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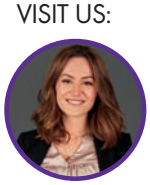

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Shipping connects

It is with great pleasure that we present our first issue of »HANSA Greek Shipping«, published on the occasion of the international shipping and shipbuilding fair Posidonia in Athens. It is undoubtedly one of the most important maritime industry gatherings in the world and provides a unique platform for the exchange of ideas, innovations and experiences. It is therefore a special honour for us to participate in this outstanding event with our first issue.

In this magazine, we would like to provide you with informative technical articles, interviews and industry news from the world of shipbuilding and shipping. Our aim is to provide you with a comprehensive insight into the latest developments, trends and challenges in the maritime industry.

With a focus on market's innovation, sustainability and technological progress, we present current trends in the maritime industry.

We firmly believe that our magazine is a valuable source of information for professionals and decision-makers in the maritime industry. It builds bridges between the two internationally important shipping centres of Germany and Greece. Shipping not only connects countries and continents, but also industries. That is why we are delighted to be part of Posidonia with our new magazine and to contribute to the exchange between the two shipping nations and many other maritime players from Europe and all other the world.

We hope you enjoy our first issue and that it provides you with interesting insights and inspiration. We wish you a successful Posidonia.

Anna Wroblewski
Editor-in-Chief – HANSA Yachts

The Greek Renaissance

In the first week of June, the maritime world meets at Posidonia in Athens. The last edition of the fair was the most successful in its history. With almost 2,000 exhibitors and 30,000 visitors, the event set a record. But this year's edition has the potential to surpass this success. After years of the pandemic and the associated travel restrictions, countries such as India and China are returning to Athens – a strong comeback and a highlight of Posidonia 2024.

Another highlight will be the strong presence of Greek shipyards. As the exhibition director, Theodore Vokos, announced in the run-up to Posidonia, the revitalised Greek shipbuilding industry will be the focus of the exhibition. They will not only present ship repair services, but will also showcase their potential for building new ships. A total of 85 shipyards from 26 countries will be on board Posidonia.

Decarbonisation is a topic that concerns both the shipyards and the many other exhibitors such as classification societies and the numerous suppliers. They will be presenting products and services to trade visitors that contribute to reducing emissions and thus to achieving climate targets. Artificial intelligence is one means of achieving this and another key topic at Posidonia. Used in predictive maintenance systems, for example, it can contribute to reducing emissions and thus to greater sustainability.

These trend topics are of course also reflected in the supporting programme. Every day of the trade fair offers visitors a comprehensive seminar and conference programme, with decarbonisation high on the agenda. In addition to all the knowledge-sharing, there will also be plenty of networking opportunities, as numerous sporting and social events traditionally take place around Posidonia, offering plenty of space for socialising and networking. The combination of trend topics and products paired with the social aspect has what it takes for this year's Posidonia to join the ranks of the most successful trade fairs.

Anna Wroblewski

Greek Shipping in Numbers

Newbuild Orders by Greek Companies

Top Greek Buying Companies Since Start of 2023

(With non-Greek Sellers)

Buyer Comany	Number of Vessels	Value (USD m)
Tsakos Energy Navigation	8	570,46
Thenamaris	5	298,00
ISM SA	12	252,22
Top Ships	2	249,70
Danaos Shipping	9	195,90
Olive Shipmanagement	6	174,91
Star Bulk Carries	7	172,00
Neda Maritime	3	169,25
Brave Maritime Corporation	8	161,68
Golden Union	6	145,09

Source: VesselsValue April 2024

Current Greek Ship Owned Fleet by Ship Type

Ship Type	Live		On Order		Total	
	Number of Vessels	Value (USD m)	Number of Vessels	Value (USD m)	Number of Vessels	Value (USD m)
Tanker	1.308	58.290,10	193	15.511,51	1.501	73.801,61
Bulker	2.284	49.976,99	172	6.688,61	2.456	56.665,60
LNG	91	18.078,60	54	14.905,64	145	32.984,24
Container	386	9.781,70	31	1.746,85	417	11.528,55
LPG	95	3.409,92	32	3.371,62	127	6.780,54
Vehicle Carrier	24	1.285,75	10	851,64	34	2.137,39
Ferry	35	997,15	-	-	35	997,15
Offshore	73	526,50	1	13,04	74	539,54
Small Dry	128	398,28	-	-	128	398,28
Cruise	8	273,98	-	-	8	273,98
Reefer	27	123,44	-	-	27	123,44
RoRo	11	101,05	-	-	11	101,05

Source: VesselsValue April 2024

»Greece's revitalised shipbuilding industry will be one of the centres of attention«

The use of artificial intelligence, the decarbonisation of shipping and the renaissance of the Greek shipbuilding industry – this year's Posidonia has many thematic highlights, as trade fair director Theodore Vokos explains

© Posidonia

Theodore Vokos, Managing Director, Posidonia Exhibitions speaking at the previous edition of Posidonia in 2022. It was the most successful edition in the history of the event

In your opinion, what are the key trends and developments in the maritime industry and shipbuilding that will be showcased at this year's Posidonia Exhibition?

Theodore Vokos: The timing for this year's Posidonia is perfect, as it will be held at a moment when many parameters affecting shipping will have to be discussed, and new initiatives will be launched. The last two to three years have been quite challenging in terms of geopolitics, with new crises erupting around the world almost every six months, and shipping having to adapt to new challenges in very short periods of time. The wars in Ukraine and Gaza, the temporary closure of the Red Sea passage, limitations to the Panama Canal, are only some of the challenges that have affected planning and operations of the shipping industry worldwide.

Greece's revitalised shipbuilding industry will be in the one of the centres of attention at this year's exhibition, as the country resurfaces as a credible cluster for vessel repair, conversion, as well as the potential construction of newbuilds for Greek and international shipowners and naval forces. The sector's Greek renaissance is on the cards after the completion of the consolidation of the country's shipbuilding units in Syros and in Elefsina, and also due to the restart of Skaramangas shipyard and the increased activity by Halkis Shipyard. Private and institutional investors are seeing the opportunity presented by Greece's geographic location, maritime heritage, commitment of the Greek shipowning community and political will, to further invest in the sector.

Another important aspect of this exhibition is the return of the Far East, as after the pandemic and obstacles to international participation, exhibitors from China and India are making a comeback and will showcase both their enhanced shipbuilding and shiprepair capabilities but also new products and services.

How has the significance of the Posidonia Exhibition evolved over the years, and what role does it play today as a meeting point for the global maritime industry?

Vokos: Since its modest beginning almost 60 years ago, Posidonia has evolved continuously, and today it is considered to be the world's most prestigious and influential maritime event. The previous edition of Posidonia, in 2022, was by far the most successful in the history of the event and has set the bar very high for this year's event. In addition to breaking all previous records in exhibition space, number of visitors and publicity, Posidonia 2022 also raised the bar for sustainability higher than ever by officially becoming Greece's first Sustainable Event after receiving the ISO 20121 certification. These achievements reflect our commitment to producing the high-quality, internationally acclaimed events Posidonia has become synonymous with. We are eagerly looking forward to welcoming the global shipping community to Posidonia 2024, the 28th edition of the event.

As always, Posidonia will provide the most important business platform for the international maritime community to convene, discuss and debate new developments, learn from each other, establish new partnerships, and discover the latest trends and technologies that

will impact the sector in the years to come. Most importantly, it will facilitate the signing of new deals ranging from securing a slot in a shipyard to adopting new technologies for an existing fleet.

What challenges and opportunities do you see for the Greek shipping industry considering the current global economic and political landscape?

Vokos: The biggest challenge facing the entire maritime industry, particularly Greek shipping, is the decarbonisation and the new regulations it entails. The industry must meet ambitious goals within just a few years, with 2030 quickly approaching. Decarbonising shipping is now more intensely on the radar than ever before, and Posidonia 2024 will provide the ideal platform for the industry to present options for achieving sustainability targets set by new environmental regulations. New software services, alternative fuel solutions, breakthrough equipment, and many more developments will all gain prominence at the Posidonia exhibition floor. The Greek shipping community is leading this race, by heavily investing in upgrading the quality and technology of existing vessels, as well as renewing its fleet with newbuilds designed to meet the new regulations.

But this is also an opportunity for the Greek shipping community to utilize its dominant position to help find optimal solutions and forging common global policies. It collaborates with the international maritime community on joint strategies and initiatives aiming at tackling these challenges. Greek and global industry leaders will network at Posidonia and engage with the IMO, the European Commission and many maritime nations in discussions that shape the international discourse on the sector's most important issues.

How do you foresee sustainability evolving in the maritime industry in the years ahead, and what initiatives will be showcased at the Posidonia Exhibition in this regard?

Vokos: Sustainability is not merely a passing trend for the shipping industry; it has become deeply ingrained in its culture. Shipping companies have long been investing in meeting ambitious targets even before the introduction of new regulations. However, this endeavor is far from easy. Shipping faces complex challenges posed by stringent regulations and the urgent need to ensure worldwide availability of safe alternative low and zero carbon fuels, along with the related infrastructure. Yet, we are still far from achieving this goal. Most importantly, the technology is not there yet.

Decarbonisation and its effects will once again be a central issue at Posidonia this year, as the industry deliberates on ways to achieve sustainability targets set by new regulations. The exhibition floor and seminar rooms of the Athens Metropolitan Expo Centre will showcase and discuss various innovations aimed at tackling these challenges. These innovations include route optimisation and weather prediction software services, sail rotors harnessing wind power, advanced hull coating systems, air lubrication to reduce resistance and fuel consumption, solar panels on ships, engines running on alternative fuels or optimised for slow steam, among others.

What new technologies or innovations in shipbuilding and maritime operations might be of particular interest to attendees at this year's Posidonia Exhibition?

Vokos: Advancements in maritime technologies are rapidly accelerating, and shipyards can now adopt and seamlessly integrate new Artificial Intelligence, Green Energy and Automation innovations across their operational capabilities. These advancements aim to introduce efficiencies, further improve productivity, enhance appeal, and strengthen order books.

