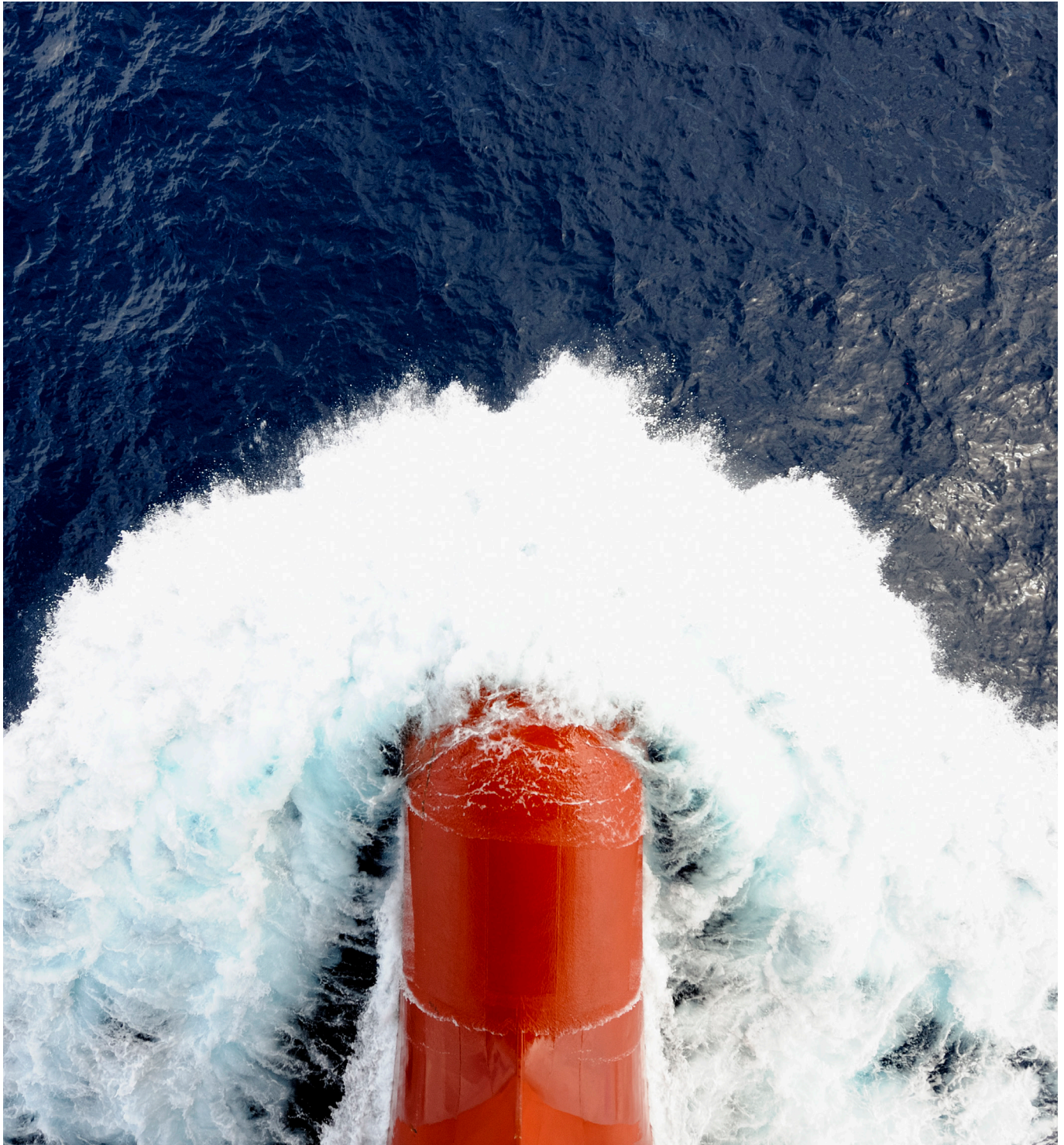


SEAVIEW



RINA MAGAZINE - MERCHANT SHIPPING EDITION



MARKET ANALYSIS
from leaders in shipping

NEW TECHNOLOGIES
to meet environmental laws

PRACTICAL TOOLS
for remote surveys and more

Welcome to Sea View, RINA's annual magazine for the merchant shipping market. How are shipping companies from all sectors responding to changing market scenarios? Where are the opportunities and what strategies can help to meet the ambitious environmental targets? Interviews with leading voices in the shipping industry offer answers to these questions and more.

A strong theme of flexibility and collaboration flows through this issue. The opportunities lie in working together and sharing expertise. Key members of RINA offer insights into some of these new opportunities, from hydrogen fuel cells to efficient marine training and "smart" helmets for remote surveys, maintenance and more.

Many thanks to Amoretti Armatori Group, Assarmatori, Confitarma, d'Amico Group, Histria Group, Minerva Marine, Vard Group and Vestland Offshore for their valuable contributions.

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Steady markets and positive signs

Paolo Moretti,
Executive
Vice President
Marine Strategic
Development, RINA



Stability appears to be returning to the shipping market after the turbulence of the last years. Gas remains a bright spot, with 9 percent growth in the seaborne LNG trade last year and a similar increase expected for 2019. Another segment expected to maintain its healthy growth rate of 5 percent is the chemicals trade. Activity is also picking up in the offshore sector, with a gradual rise in rates and utilisation.

The dry bulk trade in 2018 saw a generalised recovery, as anticipated, with overall volumes expanding by 2.3 percent and solid growth in coal and minor bulk in particular. Figures for the container trade were stronger, with growth of 4.3 percent in 2018. Growth forecasts for this year look similar. The seaborne oil trade, which saw growth slowing to 1.2 percent in 2018 in part due to disruptions in the supply of crude oil, is expected to recover. The 2.1 percent growth forecast this year is based on an anticipated increase in long-haul crude exports from the US.

Stability also characterises the ro-ro market, which remained steady compared to 2017-2018 after a strong rise in 2016. Growth in the cruise sector is both stable and strong, with the major cruise players announcing positive results from last year.

Shipyards continue to see challenges, albeit less dramatic than in the last years. While newbuilding activity remained above the record lows of 2016, the global orderbook stands at only 209 dwt, 5 percent lower than the start of 2018 and equivalent to 10 percent of fleet capacity. Recycling activity was mixed. Global demolition activity fell by 11 percent year-on-year in terms of dwt, with 668 ships and 31.3m dwt reported scrapped.

However, this decrease was mostly due to large falls in the scrapping of bulkcarriers and containerships, which hit their lowest points since 2007 and 2011 respectively. In contrast, tanker demolition increased significantly.

