

# Horizons

News and information for the marine industry  
A Lloyd's Register magazine

## LNG-fuelled future

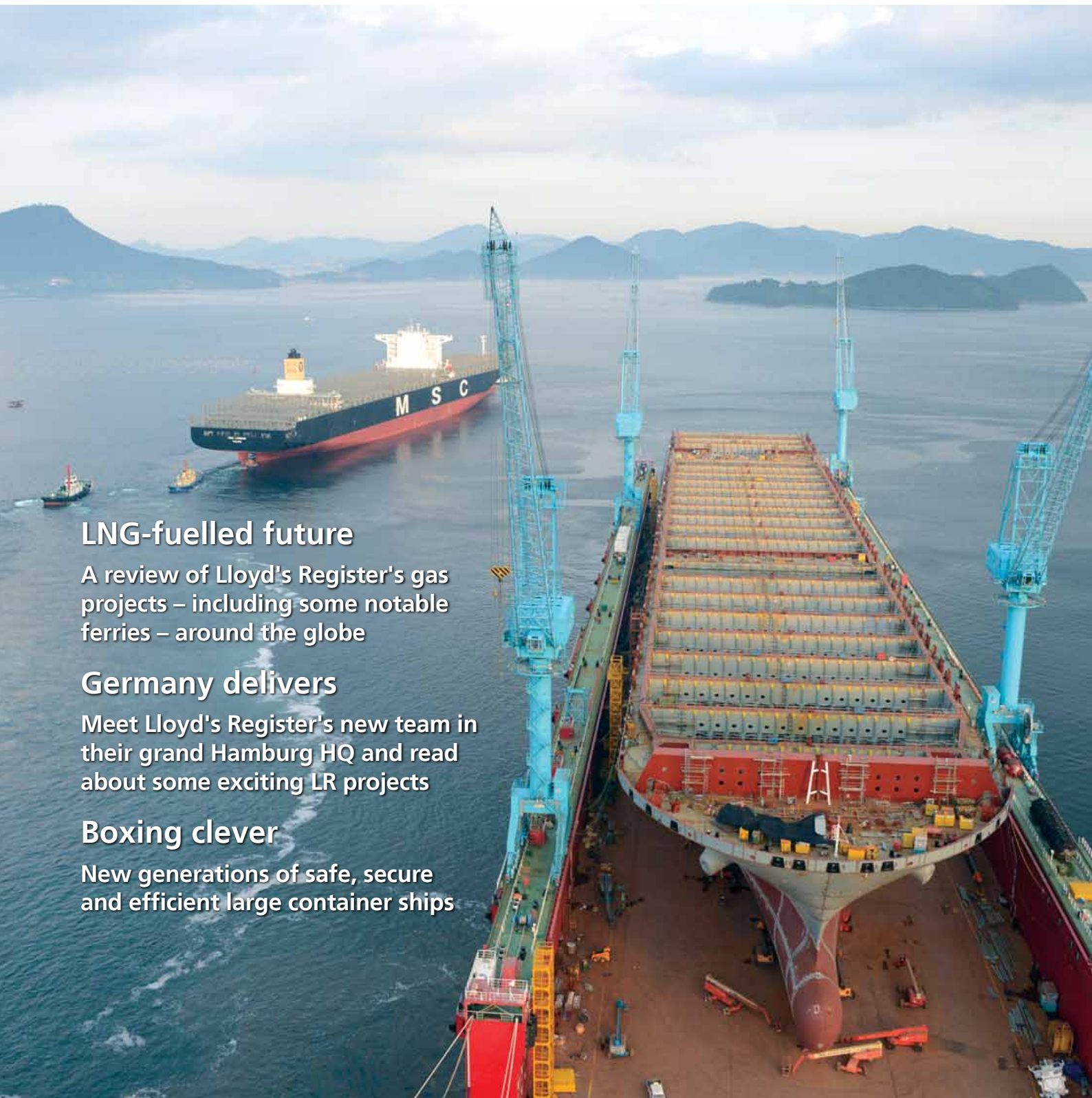
A review of Lloyd's Register's gas projects – including some notable ferries – around the globe

## Germany delivers

Meet Lloyd's Register's new team in their grand Hamburg HQ and read about some exciting LR projects

## Boxing clever

New generations of safe, secure and efficient large container ships







Horizons is the journal for Lloyd's Register Marine clients and employees, delivering news and analysis on our global activities.

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The Lloyd's Register Global Technology Centre in Southampton. The new home for LR's global Marine business, from the autumn of 2014, will help drive innovation and commercial and environmental performance in shipping – underpinned by LR's commitment to safety



Cover image shows the LR-classed MSC *London* (left) shortly before she was delivered at STX Offshore & Shipbuilding, South Korea, in July. Owned by Zodiac Maritime, the Panama-flagged vessel is the largest container ship in the MSC fleet.

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# Nick Brown appointed Lloyd's Register's Marine Chief Operating Officer

Nick Brown, previously Director Business Development & Innovation, has been appointed Marine Chief Operating Officer (COO). The change reflects the growth in Lloyd's Register's Marine business, both in scale and breadth of services.

Reporting to Marine Director Tom Boardley, Nick is responsible for LR's four global operating regions – Asia, the Americas, Northern Europe and Southern Europe.

Tom Boardley commented: "Nick's key leadership appointment will enable us to provide continued, and ever-improving, delivery of our technical and operational excellence. His appointment is driven by growth in Lloyd's Register's Marine activities and Nick is well placed to co-ordinate global operations to ensure successful delivery of the large orderbook of ships being built to LR class. Nick's leadership will also ensure that LR has the best understanding of the technical and commercial challenges facing the marine industry and continues to innovate services to support our clients in meeting ever increasing safety, environmental and efficiency ambitions."



Nick Brown, Lloyd's Register's Marine COO

## Sharper focus

Nick Brown is a 19-year LR veteran. He began his career as a graduate engineer before starting work as a field surveyor. Since leaving the field he has held increasingly important business development and operational roles in London and Asia. Before returning to the Marine headquarters in Southampton to take up his most recent role as Director, Business Development & Innovation, he was in charge of LR's Greater China activities and operations.

Nick retains leadership of the Business Development & Innovation team, including Luis Benito (Marketing), Hector Sewell (Sales) and Gwynne Lewis (Consulting), who will be joined by LR's other Nick Brown, the Global Marine Communications Manager.

Nick Brown, COO, said: "We move into our new Marine headquarters at the LR Global Technology Centre in Southampton as the commercial pressures and technical challenges continue to mount in our industry. I will be focused on connecting current and future client needs with service innovation and operational excellence to provide the support that our clients and stakeholders need. Class continues to evolve and we are working hard to provide the right combination of expertise in safety, environmental and efficiency performance of both assets and operations."

# News

## MHI-built *Sayaendo* LNG carrier launched this month

The first of two Lloyd's Register classed 155,000m<sup>3</sup> LNG carriers constructed at the Nagasaki Shipyard and Machinery Works of Mitsubishi Heavy Industries (MHI) is due to be delivered this month (September), with the second expected in December.

The MHI-owned ships which are named *Sayaendo* – meaning peas in a pod in Japanese – are fitted with continuous tank covers instead of the semi-spherical Moss tanks usually associated with LNG carriers of this type. The vessels will be among the first LNG carriers to be fitted with a reheat steam turbine propulsion plant, giving them increased overall energy efficiency.

They will play a vital role in Japan's energy supply security in the aftermath of the 2011 Tohoku earthquake. Since then, LNG has made up most of the shortfall previously filled by nuclear energy.

While these ships are compatible with most export and import terminals, the size, capacity and arrangement are also specifically designed for transiting the widened Panama Canal, scheduled to re-open in 2015, allowing LNG exports from the US Gulf and east coasts to reach Japan via the Pacific Ocean.

In between the delivery of the two *Sayaendos* MHI will deliver an LR-classed 145,000m<sup>3</sup> conventional Moss LNG carrier, also fitted with a reheat steam turbine. Since the 1980s, LR has classed 20 LNG carriers fitted with Moss spherical tanks.

Our association with shipbuilding in Japan can be traced to the survey of the first ocean-going ships constructed in Nagasaki in the 1890s. Today, LR remains committed to serving Japanese industry and clients with our expanded portfolio of services delivered via our main offices in Yokohama, Nagasaki and Kobe.



An LR-classed *Sayaendo* LNG carrier shortly before delivery



To find out more about the MHI *Sayaendos* and other LNG carrier projects, gas as a marine fuel and gas technology in general read LR's March 2014 Gas Technology Report

# News

## Setting the agenda with sustainability

To reflect the greater emphasis on a sustainable maritime transportation system, Lloyd's Register has changed the focus of its Marine Environment team to Environment and Sustainability.

"The reason for the shift is to reflect the need for a more sustainable outlook in the shipping supply chain. The maritime industry needs to ensure it remains a sustainable mode of transportation and the role it plays in the global supply chain is vital to sustainable development," said Katharine Palmer, Manager of the Environment and Sustainability team.

The impact of sustainable development was the theme of the 2013 Maritime Day when, in his address, IMO Secretary General Koji Sekimizu said: "Maritime transport is central to sustainable development and the maritime transportation system itself must, therefore, ensure that its development is also sustainable."

Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" – this definition was issued as long ago as 1987 but we're still trying to understand what this means. The concept can be interpreted in many different ways but at its core is the balance and often competing needs of the environmental, social and economic limitations society faces. All too often, our business decisions are driven by one particular need.

In our recent Global Marine Trends 2030 study we forecast the major changes likely to occur before 2030 such as the growth of world trade, a rising global population and an increase in living standards – a changing agenda with sustainability at its core.

"Our business decisions need to become more resilient to these changes in global trends. We need to transform the way we work, thinking more long term rather than adopting the swapability approach," said Palmer. "LR's expertise is helping to create this change and supporting our clients to make sure they make the right sustainable business decisions."

Our evolving approach also reflects the Sustainable Shipping Initiative launched three years ago by shipping leaders from around the world, with LR as one of the founder members. This ambitious coalition is taking practical steps to change some of the maritime sectors' greatest challenges and opportunities.

"We have seen a discernible shift in the shipping industry as it moves from operating within compliance to a far deeper understanding of the social value of shipping and how embedding sustainability as part of business-making decisions creates opportunities," said Palmer.

"At LR we recognise the need for transformation and, through collaboration and innovation, with the move to the GTC, it seems timely that this should occur now," she added.



Katharine Palmer,  
LR's Environment and  
Sustainability Manager

## Lloyd's Register signs ToC contract with DFDS

DFDS, northern Europe's largest integrated shipping and logistics company, is transferring eight ships into Lloyd's Register class to help further support DFDS Seaways' operational activities.