Especially AI will be in the spotlight, as a comprehensive report on the future landscape of AI in the maritime sector, titled ›Out of the box‹ and produced by Lloyd's Register and maritime innovation consultancy Thetius, indicates that the market for AI-driven systems and vessel autonomy is anticipated to achieve a collective value of US$5bn by 2028. This creates an exciting new market for various products and services. The report underscores the significance of proactive investment by maritime organisations in enhancing their comprehension of AI across various levels. The first AI products and services are already available and ready to be utilised on ships and on shore, and Posidonia will be the place where many of those solutions and startups will be presented for the first time. ■

»Always to differentiate ourselves«

ABS has been active in the Greek shipping market for over 75 years. Elias Kariambas, Vice President, Regional Business Development, Greece explains how the US-American classification society wants to maintain and expand its position here

© ABS

Elias Kariambas, Vice President, Regional Business Development, Greece

What is ABS' opinion on Greece as shipping market?
Elias Kariambas: The Greek market has always been highly competitive and continues to be so. There is so much expertise available locally and the desire of ABS to remain in first position is a constant.

Decarbonisation and the energy transition present a global challenge and the Greek market is no different. Shipowners must achieve a once-in-a-generation change with two core elements: reducing their own carbon emissions and embracing the emergence of new value chains.

Greek shipowners have responded with orders for conventional and dual fuel tonnage as well as ships that will carry the emerging cargoes of the energy transition: ammonia, methanol, and CO_2 itself. In the process they are demonstrating their endlessly innovative approach of responding to the prevailing environment and capturing commercial opportunities.

What is the potential and what are the challenges for ABS?
Kariambas: The continuous challenge is changes to maritime regulations. All ABS personnel need to be well informed in order to pass this knowledge to clients and assist them on future actions they have to take as quickly and efficiently as possible.

The other issue for ABS and our clients is the rapid pace of technology developments. Novel designs and new technologies are coming into the industry at a pace that is faster than ever. We support the development of these concepts with AIPs and JIPs, approve them with our rules and help with training for seafarers that will use them.

Why is the Athens office »a kind of mini-Houston« for ABS?
Kariambas: ABS has invested in broadening the capabilities of the Athens office, drawing on specialists to create world-leading centers in sustainability, ship systems and digital capability.

Our Global Sustainability and Regulatory Affairs services are run from the Athens office, with specialists on hand to provide advice across a range of subject areas. We have personnel dedicated to sustainability and performance, while three engineers represent ABS to IACS and two to IMO to provide real capability and knowledge from these bodies on topics like safety, machinery and environment.

In addition, ABS organises regular events and seminars in Greece providing updates and insight into industry issues, while our specialists participate in all major events and conferences. The office also participates in numerous European Union-funded research projects aimed at fostering a safer, more efficient, lower carbon industry.

What are some of your current activities?
Kariambas: The process of decarbonisation creates safety issues that need to be addressed. One of the most important safety issue is the familiarisation of the crew with new and emerging fuels and technology. For example, the industry has well-established experience in handling ammonia as cargo, but not as fuel, so there is a need for training, education and guidance that enables this to be done safely.

ABS has begun to address this challenge through the utilisation of simulation technology which is helping to create scenarios and conditions that mirror the realities of the onboard ship experience. This allows us to offer exceptional training experiences, using multiple simulations to replicate real onboard conditions.

ABS MetaSHIPs, powered by Orka are one-of-a-kind highly realistic virtual assets. Built to scale from vessel drawings, they take users on virtual field trips – providing a powerful, immersive learning experience in a simulated training environment.

MetaSHIPs make it is possible for seafarers to spend several hours on the deck plate of a vessel before even so much as setting foot on the gangway.

What is ABS' strategy for the future in Greece?
Kariambas: Our strategy for the Athens office is always to differentiate ourselves from the competition, providing the best possible service and solutions.

© ABS/Orka Informatics

ABS MetaSHIPs, powered by Orka are one-of-a-kind highly realistic virtual assets

To respond to the needs of shipowners we have to innovate; establish new departments and services and be the leaders in the service we provide. As competition increases it is important that we improve every day and move continuously forward. For that we have to always be close to clients and give them reasons to be with ABS; because we are proactive and responsive as their technical advisor and safety partner. Another important issue is to draw on the most experienced, best-educated personnel and retain them, as well as being attractive to potential those graduating or seeking to join an organization with exciting prospects. ■

»It's a key event for the Korean Register«

Korean Register is a long-standing exhibitor at Posidonia. This year, the classification society will be providing information on topics relating to decarbonisation and digitalisation technologies. In addition, several AIPs will be awarded at the trade fair

© KR

Michael Suhr, Senior Vice President and Regional Director North Europe at Korean Register (KR)

What is the focus of KR's presence at the Posidonia trade fair in Athens?

Michael Suhr: Posidonia is a premier trade show in the maritime sector, and it's a key event for the Korean Register (KR). It provides us with an essential platform to showcase our latest technical advancements and directly address our customers' interests and concerns. At our booth, no. 3.401, visitors will find a range of technical documents on decarbonisation and digitalisation technologies. They can also explore new features of KR-Real360, our XR-based ship familiarisation solution, and KR GEARs, our GHG Emission Authentic Reporting System. Additionally, we will host several AIP (Approval in Principle) award ceremonies, focusing mainly on green marine fuel and digital technologies.

Since 2016, KR has been an active participant in the Korean-Hellenic Maritime Cooperation Forum during the Posidonia period. This forum has been instrumental in introducing the latest technological trends and fostering cooperative relationships between Korea and Greece. This year, the forum is scheduled for 5 June 2024, at the Athens Metropolitan Expo seminar room. Here, KR plans to present the latest developments in research and alternative fuel technology.

In your opinion, what characterises the Greek shipping market?

Suhr: Greece is undoubtedly one of the world's largest ship owning nations, with Greek shipowners controlling a significant portion of the global merchant fleet by deadweight tonnage. Consequently, most major classification societies, including KR, have established a local presence in the region. It's unsurprising that Greek ships constitute a substantial part of KR's classed fleet. Since establishing our local office in 1995, KR has steadily built trust and confidence among Greek shipowners. Over the past 29 years, the KR-classed fleet in this region has grown consistently in both quality and size.

Can you name the biggest challenges you are currently facing as a classification society?

Suhr: Last year, the IMO raised its 2050 target for reducing international shipping greenhouse gas emissions from 50% to 100% compared to 2008 levels, heralding the start of the ›Net-Zero‹ era. With the IMO, the EU, and various national governments intensifying their efforts to increase greenhouse gas reduction targets, the focus on decarbonisation technology has become crucial for the sustainable growth of international shipping, including the sector in Greece.

In response, KR is enhancing our comprehensive solution services. This includes offering energy efficiency improvement solutions to Greek shipping companies through ›KR GEARs‹ – our GHG portal system.

Currently, the industry is considering several alternative fuels, such as methanol, ammonia, and hydrogen, to achieve net-zero carbon emissions. However, questions about their safety, fuel supply chain, and economic feasibility remain. KR actively monitors and shares market and regulatory trends regarding these fuels to help shipping companies make informed choices.

For instance, KR has been conducting CII verifications through the ›KR GEARs‹ GHG portal. We predict the CII rating of existing ships, aiding companies in strategising for GHG regulations. We also provide analyses of alternative fuels, including their pros and cons, supply chain, and economic feasibility, to support decarbonisation strategies.

Additionally, digital and AI technologies are rapidly advancing in international shipping. KR is digitising our overall work process to increase efficiency. In 2023, we partnered with Microsoft to develop a digital workplace based on the Azure cloud service and platform, aiming to transform into a digital classification society.

KR is also engaged in various digitalisation studies and research projects. These include developing AI-based hull damage detection systems and condition-based maintenance (CBM) systems for engines and generators, among others. ■

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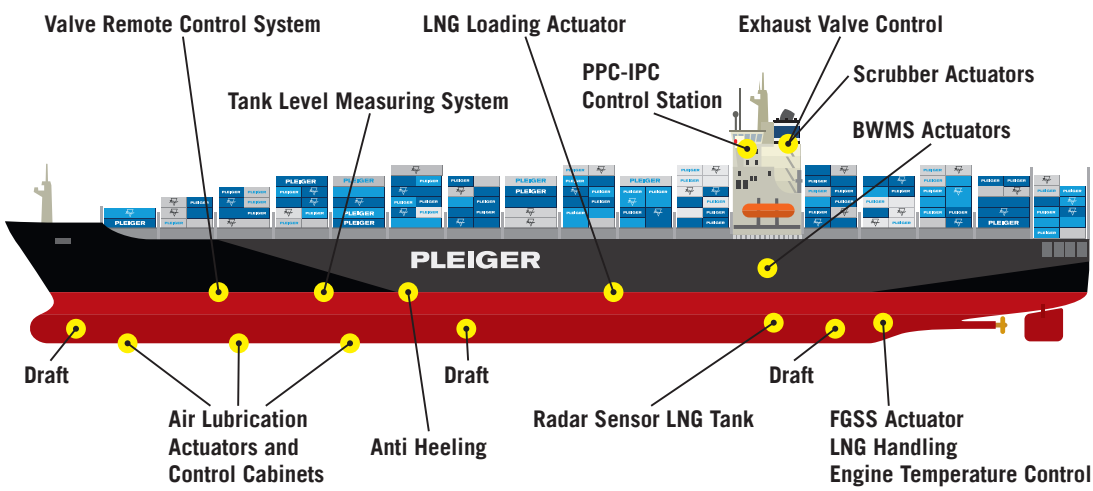

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Greek shipowners on the way to Net Zero

As the Greek shipping industry anticipates the upcoming Posidonia 2024 exhibition, discussions surrounding sustainability and energy efficiency take centre stage. Ioannis Chiotopoulos, explains how Greek shipowners are preparing for it

© DNV

Ioannis Chiotopoulos, Senior Vice President, Regional Manager, DNV Maritime

Recognised as one of the world's most prestigious maritime events, Posidonia provides a platform for industry stakeholders to showcase innovations, discuss emerging trends and chart the course for the future of shipping. In this context, the need to maximise energy efficiency is emerging as a critical area of focus for Greek shipowners, in line with the global drive towards sustainable maritime practices.

Renowned for its historic maritime heritage and significant contribution to the global shipping industry, Greece must align with evolving environmental standards and embrace greener practices. In this pursuit, maximising energy efficiency emerges as a critical strategy, offering a pathway towards achieving net-zero emissions while maintaining competitiveness and profitability.

Economic and environmental imperative

Energy efficiency serves as a dual catalyst for sustainable growth within the Greek shipping market. By optimising fuel consumption and reducing operational costs, vessel owners can enhance profitability while simultaneously reducing their environmental footprint. This economic and environmental imperative underscores the urgency for Greek shipping companies to prioritise energy efficiency measures in their operations.