Environmental regulations are a major factor continuing to shape the market and the strategies of shipping companies. The upcoming entry into force of the IMO 2020 global sulphur cap, for example, has affected – and will continue to affect – fuel strategies, bunkering and fuel handling processes, vessel refits and the supply and demand of sulphur-compliant fuels. The strict targets for reducing carbon emissions from global shipping are driving much research and innovation around alternative clean energy sources for ships.

RINA is involved in several major projects exploring the potential of LNG, batteries and hydrogen fuel cells for the marine industry, as well as developing smarter technologies for monitoring and optimising engine performance and fuel consumption. With investment in new enabling technologies and digitalisation continuing to rise, it seems “smart shipping” is our framework for the future.

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Courtesy of Vestland Offshore

Exploring trends in seismic surveys

Interview with
Per Vidar Hille,
CEO, Vestland
Offshore



Vestland Offshore is a Norwegian company with offices in Bergen and the island cluster of Austevoll – but we only have 19 people on dry land. Our other 350 employees are offshore, working on our fleet of offshore service vessels (OSVs), Walk to Work (W2W) vessels and seismic acquisition vessels. To carry out these demanding offshore operations to a high standard, we constantly need well-qualified senior crew. This is one of our biggest challenges as we grow and diversify in this specialised field.

Technologies for seismic research continue to grow more sophisticated. Ocean Bottom Nodes (OBN) surveys are clearly becoming more effective due to continued technical development, as well as better ways to deploy and retract the equipment. OBN basically involves using remotely operated vehicles to place rows of connected devices (“nodes”) on the ocean floor and record accurate and sometimes continuous seismic data. We have one fully rigged OBN vessel, Ocean Pearl, currently in operation.

OBN activities are fairly resistant to oil price volatility as they are

mostly aimed at getting more oil out of existing production fields. There are reasons to believe that OBN technology will also be used to search for new fields in the future. However, it is important to bear in mind that OBN surveys are not yet effective enough to replace towed streamers. I therefore believe that the majority of seismic research for new fields will still be performed using regular 2D (single streamer) and 3D (multi-streamer) operations. We have actually just upgraded one of our source vessels to perform both 2D and 3D streamer operations in relation to a contract with Seabird, plus taken on management of a high-end 12-streamer vessel capable of doing advanced multi-streamer operations for multiple clients, including wide azimuth acquisition.

Looking ahead and looking at the map, we believe there is great potential for oil and gas exploration in the North Sea and Barents Sea, which lies north of Norway and Russia in the Arctic Ocean. We also expect West Africa, the Middle East and the Gulf of Mexico to be busy in the next years, especially for OBN operations and wide azimuth programmes. There are

interesting discussions ongoing about whether the US East Coast between Newfoundland and Florida will open up for seismic activities. That would bring exciting opportunities.

Any successful company that wishes to remain successful has to keep exploring new opportunities and uses for its assets. The story of how we entered the wind energy market is a good example. Vestland took on the management of a new platform supply vessel (PSV) a few years ago: Vestland Cygnus, owned by the Hans Gravdal Group. When the PSV market fell, we decided to perform a W2W conversion

installations. Dynamic Positioning (DP) and Redundant Propulsion (RP) notations are essential. They need high levels of comfort for the crew, an office, instrument room and workshop spaces, as well as good fuel consumption.

One thing I love doing is to “play” with plans during development of a new conversion project using 3D modelling software in an attempt to find the optimal arrangements. In fact, I enjoy developing both seismic and W2W projects in close cooperation with customers.

Classification societies are essential partners in any new project, as well as during the operation of ships.

Classification societies may affect our vessels’ “on-hire” days, yearly opex costs and the outcome of newbuilding and conversion projects, including not just direct costs but indirect costs related to how smoothly and rapidly the plan approval processes are completed. We appreciate streamlined processes and I’m sure we are not the only company to get frustrated by bureaucracy and long plan approval timelines.

The Nordic Explorer, which was built in Langsten Shipyard in Norway and classed by RINA, has been a really successful project. I’m sure our RINA partners will be pleased to know that she is signed up with Seabird for 3D jobs in the Congo as well as 2D jobs in the North Sea this summer. The market seems to be brightening, so we are looking forward to carrying out more exciting projects in which RINA might well be able to support us.



Courtesy of Vestland Offshore

and secured a contract with Statoil for commissioning the Dudgeon Offshore Wind Farm east of Great Yarmouth in the UK.

Vestland Cygnus is currently working with GE in the southern section of the North Sea and we are looking at further possibilities in the green energy sector.

Seismic vessels are no ordinary vessels. Redundancy is important as they tow expensive equipment and perform challenging subsea tasks such as node handling, close to offshore

“A successful company has to keep exploring new opportunities and uses for its assets.”

BIOGRAPHY

Per Vidar Hille has been CEO of Vestland Offshore AS since he founded the company in July 2008.

He started his career sailing as Chief Engineer on chemical tanker and ro-pax vessels, until 1997. He then served as Superintendent, Fleet Manager and CEO of Shipman AS, mainly operating seismic vessels. He established Vestland Offshore in 2008 together with a group of investors and partners, holding the position of CEO with responsibility for around 12 vessels and newbuilding projects.

Reinventing traditions in shipbuilding

When faced with hard times, the trick is not to invent excuses but to reinvent one's business. This is what VARD managed to do following the downturn in the offshore market in 2015. Throughout our long history as a Norwegian shipbuilder – right back to the days when fishing was a way of life along our wild coasts – we have been focused on designing and building ever more complex offshore and specialised vessels. Applying our skills and experience to new types of specialised vessels was a natural reinvention.

In 2016, VARD debuted in the cruise business with a successful series of vessels in the expedition segment. Several other new contracts followed for different customers, including an icebreaker expedition cruise vessel. At the same time, we were awarded several contracts for highly specialised fishing vessels, LNG-fuelled and battery-propelled ferries, naval vessels and a research expedition vessel. Last but not least, Prysmian Group, the world's largest cable manufacturer, selected us for a challenging project

to build a highly innovative cable-laying vessel. As well as expanding our markets and competencies, we have also expanded greatly in terms of geography. In addition to our five yards in Norway, we currently also have facilities in Romania, Brazil and Vietnam.

