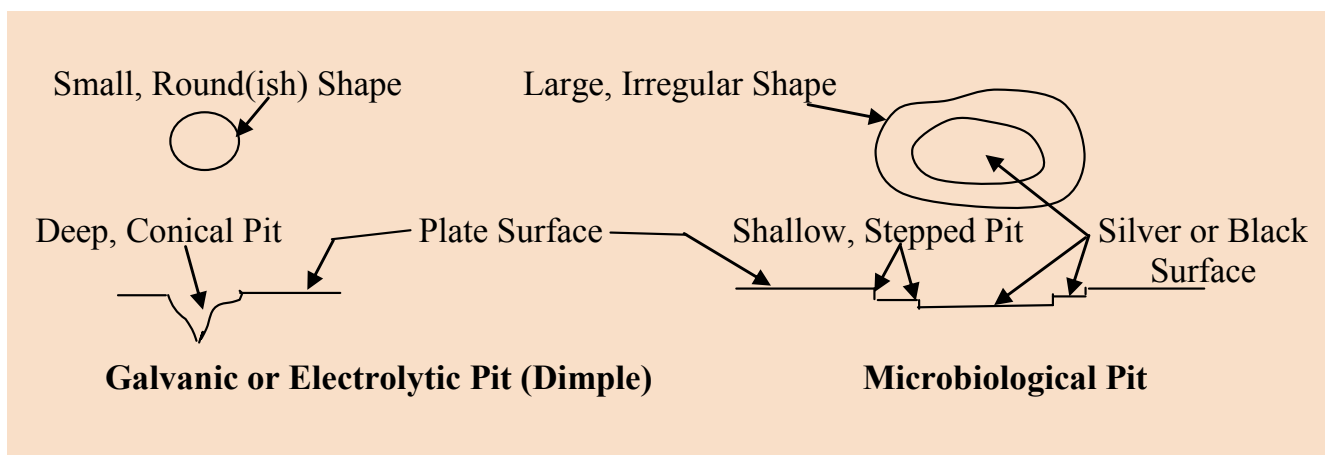


Figure 2 - Typical Pitting

Whether or not one metal is cathodic or anodic to another depends upon their relative position in the galvanic series. It appears as a continuous layer over an entire surface and is rarely found when an object is permanently submerged. It is relatively easy to allow for this type of corrosion in a given design. Low carbon (mild) shipbuilding steels have corrosion rates of between 0.10 mm to 0.18 mm per year on plating exposed to seawater attack but in inside pipes carrying seawater that may well rise to 0.78 mm per year where it is exacerbated by cavitation and mechanical damage when the internal fluid velocity is of the order of five metres per second. Pitting corrosion, or, more simply, pitting is a form of extremely localized corrosion that leads to the development of small holes in the surface of a metal. The driving power for not pitting corrosion is the lack of oxygen around a small area which then becomes anodic while the area with an excess of oxygen becomes cathodic leading to localized galvanic corrosion. The corrosion penetrates the mass of the metal with limited diffusion of ions further pronouncing the localized lack of oxygen.

The mechanism is probably the same as crevice corrosion. It is supposed by some that gravity causes a downward oriented concentration gradient of the dissolved ions in the hole caused by the corrosion as the concentrated solution is more dense. That, however, is unlikely. The more conventional explanation is that the acidity of the fluid inside the pit is maintained by the special separation of the cathodic and anodic half reactions which creates a potential gradient and electromigration of aggressive anions into the pit. This kind of corrosion is extremely insidious as it causes little loss of material with small but unsightly effect on the metal's surface while it damages the deep structure inside. The pits can be initiated by small surface defects such as a scratch or a local change in material composition or damage to a protective coating. The pits on the surface are often obscured by corrosion products and poor painting practices. Polished surfaces display a higher resistance to pitting. The alloys most susceptible to pitting corrosion are usually the ones where corrosion resistance is caused by a passivation layer *i.e.*,

stainless steels and nickel and aluminium alloys. Metals that are susceptible to uniform corrosion in turn tend not to suffer from pitting. Thus, mild steel will usually corrode uniformly in sea water while stainless steel will pit. The addition of about 2% molybdenum increases the pitting resistance of stainless steel. The presence of chlorides, *e.g.*, in sea water, significantly aggravates the conditions for the formation and growth of pits through an autocatalytic process. The pits become loaded with positive metal ions through anodic dissociation. The Cl<sup>-</sup> ions become concentrated in the pits for charge neutrality and encourage the reaction of positive metal anions with water to form a hydroxide corrosion product and H<sup>+</sup> ions. The fluid in the pits slowly becomes weakly acidic which accelerates the process. Besides chlorides, other anions implicated in pitting include thiosulphates (S<sub>2</sub>O<sub>3</sub><sup>2-</sup>), fluorides and iodides. Stagnant water conditions favour pitting and is a prime factor in the pitting found on canal narrowboats. Thiosulphates are a particularly aggressive species and are formed by partial oxidation of pyrites or partial reduction of sulphates.

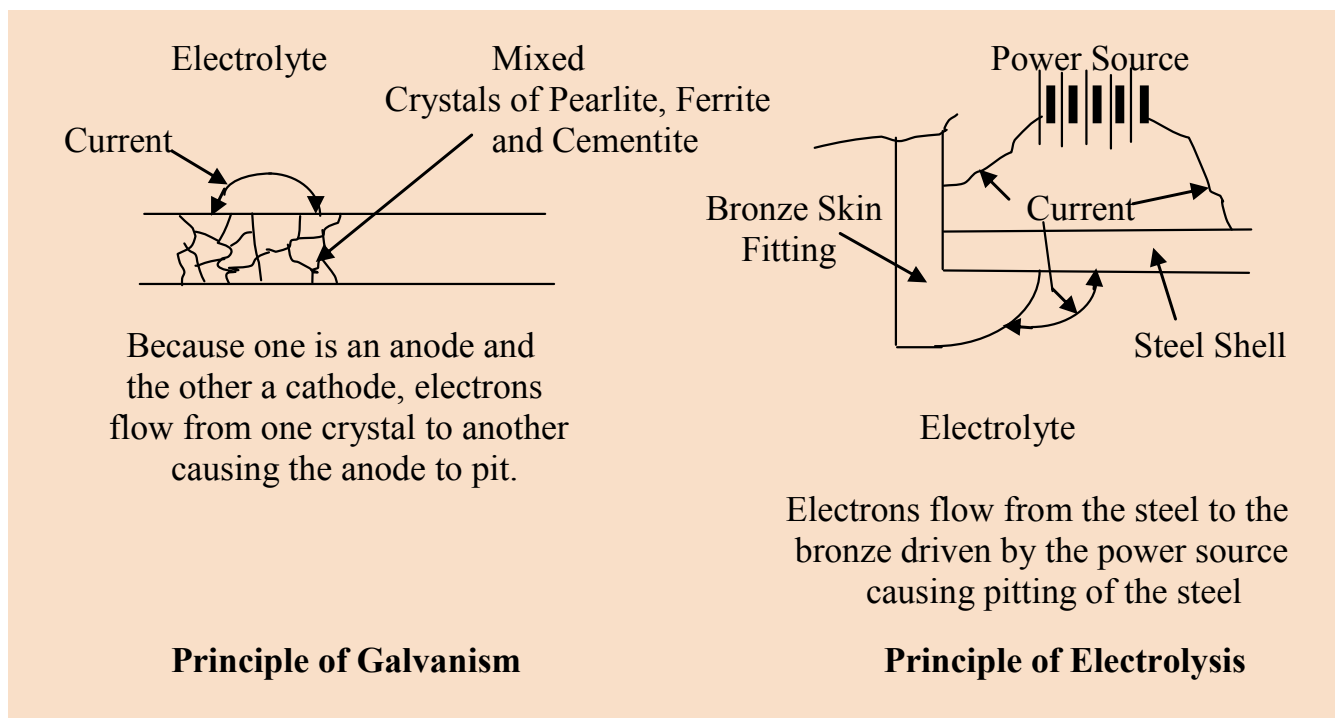


Figure 3 - The Difference between Galvanic and Electrolytic Action





Photograph 1 - Galvanic Pitting on a (Painted) Mild Steel Hull in Fresh (River) Water

Pitting, *per se*, is not necessarily a serious fault. Its seriousness depends upon three factors: -

- The extent of the pitting as a fraction of the surface area of the plating.
- The sharpness of the pits *i.e.*, the ratio of the pit's depth to its surface area.
- The depth of the pit relative to the plate's thickness.

One thing that the marine surveyor will notice when examining steel hulls is that the pitting, if it exists, is usually confined to a band up to a metre wide just below the water line. There is a reason for this area preference. In neutral salt solutions such as sea or brackish estuarial waters a supply of oxygen is necessary for the continuation of a corrosion process. Natural waters, particularly if any wave motion is present, are usually saturated with air but the amount of entrained air varies with the depth below the

water's surface. It has been shown that such variations in oxygen concentration set up electrolytic cells producing a current between two areas of the same piece of metal where oxygen is available at different rates. That area which has the smallest oxygen supply becomes anodic and dissolves while a film is formed with some protective properties at areas with a larger oxygen supply. The mechanism, which is additional and complementary to the mechanism due to galvanic action between the crystals that make up the material's microstructure, explains much of the observed pitting on a vessel's shell plating. This form of pitting is kept under control by a correctly designed cathodic protection scheme. Pitting may also be caused by galvanism after a breakdown in the coatings. It is not possible to give absolute guidelines on these points and the marine surveyor must make his own judgement as to the seriousness of any pitting and what to do about it at the time of his survey.