As a hub of maritime innovation and tradition, Greece is well-positioned to leverage technological advancements to enhance energy efficiency. From modernising vessel propulsion systems to embracing traditional methods of sail-assisted propulsion, Greek shipowners can explore a diverse range of solutions tailored to their fleet requirements and operational preferences. By marrying innovation with tradition, the Greek shipping market can unlock new avenues for sustainable growth and leadership in the global maritime landscape.

Implementing operational best practices

Optimising operational practices is essential for maximising energy efficiency in Greek shipping operations. Simple yet effective measures such as route optimisation, voyage planning, and hull maintenance can yield significant fuel savings and emissions reductions. Additionally, investing in crew training and awareness programs fosters a culture of energy consciousness onboard, empowering seafarers to actively contribute to energy efficiency initiatives.

The digital transformation offers immense opportunities for enhancing energy efficiency in Greek shipping. By harnessing data analytics and digitalization tools, Greek shipowners can gain valuable insights into vessel performance, optimise voyage parameters in real-time, and identify opportunities for efficiency improvements. The integration of smart technologies and IoT-enabled sensors enables continuous monitoring and proactive maintenance, ensuring optimal vessel performance while minimizing energy consumption.

Collaborating for Collective Impact

Achieving net-zero emissions in the Greek shipping market requires collaborative action among stakeholders. Greek shipowners, industry associations, regulators, and technology providers must come together to exchange knowledge, share best practices, and drive innovation. By fostering partnerships and participating in industry initiatives, the Greek shipping market can accelerate its transition towards a sustainable and resilient future while maintaining its leadership position in global maritime trade.

In conclusion, maximising energy efficiency stands as a pivotal strategy for the Greek shipping market's journey towards achieving net-zero emissions. By embracing technological innovation, implementing operational best practices, leveraging data analytics, and fostering collaboration, Greek shipowners can drive meaningful progress towards a more sustainable and competitive maritime sector.

As Greece navigates the challenges of a rapidly evolving maritime landscape, prioritising energy efficiency remains imperative for safeguarding the environment, ensuring regulatory compliance, and securing long-term prosperity in the Greek shipping industry. ■

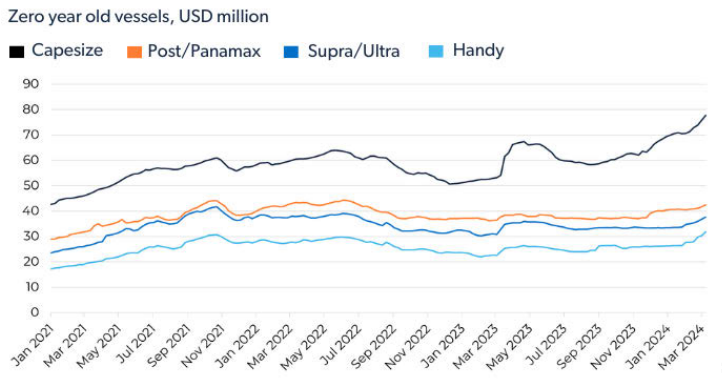
Greek company's strong in Capesize sector

Veson Nautical has had a look at the Greek bulker fleet. According to the company's report, Greek buyers are most active in the Capesize sector. Values here have risen by almost 50% within a year

Values for Bulkers have been going from strength to strength this year, up across all ages and size categories. Notably the Capesize and Supramax sectors have seen some dramatic increases, for example in the Capesize sector, values for 20YO vessels of 180,000 dwt have shot up by c.39.6% from US$13.86m to US$19.35m, the highest levels since 2010. On the other end of the scale, newly delivered 0YO Supramaxes of 60,000 dwt have firmed by c.12.6% since the start of the year from US$33.44m to US$37.64m.

Year on year Capesize values have seen some impressive gains and 0YO vessels of 180,000 dwt have increased by c.43.3% from USD 53.25m to USD 76.22m. To date, the volume of Capesize sales has more than doubled from the same period last year, with 42 sales reported since 1st January 2024 compared to 20 for the same period last year.

The Bulker sale and purchase market has been very active showing a c.35% year-on-year increase. In February 2024 there were 33 Capesize sales concluded compared to just nine in February 2023, an increase of c.267% year-on-year. For the Supramax sector, this figure increased by c.20%. Greek buyers were the most active in the Capesize sector, accounting for c.33% of purchases and in the Supramax market, the Greeks also ranked first alongside Chinese buyers with a share of c.28%.

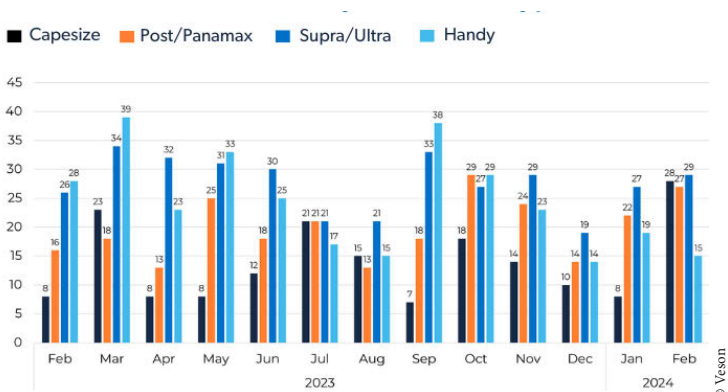


Historic dry bulk values (Data correct as of March 2024)

Dry Bulk earnings

The recent surge in values can be attributed to robust earnings, especially notable during this time of year. Traditionally, Q1 is considered a quiet period for Bulkers due to seasonality and the Lunar New Year celebrations in the Far East, which typically led to a temporary pause in market movement. However, this year is an exception with current Capesize earnings reaching the highest seasonal levels since 2010. At the time of writing, spot rates for Bulkers are around 35,750 US$/Day which is more than double the levels seen at this time last year when rates were around 15,000 US$/Day.

The spike can be credited to Chinese trade surpassing expectations, indicating a positive shift in global trade patterns in the first few months of the year. Additional tonne mile demand has also provided support to Bulkers earnings as security concerns in the Red Sea have led to disruptions in the Suez Canal, prompting many owners to contemplate longer journeys around the capes as a means of avoiding these troubled areas.



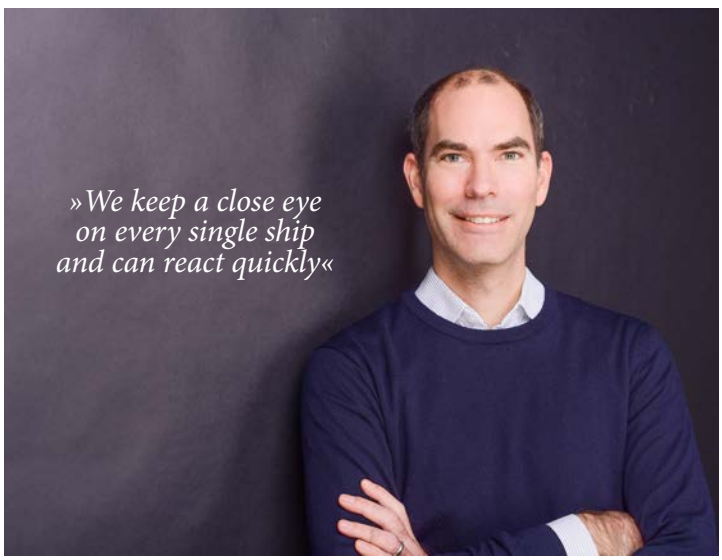
Number of bulker sales by vessel sub type (Data correct as of March 2024)

Notable sales

Notable recent sales that have continued to push the values higher include the Capesize (Newcastlemax) Shin Koryu (208,000 dwt, Oct 2009, Universal) to Winning Shipping for US$32.75m, VV Value US$30.46m. Also, the Supramax BC Bulk Monaco (63,700 dwt, Jun 2023, Shin Kasado Dock) sold to CTM Deher for US$40.5m, VV Value US$39.69m and the Supramax BC Andromeda (61,500 dwt, Jan 2011, Oshima) sold to unknown Turkish buyers for US$21.0m (DD Passed), VV Value US$19.80m. ■

Personal support as a USP

At Hamburg-based ship manager Kontor 17 MPM, the focus is on customised solutions for customers and individual support for ships. With around 20 employees, the company is currently represented in Hamburg, Limassol and Hong Kong



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Marc Elsholz, Managing Director at Kontor 17 MPM

The ship manager was founded back in 2008, and after several changes of name and ownership, the company, headquartered in Hamburg, operated under the name Kontor 17 Shipmanagement. The coronavirus pandemic and the resulting economic uncertainties then led to the biggest change in the company's history to date. As part of a management buy-out, the entire operating business was transferred to Kontor 17 MPM in July 2020. All employees and ships were taken over.

»Our service portfolio includes the complete scope of ship management services,« reports Managing Director, Marc Elsholz. With around 20 employees currently based in Hamburg, Limassol and Hong Kong, the company offers services such as technical management, crewing, operational management, accounting, finance and controlling, as well as quality, ISM (International Safety Management) and environmental management and the processing of insurance and freight claims.

Modular principle for services

Customers of the ship manager, which is licensed by the authorities of Liberia, Panama, Portugal and Antigua and Barbuda, are mostly shipowners without own management. At present, these are mainly institutional investors, family offices and, in some cases, banks. »Many of them require all services, but individual services can also be utilised,« explains the managing director. A monthly lump sum is paid for the scope of services as per agreed shipman contract.

The most important aspect is the technical management. »While large third-party ship managers often look after several hundred ships, our fleet comprises various ships that we handle as managers or monitor as consultants for the respective owners,« says Elsholz. »We keep a close eye on every single ship and can react quickly. And if there is a problem, the decision-makers sit together with us day and night.«

However, the company, which is independent of suppliers and banks, also wants to set itself apart from competitors of the same size: »Our team is international and we do well in performance comparisons, particularly in terms of the number of deficiencies detected by port state control, the number of insurance claims and off-hire days,« emphasises the Managing Director. Focus is also laid on transparency in costs, business processes and real-time reporting, for example through a reporting system tailored to the respective customer and their needs.

Fleet growth planned

»Not only here, but also in general, it is important to us to respond individually to customers and their specific requirements,« highlights Elsholz. This is why the company wants to continue to grow in terms of the fleet, but the decisive factor is »not to lose personal contact with the individual customer.«

The situation is different when it comes to the spectrum, which currently ranges from container feeders with 700 TEU to 13,000 TEU container ships, multipurpose vessels, capesize bulk carriers, cement and ro-ro ships. »In future, we want to add tankers to our fleet in order to position ourselves even more broadly here,« says Elsholz. The next step in this context is the opening of a new office in Singapore.