Looking ahead, we see this diversification strategy paying off in the medium and long term as well as the short term. Charter rates are finally starting to grow again and over the next couple of years we see new opportunities for special-purpose and highly specialised vessels. Many will be dedicated to the renewable energy industry, such as vessels serving offshore wind farms. In my looking glass, I also see a stable market for expedition cruise ships. Finally, the offshore market is starting to give positive signals of an upturn once again. Thanks to our strategy over the last years, we will be even more ready to face whatever surprises the market can throw at us and whatever opportunities exist.

Innovation is driving these markets,

Interview with
Renato Garolla di Bard,
Senior Vice President
Procurement,
VARD Group



Courtesy of VARD Group



Courtesy of Prysman Group

and by that I mean demand for innovation. Customers expect the very latest technology and the very highest quality. In response to this, we expect “traditional” offshore vessels to snap out of their routine and start being built in innovative configurations and/or sizes.

Although it is obviously exciting to enter new markets, as VARD has done, it is never easy. I could draft a long list of challenges. Adapting a complex organisation to a new area of work is a difficult task and one must be prepared to make sacrifices. The best way to face these challenges, in my opinion, is to do everything you can to gain full knowledge of what is happening in the sector and why. This is not always something that comes naturally. But when you have all the elements you need, plus the dedication and flexibility of your colleagues and what I call the “competence to win”, challenging targets are achievable.

The cable-laying vessel we are currently building for Prysman Group, with the support of RINA, is an example of a challenging and strategic project where we need to put all our expertise, resources, dedication and flexibility to good use. Due to be delivered in 2021, this is a specialised vessel for advanced subsea operations and is intended to be the most capable cable layer in its market. It will feature deep-water installation capabilities for depths of more than 2,000 meters and high cable-loading capacity in large cable-rotating platforms. The cable layer is developed to perform complex installation operations supported by

a variety of burial systems including heavy duty ploughs, state-of-the-art positioning and seakeeping systems coupled with a reduced environmental footprint. We are right to be proud of this project, I believe.

I’m particularly proud of my team and how they work together. The quality of teamwork is the key to success in achieving our targets. This is something I encourage and enjoy encouraging. I also enjoy the nature of the shipbuilding industry itself, where you can meet and deal with so many interesting people in an international environment. Some of these are people I meet in the context of what I jokingly define as the “dirty job”, i.e. negotiating contracts and prices. But being a naval architect by education, sometimes I like straying into technical discussion with my contacts in the classification societies such as RINA. After successfully completing the cable-laying project, we are working on several opportunities for new projects in which we hope to have RINA on board with us.

BIOGRAPHY

Renato Garolla di Bard was born in Naples, Italy on February 1976. He graduated from Federico II University in Naples with an MSc in Naval Architecture and Marine Engineering. He also holds an MBA from Luiss Business School in Rome.

Renato has been Senior Vice President of VARD since 2016. He is responsible for the VARD Group procurement. He joined Fincantieri in 2014 as part of the Fincantieri - VARD Coordination and Development team. Prior to that, Renato served in various roles in Med Offshore SpA. He started his career at Honda Motor Co.

 www.vard.com

“It is exciting to enter new markets... but I could draft a long list of challenges.”

The future of ship management



Courtesy of Minerva Marine

Interview with Sokratis Dimakopoulos, COO, Minerva Marine



Shipping will clearly continue to play a vital role in the world economy in the future, but the industry will look very different. Many aspects, including the vessels, ship management and ship-to-shore interface, are already undergoing substantial transformation.

One driver for these changes is the race to decarbonise the industry. Although shipping is the most environmentally friendly mode of transport, regulatory pressures to reduce emissions will have a significant impact on the way vessels are constructed and operated. Despite efforts to design more energy-efficient ships, the use of alternative fuels will be the answer to meet the very high targets set by the IMO greenhouse gas reduction strategy. The technologies are there, and today the leading alternative fuel for ships is LNG, which already exists in abundance and is becoming increasingly available as infrastructure expands. As such, I believe that the use of LNG as marine fuel will be the preferred solution for the next decade. For the more distant future, we may see the range of viable energy sources expanded beyond

traditional fuels to technologies like batteries and fuel cells.

Furthermore, and considering that LNG is one of the fastest-growing energy markets worldwide, we have established Minerva Gas Inc. as an in-house ship management company of technologically advanced LNG carriers (LNGCs), aiming to provide first-class services to the LNG marine supply chain. Our fleet, which is currently under construction in Korea, consists of four modern and efficient LNG carriers that are going to enter into service in 2020 and 2021. Building on our experience in the tanker industry, our main goal is to establish Minerva Gas as a leading gas carrier company synonymous with quality, compliance, reliability and safety.

The second major trend transforming shipping is digitalisation. Ships are becoming more sophisticated, highly automated and increasingly dependent on software control systems. Large volumes of data are generated onboard and automatically transferred ashore at low cost thanks to advances in satellite communications. This allows for optimised operation and control

of vessels, enhanced decision-making and planning, reduced manning, more efficient cost control management, remote maintenance and troubleshooting capabilities as well as more transparent and compliant operations.

These environmental and technological developments could help shipping to become safer and more efficient while reducing its environmental footprint. The challenge lies in correctly assessing this transformation and making the most of the business opportunities it offers. There are plenty for those who are prepared to adapt rather than resist and innovate rather than following the norm.

At the same time, we have to successfully manage the human element, as every part of our business boils down to people. Getting our people inspired, motivated, better trained and more engaged improves safety and cost efficiency. Despite our large and busy fleet of 67 tankers and six bulk carriers, we have worked hard to create a family atmosphere, in which seafarers feel a sense of belonging, solidarity, transparency and commitment. Caring for our people is not only a core value, it provides stability and productivity. In our ongoing efforts to attract, train and retain competent personnel, we have established our own Athina Maritime Learning and Development Center. As a certified training organisation equipped with state-of-the-art simulators, Athina will offer comprehensive training to our seafarers, delivered by instructors who are experienced professionals including

active Masters and Chief Engineers.

Like all shipping companies, a daily challenge is to optimise efficiency while ensuring effective implementation of and compliance with ever-increasing and sometimes fragmented legal and industry requirements. New technologies can help our people, both onboard and ashore, more easily process and utilise data in order to monitor and optimise the operation of the fleet and individual vessels. A comprehensive and advanced fleet performance management system will soon become an operational and business need.

At Minerva, we are developing our own fleet performance platform and working with industry stakeholders, including RINA, to identify the optimum solution for our current and future needs. I am impressed with the good work that RINA has done in this field with the development of its RINACube digital platform. In fact, throughout my career I have worked closely with a number of RINA colleagues, all of whom had a very professional attitude, high competence and expertise. Other unique characteristics of RINA are its proactive attitude and innovative approach, governed by a clear vision and a commitment to high standards and new technology.