DFDS Seaways operates a network of 30 routes with 50 freight and passenger ships, while DFDS Logistics provides freight and logistics services in Europe with trailers, containers and rail.

Lloyd's Register's Ship Emergency Response Programme (SERS) has also been contracted fleetwide to provide damage stability and crisis support to DFDS, further extending the safety and operational services available to DFDS.

Kasper Moos, Vice President of DFDS, said: "We have decided to transfer a number of our ships to LR in order to reduce the number of partners and achieve a leaner process in our daily work with the class. LR has already proven that they have the size and the services we need for fully covering our needs for a safe and efficient operation of our ships."

Lloyd's Register's Kim Wiese, Marine Business Development Manager for Denmark, said: "Our relationship has been strengthened through the agreement to transfer a number of vessels to LR Class. Furthermore, enrolling their fleet into our SERS programme shows DFDS's commitment to safety of life at sea and their care for the environment."

## LR nominated for Lloyd's List awards

Lloyd's Register has been shortlisted for the prestigious Lloyd's List Global Awards. The EU LYNCEUS project, of which LR is one of several industry partners, has been shortlisted for the Innovation Award. LR's Ship Emergency Response Service (SERS) has been shortlisted for the Environment Award, which honours those that have done the most to reduce the pollution of our oceans through ship design or environmental policy.

The Innovation Award recognises new ideas, ship designs, equipment and services that offer distinct business improvements. The award is given to the technology solution the judges believe demonstrates the innovation needed to move shipping forward.

LYNCEUS has been nominated for the technology it is developing to revolutionise ship emergency management and evacuation. The system at the centre of the project uses a combination of ultra-low power wireless body-area-network technology and lifejacket-mounted reflectors tracked by an Unmanned Aerial Vehicle (UAV). This technology enables the swift location and rescue of people in danger, either on board or in the sea.



SERS has been recognised for its commitment to effectively responding to ship emergencies and reducing risks to the environment, passengers, crew and cargo. With experience of more than 250 live incidents and over 1,400 emergency exercises, SERS has earned a worldwide reputation as the leading provider of emergency response damage calculation and support services.

The winners of the Lloyd's List Global awards will be announced at a special ceremony at London's Lancaster Hotel on 30 September this year.

- The Lloyd's List Global Awards recognise the industry's successes, set a benchmark for excellence and reward innovative ideas that have pushed the boundaries of what is possible. The awards have earned a reputation for being difficult to win and are seen as a significant achievement by the industry.

## GE Marine and LR sign gas turbine power agreement

LR has signed a memorandum of understanding (MoU) with GE Marine, a leading global manufacturer of marine propulsion systems, products and services, to identify potential gas turbine-powered commercial ship projects.

"Through the MoU we will identify target segments and commercial customers for our highly-efficient marine gas turbine systems," said Brien Bolsinger, VP Marine Operations, of GE Marine, based in Evendale, Ohio. "GE already has an established base of 90 marine gas turbines operating on 17 cruise ships, five high-speed yachts and 19 fast ferries."

GE's gas turbine systems are unique in their ability to offer power density (i.e. high power in a lightweight, small footprint unit), fuel flexibility, and optional, highly reliable Dry Low NOx Emissions (DLE) combustion system technology. GE's DL combustion system can meet Tier III IMO/Tier IV US Environmental Protection Agency requirements needing no exhaust treatment when operating on natural gas or on liquid fuels in combined cycle.

Nick Brown, LR's Marine COO, said: "This MoU will allow us to work with some of the leading shipyards to approve in principle GE gas turbine-powered commercial vessels for global customers."



Signing ceremony: LR's Marine Director Tom Boardley (l) with Brien Bolsinger, VP Marine Operations, GE Marine

We can assist shipping industry stakeholders with understanding how the technical performance of these gas turbines can help meet commercial requirements. We always welcome shipowners and operators who would like to participate in joint development projects involving new applications."

- In December last year, it was announced that GE Marine, Dalian Shipbuilding Industry Company (DSIC) and LR have jointly developed a design for a gas turbine-powered LNG carrier. The carrier will provide low-lifecycle-cost, high environmental performance and flexible design.



## LR Foundation and Welding Institute in research link-up

The Lloyd's Register Foundation has linked with The Welding Institute (TWI) to provide £15 million research funding for the UK's first National Structural Integrity Research Centre (NSIRC) now nearing completion in Cambridge.

The collaboration between the LR Foundation and TWI over the next 10 years is aimed at inspiring and engaging the next generation of marine and energy engineers at the NSIRC, providing fundamental science and industry-driven research opportunities aligned with a postgraduate education programme.

As a founder sponsor of the NSIRC initiative, the LR Foundation's funding will create up to 83 PhD and EngD studentships. The research will help to support the Foundation's charitable aims by focusing on improving the safety of the critical infrastructure that today's society relies on, particularly in the energy, marine and transportation sectors.

By conducting research into different areas of structural integrity and new areas of technology, Foundation students will be able to gain recognised postgraduate degree qualifications through NSIRC's established relationships with leading universities in the UK and overseas.

Professor Richard Clegg, Managing Director of the LR Foundation, said: "Our vision is to be known worldwide as a leading supporter of engineering-related research, training and education. This funding agreement is a significant step in the delivery of our new funding strategy and provides a model for future investments. We want to focus on long-term grants with targeted institutions that deliver both impact and excellence."



## LR project supports safe bunkering in Portsmouth

LR is working with Portsmouth International Port to identify technical specifications and develop operating procedures for safe bunkering at the port. The project will enable the port to further its ambitions to become the UK's first LNG bunkering facility and hub.

Leonidas Karistios, LR's Global Gas Technology Manager, said: "Obviously with growing demand for LNG, ports are looking to ensure that they have the right, safe, approach to support operational and commercial ambitions. With a city adjacent to the port, significant ferry traffic and a large naval presence, there are substantial and varied stakeholder aspects to be addressed."

Brittany Ferries' latest newbuild, which is gas-fuelled and scheduled for delivery in 2016 (see LR's Gas Technology Report, March 2014, at [www.lr.org/gas](http://www.lr.org/gas)), will call at Portsmouth, where LNG bunkering will take place.

LR's Global Special Projects Manager, Thanos Koliopoulos, said: "We can use experience gained in projects like Singapore Port and *Viking Grace* to apply real project experience to deliver advice for the planning and execution of LNG bunkering to both the port and its bunkering service providers. Particular attention is given to the effective planning and execution of the port's main clients' compatibility of operations and all technical aspects for bunker tanker and receiving ship's facilities.

"We can help Portsmouth get ready for real LNG bunkering operations, not only for ferry and shortsea shipping, but our global expertise and perspective can also help them to prepare for supporting LNG-fuelled deepsea shipping requirements."



Portsmouth International Port



Computer-generated image of Brittany Ferries' LNG-fuelled ferry

## Seaborne ethane and demand for a new ship type – very large ethane carriers (VLECs)

A Lloyd's Register report looks at the commercial landscape, regulatory issues and technical realities of a new trade in ethane – emerging as a result of increased US gas production – and the technology required for large ethane carriers

US ethane production capability, as a by-product of total increased US gas production, is under-utilised. The potential exists for annual exports of 1 million tonnes of ethane to provide employment for 0.18 million m<sup>2</sup> of shipping capacity if shipped to North Europe, a further 0.32 million m<sup>2</sup> if shipped to South Asia and a similar amount to China through the Panama Canal. Projects are now underway to produce and move this ethane.

*Seaborne ethane: a report into the commercial need and technical requirements for very large ethane carriers* released by LR looks at the risks and challenges in developing a safe and efficient trade in ethane using larger ships and requiring ethane-specific technical solutions.

"The window of opportunity to tie up ethane exports and secure tonnage to serve this trade is now open to feed potential markets in Europe and Asia," says Tim Protheroe, President, Lloyd's Register North America Inc. "Lloyd's Register has identified the technical risks and best technical pathways to help ensure that near-term demand for large VLECs can be met by shipyards and gas containment system suppliers.

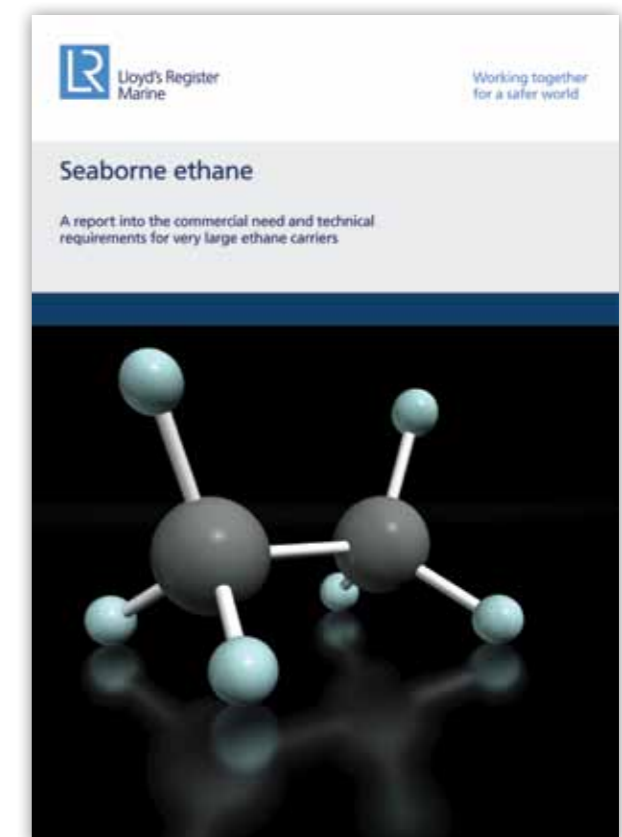
"Our job is to help anyone looking at trading ethane to make the best commercial decisions based on the best technical insight as well as working with regulatory bodies such as the US Coast Guard and flag administrations to ensure that the risks are understood."

One of the critical factors to be addressed is the containment technology used in very large ethane carriers (VLECs) as traders look for the most efficient shipping options.

Leonidas Karistios, LR's Global Gas Technology Manager, says: "We have been studying the potential for ethane for over a year and we asked the question, 'What would a safe and efficient 80,000 m<sup>3</sup> ethane carrier look like?'. The answer is that to transport larger quantities in a single hull will almost certainly require the adoption of alternatives to Type 'C' gas containment systems."

Historically ethane has been transported in small liquefied ethane/ethylene carriers (LECs) designed and constructed to carry ethylene (boiling point 104°C) as well as ethane and other 'normal' LPG cargoes. All these vessels have Type 'C' containment systems and it is estimated that the maximum feasible size of a ships with Type 'C' cargo tanks is around 40,000 m<sup>3</sup>. "It's not impossible that Type 'C' tanks could work, and it is important to keep reviewing the technology being developed," says Karistios.