Kontor 17 also wants to grow more strongly on the Greek market. At the beginning of 2023, the Hamburg-based ship manager opened an office in Limassol, Cyprus. Since opening, this location has become well established and is growing, as Marc Elsholz reports. The company is currently in the process of expanding and filling further positions. From Cyprus, Kontor 17 also offers the »full range« of services for Greek shipping companies.

In close cooperation with shipbrokers, Kontor 17 also advises owners in regard to commercial management and offers

chartering services via partners such as Continental Chartering. »But we are also flexible for other types of cooperation,« comments Elsholz. Project planning and financing of new building projects are also part of the services. There is currently a lot of uncertainty in the market, which is of course also having an impact on order books overall. »However, things are different in niche markets: Small markets such as cement ships are often more stable,« says Elsholz.

Environmental protection increasingly important

The team also has its own department dedicated to safe ship operation. »We are currently conducting tests on fire hazards as part of a pilot project on container ships.« Another department deals with insurance and cargo damage. As claims often run into the six to seven-figure range, the focus here is on fast and thorough claims processing and the best possible solution for the owners. »In the case of Havarie Grosse, it's all about good coordination,« emphasizes Elsholz.

Major changes are currently taking place not only in the industry, but also for ship managers, due to the increasingly strict regulations regarding environmental protection. Now that the issue of ballast water has been largely resolved, the company is primarily concerned with the CII (Carbon Intensity Indicator) and EEXI (Energy Efficiency Existing Ship Index) requirements.

Another new addition this year is the European Union Emissions Trading System (EU-ETS), which means that shipowners in Europe have to pay for their emissions. Kontor 17 has prepared well for this in advance: »We have already equipped all ships in the fleet with the necessary software and tools,« says Elsholz.

New propulsion technologies

Due to the age structure of the existing fleet, the ships use heavy fuel oil or diesel oil depending on the route and regional requirements. »For new construction projects, we naturally also look at new propulsion technologies such as hydrogen, methanol, ammonia and Flettner rotors.« In addition, the ship management team regularly evaluates how operations can be made even more efficient, for example in terms of hull resistance and fuel savings. Alongside cruise operator Viking Cruises, Kontor 17 is also one of a total of 13 partners from six countries in the EU project »Shyps« (Sustainable Hydrogen powered Shipping), which was launched in 2022. With a total budget of €14m, the project aims to develop an exchangeable storage system for liquid hydrogen based on new ISO type C containers by 2026 in order to enable a completely emission-free shipping platform. Another important topic for Kontor 17 is digitalisation. »We are currently working very actively on artificial intelligence,« reports Elsholz. This should soon reduce the time and effort required for routine tasks for inspectors, for example. And concrete steps are already being taken: »We want to start an implementation project soon.«

The shortage of skilled workers is also a concern for Kontor 17. »On the one hand, this concerns a lack of personnel on land, but also more so on board due to the war in Ukraine, as many Ukrainians and Russians have been absent since then,« says Elsholz. There is already a training concept for engineers and electricians, because »we will train them ourselves in future.« ■

© K 17

Kontor 17 MPM offers ship management for container and multi-purpose vessels as well as for capesize bulk carriers through to cement and RoRo ships

© Wroblewski

Around 2,000 international companies from over 100 countries exhibited at the last edition of the trade fair in 2022

Welcome to Posidonia 2024

Posidonia, which takes place every two years in the Greek capital Athens, is much more than just a trade fair. It is a meeting place for the maritime industry and also one of the biggest social events in the sector

This is because Posidonia, which officially runs from 3 to 7 June, is heralded by numerous events in the run-up to the event. The flagship event is the »Posidonia Cup«, a sailing regatta that starts on 31 May. There is also a golf tournament on the Saturday before the start of the fair. Those who don't play golf can also register for the basketball tournament on Saturday or the running event or football tournament on Sunday.

The official part of the trade fair starts on Monday. Exhibitors from all over the world are expected there. Around 2,000 international companies from over 100 countries exhibited at the last edition of the trade fair in 2022. The organisers counted almost 30,000 visitors. Visitors will once again be able to find out about new products and innovative services, both on the exhibition floor and as part of the extensive conference programme.

Posidonia will bring together the maritime industry in Athens. However, many companies will already be there, as Greece is the strongest shipping nation in the world. Posidonia is home to the owners of the world's largest merchant fleet. According to figures from the fair organisers Greece operating 21% of global and 59% of European capacity, So, it represents a »multi-billion dollar opportunity for shipbuilders and for suppliers of marine equipment, information technology and the whole spectrum of marine services«. The upgrading of the Greek fleet has kept its worth above US$150bn. At the same time Greek owners have been ordering new vessels in the shipyards of Japan, China and South Korea. Oil tankers and LNG and LPG carriers are all under construction, along with dry bulk carriers and container ships.

»For over half a century the Greek shipping community, owning the world's largest merchant fleet, has been welcoming international friends to Posidonia. 2024 will be no exception as this gathering continues to grow. It gives us all a unique opportunity for face to face discussions, productive business and sporting rivalry with old and new colleagues from across the shipping world. Exchanging ideas, evaluating developments and laying the foundations for future collaboration. Together we must meet many challenges and these collaborations will be key to our shared success. On behalf of the Union of Greek Shipowners and the whole Greek shipping community, I look forward to welcoming you to Posidonia 2024,« says Melina Travlos, President, Union of Greek Shipowners (UGS). The Posidonia takes place under the auspices of UGS.

The Greek Shipping Cluster

Greece is the home of the world's largest shipping community and the cluster of over 5,000 companies established or

represented in Greece includes many of the world's best owners, managers and service companies supporting their operations. More shipping capacity is managed from Greece than anywhere else, the organisers say. 75 operators run fleets each of more than 1m dwt capacity and there are 64 fleets of 20 ships or more.

The needs of the Greek shipping cluster have led to the growth of a strong maritime community. Banks, classification societies, law firms, shipbrokers, ship registries and insurers see Greek operators as being among their most important customers. Many international companies have made Piraeus their second base after home headquarters. Hundreds of service providers, technical firms, equipment makers and shipyards also have a presence in the cluster, playing their part in the operation of some 4,000 Greek-owned ships over 1,000 grt each.

© Posidonia

Visitors to the trade fair can look forward to a strong presence of shipyards this year

85 shipyards expected

Over 85 shipyards from 26 countries have already confirmed their participation. Furthermore, Posidonia 2024 marks the rebirth of the Greek shipbuilding industry, the organisers say.

Greece's revitalised shipbuilding industry will be prominently represented during the fair trade, signalling a strong recovery following decades of decline and disrepair. The sector's Greek renaissance is on the cards after the completion of the consolidation of the country's shipbuilding units in Syros and in Elefsina, and also due to the restart of Skaramangas shipyard and the increased activity in Halkida.

Neorion Shipyard in Syros and Elefsis Shipyard have repaired over 500 ships, foreign and Greek-owned, since the New York-based ONEX Shipyards and Technologies group took over their operations in 2019. Combined with further domestic output from other ship repair and shipbuilding operations, Greece is now seen as an important contributor to European shipyards' annual production value of around €43bn, which comprises a collective civil and naval orderbook value that surpasses that of their Asian counterparts.

»Greece is resurfacing as a credible shipbuilding cluster for vessel repair, conversion and potentially for the construction of newbuildings for Greek and international shipowners and naval forces. This revival follows decades of underperformance and underinvestment, marked by the absence of a strategic vision,« said Theodore Vokos, Managing Director at Posidonia Exhibitions. ■

© Newport Shipping

Setting sail for success in Greek market

Newport Shipping seeks to expand its business in the Greek market as new technologies and solutions bring new opportunities to the market. Ingmar Loges, Managing Director Newport Shipping, explains here what steps are being taken to achieve this

Greece is a global leader in the shipping industry with a long tradition and deep rooted expertise. As a result, Greek owners own and manage one of the largest merchant fleets globally. This dominance grants Greece substantial influence in international maritime trade and logistics.

Newport Shipping has a long established relationship with the maritime market in Greece. The core offerings of the company are full service ship repair and conversion activities, complimented by retrofit projects for LNG and methanol, as well as design and engineering services.


© Newport Shipping

Ingmar Loges, Managing Director Newport Shipping

Newport Shipping's services perfectly suit the needs of the Greek maritime industry, as technological and regulatory developments challenge in the industry as a whole. Ingmar Loges, Managing Director, Newport Shipping explains: »There's a growing emphasis on environmental sustainability within the shipping industry, driven by regulatory requirements and stakeholders' demand for eco-friendly practises. Greek shipowners are investing in cleaner technologies, such as vessel new buildings with LNG (liquefied natural gas) propulsion and scrubbers to reduce emissions and minimise their environmental footprint.«

Finding the right technological solution to adapt to these fast paced changes and balancing technical feasibility with economics for each unique asset can be a challenge. »Transitioning to cleaner fuels and technologies, managing carbon emissions and addressing marine pollution requires innovative solutions and substantial investments, which may pose financial and operational challenges for some companies,« Loges adds.

As part of achieving these goals and becoming more sustainable in the process, new solutions will need to be adopted. Loges highlights that »Greek shipping companies are embracing digitalisation and integrating advanced technologies into their operations.«

Digital solutions will be critical to collect and analyse all available data with the goal to optimise vessel performance, enhance safety and improve efficiency. The Greek and global maritime market is also facing challenges to comply with changes resulting from new regulations »Compliance with evolving international regulations, such as those related to emissions reduction (e.g., IMO 2020 and IMO 2030), ballast water management and cybersecurity pose significant challenges for Greek shipowners. Meeting these regulatory requirements often entails substantial investments in technology upgrades, often with a high degree of uncertainty, operational changes and crew training,« says Loges. »The rapid pace of development may put a strain on resources and disrupt traditional business models,« he adds. Investing in new technologies will require significant insights and knowledge, capital expenditure and workforce upskilling.