### **Crevice Corrosion**

Crevice corrosion occurs where there is a limited availability of oxygen such as occurs at slightly open joints. Crevice corrosion is a corrosion occurring in spaces called crevices to which the access of the working fluid from the environment is limited. Examples of crevices are gaps and contact areas between parts, under gaskets or seals, inside cracks and seams, spaces filled with deposits and under sludge piles. It can also be found behind butt straps and rubbing strake bars, under bolt heads, nuts and washers and can cause mechanical failure. It is particularly to be looked for on stainless steel propeller shafts at the point of exit from the stern bearing. Pitting corrosion is similar to crevice corrosion although it does not require an existing pit or crevice to start but it can, when severe, penetrate the hull of the vessel. Crevices can develop a local chemistry which is very different from that of the bulk fluid. Crevice corrosion generally occurs

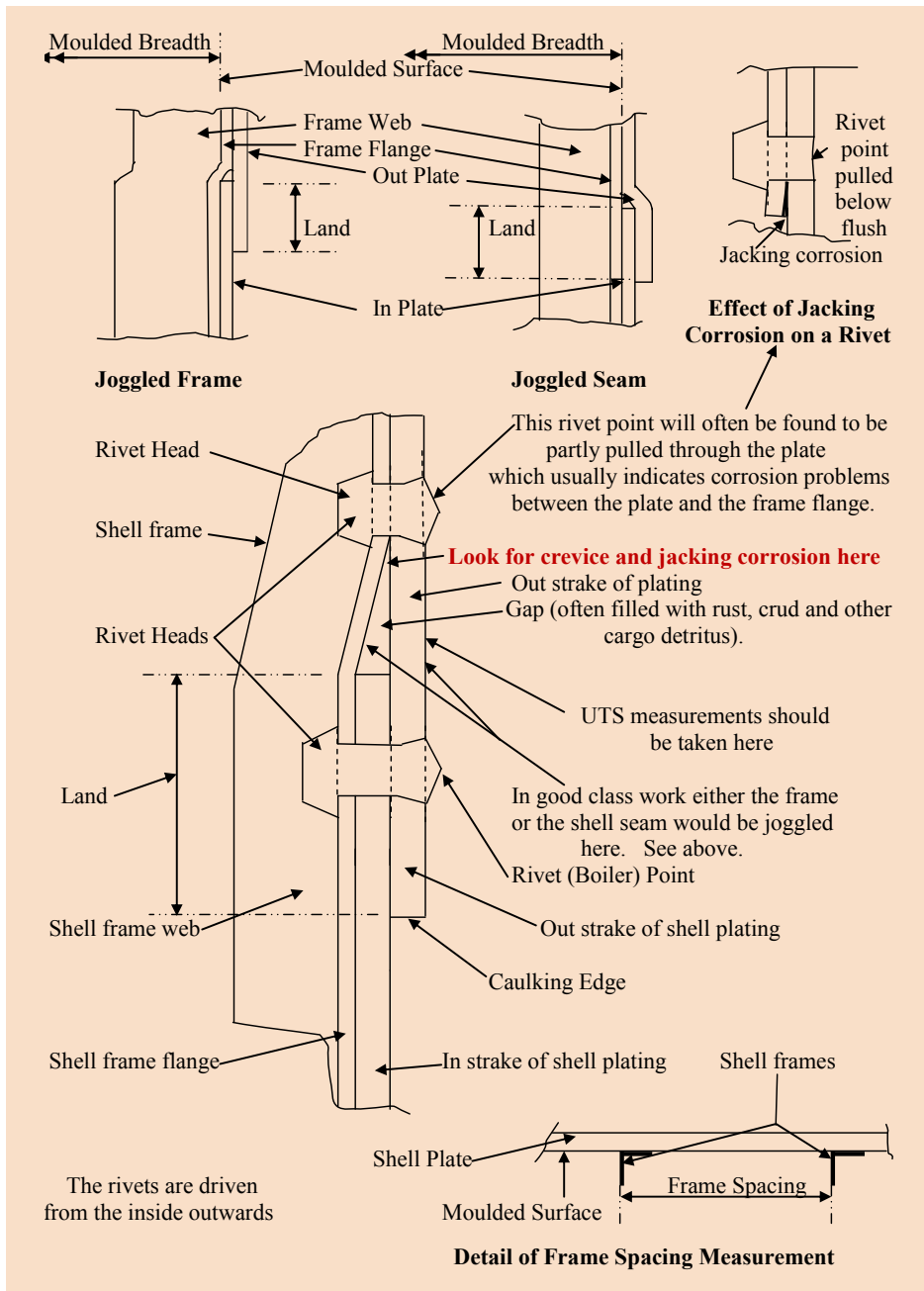


Figure 4 - Section through a Riveted Seam in way of a Sprung Shell Frame

due to either high concentration of impurities in the crevice (e.g., chlorides, acid, or base) or a differential electrolyte chemistry inside and outside the crevice where a single metal part undergoing corrosion is submerged in two different environments. This situation can be somewhat reminiscent of galvanic corrosion. The mechanism of crevice corrosion can be (but not always is) similar to that of pitting corrosion. However, there are sufficient differences to warrant a separate treatment. For example, in crevice corrosion, the geometry of the crevice has to be considered and the nature of the concentration process leading to the development of the differential local chemistry. The extreme and often unexpected local chemistry conditions inside the crevice also need to be considered. Galvanic effects can play a role in crevice degradation. Depending on the environment developed in the crevice and the nature of the metal, the crevice corrosion can take a form of: -

- pitting;
- stress corrosion cracking;
- filiform corrosion which is a type of crevice corrosion that may occur on an aluminium surface underneath an organic coating;
- intergranular attack.

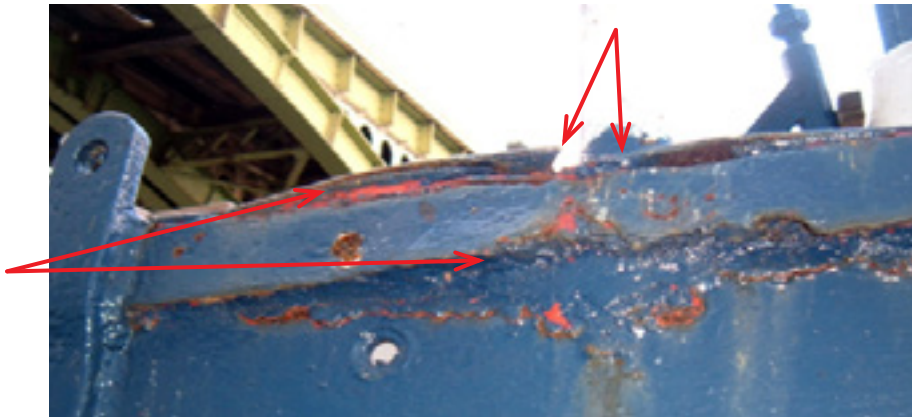


Photograph 2 - Sheerstrake Plate blown off the Ship's Side by Crevice Corrosion between the Plate and the Frames and on the Landing Strake Seam

Note how the rivets have pulled completely through the plate along both the seam and the butt. The vessel was beyond economical repair and had to be scrapped.

In general, crevice corrosion is of the greatest concern for materials which are normally passive metals such as stainless steel or aluminium. Crevice corrosion is extremely dangerous because it is usually localized and can lead to component failure while the overall material loss is minimal. The initiation and progress of crevice corrosion can be difficult to detect. It is often found behind the face of side shell frames springing over the shell seams in Dutch barges and under the side rubbing strakes on canal narrowboat. See Figure 4 and Photographs 2 and 3.

Photograph Courtesy of Elliott Berry Marine Surveys



**Photograph 3 - Severe Jacking Corrosion on the Forward Bulwark of a Dutch Barge**

Note how the cap bar has been fractured by the jacking forces.  
The vessel is in a permanent berth in use as a houseboat.

### Jacking Corrosion

Jacking corrosion is the expansion of rust that can lead to severe damage to the hull structure. It can be described as the displacement of elements due to steel products and iron expansion as metal undergoes rusting and turns to iron oxide. Corrosion of metals such as aluminium may also lead to jacking corrosion. In jacking corrosion or, as it is sometimes called oxide jacking, rust forms when oxygen and iron react with each other in the presence of an electrolyte such as water within a confined space. Some of the factors that can influence rust jacking include: -

- temperature;
- quality of paint process;
- exposure to seawater.

According to metallurgists, the process of oxidation is typically accompanied by a net expansion and when that happens within a confined space, stresses are produced in the metal, too much energy is released through oxidation, making the generated stresses powerful enough to fracture or deform the constraining metal. Jacking corrosion can be prevented through the implementation of certain measures such as the application of anticorrosion paint that offers the best level of oxidation protection. Typically, the surfaces and materials

are dipped or sprayed with paint to promote higher durability and better adhesion. Without adequate protection or coating, the bare material is exposed to various conditions and such situations can trigger oxidation that later leads to jacking rust formation that may cause components to fracture.

### Poultice Corrosion

When dirt and other debris accumulate in certain metallic areas, the accumulation forms a poultice and in way a unique and highly corrosive environment can be created resulting in a particular form of crevice corrosion. This type of corrosion is fairly rare on ships and boats but example areas include inside water ballast tanks and inside frames and stringers. These areas remain wet almost continuously with a highly corrosive liquid due to the moisture entrapment effect of the poultice. The aggravation caused by salts can be quite serious in these areas due to wet/dry cycling and accumulation which can reach the saturation point. The stationary electrolyte can become increasingly acidic and the resulting pitting quite severe.

### Stress Corrosion Cracking

A common form of crevice failure occurs due to stress corrosion cracking whereby a crack or

cracks develop from the base of the crevice where the stress concentration is the greatest. The susceptibility to crevice corrosion varies from one material environment system to another. General or uniform corrosion causes progressive loss of material and increases stress levels and uneven and localised corrosion causes high stress concentrations. Stress corrosion cracking is the result of the combined action of the environment and mechanical stress that results in the cracking of the material and can go completely undetected until the structure fails. Stress corrosion cracking (SCC) is particularly dangerous because of the progressive nature of the cracking with constantly rising risks of fracture, leakage or loss of function. It can be found in propeller shafts that are too small to take the applied torque. It is the unexpected sudden failure of normally ductile metals subjected to a tensile stress in a corrosive environment especially, in the case of metals, at elevated temperature. SCC is highly chemically specific in that certain alloys are likely to undergo SCC only when exposed to a small number of chemical environments. The chemical environment that causes SCC for a given alloy is often one which is only mildly corrosive to the metal otherwise. Hence, metal parts with severe SCC can appear bright and shiny, while being filled with microscopic cracks. That factor makes it common for SCC to go undetected prior to failure. SCC often progresses rapidly and is more common among alloys than pure metals. The specific environment is of crucial importance and only very small concentrations of certain highly active chemicals are needed to produce catastrophic cracking, often leading to devastating and unexpected failure. The stresses can be the result of the crevice loads due to stress concentration or can be caused by the type of assembly or residual stresses from fabrication (e.g. cold working) and can be relieved by annealing.

# The Ian Millen Interview

Maritime surveillance and security – a sign of the times

The Report Magazine went to interview Ian Millen, COO of Dryad Maritime, a specialist company providing a range of maritime security products and services that are essential in times of heightened security risks to keep seafarers safe. Dryad Maritime says it is a maritime operations company with a high grade intelligence capability. But what does this actually mean? Mike Schwarz went in search of some answers.