The study evaluates all tank technology options and identifies that, for ethane carriers of 80,000 m<sup>3</sup> and over, the adoption of either prismatic Type 'B' tanks or membrane systems would provide the likely best technical design pathways – based on a ship with three to four tanks.



Cover of Lloyd's Register's report into seaborne ethane and very large ethane carriers (VLECs) You can obtain a copy of the report on [www.lr.org/ethane](http://www.lr.org/ethane)



# Lloyd's Register tops European port state control rankings

Lloyd's Register was the top-performing recognised organisation (RO) at the Paris Memorandum of Understanding (MoU) for the three years from 2011 to 2013, figures from the leading port state control organisation reveal.

This means inspections carried out by LR on classed ships in that period were better than any other RO in the European and North Atlantic region covered by the Paris MoU, which is one of nine international organisations that supervise the inspection of foreign vessels at port state control.

During this period, 11,405 inspections were carried out on LR-classed ships, but only 10 ships were detained for what are known as 'class-related' factors.

Tom Boardley, LR's Marine Director, commented: "This is a significant achievement, as the ranking system is encouraging all ROs to continuously improve their performance. In 2009, LR was in eighth position and we realised this was unsatisfactory, not just for our own reputation but particularly for our clients who had put their faith in our ability to keep their vessels trading without the disruption of detentions. We set out to improve our position with the initial aim of attaining a top three position and then remaining there.

"We began a concentrated effort to improve fleet quality and help owners, managers and ships' crews to avoid detentions. This activity aligns with our mission to promote safety and to improve the operational performance of the fleets we serve."



Tom Boardley, Lloyd's Register's Marine Director

## Port state control is important

Port state control is the term for inspection regimes set up at the national level and organised in regional areas - such as the Paris MoU - to help ensure all ships are in compliance with the requirements of international regulations and that the ships are manned and operated in compliance with these rules.

There are nine regional PSC organisations and nine agreements on PSC, known as memoranda of understanding (MoUs), have been signed covering all of the world's oceans. They are: Europe and the north Atlantic (Paris MoU); Asia and the Pacific (Tokyo MoU); Latin America (Acuerdo de Viña del Mar); Caribbean (Caribbean

MoU); West and Central Africa (Abuja MoU); the Black Sea region (Black Sea MoU); the Mediterranean (Mediterranean MoU); the Indian Ocean (Indian Ocean MoU); and the Riyadh MoU.

A ship visiting a port in one country will normally go to other countries in the same region before starting its return voyage and it is to everybody's advantage if inspections can be closely co-ordinated. This ensures that as many ships as possible are inspected and also prevents ships being delayed by unnecessary inspections.

The main responsibility for a ship's standards lies with its flag state, but PSC provides a 'safety net' to catch substandard ships.

# LR raises the profile of Type Approval

A focus on improved service, online certification and more people leads to new look TA

A major recruitment drive was recently launched by Lloyd's Register to further expand our role as a leading Type Approval (TA) specialist for materials, component and equipment manufacturers in the global marine, shipping and engineering industries.

Over the past year, 12 new roles have been created in Shanghai and Hamburg and a further 18 jobs are set to be filled over the next few months. LR is also streamlining the TA service. Clients can now obtain and renew certificates and access LR's existing database on the LR website at <http://www.lr.org/en/marine/compliance/type-approval/> which will include a new client database early in 2015.

Bob Smart, LR's Global Marine Technical Services Manager, said: "Our objective with the recruitment drive and all the improvements we are making is to offer our TA clients an even better and more hands-on service than we have done before. Upgrading our databases and associated systems will make it easier to issue certificates and make them available for clients online. It will also automate some of our processes, flagging up renewals and making it possible to offer our clients a more proactive service."

LR issues Type Approval certificates on behalf of Flag states, MED certificates, EU MR certificates and LR Type Approval certificates. It covers a wide range of products including Works Approvals, Approval of Welding Consumables, Type Approval of Electrical and Machinery Equipment and Components, Fire Safety products and Life Saving Appliances among others. Interestingly, there are estimated to be another 12,000 products that could qualify for the TA service.

Apart from the teams in Hamburg and Shanghai, a team of nine specialists in Lloyd's Register's Marine Technical and Engineering Services department in Southampton have been assigned to handle TA work and applications.

Flans Kemp, who was until recently a Lead Specialist in LR Shanghai, was appointed Type Approval Business Development Manager in July this year. His responsibilities will be to co-ordinate the TA teams and to drive its market growth.

He told *Horizons*: "It's not just our technical support offices and business development teams that need to support the growth of Type Approval. Our target clients are not the usual owners and builders of ships, but the manufacturers of the equipment and components themselves. And it is our surveyors who daily work with these companies that need to feel confident in recommending LR Type Approval as a worthwhile investment."

A two-page factsheet on LR's TA capabilities is being distributed at SMM in Hamburg.



## Flans Kemp profile

Flans Kemp, LR's new Type Approval Business Development Manager, will be responsible for the global performance of our TA services. Flans was born and raised in the Netherlands and studied Mechanical Engineering in Rotterdam.

He joined Lloyd's Register in Rotterdam in 1996 as a plan approval surveyor for machinery. During this period he developed an in-depth knowledge of machinery piping systems, equipment and components, pressure equipment and machinery dynamics.

From 2008 to 2011, he led LR's machinery team in Rotterdam before moving to Shanghai where he led the machinery, electrical and Type Approval teams.





*LNG-fuelled shipping  
– going global with  
Lloyd's Register*

F.-A.-Gauthier, STQ's LNG-fuelled ferry

Lloyd's Register is now working on a wide and growing variety of LNG projects worldwide supporting the expansion of LNG-fuelled shipping. The broad spectrum of ship types and spread across the world underlines LR's capabilities as the leading, independent classification society involved in the development of LNG as a marine fuel

Lloyd's Register classed newbuilding projects won in 2014 include a large ferry in the Netherlands, a bulk carrier project for Swedish principals Thun; a car carrier project for Norwegian operators and an ice breaker for the Finnish Government.

In June, during Posidonia, Lloyd's Register announced a joint development project (JDP) for an 18,000 teu LNG-fuelled container ship design with Piraeus, Greece based Capital Shipmanagement and Korea's Daewoo Shipbuilding (DSME).

Then in July there was a series of announcements involving LR and the LNG-fuelled future. LR is supporting Portsmouth as the UK port prepares to receive Brittany Ferries' new large LNG-fuelled ferries. While the first of Quebec ferry operator STQ's new gas fuelled ferries, the 130-metre-long *F.-A.-Gauthier* was launched at Fincantieri's yard at Castellammare di Stabia near Naples.

BC Ferries was pleased to welcome LR as the classification society for its order of three new-build ferries. And GE Marine and Lloyd's Register signed a memorandum of understanding (MoU) to collaborate on applying gas turbines to power commercial ships (see News story, page 5).

Luis Benito, LR's Global Marine Marketing Manager, is closely involved with developing LNG as fuel opportunities working closely with Leonidas Karistios, LR's Global Gas Technology Manager. Says Benito: "I think we're seeing the evolution of LNG-fuelled shipping in line with our analysis of the markets, ship types and geographies that would go for gas. You can't predict exactly who will choose LNG or when – some of these projects have been in development for a long time. But the emphasis on ferry trades and short sea trades within ECAs is very much a reflection of the progression we can expect for gas-fuelled shipping. Some of these ships are of course deep sea ready and capable but the economics of decisions made so far has been all about ECA operations."

Karistios explains that although LNG-fuelled shipping has yet to be adopted by large deep sea operators there are no technical or technology impediments. However an area where the industry needs to maintain high standards is in ensuring that the risks of bunkering are managed effectively. "If serious incidents involving LNG bunkering occur it could set back the potential for the continued expansion of gas fuelled shipping," he says.

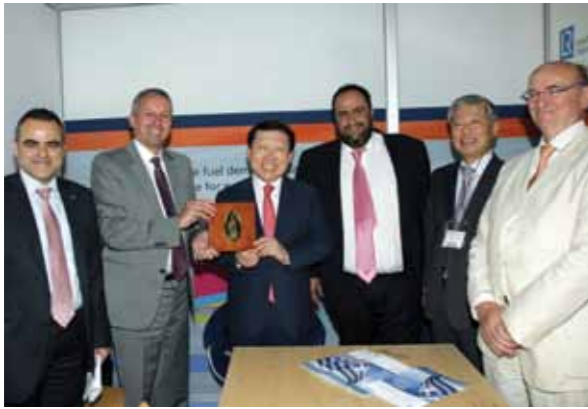


Luis Benito, LR's Global Marine Marketing Manager



Leonidas Karistios, LR's Global Gas Technology Manager





Signing of ULCS agreement at Posidonia: (l-r) Apostolos Poulouvasillis, Regional Marine Manager EMEA, Lloyd's Register, Richard Sadler, CEO, Lloyd's Register, J.H. Ko, President and CEO, DSME, Evangelos Marinakis, Chairman of the Board of Capital Product Partners LP, Y.Y. Koh, Senior Executive Vice President, DSME, and Jerry Ventouris, Chief Commercial Officer, Capital Maritime & Trading Corp

Lloyd's Register's gas expertise stems from decades of LNG carrier classification leadership and understanding the ship-to-ship (STS) transfer of LNG. STS has been a principal area of development for large-scale transfer of gas and is an important experience. Risk leadership undertaken for bunkering operations at the Port of Stockholm to support the high-volume bunkering required for the *Viking Grace* passenger ship project, now successfully in operation, carrying 2,800 passengers between Stockholm and Turku, has helped set the template for LR's involvement in projects for ports like Singapore and Portsmouth.



Pictures show: (left) Computer-generated image (CGI) of an LNG-fuelled dry bulk carrier designed by Sweden's Eric Thun and classed by Lloyd's Register; (right) CGI of dual fuel car carrier project for Norway's UECC



LNG-powered icebreaker built by Finland's Arctech Helsinki Shipyard. Photo credit: Liikennevirasto/Flickr under Creative Commons Licence <http://bit.ly/1cfOzXY>;

## LNG focus – strong on ferries

A series of revolutionary LNG and dual-fuelled ferries have been approved and classed by Lloyd's Register in 2014, demonstrating our unique expertise and specialist knowledge in the cruise ship and ferry technology sector. As LNG-fuelled shipping goes global into major economies, LR is supporting the projects that are taking the ferry trades into a new and cleaner era.

In the ferry sector gas is particularly suitable for short-range, ECA operations to fixed points enabling investment in LNG refuelling capability and regular access to bunkering opportunities.

LR recently signed a contract to class *Texelstroom*, a large double-ended ferry able to carry up to 1,750 people and 350 vehicles between the island of Texel and Dan Helder, the northernmost province of the Netherlands. *Texelstroom* will be a multi-fuelled ship with an advanced energy management system. Predominantly dual-fuel LNG with diesel, the ship will be supported by electric batteries and 700m<sup>2</sup> of solar panels.