Apart from having all of our bulk carrier vessels and four tankers classed with RINA, we have selected RINA for the evaluation of monitoring plans and the verification of emissions reports for all our fleet vessels in accordance with the EU MRV Regulation. In addition,

we regularly cooperate with the RINA Academy in maritime training activities and projects.

“Caring for our people is a core value.”

BIOGRAPHY

Sokratis Dimakopoulos is the Chief Operating Officer of Minerva Marine Inc. He has over 25 years' experience in the shipping industry, having served in senior positions in leading ship management companies, in the IMO Secretariat and in the Greek Flag Administration.

Mr Dimakopoulos is actively engaged in industry organisations including the INTERTANKO Council, INTERTANKO Hellenic Mediterranean Panel, RINA Hellenic Technical Committee, LR Hellenic Technical Environmental Sub-Committee, DNV GL Hellenic Technical Committee and the steering group established under the OCIMF/INTERTANKO joint safety initiative.

Before joining Minerva Group, he served as the Deputy Managing Director of Tsakos Columbia Shipmanagement SA, as HSQE Manager of Maran Tankers Management Inc and as DPA/CSO of Consolidated Marine Management. In his earlier career, he was a Senior Officer of the IMO Secretariat/ Marine Environment Division, a Technical Officer of the Hellenic Coast Guard and a Counsellor in the Maritime Section of the Greek Embassy in Belgium.

He holds a degree in Chemical Engineering from the National Technical University of Athens and an MSc from the University of Manchester Institute of Science and Technology.



Courtesy of Minerva Marine

United in support of Italian shipping

The importance of unity is one of the most important things I have learned during my 20 years of involvement with CONFITARMA, the Italian Shipowners' Association, and especially in my last year and a half as President. Political decisions and legal texts at the national, European and international level have a massive impact on how our shipping companies are run on a daily basis. When information is conflicting or simply wrong, bad policies and laws are made. Shipowners, who understand the complex technical and financial issues at stake, have a responsibility to work together to clarify the key issues affecting our industry and unite around common goals to achieve.

For example, at my first General Meeting as President, we argued against proposed legal changes that would reduce the attractiveness of the Italian International Registry and likely impact the livelihoods of Italy's 50,000 or so seafarers. The introduction of the Italian International Registry in 1998, with its associated tax benefits, has helped increase the Italian merchant fleet from 7.8 million

GT then to 16.5 million GT today by encouraging shipowners to register their ships under the Italian flag. The General Meeting was attended by the Italian Minister of Infrastructure and Transport and the Minister of the Interior, as well as the Mayor of Genoa, and our arguments were taken seriously and implemented in the final bill. It is clear that as individual companies, we have little power. But as a group acting with clarity and consensus, we can achieve real results.

Other common challenges facing shipowners are technical, such as the current concerns around the 2020 IMO fuel sulphur regulation. While some shipping companies have invested in LNG-fuelled ships or scrubbers, the vast majority intend to rely on low sulphur and ultra-low sulphur fuel oil and blends. The trouble is, there is simply no chance that supply of such fuel will be able to meet the massive increase in demand in January, and there are huge penalties on shipowners for non-compliance. We believe we should avoid penalising shipowners – who have no control over the global fuel supplies – and

Interview with
Mario Mattioli,
President,
CONFITARMA



Courtesy of CONFITARMA

avoid a potential economic crash due to millions of GT of shipping capacity unable to be utilised for lack of sulphur-compliant fuel. The solution we are promoting is simple and fair: to remove or reduce fines if shipowners can prove that it was impossible to refuel with low-sulphur fuel. Finance is another aspect that keeps ships afloat, so another area we are working on is to help Italian

facing some of the challenges I have mentioned above and many more.

Unity can help us jointly take advantage of opportunities as well as combat challenges. Italy could benefit greatly from China's Belt and Road initiative, which should see even more goods coming through the Suez Canal to Europe. By unloading in Italy instead of continuing up to northern Europe,

BIOGRAPHY

Mario Mattioli has been President of CONFITARMA Confederazione Italiana Armatori, the Italian Shipowners' Association, since October 2017. He has been involved with the Association for around 20 years as a member of the Confederal Council and Executive Committee, as well as holding the positions of Vice President and President of the Education Commission.

Born in Naples, Italy, in 1963, Mr Mattioli graduated in Economics from Federico II University and began working in numerous positions in family businesses of the Cafiero Mattioli Group. He is currently President of Cafiero Mattioli Financial S.p.A. (CAFIMA).

In addition he is President of the Federazione del Mare, which gathers together associations representing the entire Italian maritime system, Member of the Committee of the Britannia Steamship Insurance Association, Honorary General Consul of the Kingdom of Thailand in Naples and in South Italy, President of FORMARE and Board Member of the National Fund for Seafarers, an entity financing training projects for Italian merchant marine cadets.

 www.confitarma.it



Courtesy of CONFITARMA

shipowners access fair financing and debt management. Banks' strict position against non-performing loans is a problem for shipowners who made large investments at high prices before the financial crisis of 2008 and are still struggling with a debt not matched by the actual value of their fleet. We are opening discussions with banks and hedge funds, to whom some of the debt has been sold, to try to find financing solutions and lenders that are helpful and not hostile.

Unity is essential in fighting for rules, regulations and practices that will benefit the industry, but it is also an important principle in daily business. By uniting in alliances, for example, smaller companies are better able to specialise and compete against larger players. Unity is essential to face common and serious threats like cybersecurity. Unity means having partners with cross-sector expertise, who understand both the technical and the political/legal sides, who are in tune with technological changes and who are good at finding compromises. RINA is one such partner and we are glad to have their support in

Chinese traders could save 14-15 days of travelling time and Italy could receive some of the taxes currently paid in the ports of Hamburg, Rotterdam and Antwerp. But to take advantage of this opportunity, we need urgently to modernise our infrastructure, dredge our ports to be able to receive larger ships, identify new areas for unloading containers and improve logistics on the ground.

Why isn't this happening? Partly because the political arena affecting merchant shipping is extremely complex. In Italy alone, we interact with myriad government ministries and authorities responsible for infrastructure, transport, the environment, health, agricultural and fisheries, foreign affairs and education, as well as the coastguard and port authorities. I wish we had a single Minister of the Sea. But we don't. So as an industry, we must unite around clear goals that benefit us all and then work together to promote them.