**Q. Your company slogan interests me: 'Dryad Maritime is a maritime operations company with a high grade intelligence capability'. What are the core services that you provide? I understand it is more comprehensive than just giving details of the threat of worldwide piracy attacks?**

Dryad was founded in 2007, originally as a maritime intelligence company providing risk mitigation services and safety monitoring to vessels transiting through high risk areas of maritime piracy and crime. This remains our core service, but in response to the company's growth, the development of new voyage efficiency products, and changes to shipping regulations, which have impacted greatly on vessel operating costs, last year we took the decision to reposition the company. With our new integrated risk and operational services, we are now able to help ship owners, managers and charterers to operate efficiently as well as safely. The great news for us is that our range of risk and efficiency services are built upon our 24/7 operations room and are delivered by our technology-enabled specialist staff.

Ian Millen,  
COO of Dryad Maritime



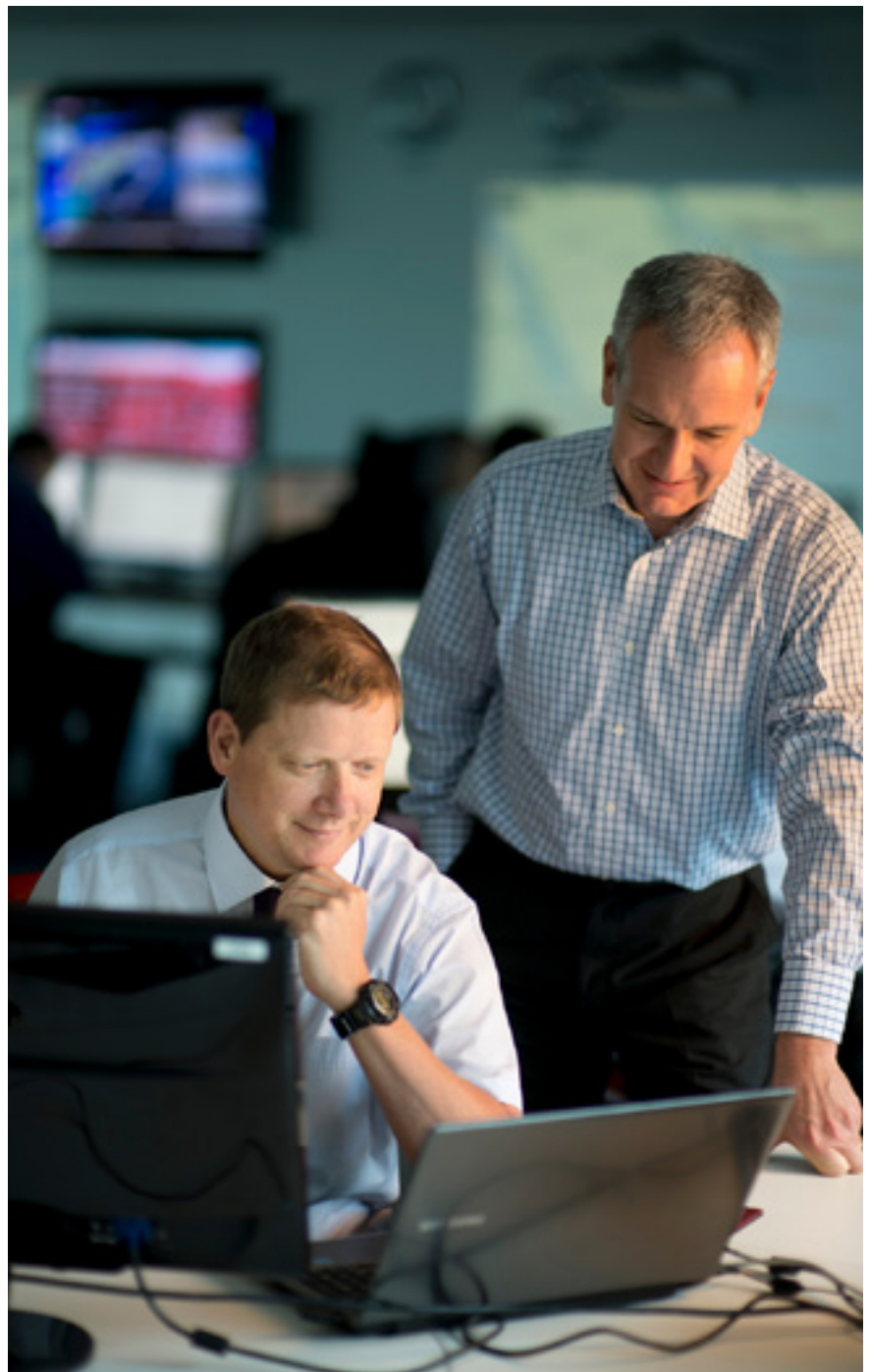
**Q. How many staff do you employ and do they need a special background to work for you?**

We employ around 35 staff, of whom 70% are former Royal Navy personnel. Cumulatively, our team has a collective maritime operations experience of over 500 years. This is something that we are very proud of and make good use of as this gives us a depth of knowledge and analytical base that we believe is unrivalled in the maritime security marketplace. Although all of our operations team come from naval intelligence and/or operations backgrounds, we have employed analysts without this maritime heritage. As a commercial company, we employ specialists in other fields such as HR, Finance, Marketing & Communications, IT and Compliance; specialisations that can be found outside of the military environment. Our diverse workforce is a mix of all of the above and is glued together by a strong sense of purpose, good teamwork and enthusiasm.

**Q. Typically what type of organisations are you working with and what type of vessels are involved, for example only big ships, or others such as round the world racing yachtsmen?**

We support companies across the spectrum of the maritime industry, from vessel charterers and owners to technical operators and other suppliers in the maritime security sector such as those providing embarked guards. The vessels we support directly and on behalf of others range from superyachts to supertankers and all types in between.

The commercial sector continues to be our largest client base but we work closely with a number of companies in the legal, insurance



and security sectors as well as those engaged in international offshore racing events, such as the Volvo Ocean Race. The services we provide being as equally applicable to those operating large fleets of ships, as they are to the private owner of a yacht.

**Q. I have been fortunate to visit your head office operation and command centre in Portsmouth, but what can you tell readers of The Report magazine about it?**

Our operations room is probably as your readers would imagine it. The room is dominated by an Audio-Visual (AV) wall display, complete with interactive charts, TVs and time zone information. This acts as a focal point for our overall situational awareness, from the large projected displays of our vessel positions and potential threats to the information streaming in from international news feeds. The rest of the room is filled with our operators and analysts, who use their own geo-

spatial and database systems to gather, process and generate operational intelligence and efficiency products. At the heart of this group of specialists sit our 24/7 desks who monitor their respective plots and keep in communication with the vessels that they are responsible for; collecting valuable information, issuing intelligence and weather-related reports and dealing with crisis situations should they occur. These elements, vessel safety and efficiency monitoring, could best be described as air traffic control for ships. Instead of hazards, we identify security threats from a risk perspective and save money and, hopefully, the environment from a vessel efficiency one.



**Q. Without revealing your sources, how much of your work is based on hard evidence and how much on hearsay and trends?**

In short, the answer is both as we collate information from a large number of open and privileged sources, all of which is assessed for credibility and reliability. As an intelligence provider, we have to investigate all information, both factual and hearsay. We need to collate masses of information and corroborate sources with others to get to the ground truth, in order to provide our clients with reliable reporting and valuable advice. Producing clear and unambiguous advice can be hard work, requiring both specialist knowledge and deep experience. Piecing together an intelligence picture can be like doing a jigsaw without the aid of the box lid and is often further complicated by having gaps where pieces are missing. Interpolating and extrapolating becomes a

real art and draws heavily upon the experience of the analyst and wider team. Ultimately, our job is to report the facts, assess what they mean and provide recommendations to assist our clients. This process can either corroborate or deny hearsay as it presents itself.

**Q. How often are you communicating with your clients, and by what means, about potential situations and developing threats?**

This largely depends on the type of service that our clients are using. We have products and services with different time horizons – e.g. from 1 week, to multiple times a day. If a client is operating in a particularly high-risk area this can be even more so should we need to update them following new intelligence to indicate a heightened risk to them. Being a 24 hour operation our clients also have access to email





and telephone consultancy any time of day or night. We know that this is a source of great comfort and confidence to the masters and crews we support. In short, they know that they can speak to us at any hour of the day or night, wherever they are in the world if they have concerns.

**Q. Clearly there are known trouble hot spots around the world, but are you able to foresee potential new threats before they take hold?**

By continually monitoring political, religious and social stressors, and analysing historical risk data, it is possible to predict some, but not all, new threats. Another forecasting technique is to consider the probable impacts of current threats to identify new ones. For instance, the migrant crisis that we are seeing in the Mediterranean has come as a direct result of the civil war in Libya, as more and more refugees risk their lives at sea to flee the conflict. Where things change quickly, such

as the situation in Yemen, it's vitally important for us to quickly assess the likely impact of events upon our clients. In this particular case, we were able to establish that the situation in Yemeni ports was not as reported by port authorities, as well as identify the impact of maritime coalition forces seeking to blockade the country. Giving good advice in such a situation is built upon the foundations of methodical analysis, knowledge of the environment and normal patterns of life and an understanding of our clients and their objectives and plans.

**Q. In your 2014 Maritime Crime figures report, (published in the March issue of The Report Magazine), Dryad gave a comprehensive overview of the threats region by region. How and why are the threats changing?**

We have seen a significant downturn in piracy in the Indian Ocean over the last few years. This has been a result of increased naval presence in these regions, the use of PMSCs

as a deterrent against attacks, and improved security measures being adopted by shipping companies. All have contributed to helping contain but not eliminate the threat. Should any one of these elements be removed then it is likely that we will see a notable increase in piracy as a result. The Gulf of Guinea has seen a slight decrease but we have seen a drop in tanker hijacks for cargo theft while kidnap of crew remains a real concern. Kidnap in Nigeria is endemic and the attacks at sea are just an extension of this threat. Southeast Asia is currently seeing the highest volume of maritime crime incidents globally. However, for the most part, this is often low level crime by local gangs. The significant increase in the hijack of small regional tankers seen last year continues into 2015. These hijacks are almost certainly intelligence led and are orchestrated by criminal syndicates. Without aggressive policing of the region waters and the arrest and detention of criminals, we are unlikely to see any drop in these crime figures in the near future. Outside of piracy

and maritime crime, the shipping industry has other worries, such as the situation in Libya, Yemen and the Eastern Med, the impact of maritime migrants and terrorism in choke points like the Suez Canal. Plenty to think about.