The 135-metre-long, 16,400 gt vessel, which is owned by Royal N.V. Texels Eigen Stoomboot Onderneming (TESO), is being built at Spain's La Naval Shipyard for delivery by the end of 2015. Its revolutionary design was supported by the European Union's iTransfer programme which aims to make ferry transport more freely accessible and sustainable and to encourage more people to travel by water.

*Texelstroom* will have two independent engine rooms. One engine room will be fitted with two ABC diesel engines (2 x 2000 kW), and the other with two ABC dual-fuel engines (also 2 x 2000 kW). Two Rolls-Royce azimuth propellers will be installed on each ship end, to achieve a speed of 10 knots (economic) and 15 knots (maximum).

When it needs to switch to alternative power, it is planned that the ferry will operate mainly on natural gas stored in two batteries of compressed natural gas (CNG) bottles installed on the top deck.

As well as a unique powering capability, the design has several other features that are significant for ferries operating in the north European region. The vessel is Ice Class, which means it will have a strengthened hull to safely navigate icy waters. It also has LR's PCAC (Passenger and Crew Accommodation Comfort) notation, ensuring a safe and comfortable journey for passengers and crew.

John Hicks, LR's VP for Global Passenger Ships and American Business Development, said: "Winning this groundbreaking contract is yet another example of how LR is moving towards its aspiration to be a marine advisor and innovator.

"There was a huge effort put in by teams in both Spain and the Netherlands who really demonstrated Marine's customer-centric values to understand the client's challenges and win this exciting contract."



Computer-generated image of *Texelstroom*





STQ's LNG-fuelled ferry

## First LNG-powered ferry for North America

A 133-metre-long LNG-fuelled and LNG-classed ferry was launched at Fincantieri's Castellamare di Stabia shipyard near Naples in July. The vessel represents the latest generation of ferry that Fincantieri is building for Société des traversiers du Québec (STQ), a Québec government corporation that operates in maritime passenger transport.

The ship, *F-A.-Gauthier*, is named after Félix-Adrien Gauthier, mayor of the Canadian town of Matane from 1960 to 1963 and founder of the Matane-Godbout ferry route.

*F-A.-Gauthier* is scheduled for delivery in late 2014 in Canada and represents a genuine technological revolution.

It will be the first ever gas-powered ferry built in Italy and the first such vessel to operate in North America. The vessel adopts the most advanced solutions in terms of energy saving and low environmental impact, enabling a major reduction in emissions of CO<sub>2</sub> (carbon dioxide), NO<sub>x</sub> (nitrogen oxides) and SO<sub>x</sub> (sulphur oxides, which will actually be reduced to zero).

In fact, this ship is equipped with a unique integrated diesel electric propulsion system similar to modern cruise ships, but the four diesel power generators are dual fuel running on either gas (liquid natural gas – LNG) or marine diesel oil.

Gianpaolo Dalla Vedova, Lloyd's Register's Marine Operations Manager for Italy and South East Europe, commented: "The ferry's propulsion system is equipped with counter-rotating propellers and transverse propellers which make it exceptionally manoeuvrable. Together with a complex and extensive system of ramps and doors at both bow and stern, the vessel can be loaded and unloaded very quickly."

*F-A.-Gauthier* will have a service speed of 20 knots and will be able to carry more than 800 passengers. The ferry will be used in the Province of Québec, transporting more than 205,000 passengers and over 118,000 vehicles a year.

Gianpaolo continued: "*F-A.-Gauthier* will also be able to operate in the Gulf of St. Lawrence, known for its adverse weather conditions. This is thanks to its innovative bow and stern, designed by Fincantieri, and its Ice Class Notation which mean the vessel will be very capable of breaking through ice."

## BC Ferries orders a gas-fuelled trio

Another Canadian operator, BC Ferries, is building three dual-fuelled passenger Intermediate Class ferries to be classed by LR. The vessels will be built at Remontowa Shipbuilding S.A. in Gdansk, Poland.

Bud Streeter, President of LR Canada, said: "This project is the culmination of a great deal of hard work. The outlook is good for LNG in Canada – there is availability of Canadian gas at highly competitive prices, so commercially this is looking like a smart decision for BC Ferries. Our job was, and will be, to help ensure safety and reliability in the design, build and the bunkering and operation of these ships."

"Passengers are the most valuable cargo so we will endeavour to contribute to the safe operation of these ships. LNG can provide significant environmental benefits and, as BC Ferries is well aware, safety comes first. We are pleased to provide BC Ferries with our assistance and expertise."

Mark Wilson, BC Ferries' Vice President of Engineering, said: "BC Ferries is very pleased to have LR as the classification society on these new

'Intermediate Class' ferries. LR has had a strong relationship with BC Ferries over the years and has the necessary experience and presence in Canada as we make this important transition to LNG-fuelled ferries."

The vessels will be the first dual fuel capable ferries using Liquefied Natural Gas (LNG) or diesel fuel for propulsion and power in the BC fleet. "This is an exciting initiative for BC Ferries that can reduce upward pressure on fares due to lower fuel costs for LNG, and reduce the environmental emissions substantially as LNG is a cleaner and greener fuel compared to current alternatives," added Wilson.

The ferries will be built to LR Rules, with LR's surveyors surveying the ship during construction to check for compliance and, once the ferries have met LR class requirements and placed in service, LR will survey them at regular intervals through their operational lives. In addition, BC Ferries has drawn on LR's LNG fuel expertise to support overall risk management of the project and so help ensure the safety of bunkering and all LNG operations.

## LNG bunkering first for UK

LR achieved a notable first recently when a project to identify the technical specifications and operating procedures needed to make Portsmouth International Port the UK's first LNG bunkering port began this summer (see News, page 6).

Brittany Ferries latest newbuild ferry, which is gas fuelled and fitted with GTT membrane technology and scheduled for delivery in 2016 (see LR's March 2014 Gas Technology Report at [www.lr.org/gas](http://www.lr.org/gas)), will call at Portsmouth where LNG bunkering will take place. Brittany is converting three existing ships to LNG power too.

Kalvin Baugh, Portsmouth's Deputy Ferry Port Manager, said: "With changes in the regulations governing emissions, it is clear that in the future more shipping will be fuelled by LNG. To help safeguard the port and meet the needs of our customers, Portsmouth International Port needs to be able to offer this facility. Safety is of course the main priority, and we are delighted that Lloyd's Register has agreed to help us identify the technical specifications and operating procedures that will help to deliver this."



Computer-generated image of Brittany Ferries' LNG-powered ferry which will be bunkering at Portsmouth International Port



# New generations of safe, secure and efficient large container ships

Lloyd's Register is helping develop new generations of safe, secure and efficient large container ships



## Getting ship structures right – and fulfilling our mission to benefit shipping and society

Lloyd's Register's Structural Analysis & Hydrodynamics Team, part of Marine Technology & Engineering Services based at LR's Global Technology Centre (GTC) in Southampton, is the team researching the challenges of container ship structures. The team is part of the wider group, based in Southampton but working with design support colleagues worldwide, who are giving meaning to 'Technology' through pure research, leading to the technical understanding that leads to the effective classification rules that the shipping industry demands.



Our new Marine Technology Report 01: What is the future of shipping? reviews what is required to build a new generation of safe, large container ships

## The evolving demands of global shipping

World trade is now totally reliant on safe, secure and efficient container shipping. Without it, the connected global economy simply could not function. It is a constantly evolving field. The emphasis of ship designers and operators in recent years has been on reducing shipping's environmental impact. This is certainly vital in both ecological and economic terms, but must not overshadow the similarly essential challenge: ship performance and efficiency are founded on assurance of the hull's structural integrity.

## Why does structural integrity continue to be such a concern?

One might assume that most structural issues had been solved years ago. The problem persists because of changes of scale: the rules for small container ships cannot be increased linearly to larger ones. Big ships are different and present new challenges.

## An extraordinary rate of increase

Even when the large container ships of the early 1990s broke through the 4,000 teu barrier, no one could have predicted the degree to which sizes would further increase or the speed with which it would happen. Today we are looking at designs for 20,000 teu ships – a five-fold increase in little more than 20 years.

## Is the end in sight?

22,000 teu might currently seem to be about the limit. Increased beams and higher stack heights would require significant changes in port capability (gantry outreach, for example) and container strength. Nevertheless, the trend is towards continued growth. 24,000 teu and beyond? Such a revolutionary shift should surprise nobody.

## The challenges are already urgent

The sea can be a hazardous place for ships of any size, with increased dimensions bringing their own structural risks. Furthermore, as sizes increase, so do the potential losses involved in a single hull. Recent large container ship losses due to structural failures have highlighted the issue. *MSC Napoli* and, most recently and significantly, *MOL Comfort*, provide prominent examples. Just one such loss erodes savings in capital, efficiency and environmental protection across hundreds of ships, and insurers

become concerned about the concentration of risk in one hull. With further increases in ship scale on the horizon, understanding the forces at play is more critical than ever.

## Our mission is to benefit shipping and society

Over the years Lloyd's Register has relentlessly kept pace with the changes, continually investing in research and development to measure and understand the forces involved. Quite simply, as ships get bigger, we enable ship designers, builders and operators to make the best possible commercial decisions based on the best possible technical insight.

## Understanding the risks

Modern container ships have very large deck openings, long, fine hull forms, a large bow flare (the projection of the forward deck outwards above the waterline) and operate at fairly high operational speeds (roughly 18 knots or over). They must, of course, meet the structural strength and fatigue requirements imposed by all sea conditions.

While the basic rules that underpin container ship structural strength are well established, as ship sizes increase, new challenges emerge making continued research into the implications essential. To some extent, the scales now possible mean we may be moving beyond the gradual evolution of ship rules to a revolution in rule development.

## Our understanding of container ship structures addresses the critical challenges and identifies the ships at risk

Lloyd's Register's research on large container ships has been ongoing over the past decade and includes a full-scale measurement programme conducted over five years on a large container ship. This research has helped to identify the challenges faced by builders and operators of such ships and ensure that the ships' structures are properly designed and remain within acceptable limits throughout their operational lives. More generally,

Lloyd Register's research and operational experience has provided the tools to properly and effectively assess the forces involved in large container ship operation and thereby provide the appropriate rules and guidance.

## New container ship rules based on extensive research and operational experience

Lloyd's Register's 2014 container ship rules have had major revisions, which explicitly address the principal design challenges mentioned above.

## Effective Rules, supported by a new Procedure for ships at risk

Lloyd's Register's updated Container ship Rules came into effect in July 2014. These are supported by the development of new Lloyd's Register ShipRight Procedures covering whipping and springing for ships at risk.