Newport Shipping's offerings to the Greek market are aimed to face these challenges with existing and new relationships, thereby continuing on a durable presence and leading to the promotion of additional services. This will enable the Greek market to adapt to future and global challenges while continuing to lead the market. Loges comments that: »We will prioritise quality and focus on reliability, continuously meeting and exceeding our clients expectations. We aim to strengthen the trust in our company as well as generating returning cooperations with our clients.«

Newport Shipping will be exhibiting at Posidonia at Hall 2 Stand 2.162 where we will be showcasing our latest solutions and insights for ship repair and retrofits. We look forward to welcoming you at the stand to hear your challenges and finding the solution we can help you with. ■

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»We cooperate extremely well on the Greek market«

Pleiger Maschinenbau's main focus is on remote controlled valve systems for shipbuilding and offshore applications, tank management and remote-control engineering. Jörg Karthaus, Head of Sales, explains why the company is attending Posidonia

© Pleiger

Jörg Karthaus, Head of Sales, Pleiger Maschinenbau

Why is Pleiger Maschinenbau attending Posidonia?
Jörg Karthaus: We have been cooperating with an agent called Technava for several years. This partnership arose from numerous spare parts enquiries and an always flawless, super collaboration in processing. Then, little by little, enquiries and affiliations also reached the newbuilding business. In the meantime, our Greek agent and we have been very good partners for several years. We cooperate extremely well on the Greek market.

What exactly are you exhibiting there?
Karthaus: We have a small area on the Technava booth where we will be presenting ourselves as Pleiger Maschinenbau. We won't be exhibiting anything there, but will primarily be available for talks, questions and discussions. Anyone who would like to find out more about our products has the opportunity to visit us at Technava. In case a demonstration of an Pleiger actuator is requested, the clients can visit the Technava Training Centre where we placed our Actuator and Control Stations.

What types of ship do you mainly supply in Greece?
Karthaus: In general, we serve all types of ships and offshore installations. In Greece, our focus is primarily on bulkers, tankers and container ships.

What are the special features of the Greek market for you?
Karthaus: Negotiations with shipping companies are always special. However, in my opinion, there are no special features that are unique to the Greek market. The Chinese, Koreans, Germans etc. are all the same.

What do you see as the trending topics in the Greek shipping industry?
Karthaus: What we are currently seeing is that Greek shipowners are commissioning their newbuilding projects in Korea rather than China. One major topic that is not specific to Greece, however, is cyber security. This is a concern for suppliers like Pleiger and classification societies worldwide. ■

About Pleiger Group

Pleiger Group of Companies, an internationally acting company, is specialised in mechanical engineering, electronics, plastics and laser optics. More than 650 employees are working in its five facilities in Germany as well as in China, Korea und USA.
Pleiger Maschinenbau as a member of the Pleiger Group has the main focus on remote controlled valve systems in shipbuilding and offshore applications, tank management and remote-control engineering for vessel and industrial hydraulic system solutions. At Posidonia the company is exhibiting together with its partner Technava (Hall 3.111).

Fuel monitoring systems maximise efficiency and cut emissions

Since the beginning of this year the EU Emissions Trading System (EU ETS) has been extended to maritime transport emissions to drive emissions reduction and promote sustainability in the maritime sector.

Accurate fuel consumption monitoring on vessels is essential for saving money and reducing emissions in the context of the Emissions Trading System (ETS). By closely monitoring fuel consumption, ship operators can identify areas where fuel efficiency can be improved, leading to cost savings and lower emissions.

One way to achieve accurate fuel consumption monitoring is by using advanced onboard monitoring systems and sensors such as Aquametro's flowmeters and Fuel Performance System FPS. These systems can track fuel consumption and provide valuable data that can be analysed to identify inefficiencies and optimise performance. By pinpointing areas of high fuel consumption, such as inefficient engine operation or excessive speed, operators can take corrective actions to improve fuel efficiency and reduce emissions.

Monitoring fuel consumption is also used to verify the effectiveness of new propulsion technologies for emission reduction, e.g. wind assisted propulsion systems. For Aquametro's client Fleet Management Limited the company recently delivered a fuel consumption monitoring solution including its fuel performance system FPS, shaft power meter SPM and 15 flowmeters for the Chemship's tanker »Chemical Challenger«. The goal is to determine the fuel savings achieved by the installed wind rotors. The commissioning of the system was performed by an Aquametro engineer at the port of Rotterdam, The Netherlands.

Fleet Management Limited is an independent third-party ship management company that is headquartered in Hong Kong SAR, China. They manage around 650 vessels of different types on a global scale. The Dutch shipping company Chemship B.V. operates a fleet of chemical tankers. The focus of their service is on the US Gulf Coast & East Coast, the Mediterranean and north western Europe. ■

© Aquametro

Aquametro's Contoil system

Low-carbon solutions for shipping

The Qingdao-based Headway Technology Group will bring their largest line-up of products to Posidonia at booth 410 of Hall 2, showing the latest low-carbon solutions for shipping. Those products included Methanol Fuel Supply System, Exhaust Gas Cleaning System, Carbon Capture Utilisation and Storage System, and Ballast Water Treatment System.

Due to the company Headway is established in 2005 as a high-tech enterprise with the purpose of scientific and technological innovation, dedicated into providing low carbon solutions and technical service worldwide. Headway owns independent R&D centre and production base in Qingdao, China. Headway's product portfolio includes three segments: Carbon Neutralisation, Water Treatment and Smart Shipping, which are all developed under the long adherent R&D ideology of »Be Innovative, Stay Excelsior«.

© Headway

Ocean Guard EGCS

OceanGuard BWMS received USCG Type Approval in 2018, following the recognition of all major classes and flags, and stood out as a truly worldwide recognized BWMS.

Headway announced her 1st order of EGCS and the launch of Alternative Fuel Supply System in 2019, and sailed the course of low carbon solution. In 2023, Headway redefined her vision as »Innovation for Better Low Carbon Solution« and formed a new ecology of low carbon oriented products including alternative fuel supply system, EGCS, CCUS, methanol synthetic system, etc. Looking ahead, Headway remains unwavering in its vision of »Innovation for Better Low-Carbon Solutions,« with an approach focusing on marine decarbonization and digitalisation. ■

Martechnic presents new test device for regular engine coolant analysis

Martechnic is an expert in oil quality management. Since 1997 the family-owned company designs and develops effective technical solutions for onboard condition monitoring of fuel, lube and hydraulic oil as well as cooling water.

Martechnic has been participating in the international shipping exhibition Posidonia for many years and will be a part of it also in 2024. The company will be showcasing a wide range of its products in Hall 2, Booth 2.152. Among Martechnic's products are oil test devices and test kits, cooling water test kits, oil sensor technology, sampling and ultrasonic cleaning equipment.

Martechnic's Managing Director Frank Herholdt will be sharing his strong expertise of over 25 years in cost-effective predictive and condition-based maintenance of critical on-board machinery, engine and equipment. Regular and/ or continuous in-service oil analysis of key parameters with Martechnic's on-board testing equipment enables direct assessment of changes in the oil condition and/ or detection of any off-specification issues well before they lead to engine failures. This year Martechnic focuses on innovative technology, as the company will present its latest development – a patent-pending, test device »MT Coolant Check« for regular engine coolant analysis in the global shipping sector and beyond. Owing to its completely novel, chemical free and environmentally friendly approach, the »MT Coolant Check« was declared the winner of the 2023 Ship Technology Excellence Awards in the category »Innovation«.

So far, the conventional onboard engine coolant diagnosis has been based on complex physical and/or chemical analyses of individual parameters (pH, chlorides, nitrite additives etc.) in order to determine whether the anti-corrosion effect of the coolant in use is still sufficient. Different chemicals, predominantly classified as hazardous products, are usually used to measure each parameter separately.

In contrast, the test device replaces the need of full-scale chemical testing of individual parameters with a quick single test of the coolant sample by means of the electrotechnical apparatus, with constant (corrosion resistant) and working (corrosion-prone) electrodes in a simulated engine cooling system. By applying electrical voltage, both electrodes are subjected to corrosion stress, and the performance of the engine coolant is characterised in relation to its existing level of corrosion protection with the new unit of measurement »Lagner«. The evaluation is carried out fully automatically taking into account the cooling water volume, dosing method and dosing factor. When the anti-corrosive effect of the engine coolant in use is insufficient, the dosing rate of the chemical additive to be added is automatically calculated, so the crew receives a clear recommendation to action. ■

Pipe-repair-kit for emergencies

For the emergency repair of defective and damaged pipes and pipelines, Weicon designed a special set – the Weicon Pipe Repair-Kit black. The set includes a Weicon Repair Stick Multi-Purpose, a special repair tape made of fiberglass-reinforced plastic, assembly instructions and a pair of protective gloves. The repair tape is impregnated with a special resin and activated by contact with water. The Pipe Repair-Kit can be processed without additional tools and is used for the reliable and permanent sealing of cracks and leaks.

© Weicon

The set includes among others a special repair tape made of fiberglass-reinforced plastic

The kit is suitable for various applications, such as pipe repairs, structural reinforcement or repairs in spaces difficult to access. According to the company, it is very easy and quick to use and shows excellent adhesive properties, high pressure and chemical resistance as well as temperature resistance up to 150°C. Within 30 minutes, the tape is fully cured and hard-wearing. Due to the fabric properties of the tape, the resulting high flexibility and the simple processing, the repair kit is particularly suitable for sealing leaks in bends, T-pieces or in spaces difficult to access. It can be used on many different surfaces such as stainless steel, aluminium, copper, PVC, many plastics, fibreglass, concrete, ceramics and rubber.

The Repair Kit can be used in a wide variety of applications, whether in industry or on the high seas. It is used for quick and easy repair of chemical, steam, process and water pipes. ■

Carbon capture ready scrubber systems

The engineering company PureteQ is specialised in the production of exhaust gas cleaning systems. PureteQ maritime scrubbers now come as outdoor weather-resistant models for easy installation on existing superstructures and can handle loads of up to 100MW. They are equipped with a control system allowing real-time remote access and support. The energy performance is superior due to the patented hydrodynamic fluid distribution system, which eliminates interior obstructions.

Due to the company its scrubber systems will not only reduce fuel costs but also substantially reduce the emission of carbon particulate matter and black carbon, also emitting less CO_2 well-to-wake as a side benefit.

© PureteQ

PureteQ's Water Monitoring Systems (WMS013) in the making at Head Quarters in Svendborg

Collaboration with CSSC

In order to raise the standard for scrubber production the Danish scrubber producer PureteQ is collaborating with China State Shipbuilding Corporation (CSSC) and CSSC Power Group (CPGC). The company CPGC is a scrubber manufacturer, possesses a robust equipment supplier base in China, ensuring efficient yard installation and expedited commissioning. PureteQ designs scrubber systems of various types, utilising proprietary EGCS process software and specialised components to facilitate remote access, troubleshooting, compliance monitoring, and power optimisation.