**Q. I recently read that you have been commissioned by MYBA (the Worldwide Yachting Association) to produce a report on the potential threat that ISIS poses to superyachts sailing in the Mediterranean. So this is a two part question a) how do you map out such a project and b) how serious is the threat at this time?**

That is correct. We were approached by MYBA to produce a report on the ISIS threat to superyachts in the Mediterranean following some media reports that ISIS could look to target these vessels in this region. We were asked to give our assessment of the legitimacy of the threat based on the intelligence we had at the time. For this project we looked to use our operational maritime experience, alongside a wide variety of available information to quantify the threat and assess the risk of IS in Libya mounting such attacks. The process involved is ingrained in our team from years of actual and exercise threat assessment work in their former roles in the Royal Navy. Without going into the detail of our assessment, we judged that the press reports were painting a picture not supported by the reality and that it was unlikely that IS would have the capability or

motivation to mount attacks against superyachts in the Mediterranean, let alone the opportunity given that most yachts do not operate close to Libyan shores. As with all threat assessments, things can change for ill as well as good, so this is something we will continue to monitor. Recently reported plans to deploy maritime forces to deal with the Mediterranean migrant change the situation further as such naval forces will seek to dominate the water space they are operating in. The threat to aship in port can, in theory, be little more than that to a hotel in the same area, but as we recently saw with the terrorist attacks in Paris and Tunis, such terror attacks are possible and very difficult to predict.

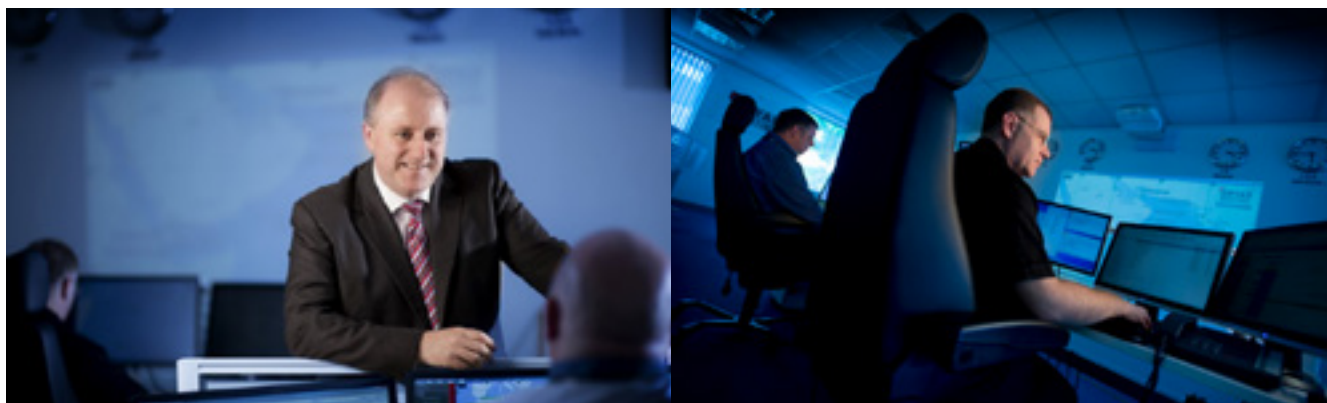
**Q. How much support (if any) do you need and get from governments locally and from the maritime world in general?**

We get plenty of support from our sources in the maritime world, which range from the ship's teams to trusted agents around the world. Governments are understandably more circumspect when it comes to sharing information. I'm afraid that there's sometimes a tendency to view companies such as ours with some suspicion. It's a shame really as our job is to look after our clients. We're not trying to gain any advantage or obtain any secrets from governments. Actually, the reverse is true in that we have more to offer them than they're likely to offer us, due to our knowledge, experience and resources. We


always share our information freely with appropriate governments when we think it might help a ship's crew and we understand why government agencies act in the way that they do.

**Q. And finally, is there a message you have for marine surveyor in general and is there an intelligence based role they can play to help keep seafarers safe at sea?**

My message to your readers and members is based on our collective interests. The maritime industry is massive and yet close knit – a real international community that crosses national boundaries and joins seafarers and those that support them in a family of professionals and friends. Your members are geographically diverse, well connected and have a very keen eye for detail. Most importantly, they likely share the duty of care that we have for international seafarers. With all of this in mind, I would encourage your members to use that attention to detail to draw the focus of our company and national agencies and organisations to anything they feel may threaten the wellbeing of mariners around the globe. If you think you've seen something that affects maritime security, then please feel free to contact us ([enquiries@dryadmaritime.com](mailto:enquiries@dryadmaritime.com)) or one of the other bodies who have an interest in the safety of mariners, such as the IMB Piracy Reporting Centre, MTISC (Ghana), ReCaap, or whoever you think could use the information.







# SURVEYING LARGE CREWED YACHTS

The focus of this article is on the process and the logistics involved in surveying large crewed yachts, rather than on the practicalities of the survey. The areas of inspection are basically the same as on any pre purchase survey, albeit larger and with regard to machinery systems can be more technically involved, the time frame of course is much longer.

BY **PHIL DUFFY** MIIMS  
Principal Surveyor  
at Interface Marine Yacht  
and Boat Surveyors France

One question I often get asked is how to get the business, or how to make the jump from surveying small pleasure craft to larger vessels.... As always, the client will need to trust your ability to carry out the job, and for that you will need to prove your track record with references etc. It can be a chicken and egg situation, unless you have worked for one of the larger surveying companies or are able to assist on some large yacht surveys and gain an insight that way. In my case it was quite an easy transition, as during my career at sea I have held both Engineer and Captain Positions of large yachts. One of the most fundamental differences with the large crewed yachts is that you are very rarely, if ever dealing with the principal; you are dealing with brokers, and managers, PA's, lawyers and technical representatives, therefore your approach needs to be very businesslike and organised. I have found it is far better to grasp the nettle and drive the process forward in-house with regard to organising sea trials and dry docking etc rather than wait to find out that a broker has arranged a sea trial with 40knts forecast!

The following are the stages involved in a large yacht pre purchase survey, although essentially the same as any survey, there are some critical differences to consider.

#### THE CONTRACT

Having won the job you need to be absolutely sure you have got your numbers right and that the client knows exactly what he is paying for, it is often better to give a full package price including, fees, travel expenses, engine analysis, Engine Techs for the Sea Trial and include the quote from the Ship Yard for dry dock, etc. It is important to ensure that the client is very clear as to whom, why and when he has to make payments. You will also need to check if your PI will cover you for the job. The girls at Matrix were very good at arranging extra cover for a one off job we had last year where the yacht was worth €40million. The reality is, if you don't have a good legal team on your side, get one! Once you have a schedule for the survey firmed up, it pays to ask for emailed copies of the vessel's statutory documents, technical specification and any drawings that are available.

#### THE CREW

Although the crew you may have to deal with can vary from a single temporary Captain onboard, to a fully crewed commercial charter yacht with upwards of twenty crew. It is important to establish a working relationship with the crew, especially the Captain and Chief engineer, as they will make your job a lot easier in as far as opening up areas, collecting service histories and access to work lists etc. If at all possible it is best to try and contact the Captain directly in advance and discuss your requirements, being mindful that if the sale goes through they could be out of a job; so be sympathetic. Unfortunately there can also be an air of resentment with your arrival onboard; you are after all, checking up on the crew's level of maintenance and professional competence. You should try to remain objective at all times, and unless you find something dangerous, keep your opinion in your notes. In my experience the vast majority of the crews I have dealt with have been very helpful and professional, and you usually get great meals onboard!



*“ the sea trial is where you, the surveyor, are everybody's centre of attention ”*



***“take control of the situation and planning from the beginning”***

### **THE SEA TRIAL**

It is important to realise that the sea trial for a large yacht survey is usually the first and most important stage of the survey. This is due to the standard contract conditions between buyer and seller stating that if the buyer does not declare his rejection in writing within 24hrs of the sea trial, due to the vessel not performing as expected; it is deemed that the vessel has been accepted subject to the condition survey.

The sea trial is where you, the surveyor, are everybody's centre of attention. On a recent sea trial we had the owner's team onboard consisting of a lawyer, a broker, and two technical representatives. The buyer's team was a broker, the Captain and Chief Engineer from his existing yacht and two technical representatives. You will often get asked during the sea trial how is everything going?

Don't answer! The only person you should report to is your instructing client's direct representative; otherwise you could open yourself to major litigation.

The sea trial is usually scheduled for four hours maximum. It may seem a long time but there is a lot to get through! You will usually have onboard the engine manufacturer's technicians to make computer diagnostic analysis of the engines. Oil samples need to be taken of main machinery, and they may be vibration analysis technicians onboard as well. You will have to take sound level checks throughout the vessel, along with the standard manoeuvres, ground tackle test, and tender launch and recovery. Normally an interim report is issued within 24hrs to confirm the survey can continue without issue or the worst case scenario that the sale may be cancelled due to major faults discovered or lack of expected performance.

### **THE DRY DOCKING**

On very large yachts the buyer's representative may want to consider not having the vessel dry docked, especially if the yacht has been recently out of the water for a class inspection; however, it is sometimes prudent to have a diver inspection nevertheless, and always ensure that any such limitations to the scope of the survey is in the contract. If the vessel is to be hauled, it is important to have a very clear agreement with the yard's project manager as to the schedule and what your requirements are. For instance you may have NTD technicians scheduled for a UTM inspection or you may require shaft clearance measurements on the tail shafts or stabilisers. Again, I have found it is better to take control of the situation and planning from the beginning to ensure a complete hull inspection is carried out to your satisfaction.

## CONDITION SURVEY

Once the vessel is re launched, you can then complete the survey which is along the lines of any pre purchase marine survey; however, you may need to engage a specialist consultant with regard to the vessel's Audio Visual and IT systems. This is a very specialist area and the onboard systems can be very extensive and may have had several upgrades over time.

Another area to consider using a consultant is in the accommodation as this can be very time consuming; especially if you are not used to inspecting Italian marble bathrooms with gold plated taps and rare wood veneers! If you miss something it could be very costly! We have often engaged an ex large yacht chief stewardess to carry out interior cosmetic inspections, which ensures the required attention to detail.

I have been asked if you can carry out a condition survey of a large yacht on your own. The issue is not about your level of competence

but rather the time involved. The contractual agreements involved with large yacht sales usually have very tight time frames, so to survey a 40m yacht on your own and write the report may simply take too long for the client's requirements. If you do have the opportunity to quote on a large yacht survey I strongly suggest you contact the Institute and find an experienced surveyor to assist you on some or all of the surveys.