This means that when ships are built to Lloyd Register's Rules there is a mandate to follow the ShipRight Procedure.

For the bigger picture on the risks and solutions involved in building large container ships, ask Lloyd's Register for a meeting.



Guidance notes on the assessment of global design loads of large container ships and other ships prone to whipping and springing



# Moin Moin Hamburg



We profile the LR team in Germany and success stories in German shipping – from innovations in the dry bulk sector to German shipbuilding and design and new methods of ship management plus some exciting developments in the yachting industry

Lloyd's Register's growth in Germany has very much mirrored the success of the German economy. A period of continued expansion has meant we needed to find larger premises to house our growing team at our Hamburg head office. The result is a grand suite of offices in the 23-storey HTC (Hanseatic Trade Centre) tower overlooking the port of Hamburg.

In this special SMM issue, we introduce the key members of our Hamburg management team and interview two specialists in their twenties and what they have to say about shipping – both present and future. So sit back and enjoy this German supplement and the cross-section of stories we have produced for you about German companies making a difference in their respective sectors.

The Hamburg team is headed by Jürgen Gerdes, Marine Business Development Manager for the Central and East European Area (CEA), with Thomas Aschert, Marine Operations Manager (CEA), and Robert Sluijter, Area General Manager and Area Financial Controller (CEA).

Jürgen is responsible for Consultancy, Marketing and PR as well as New Construction, Fleet Services and Marine Business Development. He moved to

LR in May after more than 20 years with Wartsila, latterly as a Strategic Account Manager responsible for VIP clients and energy efficiency challenges in shipping. He also created the idea of selective turbocharger cut-off for main propulsion engines.

Thomas is in charge of the Marine Operational Field and Technical Support Staff at the Hamburg Technical Support Office (TSO), Marine Management Systems and the Marine Operational Support Office in CEA; while Robert has overall responsibility for Finance and Shared Services in CEA.

The other key members of the team are: Steffen Gau, New Construction Business Development Manager; Jörg Hönig, In-Service Fleet Manager; Uwe Bollwinkel, Yachts & Naval Segment Manager; Denis Bauer, Area Financial Planning & Analysis Manager (Marine); Will Andreas-Dagobert, Communications and Marketing Manager; Claudia Ohlendorf, Contract Manager for the Business Development Department; Jürgen Rischmann, Deputy for Marine Field Operations; Michael Pohl, Senior Surveyor in Charge; Brit Ewerlin, Head of Marine Operational Support Office; Manuel Ortuno, Technical Support Office Manager.



## Meet the team

**Jürgen Gerdes** (centre)  
Marine Business Development Manager (CEA)

**Thomas Aschert** (left)  
Marine Operations Manager (CEA)

**Robert Sluijter** (right)  
Area General Manager and Area Financial Controller (CEA)



**Steffen Gau**, New Construction Business Development Manager



**Jörg Hönig**, In-Service Fleet Manager



**Uwe Bollwinkel**, Yachts & Naval Segment Manager



**Denis Bauer**, Area Financial Planning & Analysis Manager (Marine)



**Will Andreas-Dagobert**, Communications and Marketing Manager



**Claudia Ohlendorf**, Contract Manager for the Business Development Department



**Jürgen Rischmann**, Deputy for Marine Field Operations



**Michael Pohl**, Senior Surveyor in Charge



**Brit Ewerlin**, Head of Marine Operational Support Office



**Manuel Ortuno**, Technical Support Office Manager



# Two young LR Hamburg specialists discuss their careers and aspirations with *Horizons*



## Dietmar Bondzio

Senior Specialist for  
New Construction

Three qualities stand out above all others in the six years Dietmar Bondzio has spent at Lloyd's Register. They are, he says, "The variety of work, the opportunity to see different parts of the marine industry and working with a lot of enthusiastic and spirited people."

Dietmar joined LR Hamburg in 2008 after gaining a degree in electronic engineering from Hamburg University of Applied Sciences and the Nordakademie Elmshorn and working with electrical power distribution and navigation/communication systems in the marine industry.

As a Senior Specialist for New Construction, Dietmar is responsible for plan approval, type approval and occasionally onboard surveys of newbuilds. In 2011, Dietmar was relocated to Shanghai where he worked on a variety of ship types – bulk carriers, container ships, MPVs, VLCCs, chemical tankers, LNG carriers and naval ships – built in local Chinese shipyards.

After a spell back in Germany, Dietmar was transferred to the Toronto office to train newly employed LR surveyors on the techniques and application of electro-technical systems. "Just as I have developed my career at LR, I get great satisfaction from helping other surveyors evolve their careers and improve their decision-making ability and judgement based on sound technical knowledge."



*"I get great satisfaction from helping other surveyors evolve their careers."*

Dietmar moved back to Shanghai for a second spell working in the technical support office in the summer. "The LR staff in China work extremely hard and efficiently and it's a pleasure for me to work with this team again."

"Working at LR has given me the scope and freedom to develop different interests and to move into new fields of engineering – plus of course the technical know-how gained from working with German manufacturers," adds Dietmar.

## Sara Baftechi

Specialist at Hamburg  
Technical Support Office

Sara Baftechi has worked as a Technical Support Office Specialist at Lloyd's Register's Hamburg office for the past five years. She is mainly involved in the appraisal of offshore cranes and lifting appliances "which I find very challenging, particularly with the emphasis on safety in the offshore sector," she says.

"Although the equipment we inspect has already been appraised by a team of engineers, we are like a second pair of eyes to make sure everything is in its place and to check for areas of improvement. Some appliances are straightforward, some are not and each project has its own challenges," Sara says.

Sara originally joined the Hamburg office on a three-month contract. "I really liked the atmosphere of the city and the general German working environment. Also my Lloyd's Register colleagues were very supportive and I found the work very rewarding, so when a job offer came up in Hamburg I decided to take it," says Sara who originally joined Martec in Canada in 2008 as a trainee shortly before it was bought by LR.

"Since I have been in Hamburg I have watched the office grow from five employees to 11 or 12 and the work continues to get busier and busier," she says.

"I find that working in a mainly man's world, is a question of confidence and acceptance – and definitely not competence! Thankfully more and more women are entering this field – and in the Hamburg office over the past five years the number of women in the technical sector has almost tripled which is a big step forward."



*"The number of women in the Technical Support Office has almost tripled in the past five years."*

"While engineering and the marine business have traditionally been more of a man's domain, this tradition is now changing towards a more homogenous working environment which everyone will benefit from."

Adds Sara: "Working here gives me a real chance to explore other fields that LR is involved in – for the past 12 months many of my colleagues have been doing appraisal work on pipe-laying vessels and seabed installations – and I am really keen to develop my project management skills as well as carrying out business assurance and consulting work."



Jan Scharffetter, Oldendorff Carriers' Fleet Manager




# One man and his fleet

Oldendorff Carriers' Jan Scharffetter has risen through the ranks to a senior position with the bulk carrier. Ask him a question about anything from Capesizes to hopper selfunloaders and he'll invariably know the answer. He shared some of this knowledge with *Horizons*.

When Fleet Manager Jan Scharffetter joined Oldendorff Carriers as chief mate on one of its bulk carriers in 1996 it was a respected shipping company with an operating outfit based in the north German port city of Lübeck.

However in a very short 18 years Scharffetter has seen the company grow into one of the world's leading dry bulk operators with a fleet of 450 to 500 chartered and owned vessels, 18 global offices and a staff of 2,100. Founded by Egon Oldendorff in Hamburg in 1921, the company was operating 13 steamships trading in dry bulk by the 1940s and, after earning a growing reputation as a carrier of Baltic bulk and forest products, became Germany's largest bulk shipowner in the 1980s.

### Company philosophy

In 1984 Egon's son Henning became Oldendorff's majority shareholder. Five years later he opened a second office in Asia and in 1995 started Concept Carriers, a separate cargo and parcel operation, merging both companies into Oldendorff Carriers in 2001. Interestingly, Henning Oldendorff introduced a philosophy of what he calls 'bottom-up management', delegating much of the decision-making to the employees who work closest to the company's clients and suppliers and thus creating a powerful young team.

**"The markets have been very volatile – even though the dry bulk sector has not been hit as hard as the containers sector."**

Jan Scharffetter

"We continue to use the 'bottom-up' approach so that everyone's views are considered which enables us to reach decisions very quickly. We also have open-plan offices to promote the concept of team-working. We are a very client-oriented company. We often need to find logistical solutions for companies in transshipment and combine these with our core business of ocean-freight-carrying," says Scharffetter.

Fleet Manager Scharffetter's career has been as rapid as Oldendorff's, rising from chief mate to master and then moving ashore as a superintendent before being appointed fleet manager in 2003. "I have seen many changes since then. We have grown quickly and been through various financial and organisational exercises till we arrived where we are today," he tells *Horizons*.

"In 2003 we owned 88 of the ships we controlled, however between 2006 and 2008 when prices rose to extraordinarily high levels we took advantage of the market and sold a lot of them until our fleet of Oldendorff-owned vessels dwindled to about 20 ships. When prices returned to normal levels in 2012 we were willing to invest in ships again. It was a double-whammy, as both the time was right and the ships were low-consuming eco-types," says Scharffetter.

Now Oldendorff has 64 newbuild vessels on order for delivery between now and 2017 including 24 Newcastlemaxes, 17 ultramaxs, 12 handysize, six kamsarmax and two transloader vessels. The ships, some of which are being classed and approved by Lloyd's Register, are being constructed in yards in China, Korea and Japan. "The deliveries will be evenly spread until 2017 although the peak of the orders will be delivered in 2015," he says.



## Newbuild orders

Historians will probably trace the first phase of the company's recent growth back to 2002, the year before Scharffetter took over as manager of its fleet. Oldendorff designed and built a floating coal transshipment terminal in the Gulf of Iskenderun in Turkey aided by two hopper selfunloading units and two pusher tugs. Around three million tonnes of coal are discharged annually, mainly from Capesize vessels from Colombia and South Africa, at the isken terminal before being shipped to a nearby power station.

Since the isken project, the company has started transshipment terminals in Guyana, the Arabian Gulf and Trinidad and operates seven selfunloading bulk carriers. Oldendorff has its own dedicated team that oversees the delivery of the correct equipment for its transshipment clients. "Most of these projects are highly technical as they need specialist technology and need to respond to a client's varying demands. If a client needs a special type of transloader the project department liaises with the newbuildings section and makes sure it is built and delivered," says Scharffetter.

## Bisect the globe

Just as Oldendorff's transshipment projects are set up in response to client demand, the bulk carrier's offices which bisect the globe from Singapore to Melbourne and Vancouver to Cape Town are opened close to its specialist clients too. "We arrange our offices like satellites so as to be close to our clients and their specialist needs and interests," says Scharffetter.