With this setup customer get a »high-quality product with first-rate EGCS design and performance, and low operational expenditure for a reasonable price«, PureteQ says.

PureteQ is also providing service for all scrubber brands globally. A team of marine engineers assist shipowners and operators either on-site or via the safe PureteQ remote system designed to automatically upload data to a cloud-based platform for optimisation and reporting of system performance across scrubber fitted ships (Pure-Spot).

PureteQ's scrubber systems have been issued a type-approval certificate from Class NK and Bureau Veritas. The simplified water monitoring system (PureteQ WMS013) is compliant to the Marine Environment Protection Committee's (MEPC) international guidelines for exhaust gas cleaning systems and is designed for simple installation and operation with only one central monitoring cabinet that reduces sensor maintenance costs significantly.

Committed to combating climate change, PureteQ Group continually enhances existing technologies and invests in research and development within the fields of carbon capture and power-to-x. The PureteQ scrubber system is partly carbon capture ready and may thus be upgraded later if feasible and infrastructure for captured carbon is made available at major trading ports. ■

Disposal services for seagoing ships

Top Glory Marine Service provides disposal services for seagoing ships worldwide with a focus on sustainability and cost efficiency. With a team of 19 experts in waste management and shipping industry, they are able to provide a high level of support to a diverse international fleet, always focusing on the needs of their customers, the company says.

With a constantly growing network of approximately 200 disposal companies in more than 400 ports, Top Glory optimize the disposal strategy of more than 600 vessels based on their schedules.

The HSEQ Department regularly monitors and evaluates the disposal companies from the network to meet the customers' disposal obligations in accordance with local regulations and the International Maritime Organization (IMO) MARPOL Convention. To meet these important requirements, Top Glory conduct regular audits of disposal companies. In addition, the company provides their customers with complete documentation of all services rendered to guarantee a high level of transparency. Top Glory's services are processed via our Enviro Fleet Cloud – This enables the customer to analyze the discharged waste streams per ship and to monitor set KPIs. This provides ideal support for ISO certified companies and their ESG reports. The company showcasing their solutions at the upcoming Posidonia exhibition in Hall 2 Euploia Booth 2.101e. ■

Stucke's DNA is protection and control of energy generation

According to Stucke Group protection and control of energy generation and distribution are ingrained in its DNA. They assert that their products and solutions offer reliable and efficient energy supply solutions through network protection and control systems, ensuring availability of energy both on land and at sea. Priority is placed on customer focus, a deep understanding of customer needs, and prompt availability.

Manufacturing exclusively in Hamburg, Germany, the Stucke Group produces multifunctional protection and control systems. These systems not only offer engine control but also comprehensive protection functionality for generators, motors, transformers, and other feeder lines, alongside differential and grid protection. Functionalities encompass power management, DP system logics, arc protection, reactive power undervoltage protection, grid decoupling, and power plant control for low, medium, and high voltage systems, catering to gas and diesel engines, gensets, power units, and hybrid systems. With over 40,000 installed protection and control systems, the company claims a leading position in the market, with most medium-voltage switchboard installations in the commercial newbuilding market from South Korea featuring their products.

Among their clientele are system integrators, shipyards, shipowners, managers, designers, and operators of power plants, renewable energy generation sites, and emergency energy systems. Stucke Group offers solutions for all types of ships, boats, vessels, and offshore applications in the maritime industry.

Stucke's control and protection devices are touted as customisable, flexible, programmable, innovative, and robust. They are type-certified and compliant with relevant cybersecurity rules. Stucke Group emphasises quality through high-class materials, components, and modules, the company says.

With offices in Germany, Serbia, India, China, Korea, and global sales and service representations, Stucke Group offers worldwide product training, service, support, repair, and spare parts for all product generations. One of their protection and control devices is designed as a retrofit solution. The company's list of long-time international customers underscores their expertise. Engineers and technicians possess extensive experience and knowledge of Stucke protection systems, catering not only to the latest generation of products but to all in use worldwide.

The project department offers planning, design, production, installation, and commissioning of complete and tailor-made switch and control cabinets for low and medium voltage solutions.

Stucke Group holds various certificates including Quality Management Certificate DIN EN ISO 9001, Environment Management Certificate ISO 14001, and is KEMA-certified for IEC 61850.

They are also type-tested for product safety by Lloyd's Register, American Bureau of Shipping, DNV, Bureau Veritas, CCS, PRS, NPK, RINA, Korean Register, and KERI. ■

MITSUI E&S receives the largest SCR system to date from MAN

The Augsburg-based company MAN Energy Solutions has announced the production of a massive Cluster 5 Double Layer SCR (Selective Catalytic Reduction) catalytic converter for customer, MITSUI E&S. The cluster comes ammonia-ready and is the largest such unit that the company has ever built. Such systems are typically used aboard cruise ships and cargo ships to reduce nitrogen oxide emissions by 90%.

»As the very first SCR for an ammonia engine anywhere in the world, this is a historic moment. As the largest, high-pressure SCR we have ever built, this marks a new milestone for our business. The new equipment also passed its Factory Acceptance Test without any major issues and I congratulate everyone involved in this groundbreaking project,« said Daniel Struckmeier, Head of Sales & License Turbochargers & Exhaust Gas Treatment APAC.

The Cluster 5 Double Layer has a diameter of 3,900mm, a total weight of 28 metric tons, and will shortly be available for series production. The quality of the product was confirmed during the final inspection by MAN Energy Solutions and MITSUI E&S. Following a successful water-pressure test, the component was subsequently shipped from Dalian, China to Tamano, Japan. ■

© MAN Energy Solutions

The Cluster 5 Double Layer has a diameter of 3,900 mm and a total weight of 28 metric tons

A data driven crystal ball

Predictive maintenance is not magic: A complex plant consists of a large number of subsystems interacting with one another. Only when every subsystem is functioning correctly the plant can fulfil its purpose

© Adobe Stock

Undetected damage that leads to the failure of a crane can result in the entire ship no longer being available for a planned task

Individual parts are critical: if they fail, the entire plant fails. Predictive maintenance helps to avoid situations such as these and saves considerable costs.

As an example, let us look at a ship: Undetected damage leading to the failure of a crane could leave the entire ship unavailable for a planned task. At the very least, the financial consequences are considerable. But in the worst case, the result is a dangerous situation for both people and the environment. To best avoid this scenario, there are various different maintenance approaches available.

Maintenance strategy 1: Reactive

Still a common approach to maintenance, repair work is carried out after a failure has occurred, such as exceeding a critical temperature or falling below a minimum oil pressure. An alarm is triggered, and the oil can icon lights up red on the dashboard. However, in this scenario the fault has already occurred and immediate maintenance is required. The warning light is helpful, but it doesn't give service crews any time to plan. The right spare part may not be available, and crew might not be free to perform an immediate repair. The plant is at an unproductive standstill. Reactive maintenance is expensive and insufficient for critical systems.

Maintenance strategy 2: Preventive

Preventive maintenance strategies try to avoid such situations: Maintenance is performed based on a component's average life expectancy. Sometimes, however, the part is still fully functional at the time of replacement. This wastes money and resources. If, on the other hand, exceptional operating conditions have accelerated aging, the repair window can be missed: The defect occurs, and the system shuts down. Costs in both cases are unnecessarily high. But sometimes critical systems with undetectable fault mechanisms, such as creep or fatigue, require the application of preventive maintenance.

Maintenance strategy 3: Predictive

Ideally, maintenance is performed exactly when – and only when – it is actually necessary. This is definitely the most cost-effective approach. With predictive maintenance methods, you know in advance exactly when this point in time will occur, you can plan service and spare parts, avoid failures and reduce unproductive downtime.

Optimised maintenance

In reality it is necessary to apply a mix of maintenance strategies. These depend on the failure type identified, how far in advance they can be detected, and their criticality to the system. Bachmann's Artificial Intelligence (AI) tool helps engineers to detect multiple types of failure even earlier, enabling the application of predictive maintenance to a wider variety of items.

Returning to the above example, now becomes possible to know weeks, or even months, in advance, whether or not the ship will be available for use at a particular time. Setting alarm thresholds for automatic alerting is tricky. They can vary depending on process conditions. At one point during operation, values may be completely normal, but at another they may indicate a critical anomaly. It takes expertise to distinguish one from the other, and intelligent algorithms that can perform this task during operation for many parallel processes.

Searching for clues in the data

Bachmann uses artificial intelligence methods, in this case machine learning, to train fault prediction, opening up new possibilities for predicting the availability of plant components and, subsequently,

the entire plant. The first step is to look for patterns in the plant's usually extensive measurement and sensor data that differ from the expected normal state. Statistical methods and graphical representations such as plots or heat maps assist this process. Gaps in the recording or anomalies are thus easily identified. Together with the plant operator and their expertise, these can be evaluated and the data cleaned up.

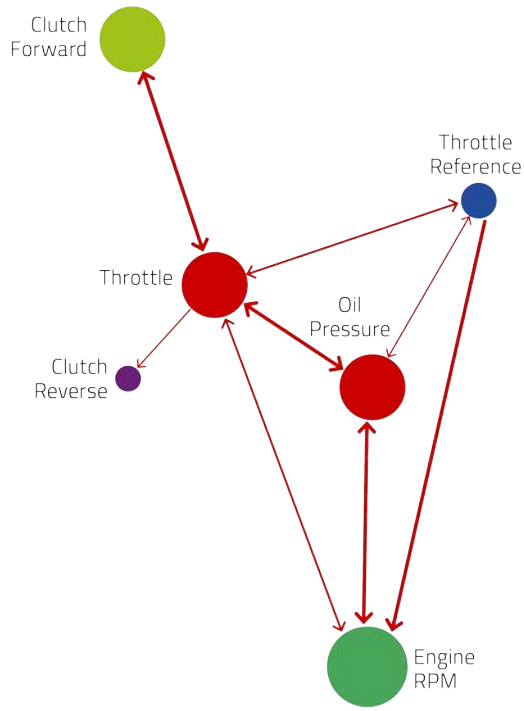
In a further step, corresponding correlations between data are identified, recognizing the influence or interdependency of parameters or subsystems. With this information, neural-network models are trained based on real system data – at a point when it is known to be running fault-free. If these models are overlaid with condition monitoring sensor data, and thus with the current state of the system, intelligent algorithms can be used to identify trends at a very early stage. The better such a system is trained, the more precisely it is possible to predict whether, and for how long, the plant can continue to run under the given conditions – or how much time the maintenance team has to carry out their work.