## THE REPORT

You will almost always be asked for the full condition report within 48hrs of the survey completion. This is where pre planning is important; essentially you need to write the report as you proceed with the survey. To avoid any pressure, do not leave it all to the end, sitting down with a pile of notes, some several days old, and a few hundred pictures to sift through! Pressure makes for poor reporting. Having said that you may need to put pressure on your sub contractors to provide their reports as soon

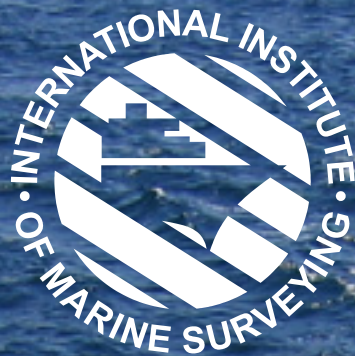
as possible, as you will need to add annexes containing reports from engine techs, oil sample analysis, hull UTM and any other consultants you may have engaged. As far as the style of the report is concerned I feel it is important to remain objective, as with any yacht, whether you personally like or dislike the interior styling or any other aspect of the vessel is irrelevant, you are being asked to simply report on the condition of the yacht as you find it; however, I do feel that the report should reflect the vessel's purpose as a luxury yacht and should have more depth to it than, for instance, a survey of a commercial work boat.

Finally it is worth remembering that although a large yacht is a luxury item, and may have a market value in the millions, and is usually loaded with lots of expensive toys and high tech gadgets, your first priority as a surveyor is to ask yourself, is it safe? Is it fit for purpose as a sea going vessel? An old engineer I once knew used to say "Our job lad, is to keep the people in and the water out!"



*“ your first priority as a surveyor is to ask yourself, ‘is it safe?’ ”*

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# 15 marketing tips to help you win more clients

In any small business in any industry, marketing is vitally important as a mechanism to retain existing clients as well as attracting new ones. In this, the first of an occasional series of business related articles, we offer you 15 tips to help you win new clients and grow your profits.

Many small business owners believe marketing is something that is done by other, larger organisations. Often people believe marketing to be complicated, rather like an exact science. In reality it is not and much of it is common sense. In essence, marketing is:

- Knowing and understanding your target audience
- Discovering the needs of your target audience
- Creating and implementing a marketing plan to deliver a relevant offering
- Retaining loyal customers and winning new ones

## Tip 1



### Understand the buying cycle

Your potential clients will go through the following process:

- They recognise they have a need or a want
- They search for solutions to their problem
- They create a shortlist of solutions before settling on one
- They find a business that can provide the solution
- They hire that business

## Tip 2



### Recognise that you cannot sell your services to everyone

Your service will only appeal to a certain subsection of any market sector. Focus on that sector and dismiss the rest.

## Tip 3



### Understand how your prospective client will choose to buy

Some of the most popular ways people learn about professional service providers are:

- Referrals from people in their network
- Word of mouth
- Online research
- Google
- Business articles
- Trade shows and conferences

## Tip 4



### Make your marketing proposition specific

Potential clients want to believe and be comfortable that your business can precisely meet their needs. If you have served or provided a similar solution for someone like them before and have testimonials, they are more likely to choose you.

## Tip 5



### Get yourself known in the market place

Take any and every opportunity to speak, write or share your knowledge and passion for marine surveying. Let people know that you are an expert in your field with a breadth of experience and knowledge.

## Tip 6



### Know and understand your competition

Often overlooked, this is a key part of your marketing strategy and proposition. Indeed some people are not even sure who their real competitors are, or what they have to offer the market and the advantages of their service over and above yours. It is also the case that some business owners think they know their competition, but do not keep an eye on them. This means they are not best placed to fill the gaps when they are left by their competitors.

“Don’t wait for testimonials – ask for them”

## Tip 7

### Become a prospective buyer for your competition

Get someone in your network to make contact with your competitors so you can understand how good or bad they are at handling the initial enquiry and how they price their services. Learn from the good and the bad and understand what your competitors are not delivering and then position your proposition accordingly!

## Tip 8

### Define your unique selling proposition (USP)

Your USP is not a catchy slogan. It is the unique position your business holds in the minds of your potential and existing clientele.

## Tip 9

### Understand that price is not always the key factor when people purchase

There is a misconception that people will always choose the cheapest offer. This is not the case. Studies show that price is quite often not the major consideration. Indeed being the cheapest can sometimes be detrimental because people regard your service as in some way inferior.

## Tip 10

### Don’t wait for testimonials – ask for them

A testimonial is someone else doing your sales and marketing for you. If their experience of your service was so positive, ask them to write you a testimonial. This can then be used on your web site and in your marketing blurb.

## Tip 11

### Generate free publicity

This is not always the easiest thing to do, but use public relations as a means to generate free publicity about you and your services. Offer to go and speak on a local radio station about an aspect of marine surveying for example; or write to the media and offer to contribute some editorial that may be of interest to their readers. Target which media you approach with care.

## Tip 12

### Maintain regular contact with existing clients

Keep your existing clients in touch with any news, or new services you have to offer. Do not assume they will necessarily remember you when they next need to buy. Send them a letter, an email, or a telephone call periodically. Make a point of over delivering on your clients’ expectations. Never ignore your existing customers. It may have cost you money to get them onboard in the first instance. They should be easier to sell to than new prospects as you are a known quantity to them.

## Tip 13

### Always write accurate marketing blurb

Do ensure that what you write about your business and services is correct and accurate. If you offer a service, make sure that you have the means and expertise to deliver it in its entirety. ‘It does what it says on the tin’ is a good adage.

## Tip 14

### Check for mistakes

If you read a web site or brochure that is full of spelling mistakes, or poor grammar, would that make you more likely or less likely to want to use that supplier’s services? Less likely for sure. Make sure you thoroughly proof read your marketing material and correct it for errors. If this is not your skill then ask someone in your network to do so for you.

## Tip 15

### Understand the demographics of those who are most likely to buy from you

- \* Age of your potential clients
- \* Their likely income range
- \* Even their education level

If you know the demographics of those who are likely to use your service, then you can target your marketing programme accordingly.

“Get yourself known in the market place”

# EDUCATION

## PART ONE

### WHAT IS EDUCATION?



#### The Importance of Assessment

Exposing students to new ideas and essential facts is only part of most educational goals. Students are also expected to retain most if not all of the information that they learn in school. Teachers and professors commonly use exams and graded assignments to assess learning.

Standardized tests are one of the most popular ways of driving curricula and lesson planning throughout the world. These sorts of tests help make sure that all students are learning the same basic things, no matter who their teacher is or where they attend school. Sometimes, laws also have a role to play, like the United States' No Child Left Behind Act. This act creates a way to measure how much each child is learning across different school systems to ensure that all children receive a minimum level of knowledge.



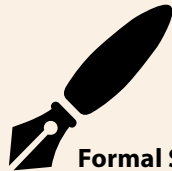
#### Advanced University Training

Many people choose to extend their formal education beyond what is required by pursuing university studies. Students typically have a wide range of choices when it comes to subject area and degree options, and most schools offer programs at varying levels. Those who are very passionate about a particular topic often choose to study it intently at the graduate level; others who hope to enter certain specialized professions may also seek out more nuanced educational opportunities, such as law school or medical school.



BY **Capt KHALIL U KHAN**  
Regional Director,  
IIMS Pakistan, FIIMS

In general "Education" is used in a broad sense and traditionally used to define a process of learning and acquiring information. However, formal learning in a school or university is one of the most common. Though self-teaching and "life experiences" may also qualify. Communities around the world place a high value on educating people of all ages, whether formally or informally. It is widely believed that constant exposure to new ideas and skills makes people better workers, thinkers, and societal contributors.



#### Formal Schooling

Most people associate education with schools and classrooms where trained teachers present information to students. Classroom learning generally starts when a child is relatively young around age five in most countries and continues until the teenage years. The purpose of most classroom learning is not to prepare a child for a specific job, but rather to help him or her develop critical reasoning and thinking skills. Reading, writing, and math are very common lessons for young learners. As students progress in their schooling, they often come into contact with more challenging subjects like written composition, history, and advanced sciences.



#### Educational structures around the world

Different countries place different emphases on education, though some form of schooling is mandatory for young children almost everywhere. Requirements are usually based on the belief that an educated population is best suited for advancement, both internally and internationally. In most places, childhood schooling is offered free of charge; university training is also underwritten with government funds in some places.





## Life Experiences and Informal Learning

Book learning is very important to acquire. As some individuals are self-taught this means that they pursue knowledge on their own outside of a formal classroom. Many of these people may have read extensively and broadly and consider themselves experts within a given field. Bill Gates, founder of Microsoft, for example, was a college dropout. Most of what he learned he taught himself.

A range of "life skills" — things like self-sufficiency, independence, and discipline also frequently come within the broader umbrella of education. Cultural adaptation and the skills needed to engage in society can also be thought of as educational. In most cases, any time a person acquires a new skill or learns to act in a new way, he has been educated in some form or another.



## EDUCATION RESEARCH EVALUATION

Education research is the study and evaluation of different educational theories. This type of work covers all education levels, from preschool to post graduate degrees. The purpose of education research is to develop education theories and methodologies and evaluate the success of these concepts in practice.

**There are four main areas to education research:**

- 1. Psychological,**
- 2. Sociological,**
- 3. Biological, and**
- 4. Analytical.**

All four areas investigate different

aspects of learning and how the brain functions. The theories and ideas developed during education research are published and provide the basis for the education system and teaching model.

In order to become an education researcher, you will need a post-graduate degree in education. The majority of education researchers are also fully training teachers who have worked as a teacher earlier in their career. Important skills for this type of position include analytical thinking, good communication, and presentation skills.

Psychological education research focuses on the different learning styles and the most effective way to teach each style. They explore the importance of atmosphere, delivery method, presentation, and student-teacher interaction. In this school of thought, they also explore the impact of personality on education absorption.

In the sociological school of thought, education research is focuses on the impact of economic circumstance, family structure, level of parental involvement, siblings and other social issues. The main theory is that success in education and related pursuits is deeply affected by the student family situation. Education research provides a method of evaluating which unique strategies might help these students succeed.

A biological education researcher focuses on the genetic predisposition of the student. Discussion about innate intelligence, brain capacity and utilization all stem from this type of research. This area of research can be controversial, as many people are divided on the belief that intelligence is based on effort, and not biology.