With its expansion into new global markets, Oldendorff recognised the need to forecast trends and anticipate an often changeable global economy. So, four years ago the company opened a specialist unit in Singapore where a team of 14 employees study such fields as global mining activities, changing weather and sea states, infrastructure, the global economy and the latest commodity and dry bulk activities.

"What has also been especially important with the enormous number of rules and regulations that have been introduced in the shipping industry in the past few years and the amount of paperwork we have to deal with on a daily basis is to work very closely with the main classification societies like Lloyd's Register – with whom we have a very strong relationship – to make sure we stay on course with our various activities.

"The markets have been very volatile – even though the dry bulk sector has not been hit as hard as the containers sector. Because of this we have purposely not burdened ourselves with a lot of expensive ships, although we have made sure we have our company-owned fleet of vessels as a hedge against market forces and changes, as well as responding to the needs of our clients," adds Oldendorff's Fleet Manager.

Sherry Li, LR's Lead Client Relationship Manager, Hamburg, says: "As the dedicated point of contact for Oldendorff Carriers, LR Germany has been working together with LR China in providing design selection, yard selection and design optimisation support to their special needs for various bulk carrier newbuilding projects." Currently there are twelve 64K ultramaxs at CSC Qingshan, six Kamsarmaxes at Jingling, two 94K transloaders at Yangzijiang and two 97K eco post-Panamaxes at JEHI on the orderbook to LR class.

## Major surveys

Jörg Hönig, LR's Hamburg-based In-Service Fleet Manager, says: "We have worked with Oldendorff Carriers for many years and we have a good relationship with Jan Scharffetter and his superintendents. We have supported them in the preparation of major surveys such as class renewal surveys and also by giving advice in respect of the implementation of new rule and convention requirements. Oldendorff Carriers is highly specialised in the dry bulk business and operation of bulk carriers so that we too benefit from their knowledge and experience."

## Lloyd's Register and the German bulk carrier market

Lloyd's Register has a thriving number of orders for bulk carriers from German owners. Of a 100-strong orderbook between July 2012 and June 2014, 73 vessels were bulk carriers – or almost three-quarters of the orders – were for German owners to be built at Chinese, Korean and Japanese shipyards.

Jörg Hönig, LR's In-Service Fleet Manager, Hamburg, said: "We are trying to assist our bulk carrier owners to cope with the difficult trading conditions. One issue is the flexibility of the vessels to carry a wide range of different cargoes.

"We are currently working with one of our clients on a project to allow their bulk carriers to carry cargo on deck for which the vessels were not designed at the new construction stage. Another project has meanwhile been completed where the vessels were investigated for sailing on a deeper draught which ultimately led to an increase in the vessel's deadweight. Both solutions help the owners make their vessels commercially more attractive and flexible."

## Oldendorff Carriers: a company portrait

Germany's Oldendorff Carriers is one of the world's largest dry bulk operators. It controls a fleet of 450-500 chartered and owned ships ranging from Capesize to Handysize vessels, reloaders and unloaders. Every year it transports around 300 million tonnes of raw materials and semi-finished products to global ports. Founded in 1921, it is privately owned by the family holding company, Egon Oldendorff, and has a network of 18 offices at key ports and trading cities throughout the world.

Oldendorff's interests are many and diverse. It is a leading carrier of steel cargoes and steel products – from aluminium as bars, to industrial metals and construction materials to windmill towers and blades. It also carries an extensive range of drybulk commodities including coal, petcoke and other minerals, grains and agriproducts, cements, forest products, scrap, concentrates and fertilisers.

The company specialises in finding logistical bulk-carrying solutions for its clients. Since 2002, it has run transshipment operations in Turkey, Guyana, Trinidad and the Arabian Gulf, enabling its clients to use larger ships in shallow waters. As its website [www.oldendorff.com](http://www.oldendorff.com) explains: "High ocean transportation costs and increasing throughput requirements combined with factors like draft limited ports, lack of port loading or unloading facilities and local environmental restrictions are driving shippers and receivers to think in terms of tailor-made logistical solutions."

A growing percentage of the Lübeck-headquartered company's fleet is run on index-based floating charter – or bareboat charter – instead of pool employment. Vessels of all sizes are chartered with the daily rate determined by the average time charter routes of the corresponding Baltic indices. Floating charters offer continuous employment and owners are able to immediately benefit from market upturns.



### Jan Scharffetter profile

**Birthplace:** Born in Lübeck in 1963

**1996:** Joined Oldendorff as chief mate and later master on Panamax and Handysize vessels

**1997:** Promoted to superintendent

**2003:** Appointed to his current position as Fleet Manager

**2007:** Became a board member of Oldendorff Carriers



Oldendorff Carriers' ultra-modern HQ in Lübeck



The hybrid selfunloader *Alice Oldendorff* discharging at Brooklyn Navy Yard, New York, USA





# FSG delivers hybrid fuel-saving ferry



Computer-generated image of *Loch Seaforth*

After many years as a builder of ro-ro vessels, one of Germany's main shipyards is moving into a new sector – specialist vessels – starting with a dual-power ferry for a Scottish owner

A new ferry that is faster, 30% more fuel-efficient and has more environmental features than its predecessors has been built by Germany's Flensburger Schiffbau-Gesellschaft (FSG) shipyard in Flensburg.

The 118-metre-long passenger and vehicle ferry, *Loch Seaforth*, which is due to be delivered this month (September), is another complex newbuild vessel for the shipyard which after many years of building ro-ro cargo ships is focusing on specialist vessels for a growing international network of owners and operators.

A distinctive aspect of this particular newbuild, developed jointly between the vessel's prospective owner, Scotland-based Caledonian Maritime Assets (CMAL), and the shipyard, is its propulsion and power generation concept.

The ferry is propelled by MAN Diesel & Turbo controllable-pitch Kappel propellers. As part of the vessel's concept, she can switch to onboard auxiliary propulsion when at berth or else manoeuvring in port. The ferry is then powered by a direct diesel-mechanical drive routed through a shaft generator.

*Loch Seaforth*, which will carry up to 700 passengers and 143 cars and 20 commercial vehicles on a 24-hour axis, can travel at speeds of up to 19.2 knots – almost two knots faster than the two ferries the new vessel is replacing on the route it will serve between Stornaway, on the Hebridean Isle of Lewis, and Ullapool, on the north-west coast of Scotland.

Lloyd's Register's Hamburg and Kiel offices have been involved with the newbuild ferry project from the outset when the vessel was originally specified and planned by CMAL, the Glasgow-based operator, CalMac Ferries and FSG. Raimon Strunck, FSG's Vice President (Sales), told *Horizons*: "We approached Lloyd's Register right from the start, in the spring of 2012, parallel to the tendering process and before the contracts were signed.



"LR helped to supervise the planning of the vessel and approved the design after we undertook model testing in Hamburg. The various teams then studied the sea state of the route the ferry would be taking between the Isle of Lewis and the Scottish mainland. We then assessed the hydrodynamic features the vessel would need to cope with the wind, waves and swell that it would face, so as to give it maximum seakeeping performance on the route.

"We also studied the route's changing weather conditions using our own inhouse simulation tools and the weather and wave data from the vessel's operator CalMac Ferries. One feature, which is peculiar to the area that we needed to deal with at the design stage, was the slamming impact of the waves as they grow in size off the coast of Stornoway on the Isle of Lewis. So we devised some special technology that enables the vessel to pierce the waves with the aid of fin stabilisers to give maximum comfort to the onboard passengers at the same time."

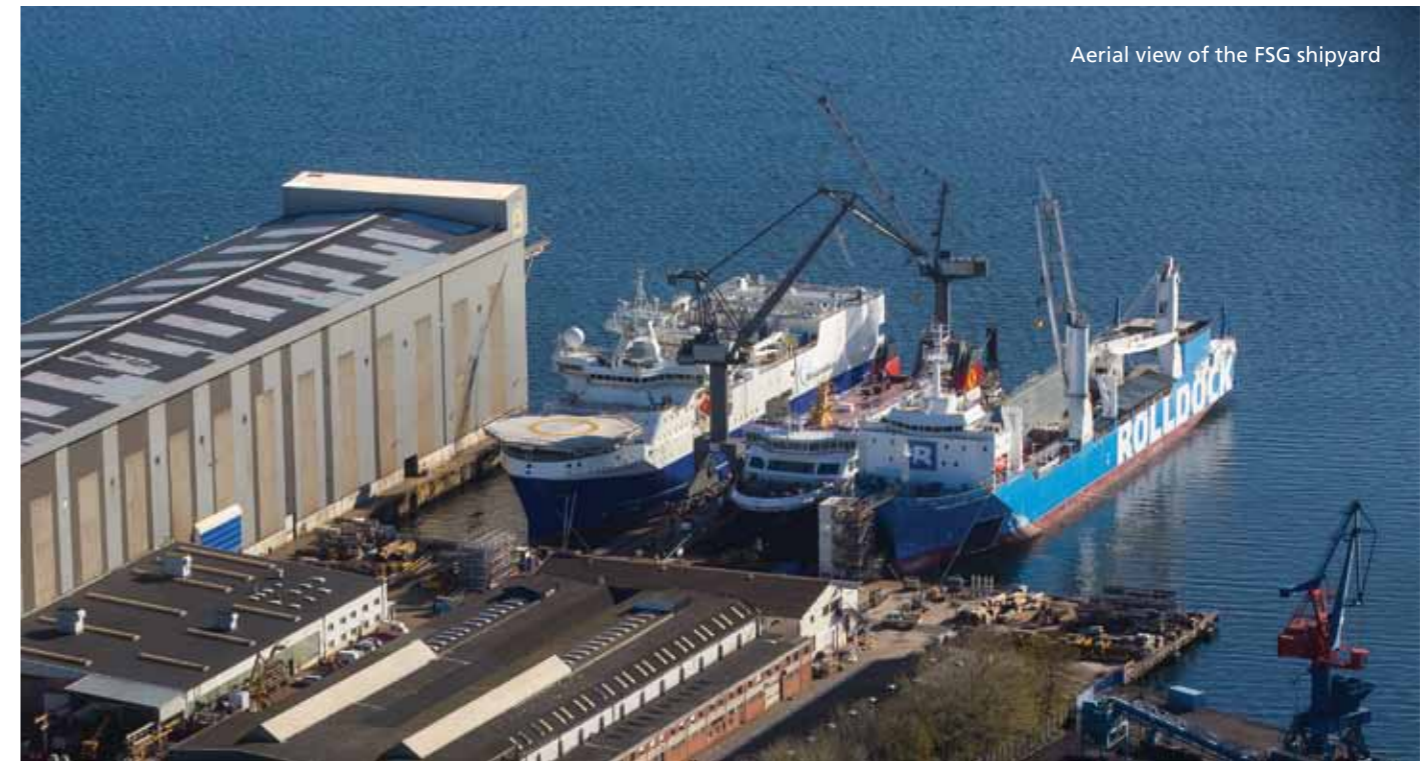
Added Strunck: "The ferry's hybrid concept saves the owner and operator around 30% of their fuel. One of the many merits of auxiliary power is that it enables the vessel to provide electricity and air conditioning in the public areas when passengers are embarking or disembarking while the vessel is in port. It also provides onboard power for the crew and shipyard teams when the vessel is undergoing maintenance work."