“Unity is essential in fighting for rules, regulations and practices that will benefit the industry. “

Openness to integration and innovation



Courtesy of Histria Group

Interview with
Gheorghe Bosinceanu,
 Owner, Histria Group



“Money is the king” is what they say about the banking sector. In the shipping industry, I would add, “but the market is the queen” – because it is the market that decides what hardships shipping companies face and what rewards they receive. As an integrated group of companies, however, Histria has the great advantage of being flexible and adaptable to market evolutions.

By integrated, I mean the Histria Group combines ship design, shipbuilding, shipowning and ship management. As shipowners, we have a fleet of 12 MR1 tankers that are chartered and operated by our in-house brokerage and ship management companies. The tankers were designed and built by our ship design firm, SNC Ship Design, a subsidiary of Constanta Shipyard. Located in my home country of Romania, this is one of the largest yards in Europe for newbuildings, ship repairs and conversions, with a focus on medium-range product and chemical tankers. There isn’t much that we have to outsource.

Integrated or not, all of us in shipping

experienced a bumpy ride in the last decade. Confidence is starting to return, but will it turn into sustainable demand and healthier returns? I expect so, partly due to simple supply and demand criteria – particularly for shipowners – and partly due to the IMO 2020 regulations, which will drive more business for shipyards. Our Constanta Shipyard is directly benefiting from retrofitting contracts for scrubbers and ballast water treatment systems, plus dry dockings for periodic surveys and maintenance for an ageing world fleet. We are working closely with RINA to make sure we implement the most up-to-date environmental technologies to protect the sea and air.

From the shipbuilder’s perspective, the age of cheap vessels is over. Shipyards have learned that the answer to a declining market is not to bring about a collapse in the price of vessels but to reorganise, restructure and generally adapt to market realities. Aligning price levels with real building costs and a minimum margin chases away speculative buyers and balances the supply and demand for vessels.

For dockings and retrofits, our shipyard mainly receives vessels trading in the Black Sea and Mediterranean Sea. The Greek, Cypriot and Italian markets are hugely important and over the past 15 years we have had hundreds of their vessels calling at our shipyard. RINA's expertise and reputation in this area has proved invaluable. As shipbuilders, we mainly serve European owners who would incur substantial costs to maintain teams on-site in faraway locations such as China or Korea. The owners we most like to work with are those who appreciate innovative and consistent design approaches and a European high-specification maker list. These two principles together guarantee the high reliability of our final product, since each individual products tanker is built and delivered by our yard.

Innovation requires input from the market. This is why, when we developed our first 40,000 dwt products tanker, we gathered over 2,000 comments from the major oil companies and traders and integrated them into our design. This open approach proved to be a winning ticket – all of our first nine newbuildings have been time-chartered for a minimum of five years even before their scheduled contractual deliveries.

RINA's involvement and confidence in our high standards were instrumental in helping us become better and stronger every day and in guaranteeing quality. We believe in allocating time and resources to consulting and

engineering services throughout the whole process, from design evaluation and approval through construction, supervision and certification. That is what enables us to bring to the market the most competitive product possible.

The Histria Atlas is a good example of how having a highly rated classification society supports our projects and contributes significantly to our success. The first in the EcoMaxMR1 series, the Histria Atlas is a highly innovative vessel. I call her an MR2 in the skin of an MR1 because she has the LOA and shallow draft of an MR1 but a cargo carrying capacity that is close to that of an MR2. That's where the "Max" in EcoMaxMR1 comes from. "Eco" refers to the more-than-competitive fuel consumption, thanks to innovative body lines and a state-of-the-art electronic propulsion system. Add to that the class notation for an "integrated bridge" comprising the navigation, cargo and communications control system, and you get an indication of what makes the Histria Atlas unique. We are looking forward to continuing our fruitful partnership with RINA on her sister vessels, with two firm orders and three options in the pipeline.


It took a lot of team work to get to the place we find ourselves today, along with passion, vision, hard work and determination. But I enjoy the journey and the satisfaction of the end result, knowing that we can face whatever the market decides to throw at us.

“Innovation requires input from the market.”

BIOGRAPHY

Gheorghe Bosinceanu is the Managing Director of Histria Maritime SARL, headquartered in Monaco., Romanian by birth, Mr Bosinceanu graduated from the Merchant Marine Academy in Constanta, Romania in 1979. He then worked his way up from Junior and Senior Deck Officer to Master Mariner and Fleet Manager at the Romanian shipping services company NAVROM before joining CNM Petromin as Tanker Ships Operation Director.

In 1992, Mr Bosinceanu founded Histria Shipmanagement Ltd, which is now the largest ship management company in the country. Between 1995 and 2014, he also served as Director of Cyprus-based Dubhe Shipping Ltd, the chartering arm of the Group.

 www.histria.ro
www.snc.ro
www.shipdesign.snc.ro



Courtesy of Histria Group

Family values in a changing world

Our family business, which my father founded in 1946, specialises in the seaborne transport of petroleum and chemical products. Our main commitment right now is to understand how to read and seize the opportunities of a market deeply impacted by the global financial crisis and by the new international regulations.

Regarding the global financial crisis, the oil and chemicals market has not yet recovered as expected and remains stagnant. The volumes to be transported are not what they once were, but we anticipate that this market will return in the future to be a driving force in the global economy.

Regarding the new international environmental regulations that are coming into force in 2020 and beyond, shipowners are facing some difficult choices. However, our current position provides us with a solid base for the coming years and it will be up to us to take advantage of these opportunities.

Having a flexible fleet is crucial

to adapting to these changing international market situations. That is why we are currently engaged in a newbuilding project with the support of RINA. The two newbuilds will be equipped with the most modern environmental technologies available on the market, with a special focus on energy saving. RINA's assistance is invaluable to ensure that we are in compliance with all current and future requirements and that we meet the high standards of both authorities and our customers. It is extremely valuable to be able to rely on constant support, a high level of expertise across many different areas and a worldwide presence.

In terms of our geographical presence, our fleet has traditionally operated mainly in the Mediterranean and Northern Europe. The two areas may be both European, but their situations are very different from a shipowner's perspective. Currently, values in the Mediterranean tend to be more stable compared to a more dynamic scenario in Northern Europe.

There is much talk among shipping

Interview with
Mariella Amoretti,
CEO, Amoretti
Armatori Group



Courtesy of Amoretti Armatori Group



Courtesy of Amoretti Armatori Group

industry stakeholders about digitalisation of ships. This rise in reliance on digital technologies increases efficiency but also leads to a rise in the risk of cyberattacks. We are keeping a very close eye on cybersecurity threats as a result.