Analytical research into education compiles the different theories, studies and evaluates their effectiveness. This is a very important role, as it validates or negates the conclusions suggested by the research study author. They provide an impartial review of the data and

research method used to support the proposed education theory.

Research into education has a huge impact on the design of courses, curriculum development, and teacher training. This field has grown tremendously in the last 25 years, resulting in a more thoughtful approach to elementary education, the challenges facing economically disadvantaged students and the role of schools within a community. Additional developments in teacher training have improved the quality of the education provided and the impact of education in everyday life.



## WHY IS EDUCATION IMPORTANT?

Education is definitely important for everyone. In order to live in a civilized, spiritualistic and ethical society, all of us need to be educated. Well, why should we live in a society that gives importance to ethics? Yes, it is very important to follow ethics. Broadly speaking, an ethical background involves knowing the limitations of dealing with elders, friends, relatives, with common man, and the government. Being equipped with good ethics is a part of our education.

Education through schools, colleges or any other institution, will fetch us not only the knowledge, but will raise our ability to develop our talents to make use of the knowledge that we have gained. According to me, completing a college education means to gain the eligibility to start leading a successful life.

On the other side, education removes illusions and confusion but gives us the ability to look at everything with clarity. It builds up our confidence, and allows us to face life boldly. Education makes us face success and failure courageously. Education teaches us to think, and

try to reason wisely every question until we are met with an answer. Education opens up a great career for us, with many opportunities to survive in this world. The skills that we gained through education will get us a brilliant career where we can use our expertise to satisfy a company. Education wipes away the wrong beliefs we have. Though schools and colleges form a basic platform for education, our life experiences are better lessons to educate us. So everyone will develop the art of self-learning after college. This self-learning will help us to lead our life properly. So, one needs to be educated all through his or her life time.

The first time we are introduced to formal education is in school. The school years are the grounding years of one's education. Schools are institutions that lay the foundation of a child's development. They play a key role in developing children into responsible citizens and good human beings. It's a school where young talent is recognized and nurtured. On leaving school, we are all set to soar high in life, and enter the real world in pursuit of our dreams.

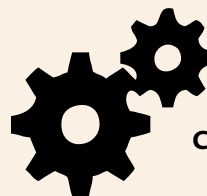
Education provides us with knowledge about the world. It paves the way for a good career. It helps build character. It leads to enlightenment. It lays the foundation of a stronger nation. Education makes a man complete. Kautilya, an Indian philosopher, royal adviser, and professor of economics and political science very rightly underlined the importance of education, some 2000 years ago. He has highlighted the fact that education enriches people's understanding of themselves. He has said that education is an investment in human capital, and it can have a great impact on a nation's growth and development.



**It Gives Knowledge**

*"An investment in knowledge pays the best interest."* -

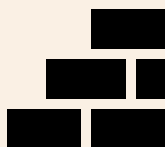
Benjamin Franklin. A direct effect of education is knowledge gain. Education gives us knowledge of the world around. It develops in us a perspective of looking at life. It helps us form opinions and develop a point of view. The information we are constantly bombarded with, cannot be converted into knowledge without the catalyst called education. Education makes us capable of interpreting things rightly and applying the gathered information in real life scenarios. Education is not limited to lessons from textbooks. Real education is obtained from the lessons taught by life.



**It Builds Character**

*"A man's own manner and character is what most becomes him."* -

Marcus Tullius Cicero. The words 'cultivate' and 'civilize' are synonymous with 'educate'. That says it all. Education is important as it teaches us the right behavior and good manners, thus making us civilized. It is the basis of culture and civilization. It is instrumental in the development of our values and virtues. Education cultivates us into mature individuals; individuals capable of planning for the future, and taking the right decisions in life. It gives us an insight into living, and teaches us to learn from experience. It makes us self-confident, and develops our abilities to think, analyze, and judge. It fosters principles of equality and socialism. It forms a support system for one to excel in life. It is the backbone of society. It won't be wrong to say that good education makes us more human.



**It Leads to Career Progression**

*"An expert is one who knows more and more about less and less."* -

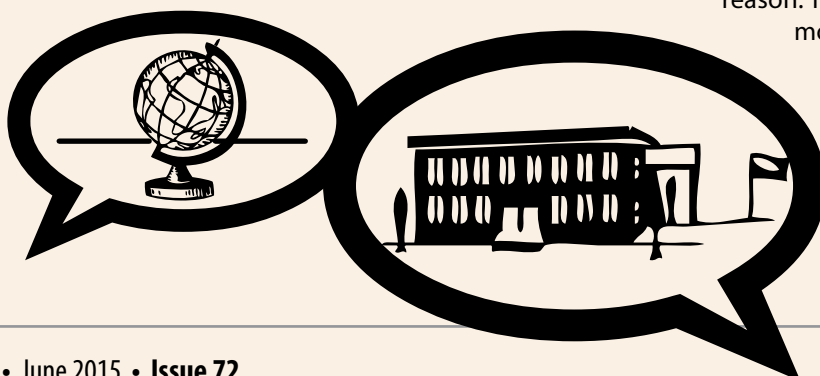
Nicholas M. Butler. Education is important because it equips us with the expertise that is needed in helping us realize our career goals. Expertise is an in-depth knowledge about a specific field and it is thought to open doors to brilliant career opportunities. Education fetches better prospects of career growth. Good education is an eligibility criterion for employment in any sector of the industry. Be it any field, education always proves to be rewarding. We are weighed in the market on the basis of our educational skills and on how well we can apply them.

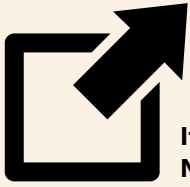


**It Leads to Enlightenment**

*"Education is the kindling of a flame, not the filling of a vessel."*

- Socrates. Education paves the path to disillusionment. It wipes out the wrong beliefs from our minds. It helps create a clear picture of things around, and erases all the confusion. It kindles the flame of curiosity and helps awaken the abilities to question, and to reason. The more we learn, the more questions we have, and without questions, there are no answers. Education teaches us to find answers. It makes us more self-aware. It leads us to enlightenment.





### It Helps a Nation Progress

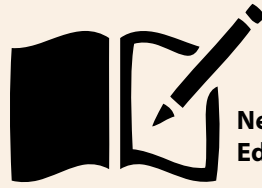
*“Our progress as a nation can be no swifter than our progress in education. The human mind is our fundamental resource.” -*

John F. Kennedy.

Though not enlisted as one of the three basic human needs, education is equally important. For the progress of a nation, for the enrichment of society in general, education is important. A country's literate population is its asset. In today's competitive world, it won't be wise to neglect the importance of education for the development of society as a whole. Most countries have realized this. It has led to the development of many government-aided educational programs and government grants to schools and colleges. The motive behind this is fostering education in society. The future of a nation is safe in the hands of the educated. Education is important for the social development and economic growth of a nation.

Schools and other educational institutes define the basic framework of education. Schooling gives us the fundamentals. We specialize in fields of our interest during degree courses. The number of institutes offering vocational courses and those offering online education is increasing by the day. Vocational courses help earn specialized education. Online degree programs help the working class and adults pursue education even while continuing work. Distance education has proven to be of great help for many. But education is not limited to that obtained from educational institutes. Learning is a lifelong process. Rather, self-learning begins at a point where institutional education ends. The process of self-learning continues throughout one's life. This is well-supported by a speech made by US President Barack Obama. In his national address to students across the nation, he said: *“... Every single one of you has something that you're good at.*

*Every single one of you has something to offer. And you have a responsibility to yourself to discover what that is. That's the opportunity an education can provide.”*



### Necessity for Education

Education helps us with many things, but most importantly, it empowers an individual to think, question, and see beyond the obvious. Human beings are born with a natural tendency to question. Education is the best way to satiate our curiosity, without extinguishing the burning desire to learn and explore more. Here are a few 'obvious' reasons for educating oneself.

- Education broadens our horizon and gives us a better understanding of the world around us and how things work.
- The world needs education, since it is the basis of a civilized, structured society.
- Education helps people to think rationally and avoid illusions in life.
- Education reduces social and economic disparity, allowing progress to be shared equally.
- It gives scope for technical advancements in fields of science and technology.
- Studies indicate that educated people have longer life expectancies. They tend to lead a healthier lifestyle by exercising more and playing more sports. Most of them understand the implications of diet and lifestyle on their health, enabling them to make healthy choices.
- On an average, educated people have more meaningful and interesting jobs than those held by uneducated

people. They are usually in a position to make decisions at work. This results in higher job satisfaction which leads to a better quality of life.

- Educated people are found to have higher self-esteem. Their lives are mostly well-planned, and have a definite direction. They have better problem-solving skills and are consequently better equipped to handle everyday decisions.
- Children of educated parents have access to better education facilities. These children have a higher cognitive development as compared to children of uneducated parents.
- Educated people are better positioned to contribute positively to society, and even towards the environment, as they understand the implications of their choices and actions.
- In developing countries, education is viewed as means to alleviate poverty and engineer social change. It isn't a magic pill for solving all the problems. But it can surely be a ladder to climb out of poverty, exclusion, ignorance, oppression, and war.

One may turn back the pages of history and reexamine primitive societies and their barbaric lives. It is the best way to realize the need of education. Many ineffective, modern educational systems have proved successful in opening people's eyes, but they have closed people's minds. It is very important to analyze needs and improvise the support system to ensure a better future for forthcoming generations. Its purpose should be to empower mind and soul, to achieve its full potential. Whether our systems achieve or hinder that purpose is another discussion.

**To be continued in: EDUCATION  
Part Two - Education in Pakistan**

7-11 SEPTEMBER 2015

# LONDON



## INTERNATIONAL SHIPPING WEEK

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**The inaugural London International Shipping Week (LISW) back in 2013 was an unparalleled success. As LISW 2015 is fast approaching Steering Group member Doug Barrow, Chief Executive of Maritime London, reflects on the LISW's success:**

*"It certainly exceeded our expectations for the first event. The steering group all had confidence that it would be a success, but momentum gained as we neared the start of the week. There were some within the industry who were sceptical about "yet another maritime event" and were slow to connect, but it soon became apparent that, with significant industry support matched by an enthusiasm from government, this was going to be big; and it was. With over 70 separate events during the week, a high profile conference and having to move the dinner to a larger capacity venue due to demand for tickets, life was not dull."*

London International Shipping Week, 7-11 September, will be the 'must attend' event of 2015, offering over 100 industry functions and unique networking opportunities for leaders across all sectors of the international shipping industry – regulators, charterers, ship owners, ship managers, bunker suppliers, lawyers, ship brokers, bankers, insurers, marine surveyors, commodity traders and brokers, ship suppliers, port operators, shipping service providers and many more.