Ergo: We don't need a crystal ball. In the future, with the right data, advanced analyses and sophisticated, self-training algorithms will perform these tasks. This will make it possible to assess developments in advance, identify potential future damage risks and, if necessary, remedy them in good time. With the right spare parts and tools. From the right service personnel. At the right time.

System validation

Together with Aegir Marine, one of the major qualified stern seal & propulsion service providers for seagoing vessels (headquartered in the Netherlands), Bachmann is investigating 17 possible wear scenarios for propulsion propellers. Starting with a fully reconditioned propeller, individual parts such as bearings or seals are replaced by specifically worn parts during a long-term test. In the process, the team is researching at what point, and with which methods, faults can be detected during operation. In this way, algorithms are trained and the quality of prediction further improved.

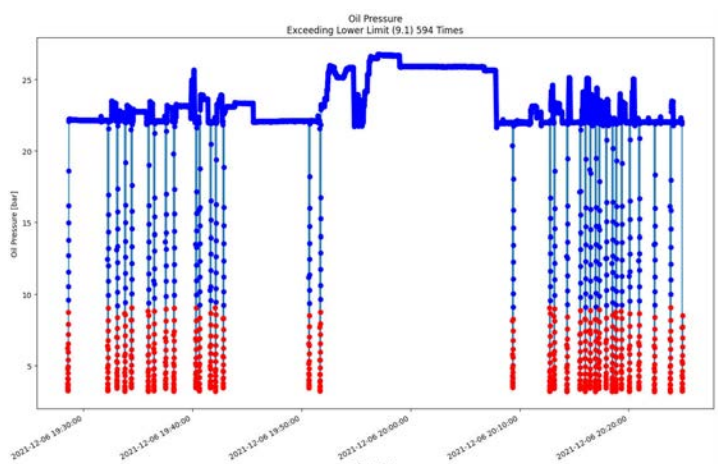
Author: Stephan Unger
Bachmann electronic



© Aegir Marine

There are correlations between the individual subsystems on a ship. From the state of a subsystem, a prediction can be made about the possible availability of the entire ship.

The wider the lines (called »edges«), the greater the dependency of each signal. The larger the diameter of the nodes, the greater the influence of the signals on the overall system.



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Data gaps during recording and non-expected operating values (in red): Bachmann uses graphs such as these to assess the validity of a customer's data. The cleaned dataset then trains the machine learning algorithm

© TGE

LNG fuelled LCO_2 carriers: going for growth

Carbon capture and storage (CCS) and associated liquid carbon dioxide (LCO_2) shipping is expected to play a crucial role in helping global industries to decarbonise. LNG is set to play an important role within the fast-growing LCO_2 carrier sector

While currently only a few LCO_2 carriers exist, within the beverage industry, this is set to quickly change, with a fast-growing range of projects, studies and the creation of value chains that will help establish this market. Notably, all the LCO_2 carriers on order are fuelled by LNG.

To allay the technical risk of CO_2 carriage, as this technology is not yet proven, it makes sense for ship operators to rely on an established technology for the propulsion system, such as LNG. There is enough LNG availability and a developed infrastructure to fuel these vessels. This is a big advantage over using other alternative fuels such as ammonia, which although is seeing considerable interest and development is not currently available on the market, with ammonia vessel engines still being tested by large engine manufacturers.

Furthermore, the large advantage of deploying LNG versus diesel oil is the reduced CO_2 emissions it offers. If a ship is carrying CO_2 as a waste product from the atmosphere it only makes sense to use a fuel that submits less CO_2, otherwise it is counterproductive.

As the designs of LCO_2 carriers progress, depending on the price of a capture system versus the emissions' price, we will potentially see them capture the carbon that they emit and store it within the same tanks as the CO_2 waste they are carrying. In another advantage LNG holds over diesel, it is easier and cheaper to collet carbon from LNG fuel. Unlike diesel, there is no need for a scrubber to remove all the other particles and contamination beforehand. Therefore, much less energy is used in collecting the carbon from LNG, compared to diesel.

While the maritime industry is still waiting for the delivery of the first large purpose-built LNG fuelled LCO_2 carriers, this is set to be a strong sector for the LNG bunkering industry. Around 28 large scale CCS infrastructure projects are ongoing, driving demand for LNG fuelled LCO_2 carriers. It has been forecast that as a moderate number, 30 to 40 LCO_2 carriers will be needed before 2030.

Currently, the most prolific area for CCS and LCO_2 carriers is North Europe, with Scandinavia, UK, Belgium, Holland, and France all invested in carbon capture. But other locations are also expected to develop CCS value chains, with South East Asia, including Indonesia, and Japan very interested in carbon capture. The Japanese Government has launched test programmes to develop the technology for the transport of CO_2. Elsewhere, the US is building an onshore CO_2 storage infrastructure that will be capable of receiving CO_2, thus creating the potential for the transport of CO_2 from elsewhere to the US.

Overcoming challenges

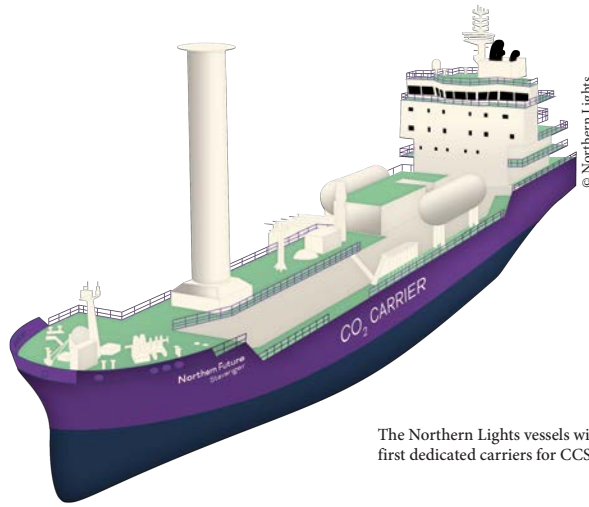
There are a number of challenges and potential issues that need to be overcome to allow the CCS and associated shipping market to progress, including regulation, bottlenecks and pricing.

Value chains are currently limited to single countries as regulations do not allow waste products to be transported between different countries. These will change and adapt to enable this but it will take time. Elsewhere, while LCO_2 carriers are governed by the IGC code, there is little regulation currently when it comes to CO_2. Ongoing discussions suggest that these will become more developed. One issue is that there is a debate about whether CO_2 cargo could be classed as toxic. If this happens then LCO_2 carriers will change drastically in terms of what they need to be equipped with in terms of safety systems, making transportation much more complicated.

All CCS projects have the timeframe of 2027 as a target for the injection of CO_2. There is a risk that shipyards, with their full orderbooks, could create a bottleneck in the supply chain. Usually, onshore technology scales up faster than maritime. If carbon capture becomes a viable route for industry, the scale up of carbon capture value chains and terminals could overtake the pace at which the shipping industry can supply vessels.

One of the greatest challenges is price. The business model for carbon capture value chains is not yet viable, so current projects are funded by governments. Current prices per CO_2 tonne are estimated to range between US$120–160. If the total costs of CCS are at the lower end of this estimate, then the market will grow quickly, but if at the higher end of these predictions, it will take some time and there will be an ongoing need for government support and incentives.

Underlying many of the challenges that this burgeoning industry faces is that so much is unknown. But this will change next year when the world's first dedicated vessel for carbon capture and storage is delivered as part of the Northern Lights project, helping to provide clarity and learnings to the rest of the CCS and maritime industry.



© Northern Lights

The Northern Lights vessels will be the world's first dedicated carriers for CCS

Enter world-first LCO_2 carriers

Indeed, this joint venture between Shell, Equinor and TotalEnergies, which is the world's first large-scale CO_2 storage and transport project, is expected to act as a catalyst for this industry. Its trio of LNG-fuelled LCO_2 carriers are part of a Norwegian state-founded effort to decarbonise large emitters in Norway. CO_2 will be captured, reliquefied onshore and subsequently shipped to the Norwegian continental shelf, where it will be pressed underground via a terminal just outside of Bergen.

TGE Marine is designing and suppling the cargo handling processes and system for the three 7,500m³ LCO_2 carriers.

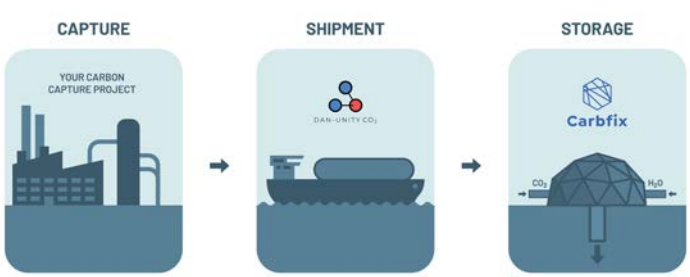
There is some hesitation in the shipping industry because CCS and the associated LCO_2 carriers are not yet proven technologies. Therefore, many ship owners are examining this project closely to see how it will turn out. Depending on the technical challenges Northern Lights faces, we believe this will be the starting point for the CCS and LCO_2 carrier industry to take off.

There are many parts of the value supply chain that need to fall into place; if this first mover can prove that CO_2 can be captured from emitters at a reasonable cost and be transported safely, then the industry will accelerate.

Northern Lights will be instrumental in allowing the industry to understand what the cost of carbon capture and storage will be. While there are a lot of predictions about the cost, no one actually knows the exact prices. Through learnings generated from the project's entire value chain, it is likely that costs will reduce from the project's first vessel to the third.

Innovative solutions were applied to these vessels, which will help provide knowledge for future LCO_2 newbuilds. For example, the cold-water environment of the North Atlantic was a challenge to the vaporiser needed by the carriers to prevent a decrease in the storage tank pressure as cargo is unloaded. The vaporiser process deploys sea water, but there was a risk that the cold waters in Norway in winter could lead to freezing.

The shipyard, ship operator and TGE Marine partnered together to overcome this obstacle by deploying water glycol, which has anti-freeze qualities, to act as a buffer.



© Dan-Unity

The CCS value chain for the GreenSand/Dan-Unity project

Scaling up

While the first movers have started on a small scale and will only voyage for a day or two maximum, industry's goal is to scale up these ships are far as is possible, enabling the transport of CO_2 waste to be as efficient and economically viable as possible. Precedents can be seen in other maritime industries, where container ships and LNG and LPG carriers started as small but quickly grew to reap all the benefits of economies of scale.