### Specialised vessels

Engine Surveyor Michael Naujoks from Lloyd's Register's Kiel office said: "This has been a very challenging project especially as the shipyard is now expanding into specialised vessels and moving away from their ro-ro cargo ships. The newbuilding has also been assigned to help update and train LR surveyors on the project as you need special surveying skills to cope with new concepts like this one.

"I have been involved with a number of ro-ro cargo ships at the Flensburger shipyard, but this is the first time I have worked with Flensburger on such a specialised passenger and vehicle ferry."

LR has classed various newbuilds at the FSG shipyard including a series of significant ro-ro cargo ships for renowned Scandinavian and other European owners. "We have a very good relationship with Lloyd's Register's site team at the shipyard," said Strunck.



Aerial view of the FSG shipyard



FSG's Vice President (Sales) Raimon Strunck



LR Engine Surveyor Michael Naujoks in the engine room of *Loch Seaforth*

### Loch Seaforth's recent history and specifications

The new hybrid ferry was named *Loch Seaforth* after it won 40% of the votes in a competition that CMAL organised last year. It is named after a sea loch between the Scottish islands of Lewis and Harris.

It was launched in March 2014 with a specially labelled bottle of Gordon and McPhail single malt whisky and named by Ms Joan Murray, eldest daughter of Captain John Smith, Master of the original *Loch Seaforth*, a MacBrayne mailboat that linked Stornoway with Mallaig and Kyle of Lochalsh between 1947 and 1972.

The ferry will operate between Stornoway and Ullapool and has a greater capacity than the previous two ships serving the route. At the launch, the then Chairman of CMAL, Grenville Johnston, said: "The launch is a very exciting stage of *MV Loch Seaforth's* build and it is wonderful that we are also joined by the competition winner, Mary Davidson, who helped name the vessel.

"It is a fantastic new addition to the fleet and will serve one of our communities for many years to come. Today demonstrates CMAL's commitment to providing lifeline ferries to communities on the Western Isles and the west coast of Scotland."

At the launch, Keith Brown, Scotland's Transport Minister, said: "The vessel will offer passengers, cars and commercial vehicles using the Stornoway-Ullapool route a faster, quieter and more comfortable service and has been designed to accommodate the forecast demand on the route. I am sure the vessel will serve the future needs of all local users and the many visitors to the Western Isles. I look forward to the *MV Loch Seaforth* taking to Scottish waters later this year and making use of the planned harbour upgrades at Stornoway and Ullapool."

#### Vessel specifications:

LOA: 116 metres

Beam: 18.4 metres

Service speed: 19.2 knots

Passengers: 700

Cars: 143

Commercial vehicles: 20

Classification: Lloyd's Register 100A1 Passenger and Vehicle Ferry, Domestic British Waters EU (b), LI, \*IWS, ECO (IHM), LMC, UMS, NAV1, PCAC22, ShipRight (SCM, SERS)



# German bulk carrier trio launch ship management company

A Hamburg partnership that bodes well for shipowners and operators expanding their fleets and planning for the future

H. Vogemann, one of Germany's oldest and most respected shipping companies, celebrated its 125th birthday in 2011 with a grand reception and party at the famous Hauptzollamt, the historic red-brick building once used as Hamburg's main customs hall.

At the ceremony, Vogemann's Managing Director Udo Wiese said the company had survived two world wars and several shipping crises since it was founded in 1886 by Johann Heinrich Vogemann with a barque called *Western Chief* and two small cargo steamships.

Wiese told more than 250 guests including shipowners, charterers, bankers and brokers that with its eight managing partners and dedicated team of employees, Vogemann was set for further growth and paid tribute to the continuing support of the company's charterers. And commenting on the company's longevity, guest of honour Ralf Nagel, Managing Director of the German Shipowners Association, said: "In Hamburg we do not think in terms of quarterly reports but in generations."

To mark the event, the company published a history called *125 Years H. Vogemann*, which includes a large section by Richard Vogemann, son of the founder.

## Reinvented

After 1886, the company grew and by the 1940s had won a reputation as one of Germany's leading service providers in the dry bulk shipping sector. By the 1990s, Udo Wiese, the company's new Managing Director and senior shareholder, reinvented Vogemann as a shipowner again, building it up into a dry bulk consortium with a fleet of 2 million dwt.

Another Hamburg-based company with a significant history in the dry bulk sector is Reederei Roth. Founded by Josef Roth in 1972, the company originally specialised in cargo and ro-ro vessels. It later moved into bulk carrying, buying its own fleet and providing full management for its own vessels as well as technical management for other company fleets, particularly those with Capesize and Panamax carriers.

Just over 10 years ago, Reederei Roth took over the technical management of the Vogemann fleet and moved into Vogemann's headquarters at Hamburg's Hallerstrasse 40. After a fruitful 10-year partnership, the two companies, along with Germany's HJH Ship Management, which operates a fleet of selfunloaders, decided to launch a third-party technical management company called TSC.

Thorsten Meier, TSC's Joint Managing Director, told *Horizons*: "We started the company after realising there was a growing demand from German and global shipowners and operators for independent third-party technical management of their fleets. Many dry bulk and other owners are facing difficulties and sometimes they face problems with their banks over the handling of their tonnages, so we decided to pool our specialist knowledge and expertise gained over many years to form a new company to help owners deal with their technical management issues."

## Size matters

Another key factor behind the new venture was size. "While many of the ship management organisations are very large, we are a smaller, more compact unit and are able to use our skills to work very closely with our individual clients and so build up one-to-one relationships with them. Unlike TSC, many of the large ship management companies do not own their own tonnage and so do not know the problems that owners face," said Meier.

The TSC team is led by two MDs, Thorsten Meier and Karl Mohr, with a fleet manager and four superintendents plus an operations team that includes a newbuild supervisor and crew manager and a global network of technical inspectors all trained in quality, safety and environmental (QSE) management. "One of our key principles is to have one technical inspector for a maximum of five vessels so we can provide a full one-to-one service for individual owners. Depending on how much we grow, we plan to recruit more employees in the future," said Meier.

Drawing on the specialist expertise of the three partners, the services TSC offers include ship inspections, technical management including ISM, the conclusion of sales contracts, the supervision



The prow of a bulk carrier

of newbuilds, purchase and sales processing and accounting, ship registration, crew resourcing, day-to-day operations, insurance and energy efficiency consultancy.

"We will also be able to advise owners on such factors as the current state of the shipping market, support and help them make plans for the future, help develop their fleets and decide whether they should opt for consolidation or growth. And help owners make plans for new construction in the short- as well as longer-term," said Udo Wiese.

## Special package

Meanwhile, TSC will take over the management of the Reederei Roth fleet of dry bulk carriers. However it is offering its clients a customised service for all types of vessel from bulk carriers to container ships and offshore vessels. "Each client can either choose to take the whole TSC package of services or else choose one or more of the areas they believe they need the most help with," said Meier.

TSC Shipmanagement is also expanding its own portfolio. It recently ordered four Newcastlemaxes from Jiangsu Eastern Shipyard in China with an option for four more. It has also bought two 37,000 dwt bulk carriers. "The market is slow so now is a good time to buy ships. We aim to extend our fleet

of 17 ships by at least 10 by the end of 2015 and eventually grow the fleet to 40," added Meier.

Jörg Hönig, LR's In-Service Fleet Manager, Hamburg, said: "Lloyd's Register has had a longstanding relationship with H. Vogemann and its associates and we are very pleased to see the launch of the new ship management company in partnership with Reederei Roth and HJH Shipmanagement. We are assisting TSC in arranging surveys on their vessels worldwide and updating them on forthcoming legislation. With the recent new construction order for Newcastlemaxes, we have provided specification review, advice on suitable shipyards, a capability statement and advice on future IMO legislation."

To find out more about TSC and its services log on to [www.ship-management.de](http://www.ship-management.de).







The superyacht TV which was built at Lurssen's Kroger yard in Germany and is classed by Lloyd's Register

# LR rides a rising tide of yacht orders

As the global economy grows, so does the number – and size – of the yachts ordered by German owners and operators

The mood among German yachtbuilders and equipment manufacturers has been distinctly upbeat in 2014 as orders for larger 70-metre to 90-metre-long vessels continue to grow.

The stronger economy is the main reason for the upturn, believes Matthias Sablotny, Lloyd's Register's Yachts and Passenger Ships Manager for Germany. "As the leading classification society for large yachts, Lloyd's Register has reaped the benefits of this buoyant market."

Sablotny adds: "One of the advantages we have over other classification societies is that we have very close relationships with the flag states as many of their surveyors are former LR surveyors. Also, we have built up a close communication network which is especially important in the yachting industry where everybody knows everybody."

Interestingly, not all the recent orders have been for vessels under the 100-metre-long mark. "We have

been approached by quite a few yards and owners wanting to build vessels of 120 metres or more. Many of them are from entrepreneurs and families who are not affected by the economy as well as Russians and members of royal families," he says.

Lloyd's Register has been doing its homework. LR Germany has steadily increased its staff over the past few years, attracting an influx of surveyors for plan approval at the Hamburg Technical Support Office (TSO) which works closely with LR's Copenhagen and Southampton offices. Training and re-training courses are being held and existing surveyors are being taught to work on yacht design approval and certification.

"We have worked very hard to improve our services in this field, while some of the other classification societies have not shown very much interest in the yacht sector. This has helped us to be successful as the German market continues to grow," explains Sablotny.

LR Germany's surveyors are currently helping to supervise 12 vessels with an average length of 110 metres that are currently under construction. "There are several national regulatory requirements for yachts, but the Red Ensign LY3 (Large Yacht Code) for yachts carrying up to 12 passengers and the PYC (Passenger Yacht Code) for 13 passengers or more are used in 95% of cases," says Sablotny.

"The future looks good although there is always room for improvement. A few more yards are either proposing or planning to move into yachtbuilding as it is the one of the only shipbuilding sectors left in Germany apart from naval and passenger ships," say Sablotny. "Almost all the yards in Germany are involved in yachtbuilding or in supporting the yacht industry by building blocks and various types of equipment, and while yachts may be small compared with other commercial ships, they need a substantial amount of materials, equipment and add-ons which makes it a lucrative industry for manufacturers."