The sell-out one-day LISW Conference and Gala Dinner, both on Thursday 10 September at Grosvenor House, will attract the very highest level government and shipping leaders from the UK and around the world to crown what promises to be another amazing week.

With a wealth of industry functions planned for the week, London International Shipping Week will be the high level networking opportunity of the year for leaders across all sectors of the international shipping industry – regulators, charterers, ship owners, ship managers, lawyers, brokers, bankers, insurers, ship suppliers, ports and shipping service providers and all involved in the shipping world.

A major event of the week will be the one-day LISW Conference and Gala Dinner, to be held on Thursday 10 September. The Conference will be held at the Grosvenor House Hotel, Park Lane, one of most luxurious five-star hotels in London, where industry leaders and top government speakers will focus on London at the heart of maritime. Later in the evening, the Gala Dinner (preceded by a Champagne Reception) will also take place at the Grosvenor House Hotel.

Doug Barrow outlines the reasons behind the success of LISW15: *"It had long been a view that there should be a regular, significant maritime event in London. After all, London is the world's premier maritime business centre. There have been attempts to hold a Posidonia type event around a maritime exhibition, but the format didn't work. Exhibitions are good for displaying and promoting equipment and visible services, but not ideal for promoting professional business services so we needed to look at alternative models. The energy industry has, for many years, had a very successful International Petroleum Week that attracts over 2000 influential industry figures and government officials to three days of conferences, roundtables*



Photo: [www.londoninternationalshippingweek.com](http://www.londoninternationalshippingweek.com)

and breakfast sessions with a series of networking opportunities. This seemed to be a good formula that could apply to the maritime industries. Even with this model, efforts had been made to develop a form of LISW a few years ago, but we were unable to find an organiser who was prepared to take the financial risk. In September 2012, Shipping Innovation approached the industry to take the concept forward and, after a series of meetings, both the industry and the government agreed to support the concept. It was realized then that for the event to be a success, industry and government had to work together with the organisers, they did and the rest is history."

"LISW15 will be considering the areas players will need to address in order to consider a ten year perspective on shipping. The overarching theme is Shipping in 2025 and we have identified five particular areas to be considered Innovation; Investment; Challenges; Relationship with Government and the evolution of World Maritime Trade. The conference on 10th September will focus on these areas and it is anticipated that the majority of events during the week will be tied into these themes."

"The UK is the leading centre worldwide in the supply of a broad range of professional and business services to the international maritime community, accounting for 21% of premiums in international marine insurance, over \$64bn in committed ship finance (or 15% of the world loan book) and it has the largest concentration of legal service firms specialising in the sector."

London is also the predominant supplier of shipbroking services worldwide and is the major player when it comes to maritime dispute resolution. London continues to be a major port and trading hub too. The second biggest port in the UK it is also home to the UK's busiest inland waterway for freight, passengers and a centre for sporting events.

London International Shipping Week is organised by Shipping Innovation – a joint venture between Elaborate Communications and Petrosport – in association with the Department for Transport, The Baltic Exchange, Maritime London, Maritime UK, the UK Chamber of Shipping, UK Major Ports Group, and TheCityUK, the independent promotional body for UK financial and professional services.

## The Official LISW2015 App is now live!

A fully interactive experience that connects you with delegates, speakers, sponsors and exhibitors.

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SPONSORED BY



# “Leadership”

## A RARE QUALITY



BY **Capt. REAZ SHAHID**,  
MASTER MARINER (UK),  
MSC (UK), DIP IMS (AUS)  
AFFIIIMS, ASSOCAIMS

Since the outset of my career as Merchant Marine officer, very often I used to hear people talking about leadership qualities while discussing the role of a Master on board the ship. It is my candid confession that at that stage I had only an equivocal notion about this trait. I was fazed by the people saying that an individual can not inculcate leadership qualities but one has to be born with it. Undoubtedly, leadership is the most sought after quality and every one in the Maritime Industry admires that all ships are operated by people with leadership qualities.

During my case study research under work based learning program which culminated with my MSC degree in Safety Management System, this was seemingly a break through toward my cognition about the true sense of “leadership qualities”. I am sure everyone involved with the operation of ships very much understands about International Management Code for safe operation of ship & pollution prevention (ISM code) and Safety Management System (SMS). My research was based on a case study of Safety Management System (SMS) on board a car carrier. It was a qualitative research which entailed interviewing all crew on board a specific ship and



subsequent analysis of qualitative data. At one point of my research, I had started feeling that not only SMS but almost everything for safe operation of ship contingent upon Master - who is holding ultimate authority on board the ship. The significance of Master's role is well recognized in the maritime industry which has been reflected by the inclusion of Master's overriding authority related to safety and pollution prevention in the ISM Code.

During the research, the finding of my case study was triangulated with document review. Surprisingly, the inference I drew from the case study was not very far from the finding of research carried out by Maritime Coastguard Agency (MCA), UK. Based on the research finding, MCA published a practical guide for leaders in Maritime industry "Leading for Safety". The guidebook illustrated in details about ten leadership qualities that Master should have for safe and efficient operation of a ship. I have succinctly mentioned below only the 10 leadership qualities identified by MCA research and to learn more about the MCA research finding germane to leadership qualities, an intrigued reader may refer to this **guide book** which is available on the website.

I had been sailing as Master on board car carriers for seven years before quitting sailing and curving my career in the Marine Survey field. It was my last ship where I did the case study and as a consequence, to my dismay I did not get the opportunity to practice the outcome of my research on board the ship. I was always under the impression that if I really could instil those leadership qualities during my sailing era, it would have made a significant difference to my performance particularly when I had served as chief officer and Master. However, I was forced to recant partially about the MCA research outcome after close monitoring of people in the leadership role.

Albeit aforementioned 10 leadership qualities are likely to make a significant difference to an individual's performance in the leadership role, but in my opinion, those qualities are not the only trait for someone to be a successful leader. Despite having all 10 leadership qualities, a person may fail completely to lead the team if they inherit poor ethical standards. For example, prejudice, corruption etc. is particularly prevalent among the people living in certain regions. People originated from those regions even do not consider those actions even as unethical or immoral. Moreover, most of the ships trading in the ocean are being operated by multinational

crew; thereby forming multicultural environment on board the ship. As a consequence, ethical standards of each crew will not be analogous and will be largely dominated by their social culture which in turn is likely to influence their ethos; subsequently their leadership qualities. Therefore, people with poor ethical standards in leadership role may not be able to live up to industry's expectation as a whole.

There are lots of other contributory factors which are likely to influence an individual's integrity as well e.g. unreasonably high ambition, greediness developed due to poor financial background, political and economical influence on social culture etc. to name a few. These factors also have a significant effect on an individual's personality and a person may not be able to emancipate themselves from those influences while serving on board the ship in the leadership role.

Over the period of time a person after practicing may attain all the 10 leadership qualities. But it is nearly impossible for him to eschew the poor ethical standard that he inherits from his social culture. Despite having 10 leadership qualities identified by MCA research may not be able to revamp a person having poor ethical standards. This hindsight made me feel that the outcome of my research was fragmentary and needs lot more qualitative research to accomplish an inviolable outcome. Till then, I will term "Leadership" - a rare quality.



### Confidence and Authority

- Instil respect and command authority
- Lead the team by example
- Draw on knowledge and experience
- Remain calm in a crisis



### Empathy and Understanding

- Practise 'tough empathy
- Be sensitive to different cultures
- Recognise the crew's limitations



### Motivation and Commitment

- Motivate and create a sense of community
- Place the safety of crew and passengers above everything



### Openness and Clarity

- Communicate and listen clearly

As the start of a new occasional series entitled *'The day in the life of'*, The Report Magazine interviewed Capt Zarir Irani (a future IIMS President).

# A day in the life of Zarir Irani



*Zarir Irani on his Harley Davidson at home ready for his Sunday Cruise - photo courtesy Mr Nisit Doshi.*

**Q1. Please tell readers of The Report magazine a little about your career to date and how you became a marine surveyor.**

I have been 26 years in the Maritime Industry. It all started as a direct entry cadet after my graduation examinations. I hopped on a ship for the first time as a 19 year old lad with a fellow Cadet who had sailed with his dad on merchant ships, so I had a guardian angel with me for the first 9 months of my sea career.

My sea going days had its ups and downs for the first five years, then I met the love of my life during my second mate days and got married to Ferzin in 1998. Ever since we sailed together on shorter, more meaningful tours of duty on board globally tramping bulk carriers, owned and operated by P&O bulk shipping, London. They took care of us officers well in those days. I completed my Mates and Master's COC studies at South Shields in the North East of England.

I had entered the industry as a cadet and peaked in my sea going career with having been trusted with the responsibilities of 4 stripes at the age of 30. After 2 years in command on bulk carriers, I was found by my Guru (mentor) Captain Daraius who offered me a job in a 135 year old International marine surveying and consultancy firm at their Sharjah office in UAE. It was my first shore job offer. It felt like a second stint at cadetship in a new country with very few friends.

Relocation was not too difficult with a 3 year old son and an ever supporting wife, it was a no brainer to choose between - starting a new life ashore as a marine surveyor or continue sailing as Master on board merchant ships. We chose the former and landed up on the Arabian shores.

**Q2. How long have you been a practicing marine surveyor?**

Having completed 11 years as a surveyor, we as Constellation Marine have successfully accomplished 10 thousand assignments recently in May 2015 and are looking forward for more exciting and challenging work to come along. As I keep saying to those who matter to me "grow old with me, the best is yet to come".

While it may not be ideal to work in an environment of nearing 50 degree Celsius in summer months on decks, I have learnt to manage and motivate the stars to do their utmost best in the conditions, keeping client satisfaction at the top of our priority list.

**Q3. What attracted you into the profession and what do you most enjoy about the job?**

Frankly, I was not attracted to the surveying job at the first instance.

As it was my first experience ashore after my sea going days I took all obstacles in my stride as a learning opportunity. All I had was a promise of good mentorship and training that Capt Daraius was known for, as his reputation preceded him. I knew I would be treated fairly and



was taught the right values of this profession. This made me extremely confident and I quickly got a liking for the surveying profession.