In addition, we think it is important to look not just at the digital technologies themselves but at the crew members who will need to use them. Regular training of crew to make sure they are prepared for using these new technologies is essential.

In fact, it is vital that all employees are sufficiently highly trained, not just the crew members on the ships. Shipowners need a dynamic and well-prepared team who can be relied on to control the myriad elements that make up daily operations. This includes, of course, the financial and fiscal aspects, which are important pillars of good business management.

Managing the business properly and overcoming the challenges of the oil and chemicals market require daily commitment and great passion from an owner. In my case, that passion results from having breathed the family business from childhood and seen it grow and thrive day by day.

BIOGRAPHY

Mariella Amoretti is the CEO of Amoretti Armatori Group. After graduating in Law in 1976 from the University of Parma, the city where Mariella was born and where the Group's headquarters is still based today, she began her career in the family business, which she now leads. Founded in 1946 by Mariella's father, Odoardo Amoretti, the Company is today a leader in the maritime transport market for oil products and boasts the main international energy majors as customers.

 www.amorettiarmatori.it



Courtesy of Amoretti Armatori Group

“Having a flexible fleet is crucial to adapting to changing international market situations.”

Evolving markets and opportunities

Interview with
Salvatore d'Amico,
Fleet Director



and **Cesare d'Api**,
Deputy Technical
Director, d'Amico
Group



The shipping industry is transforming and evolving in so many ways that every year, every month, every day can be totally unpredictable and different from the one before. And like in Darwinian evolution, we believe the industry is continuously improving. The two most significant factors shaping the present and future of maritime transportation are, of course, the environment and digitalisation.

To be competitive nowadays, it is of paramount importance to respect and protect the environment. This means going above and beyond mere compliance with international standards and rules. Many shipowners see the IMO 2020 sulphur regulation as a challenge, as they must spend time and money installing scrubbers or switching to sulphur-compliant fuels. In contrast, we have welcomed the opportunity to make our procedures for fuel handling and management more robust. We started planning for the switchover well in advance using a risk-based approach and have already implemented the necessary retrofits and risk mitigation measures. We are

now focused on properly managing the tank cleaning, adapted bunkering operations, switchover procedures and tests.

We welcome the new regulations for economic as well as environmental reasons, as they are likely to boost the oil tanker market in the long range and medium range segments. Demand for oil product tankers in the last two quarters of 2019 is anticipated to rise, with an increase in long-haul shipment of compliant fuels and blends to the main bunkering centres.

We expect the US Gulf to be an important export hub for refined products over the next few years, driven by modern refineries with low energy and crude oil costs. Supply to Central and South America, as well as West Africa, will increase in addition to the traditional diesel arbitrage trade to Europe. Similarly, expanded refinery capacity in the Arabian Gulf means that increased volumes will be exported from this area to Asia and Australia as well as to Europe. In the longer term, we also expect China to bring additional export capacity to the



Courtesy of d'Amico Group

Asian market for regional distribution.

The market opportunities do not only lie in the transportation of oil products, but in the tankers themselves. We see constantly growing demand from oil majors and other leading market players for “eco” vessels offering better environmental performance, including lower carbon emissions and fuel consumption. This trend will become even more consistent in the near future due to the progressive decarbonisation of maritime transportation. In line with this, there is also increasing focus on the quality of ship management companies and their proactive approach to continuous improvement. The latest revision of the Tanker Management and Self Assessment (TMSA) programme confirms these trends.

To satisfy these market needs, d’Amico Group has built more than 20 modern eco oil tankers that meet the requirements of phase 2 (2020–2024) of the Energy Efficiency Design Index (EEDI). The vessels combine hydrodynamic hull forms with low-friction antifouling paint, optimised engine and propeller sizes and fully electronic engines. On the ship management side, we constantly adapt our procedures as market needs evolve, in particular by modernising vessel maintenance and performance monitoring and by taking full advantage of digitalisation.

Digitalisation is the other key element that will substantially affect the industry, vessels, infrastructure and the connections between them. We believe the fleet of the future will be an ongoing digital “conversation”. Fleet managers will be better able to analyse data and advise the Captain, Chief Engineer and crew on navigation aspects, route optimisation, weather conditions, fuel consumption and more. They will be able to carry out smart maintenance procedures as well as remote diagnostics and structural stress analysis. This will help to reduce the risk of human errors leading to accidents, as well as increase efficiency, reliability and environmental performance.

We are carrying out several innovative projects aimed at taking advantage



Courtesy of d’Amico Group

of the opportunities offered by digitalisation. These include a gradual switch to condition-based maintenance using technologies such as videoscopy, thermography, digital calibration and vibration monitoring. Big data analysis will also be leveraged for better decision-making in areas such as hull and propeller cleaning schedules, the effect of carbon dioxide-saving devices or low-friction antifouling paint and vessel performance model validation. We have worked with RINA on several projects involving ship management digitalisation over the last few years, including important work on speed and performance monitoring. We are currently working together on the digitalisation of record books and the development of a Smart Fleet Operating Centre.

Deep knowledge and an innovation-oriented approach are essential features of a classification society in these complex and dynamic projects. The theoretical and practical expertise they can provide, covering a wide range of competencies and involving sophisticated tools, are invaluable in helping us take advantage of the opportunities of this fast-evolving market.

“The fleet of the future will be an ongoing digital ‘conversation.’”

BIOGRAPHY

Salvatore d’Amico is Fleet Director of d’Amico Group, a family business for three generations. He graduated in Economics in Rome and worked with JP Morgan in Geneva before returning to d’Amico Group, where he gained experience in different departments including two years in the d’Amico Dublin office. He is a member of several Boards, notably d’Amico Shipping Singapore and d’Amico Shipping Italia. He has been CEO of Singapore-based ship management company Ishima, a d’Amico Group subsidiary, since 2013.

Cesare d’Api is Deputy Technical Director of d’Amico Group. Prior to that, he spent 12 years as Technical Manager responsible for the tanker fleet division. From 2000 to 2002 he was a Senior Consultant at ICM Consulting, where he led several ship management optimisation projects. Along with 19 years of experience in ship management maintenance optimisation, cost optimisation, disaster recovery projects, refit projects and innovation, Cesare d’Api holds a degree in Mechanical Engineering from the University of Naples and is a member of the INTERCARGO Technical Committee.

Changing winds in the shipping sector

We are living in complicated times. It is not just a difficult period for the Italian shipping sector, or even the global shipping sector, but for the entire world economy. Changes are taking place in such a short time span that economic forecasts can seem useless – in fact, sometimes worse than useless. The last thing shipowners need right now is a dangerous black hole in their long-term planning.