"It is important for us to keep on improving and staying ahead of the competition in supporting the yacht industry as we are currently doing. Figures from the 2013 Superyacht Report show that globally we classed almost double the market share of our nearest competitor with 40.6% of gross tonnage, compared with their 21.7%. The yachting business will remain important for Lloyd's Register Germany for the foreseeable future," he adds.



Matthias Sablotny,  
LR's Yachts and  
Passenger Ships  
Manager for Germany



# Telling the Greek shipping story

George M. Foustanos in  
his maritime archive

Prolific author and champion of Greek shipping, George M. Foustanos, discusses his new book and online museum the *Greek Shipping Miracle* from his vast archive of Greek shipping history and memorabilia at his home on the island of Syros

Alongside the exhibitors at Posidonia in June this year there was an impressive historical and cultural exhibition featuring the significant story that is modern Greek shipping. The *Greek Contribution to World Shipbuilding* looked at 140 years of Greek shipping in a detailed display that showed facts and figures as well as a huge selection of pictures from the Greek shipping history.

The originator, researcher, organiser and promoter of that exhibition was George M. Foustanos.

The exhibition preceded the launch in July of an online resource and museum known as the *Greek Shipping Miracle*. On 11 July this year, this pioneering project went live at [www.greekshippingmiracle.org](http://www.greekshippingmiracle.org) enabling the sharing of images and information in an invaluable open access resource for all. Accompanying the online resource is a book, with the same title (see above right), also written by George M. Foustanos.

## Prolific author

A prolific maritime author, he is the owner of the shipping title *Argo*, the acquisition of which, when it was a periodical magazine in 1990, started him on his second career as the chronicler of Greek shipping.

George M. Foustanos is a great champion of the great story that is Greek shipping. And you can quickly tell that for him this is a personal and highly important subject to which he is totally dedicated. Since childhood he has been inspired by Greek shipowners, by his family shipping heritage and by his own experience in the industry. His first book about the 100 Liberty ships and seven T2 tankers acquired by Greek owners after the second world war set the template for many books to come.

He has now written about 30 books covering Greek shipping, including the *Kings of the Oceans* series and the only business biography of Aristotle Onassis.

“Aristotle Onassis is a particularly important inspiration and an exemplar of a breed of dynamic Greek owners”

Speaking at his vast archive on his home island of Syros, George M. Foustanos explains: “People who conquered the sea are the protagonists of history. In the modern era Greeks have been leaders amongst shipowning nations. However the image of Greek shipping has perhaps never been either as clear or strong as it should be – not least at home in Greece today. I wanted to do whatever I could to change the image of our industry. Yes, Greek shipping has had its dark periods. But the reality is that Greek owners have been incredible business innovators offering first class service to worldwide clients for decades and their reputation for being operators of mainly secondhand tonnage until quite recently masks the truth.

“Greeks have always been active in ordering new ships. Nowadays a Greek-owned ship is delivered almost every two days from Far Eastern yards. And Greek owners have taken delivery of a new ship from Japan on average every two weeks since 1952. While in this century a Greek-owned ship has been delivered in China on average every 6.5 days,” he says.

Foustanos cites Greek owners’ vision in ordering ships in Germany and Japan in underwriting the industrial renaissance in those countries and helping the return to economic health of those countries after the ravages of the second world war. “Ordering ships in Germany boosted the German shipbuilding industry that enabled the return of German steelmaking and the re-industrialisation of an economy on its knees,” he points out.

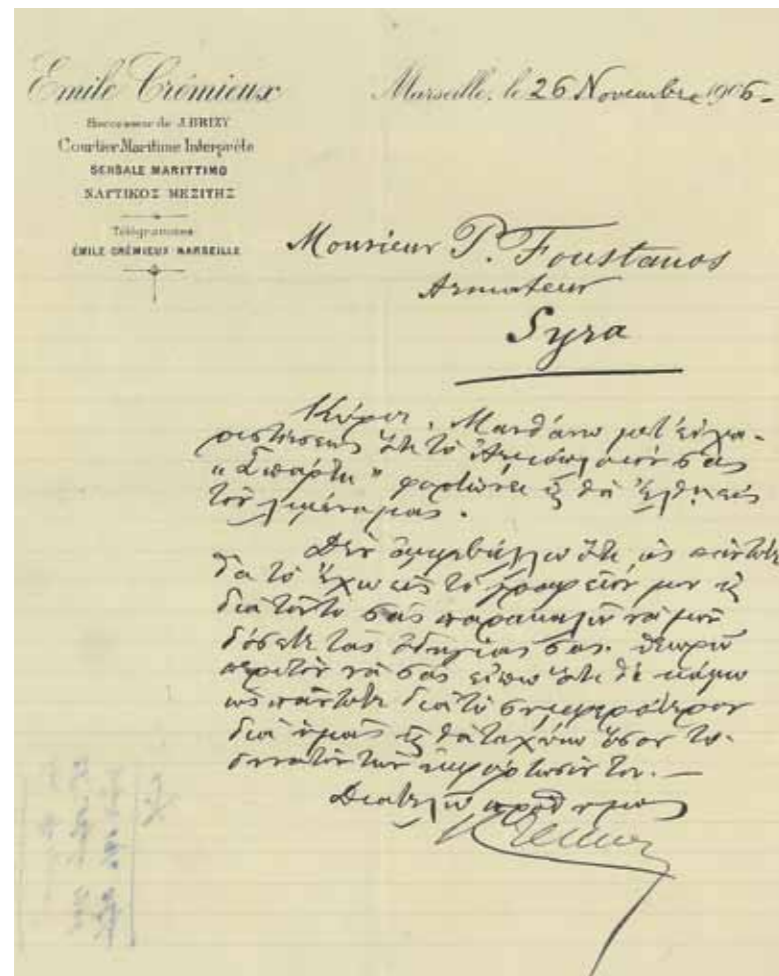
Aristotle Onassis (left) “a legend and inspiration” with Ludwig Erhard in 1953





In 1949 Aristotle Onassis sent 16 former Canadian corvettes to Kiel for conversion into whale catchers and a T2 type tanker for conversion to a whaling factory. His world famous yacht *Christina* was also converted from a Canadian warship – also at Kiel. His whaling fleet was crewed top to bottom by German seafarers as Onassis broke into an industry until then dominated by Norwegian, American, Japanese, German and British interests. In 1951 he ordered the building of 20 tankers in German shipyards that were delivered between 1953 and 1955 – as did other Greek owners such as Lyras, Lemos, Niarchos, Pateras, Livanos, Callimanopoulos, Pappadakis and Fafalios, while both Onassis and Niarchos continued to use German crews on oceangoing ships until the end of 1958.

In 2002, Lyras was offered the opportunity to attend the final docking, coincidentally in Syros, of a ship they had ordered at HDW in Hamburg. They took delivery of the ship in 1956 (Lyras had sold the ship in 1977). That ship's longevity was a testament to German steel quality and engineering standards in that post-war period.



A letter written in Greek by a French ship's agent in Marseilles in 1906

George M. Foustanos's archive incorporates hundreds of volumes of magazines, books, registers, pamphlets and tens of thousands of photographs. The contents have been sourced from all over the world and by acquisitions at auctions, through gifts and by acquiring important collections – such as that of the late Laurence Dunn, one of the most acknowledged maritime historians. Some of the most fascinating documents are original commercial letters and copies of correspondence between owners and their brokers, agents, bankers and cargo interests. For example letters from a ship's agent in Marseilles, written to his Greek client, in the Greek language (see image left). This demonstrates as well just how important it was that a French company based in France was able to communicate with its clients in Greece. "My ambition was to get, as far as I could, documents that described things as they were happening," he says.

### An island shipowning heritage

George M. Foustanos comes from a long line of Syros based shipowners, tracing a shipping heritage back through great-grandparents from both sides of his family who owned steamships operated from Syros in early the 20th century. He himself was a shipowner, carrying on the tradition but later breaking with that tradition, to follow his calling.



An early 20th-century postcard of the island of Syros

## Syros

### – a shipping hub at the crossroads of the Aegean

At the beginning of the second half of the 19th century Syros was the biggest commercial centre in Greece and was a magnet for traders, shipowners and financiers. Between 1822 and 1865, the island of Syros was attracting Greeks from all over the Hellenic world, mainly refugees from the islands of Chios, Psara and later Kassos, as well as from the Peloponnese. Hermoupolis, the main port of Syros, was built in Neoclassical style, merging Greek Classicism with stylistic elements from the Renaissance. Many landmarks today such as the town hall, designed by the famous German architect Ernst Ziller, the Apollon theatre designed by Italian architect Pietro Sampo (a miniature version of the La Scala in Milan), the public library, Miaoulis Square, and other buildings, were built during that time.

Hermoupolis became a major centre for ship repairing and refitting. The Neorion shiprepair facility, founded in 1861, was the first of its kind in Greece. To this very day, it remains a place where ships are serviced and refitted.



Lloyd's Register surveyors at the Neorion shiprepair facility on Syros

Syros probably reached its zenith during the age of the steamships. Greek shipowners were either traders or industrialists who needed ships, or captains financed by those traders or by bankers. George M. Foustanos's maternal great-grandfather, Christophis Cokkinos from Chios, was one of those captains. In 1910 Captain Cokkinos acquired an 1888-built steamer and named it *Theodoros* after his financier, the banker Theodoros Pangalos.

Ten years earlier Pantelis Foustanos had bought his first steamship. Pantelis, originally from Sparta, arrived in Syros in 1867. He became a textile merchant and industrialist and was a shareholder in the New Hellenic Steam Navigation Co. in the mid-1890s.



George's other maternal great-grandfather was Nicolaos Valmas. Originally from Andros, he became a ships' chandler in Syros and, in 1907, acquired a steamer which was torpedoed and sunk during the second world war. He went on to acquire and operate the electricity plant on the island until it was nationalised in 1959. At that time his son Antonios established Valmas Shipping, the company where George M. Foustanos commenced his shipping career in the early 1970s.

After working in shipping – and serving for 15 consecutive years on the board of the Union of Greek Shipowners, George M. Foustanos took a step that many interpreted as a step back from the frontline of shipping, to focus on researching and telling the the story of his compatriots in shipping.

Given what he has achieved, shipping is lucky indeed that he took that brave step and is continuing his efforts to make sure that Greece, and the world, knows – and that future generations will have the resources to appreciate – the incredible story that is the *Greek Shipping Miracle*.

George with his huge collection of Lloyd's Registers and Greek maritime history



(Left) Nigel White, Technical Manager Hydrodynamics and (Right) Zhenhong Wang, Lead Specialist from LR's Marine Technology & Engineering Services Structural Analysis and Hydrodynamics, Southampton.

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