A few months into the job, reality sunk in, I started changing in and out of boiler suits effortlessly, mastered the art of taking cat naps in car seats waiting for ships to dock. Understood the real reason behind why local agents deliberately lie about vessels ETAs and berthing schedules. Having laughed it out and overcome the initial anxiety by quickly realising that I was not the only surveyor in the world who had to go through this, I started enjoying the more important parts of the job. Appreciation from Darius and the clients meant everything to me, and still does.

Meeting newer people from various nationalities, I mastered the skills of connecting with crew and officers of vessels I used to visit, in record breaking time.

On committing to the one year long IIMS diploma in marine surveying in 2005 I realised the potential of this profession. I had written course modules as wealth of information along with a fantastic mentor who was always open to a healthy discussion between what was written in the books and what was being done in practice in the Middle East. Surveying became more and more enjoyable with every passing day, and still is.

**Q4. What time do you start your working day and do you have any sort of normal daily schedule and routine?**

Shooting out emails first thing in the morning while still in bed by reaching out to the nearest gadget on my bed side table is the start of my working day. It's my comparison to the comfort of having breakfast in bed. The real answer to this question is, there is no fixed time nor schedule to work which you can call normal or routine.

*Zarir Irani at his Dubai office, The Citadel - photo curtesy Mr Nishit Doshi.*

Although as a habit, I do like to set up my client meetings as early as possible in the day while I am fresh and high on ideas in the mornings. Same applies to planned surveys. The earlier in the day they start, more hours in the day you have to do the job well to your full potential.

**Q5. Typically what type of surveying work and projects are you involved with?**

I listen to client requests who call for my services, focus on the job scope however big or small it is. Typically large casualty investigations, potential expert witness, complicated face offs between crew and authorities, ship detention by port state, are the kind of SOS calls I attend to on behalf of clients, clubs and local P & I correspondents.

After availing the integrated management system of ISO 9001, 14001 and 18000, we had bid for technical expertise in drafting the inland waterways regulation of the capital city in our region. Dynamic Positioning drillship, rig moves, self propelled barge inspections and AHTs for CMID, FMEA audits, trials is what is creating the buzz in my mind with regard to professional development.

Small crafts and luxury yachts need a refined and detailed approach. Yachts are a completely different adrenalin rush, I usually am envious of the stars of Constellation who get to go out on sea trials of yachts.

As macro projects trade marking brand Constellation Marine and recently convincing the three wise men to be the Board of Directors for Constellation Marine Services to guide us, have been my long desired accomplishments. Initiation of our Gdansk office in 2015 also ranks high up there in this year's satisfaction quotient.



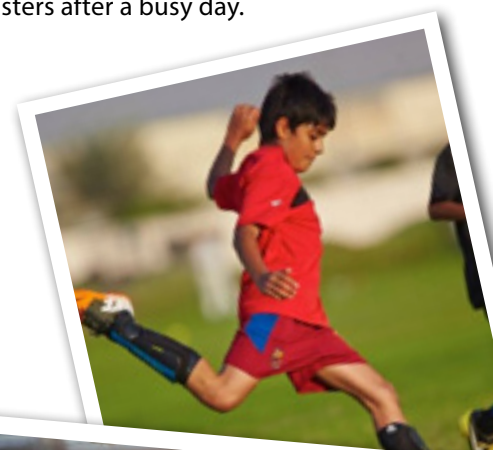
**Q6. Away from surveying, what hobbies do you have and how do you like to relax at the end of a busy day?**

Memories of having the wind in my face standing on the extremes edges of those bridge wings during navigational watches at sea cannot be forgotten. So my best alternative to that is to go riding on my Harley Davidson. To get some wind in the face brings back old watch keeping days at sea.

Staring into the water gazing at dolphins or at the horizon is yet another calming trait from old sailing days, so I have an aquarium in my office, one at home and a fish pond in our backyard, which keeps my sanity intact in case I need an immediate calming effect.

Power Yoga is something my wife Ferzin says helps me a lot and has changed me over the past year or so, she claims to know me better than I know myself. We have been married for 17 years now. After repeating this "statement of fact" of knowing me well, for the past so many years I have come to believe in it now.

The warm and loving welcome home by our tail wagging dog Orpheus and a hug from our 14 year son Darian are instant stress busters after a busy day.



# FIFTY SHADES OF INSURANCE: CHAPTER FIVE

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## The Marine Insurance Act 1906 Fades to Grey in the Shade of the Insurance Act 2015 What the Changes Mean for You...

There is often a view amongst those who take out insurance that insurance companies perform a useful function but are not there to pay out! In other words an insurer will make every excuse to void a policy or avoid paying out under the terms of a policy based on the failure of an insured to comply with pre-contractual duty of disclosure, warranties and attempts to prove that an apparently reasonable claim may be fraudulent.

Until 12th February 2015 all insurance was underpinned by the Marine Insurance Act (MIA) 1906. However, as the title suggests, this has become impracticable in the 21st Century. Therefore the Law Commission of England and Wales and the Scottish Law Commission, collectively called the Law Commissions, have been undertaking since 2006 a fundamental reform of the MIA. In so doing they have updated such principles as "utmost good faith", whereby the insured is obliged to disclose every material circumstance. However, not everyone is aware of what constitutes a material circumstance and in the event of a claim insurers may find circumstances of which they were previously unaware and thus decide to invalidate the policy in one fell swoop.

It is widely supposed that in 1906 it was the fledgling insurance companies who were at the mercy of well-established city firms, rather than the other way round as it is seen today. Thus "utmost good faith" begun in the 18th Century, developed in the 19th Century and brought into law in the 20th Century, has become irrelevant in the 21st Century where it is seen as being weighted in favour of insurers. So circumstances change for everyone...

So, what were the Law Commissions' findings, and what does the new Insurance Act 2015 mean for you?

Before 12th February 2015 the Law Commissions had already made two pieces of legislation. The first, the Third Parties (Rights against Insurers) Act 2010 makes it easier for a third party to pursue a claim directly against liability insurers if the insured is or becomes insolvent. Meanwhile, the Consumer Insurance (Disclosure and Representations) Act 2012 (CIDRA) deals with misrepresentation, disclosure and breach of warranty in consumer general insurance contracts.

Focussing now on commercial (non-consumer) insurance law, it was evident to the Law Commissions that reform was essential as the existing law:

- Undermined market trust and confidence because the UK economy was prey to the unbalanced nature of the law which aggravated disputes between insurers and business
- Threatened the credibility of UK business law because the antiquated nature of the law meant it was out of touch with reality

In order to overcome the archaic MIA the Insurance Act 2015 sets out to remedy the old laws in three important ways by addressing:

- The pre-contractual duty of disclosure and the effect of (mis)representations at that stage
- The effect of warranties contained in a policy which often lead to claims not being paid
- Insurer's remedies for fraudulent claims which were considered harsh and resulted in wrongful accusations of fraud and voiding of policies after years of premium payments

The Law Commissions' solution to pre-contractual duty of disclosure is to replace the previously embedded principle of "utmost good faith" with a new obligation upon insureds that of "a fair representation of the risk" which should be "reasonably clear and accessible to a prudent insurer". The legislation states that a "fair presentation of the risk [requires] disclosure of every material circumstance which the insured knows or ought to know, or... gives the insurer sufficient information to put a prudent insurer on notice that it needs to make further enquiries".

Pre-contractual duty of disclosure also includes the issue of "Knowledge" for both insured and insurer. An insurer can reasonably expect an insured to know about their day to day business activities and to include information in their proposal form that "should reasonably have been revealed by a reasonable search".

The Act goes on to lessen the burdens on insureds as it imputes knowledge into underwriters as it is deemed that:

- An underwriter ought to know:
  - information known to an employee in the insurance entity or their agents which they ought reasonably have passed on to the underwriters,
  - Information in the possession of the insurer and readily available to the underwriter, and
- An underwriter is presumed to know:
  - information which is common knowledge
  - Information which an insurer offering insurance to a particular field of activity would reasonably be expected to know in the ordinary course of business

Used by insurers to control risk, warranties are a means of ensuring that policyholders are held to the terms of their policies, especially if the "basis of contract" principle is applied to the initial proposal form. The "basis of contract" has the effect of turning the whole form into a warranty allowing insurers to void a claim on the flimsiest of pretexts. It is staggering to think that this principle has been a matter of hot and costly legal dispute since 1908 – just two years after the MIA became law – and has only now been addressed by Clause 9 of the Insurance Act 2015 which abolishes "Basis of contract" clauses from business insurance contracts. Under the current regime insurers have been able to discharge their insurance responsibilities over a breach of warranty even when that breach had been remedied. This was too harsh so the new Act affect is to make a breach of warranty merely suspend insurer's liability and a breach of warranty will be deemed to be remedied if it can be proved that the breach carries no consequences, financial or otherwise to insurers.

Wrongful accusations of fraud that have led to long-term policies being cancelled instigated the writers of the new Act to address this problem. There is still the remedy for insurers of forfeiture of claims if they are proven fraudulent as is the current position, and insurers will be able to terminate a policy at the time of the fraudulent act. However, any outstanding legitimate claims prior to the fraudulent claim must under the Act still be settled by insurers even if a policy becomes void as the result of a fraudulent claim.

Although the Insurance Act 2015 became law on 12th February 2015 it will not come into force until 12th August 2016 so until then all policies will remain subject to the Marine Insurance Act 1906. However, now with the new Act there is light at the end of the tunnel.

The above is just a brief summary of the content and effect of the new 2015 Act that we hope readers have found of interest.



## NEW...Enclosed space training aimed specifically at Marine Surveyors..

### WHY HAVE MINES RESCUE MARINE CREATED THIS COURSE?

IIMS are committed to the safety of their people, therefore, this course was created to help marine surveyors become aware of the potential dangers associated with entering and exiting enclosed spaces on board ships whilst carrying out their routine work.



### COURSE CONTENT...

This bespoke one day course is drafted inline with the requirements of the UK national occupational standard for entering an enclosed medium risk area (tank, double bottoms, cargo holds, void spaces etc.) and can be assessed to that standard. Included in the course will be a review of main procedural documentation such as risk assessments, action plan (SSOW), permit to work and emergency procedures.



It also identifies Personal Protective Equipment and offers a 'hands on' learning approach in relation to monitoring equipment, EEBD's and other entry & rescue equipment.

The course also discusses the involvement of personnel positioned outside the enclosed space who have designated responsibilities for controlling the entry and dealing with an emergency situation should that occur.

In line with the national occupational standard identified above, there is a practical element to the course which may involve self rescue techniques to be demonstrated from both vertical and horizontal entry points.



For more information please call - +44 (0)191 584 0144

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