In this fast-changing scenario, with so many variables and unknowns, how can shipowners and other stakeholders in the Italian shipping sector identify the most effective business planning strategies? Well, I don't think it is possible for a single person to have the exact winning formula. Companies need to discuss the issues internally and with other stakeholders, then develop their strategies and manage their business as well as they can, based on their values and experience.

What associations such as Assarmatori can do is support their

members in doing this by gathering influence and expertise around a table, finding common ground and fostering discussion about what matters most to the members. That is what we aim to do, and despite being a recently established Association, I believe we have managed to achieve a great deal so far. We have been taking a new approach to existing problems and opportunities within the Italian shipping sector, for example on employment issues relating to seafarers and establishing new rules for the Italian International Register. Our Working Groups are dedicated to different areas of concern, including labour, logistics and infrastructure, innovative technology, offshore navigation and tax/financial issues.

What really matters to our shipowner members in these uncertain times, however, is the financial side. Let us not pretend that Italian shipping hasn't been through hard times – and let us not pretend that those times are over. What we need is to find successful formulas to bring together the interests of shipping companies and the interests of international investors.

Interview with
Stefano Messina,
President,
Assarmatori



Courtesy of Assarmatori

I am strongly convinced that the time has come to generate a new model for relationships between shipping companies and those in the financial sector. Radical and rapid changes that are taking place within the international economic structure make a new vision and new formulas for the cooperation between these

markets are generally the ones that still have unexploited potential and that smart shipowners will be keen to explore.

In order to identify promising markets and opportunities in these fast-moving times, it is essential for shipowners to have the very latest information and

“We need more innovation and more variety of ideas.”



two universes urgent. Previously, shipping and finance were often in opposition. Now it is time for real cooperation based on mutual interest and partnership that will lead to growth in the sector, which will naturally solve or reduce some of the other problems. This is why Assarmatori is working hard to generate creative ideas for how to identify, oversee and secure financial resources for shipping companies that can be used for future development.

The good news is that there is certainly unexploited potential in the global shipping industry. There are still unexplored markets and new frontiers for shipping companies. With the lessons of the past still in their minds, shipowners are nevertheless eager to look for new routes. When I say, “unexploited potential”, everyone immediately thinks of Asia, but I would like to emphasise that that’s not the only market with potential. The world is a big place and there are several other markets that can be developed and that are likely to provide higher financial rewards for international shipping. The Asian market is rather overcrowded, in any case. And I don’t just mean geographical markets. Niche

market analysis at their fingertips. Helping to achieve this is one of our goals. That is why we need more innovation and more variety of ideas. Innovation is key to market success and key to our mission. It applies not just to the narrow definition of shipping but to transport, logistics, and everything that affects the day-to-day business and long-term success of Italian shipowners. Services and operational efficiency in Italian ports, for example, and enhancing employment opportunities for Italian seafarers.

We work with all parties, including other associations, government institutions and even the Italian Parliament, in pursuit of our Members’ goals. And of course, we look forward to strengthening our relationship and cooperation with RINA, because all of the Italian shipping sector is historically allied and connected with RINA. Their experts’ technical support will be particularly useful in tackling the challenging issues of new environmental regulations and their impact on the Italian shipping sector.

BIOGRAPHY

Genoa-born Stefano Messina is Chairman of Gruppo Messina S.p.A. and Vice President of Ignazio Messina & C., a shipping company that has provided regular liner services linking the Mediterranean, Africa, the Middle East and the Indian subcontinent since 1921. The Group’s Intermodal Marine Terminal within the Port of Genoa offers comprehensive services to cargo ships and acts as a logistics hub linking rail and road.

In addition, Mr Messina is Chairman of Four Jolly S.p.A., a shipowning company in the tanker sector, and Chairman of Yarpa S.p.A., a private equity company. He was appointed Chairman of Assarmatori in January 2018.

 www.assarmatori.eu

Unlocking the potential of hydrogen

The EU's 2030 climate and energy framework, revised upwards in 2018, sets ambitious targets: at least a 40 percent cut in greenhouse gas emissions compared to 1990 levels; at least a 32 percent share for renewable energy; and at least a 32.5 percent improvement in energy efficiency. The marine sector faces a challenging task to decide which of the many options will best help it to meet these targets. Some scrubbers and alternative fuels such as LNG, methanol or dimethyl ether (DME) can reduce emissions of some pollutants, but they are not effective enough at reducing carbon dioxide.

Batteries and energy-carrying solutions using hydrogen can achieve a more effective reduction in carbon emissions. While batteries generate zero emissions during service, however, they produce nearly equivalent emissions of carbon dioxide across their entire life cycle. Furthermore, they are only suitable for short routes and periods of time. Batteries are certainly useful for approaching and departing a harbour, but not for the entire route.

Hydrogen, the simplest and most abundant element on earth, offers a highly promising alternative. It is an energy carrier, not an energy source, and it can deliver or store a significant amount of energy. Hydrogen-based solutions for ships would likely take the form of a fuel cell and an electric engine. This would provide sufficient power to cover all the needs of modern vessels while helping to meet the EU's 2030 emission targets.

What is hindering hydrogen technology? The main bottleneck is production and hence distribution. However, we could be at a turning point now that renewables are increasingly being used to generate hydrogen. The abundance of renewable energy and its intrinsic discontinuity make it more advantageous to convert and store energy in hydrogen-based energy carriers, with a consequent reduction in costs.

There are already interesting projects involving hydrogen underway – including two projects in Australia that are working towards the goal of exporting hydrogen to power the 2020

Tokyo Olympics – and we frequently see new cars, buses, trucks and trains with hydrogen propulsion systems appearing on the market. But there is still a long way to go. Technological enhancements in hydrogen production and distribution are still needed, as are solutions for cost reduction and availability. Regulations, such as the IMO Resolution MSC.402(97) Interim Recommendations for Carriage of Liquefied Hydrogen in Bulk, need further clarification in several fundamental areas.

Materials for the safe storage and usage of hydrogen as an energy carrier are a key issue and one of RINA's major research focuses right now. Working closely with shipowners, and with the help of state-of-the-art laboratories for high-pressure testing of materials, RINA is helping to develop innovative materials, technologies and solutions to overcome the challenges and enable the marine industry to unlock the potential of hydrogen to meet our ambitious climate goals.

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High-pressure testing chamber for hydrogen storage systems

The future of Chinese shipbuilding

The impact of the global financial crisis is still rippling through the global shipping industry and consequently through the Chinese shipbuilding industry. Chinese shipbuilders are under tremendous pressure. With the drop in demand for new ships globally, prices have fallen and overcapacity is a real problem. Most of China's shipyards are taking new orders at no profit or even at a loss, and many are facing cashflow problems due to a fall in the advance payments that buyers are willing to make.

Since 2015, more than 20 large and medium-sized Chinese shipyards have declared bankruptcy. The number of active shipyards has dropped from a peak of 382 to 140 today. Current total global shipbuilding capacity is 200 million dwt, but demand is only about 100 million dwt. By eliminating, integrating and transforming excess capacity, China managed to cut down its shipbuilding capacity from 80 million dwt in 2012 to 65 million dwt in 2015. It is expected to shed another 20 million dwt.

In the first quarter of 2019, the volume of new orders at Chinese shipyards was at a record low, causing difficulties maintaining continuous production. Coupled with that are the rising costs of raw materials such as steel plates, the rise in labour costs and decline in labour supply, and the currency fluctuations exacerbated by the China-US trade conflict.

Cutthroat competition is another issue. Chinese shipyards' major ship types until recently – bulk carriers, oil tankers and container ships – have low added value and low barriers to entry, creating yet more overcapacity and destroying the bargaining power of shipbuilders. The volume of new orders

taken by Chinese shipbuilders has fallen from 59 percent of total global orders in 2016 to 34 percent now.

tankers, as well as large LNG and LPG ships. What's more, Chinese shipyards and design institutes have also



How can China reverse the downturn and overcome these many challenges? The answer must partly lie – as government policies confirm and support – in strengthening the design and research capabilities of Chinese shipbuilders, upgrading their technology and improving their capacity to manufacture high-end equipment and ships. Demand for these in the domestic market is increasing, while Chinese shipbuilders still have a relative cost advantage in the international market.

Some of China's large state-owned and private shipyards have invested heavily in high value-added, high-tech ships and are now in the process of designing and building a wide variety of large cruise and ro-ro ships, very large container ships, very large oil

invested significant manpower and resources in research and innovation around intelligent and unmanned ships. The world's first 400,000 dwt bulk carrier with the "smart ship" notation will be delivered in Shanghai this year. Technology will surely be the driving force of China's shipbuilding future.

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Remote surveys and more



Digitalisation is best when it enables simple, practical solutions that improve results and save time and money.

Newly launched on the RINACube digital platform and aimed at the shipping industry, the Kiber Helmet is exactly that. It is a wearable device for onboard field engineers that, combined with Kiber Communication software, puts them in contact with inspectors or specialised experts ashore.

The wireless helmet camera allows engineers and inspectors to see exactly what the person wearing the helmet is seeing, when they see it. Along with live, high-quality audio and video streaming, this “smart” ATEX-certified helmet enables high-resolution image capture, real-time mark-up of images or videos and easy document sharing. Multiple people can participate in a support session and the session can also be recorded for later playback or training.

Imagine the possibilities of this new wearable digital tool. No more back-and-forth among field engineers and onshore experts or inspectors about how to gather and share photos, videos and documents. Fewer miscommunications and less time wasted finding the right person with the right specialist expertise. Faster troubleshooting and more efficient inspections. It is optimised for low bandwidth, so weak internet connections on ships far out at sea are not a problem.

RINA developed this dedicated service together with VR Media Srl, located in the Italian city of Pisa. The company is specialised in augmented reality training and turnkey hardware and software solutions for remote support.

The device has dual benefits for shipowners. The first is that some surveys carried out by classification societies can be done remotely, without sending a surveyor on board the vessel. Of course, not all surveys

can be carried out remotely, but for those that can, the savings of time and cost are clear. There is a list on the RINA website, under “Surveys with remote inspection techniques”.

The second major benefit is remote assistance for crew members onboard ships. The crew member can quickly and easily ask for help from a more experienced colleague ashore or a technician from the manufacturing company. In many cases, issues can be solved remotely, avoiding expensive and time-consuming travel by a technician from the head office of a manufacturer.

During 2019, the RINACube digital platform enriched its services with many applications dedicated to shipping companies. All have the same strategic aim: to offer customers a 360-degree view over their business with the help of cutting-edge digital technology, powerful analytics and machine learning. Practical technological solutions like this are key to increasing efficiency and business margins – which are key to staying afloat in an ever more competitive environment.

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RINA Global Marine Training Centre

RINA's recently launched Global Marine Training Centre in Piraeus is designed to help shipping companies better manage the competence of their personnel. But what is competence management and why is it so important in the shipping industry?

Competent personnel – i.e. employees who can accomplish their tasks properly – are essential in shipping, which involves a wide variety of specialised tasks and high technical, safety, security and environmental standards. However, as any business leader knows, qualification and competence are not the same thing. This is where competence management comes in. Identifying gaps in an employee's competence and resolving these with targeted training are crucial to individual job performance as well as business continuity.

In addition, the competence needed to perform the duties of a certain position evolve over time, generating new learning and training needs. For international shipping, this is driven by two main factors: regulation and technology.

The shipping industry is increasingly having to cope with new environmental and safety regulations. Compliance comes with big challenges, such as retrofits of new systems, adapted procedures for handling new fuels, new requirements for monitoring fuel consumption and new tools for managing energy efficiency. It is clear that the latest regulations demand updated technical as well as non-technical skills.

The second driver is the acceleration in technology uptake. Digitalisation creates new tasks in a shipping company, from processing big data to

monitoring digital twins. Alternative energy sources such as batteries and fuel cells are being considered. Shipping companies' traditional training schemes will need to be overhauled to cover these changing needs.

Inspired by these changes, RINA has decided to establish a Global Marine Training Centre in Piraeus, Greece. The aim is to develop innovative marine training programmes to update and enhance the competence of individuals working in shipping companies of all types. With its strategic location in the heart of the shipping community, the centre can take advantage of synergies with shipping companies, academic institutions and high-tech companies based in Greece to understand the emerging marine training needs and meet those needs with the appropriate training material.

Along with close collaboration with the RINA Academy, the Global Marine Training Centre is working with RINA's UK-based Corporate Digital Multimedia team to incorporate innovative methods and tools (augmented reality, virtual reality and gamification) into the learning process. These can radically improve the practicality and efficacy of marine training, while at the same time reducing the time and cost for shipping companies.

At the end of the day, RINA's Global Marine Training Centre exists to help shipping companies stay ahead in a changing and competitive field, where management of personnel competence and lifelong learning are vital.

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Linking the marine training process with RINA's network of expertise around the world, as well as with RINA's international research activities, is another step in this direction.

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