Indeed, further CCS and LCO_2 carrier projects highlight an upscale in the size of vessels and CO_2 storage. Denmark's GreenSand/Dan-Unity project in the North Sea has a storage potential of 0.5–1M tonnes of CO_2 per year from 2025, increasing to 4M-8M tonnes of CO_2 per year by 2030. The vessels are still under development, but TGE Marine carried out a FEED study, providing conceptual designs for 12,500 cbm, 22,000 cbm and 50,000 cbm CO_2 carriers. An important milestone for the development of larger tanks is that these designs were granted an AIP from American Bureau of Shipping (ABS).

TGE Marine also provided expertise on CO_2 carrier C-Type tank related storage issues for the Stella Maris CCS project, which aims to provide cost efficient floating CCS infrastructure solutions for a global market. TGE

© TGE

An artist's impression of a 50,000 cbm LP LCO_2 carrier

Marine is involved in 50 plus projects related to the LCO_2 carrier market.

The CO_2 storage solutions deployed onboard are developing to allow larger capacity LCO_2 carriers. CO_2 is stored in medium pressure type C tanks in the Northern Lights carriers (at -35 degrees Celsius at 13–19 barg). This large window of 13–19 barg decreases the risk of reaching a dangerous triple point.

The other industry standard is storage at low pressure (8–9 barg and -55 degrees). The advantage is that because of this lower pressure, the size of the tank can be increased. Low pressure tanks will increasingly be seen as LCO_2 carriers become larger. As LCO_2 carriers become bigger and their voyages longer, there will be a greater need for them to fitted with reliquefaction systems.

Furthermore, there is uncertainty about what services terminals will provide to the carriers. There is currently only one such terminal in the world (Northern Lights), so it remains to be seen what the standards will be. If they are not equipped to receive vapour return and treat it, then ships will be required to carry out the reliquefaction themselves.

LNG and CO^2 synergies

This is where there is the potential for synergies between the LNG fuel gas system and the CO_2 cargo solution. Cold liquid LNG needs to be warmed up and made gaseous, enabling it to feed the engine, where with CO_2 the opposite is needed: relatively warm CO_2 needs to be cooled down, and this is where there is an opportunity to create synergies between the two processes.

If cold LNG used for the fuel gas system could be used to cool the CO_2, then ships' voyages could be extended, and in some cases, it would bypass the need for a reliquefaction system.

Such an interface between the LNG fuel gas system and CO_2 storage could be achieved by a heat exchanger, which would enable some of the cold energy from the LNG to be extracted to cool the CO_2, before the former is heated up.

A main challenge to such a procedure is that if very large cargo tanks for CO_2 are deployed, there could be a lot of boil off gas due to the vapour created from the heat ingress into the tanks. This is in contrast to the relatively small volume of LNG. But despite the difference in quantities, it would still be very advantageous to create an interface.

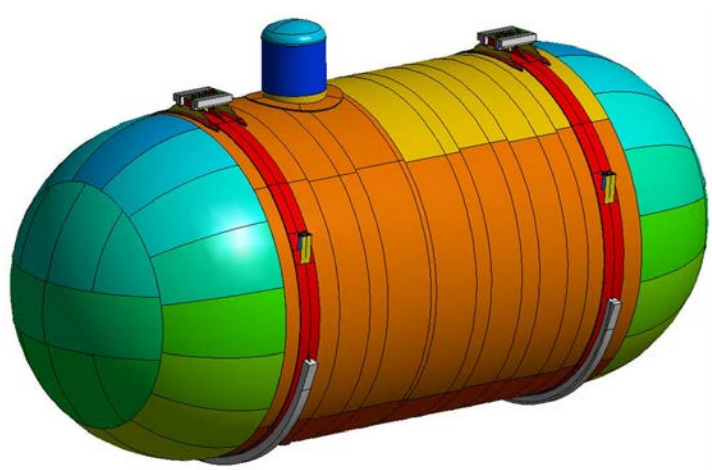
A reliquefaction plant for cooling cargo down is very complex and leads to large opex and capex costs. By creating an interface with the LNG fuel gas system instead, as well as gaining a less complex system, opex and capex costs would be much cheaper. Instead of deploying a system that consists of a number of compressors, piping and a control system, a simple heat exchanger or water glycol could potentially be a solution.

The potential for an interface between the LNG fuel gas system and CO_2 is not something that can be replicated by the use of other propulsion fuels. Ammonia for example is stored at a much higher temperature while diesel is stored at an ambient temperature. TGE Marine is researching this area, and we believe this will be an important development for the LNG-fuelled LCO_2 carrier market.

Conclusion

While the CCS market is only in its infancy, it will be an important step forward towards reaching net zero, and LNG fuelled LCO_2 carriers will play a pivotal role within it.

Authors: Florian Krauss, Proposal Manager, and Jakob Nielsen, Senior Sales Manager, TGE Marine Gas Engineering



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A 3D model showing material thicknesses of a Type C LCO_2 tank

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75 years of MMG Propeller – an eventful success story

The German company Mecklenburger Metallguss (MMG) is one of the world's leading manufacturers of ship propellers. MMG was founded more than 150 years ago as a metal casting company. For more than 75 years, the focus has been on ship propellers

© MMG

Propellers that power the largest ships in the world are produced in the centre of Germany

In the past, household appliances such as saucepans, kettles and frying pans were manufactured in Waren an der Müritz, where MMG is based. Propellers that drive ships all over the world have been produced here for over 75 years. Industrial propeller production began there in 1948. The first ship propellers had a raw casting weight of 3–4 tonnes and a diameter of around 3 metres.

The production facility, which was located in the Soviet-occupied zone, the GDR, for many years, can look back on an eventful history. When the Wall came down in 1990, the company, which had previously been state-controlled, passed into private hands. Since November 1991, the plant in Waren has been known as Mecklenburger Metallguss, or MMG for short. In the years that followed, the manufacturer succeeded in establishing itself on the shipbuilding market by participating in various international trade fairs and successfully acquiring customers in South Korea and China. The number of orders soon increased – and so did the requirements. Shipyards such as Samsung, Daewoo and Hanjin ordered larger quantities of propellers from 1997 onwards, which made it necessary to further expand the plant. Another milestone in this year was the introduction of structural analyses of complex components using FEM methods. In 1998, MMG set up its own design office in Waren. In 2000, the company invested in a large CNC milling machine.

It became apparent that propellers with delivery weights of over 100 tonnes represented a gap in the market for the next few years. A major challenge, but ultimately the decision to position itself on the market for large propellers at an early stage led to MMG's subsequent world market leadership. For the production of these large propellers, a new foundry hall was built within a very short space of time in 2000, which had the moulding, melting and crane capacities for the planned supertanker propellers.

The first four »super propellers« with a diameter of 10.50 metres were cast and machined in this hall.

In 2004, a further foundry hall was built with moulding and melting capacity for ship propellers with a finished mass of up to 160 tonnes and a diameter of 11.50 metres. The medium frequency melting furnace used here for copper alloys with a capacity of 80 tonnes is the largest of its kind in the world. In 2006, a foundry hall for propellers up to 8.50 metres in diameter and up to 80 tonnes casting weight was built due to the further increase in production volumes.

© MMG

The propeller is given the finishing touches after casting

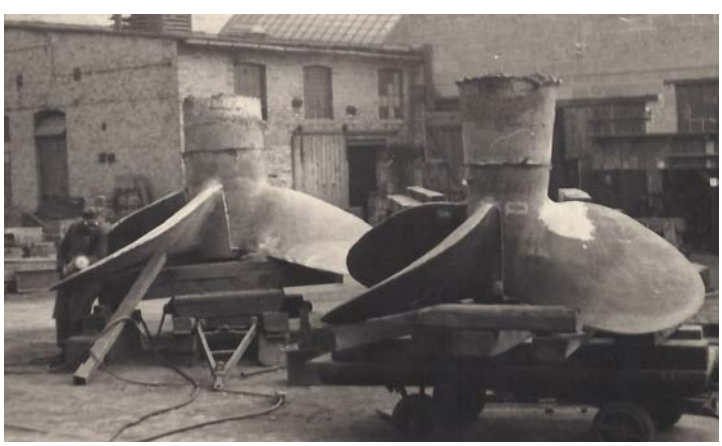
»Emma Maersk« is still a flagship

With the in-house design and construction of a globally unique fixed pitch propeller with a delivery weight of over 130 tonnes and a diameter of 10 metres for the container ship »Emma Maersk«, MMG created a reference that is still a flagship of the company today. In the same year, the company also introduced computer-aided fluid dynamics (CFD) methods to optimise hydrodynamic components and casting simulation methods to improve component quality.

Following an expansion and restructuring of the factory premises in 2008, the propeller grinding shop was modernised. In 2010, a new hall was built for the propeller grinding shop and propeller dispatch.

Thanks to the numerous modernisations and the resulting increase in capacity, the company was able to open up a new area of business: quick repairs of propellers on site are still an important customer loyalty programme at MMG today.

2012 saw the first product developments for the efficient redesign of existing propeller drives. MMG also introduced modern optical measuring methods to ensure geometric quality. Each casting was now measured using an optical measuring process with an accuracy of one hundredth of a millimetre. A laser-controlled robot machining centre for large components was put into operation in 2016. 2020 saw the commissioning of the additive manufacturing centre with a 3D printer for model production and an automated welding robot for rapid prototyping.



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The first propellers cast at MMG

Energy transition

The original factory is barely recognisable today – numerous new buildings and expansions that have been carried out over the years enable long-term competitiveness for the production of all types of ship propellers and large castings made of copper alloys. It is not without reason that Mecklenburger Metallguss GmbH is regarded as an absolute specialist when it comes to sophisticated castings and metalworking. With a capacity of 200 tonnes in one casting, a wide range of high-quality copper and aluminium alloys and efficient, state-of-the-art CNC large-scale machining centres, the company can offer its customers flexibility and quality for any special order.

MMG is also looking forward to contributing to the energy transition in the future. In autumn 2021, the company designed a turbine with a diameter of 625 millimetres for prototype tests of kite tidal power plant technology – a production branch that has the potential to become much larger in the coming years. However, MMG's core business will remain what has made the company big and well-known: ship propellers. ■

»We don't need a second round«

Lars Greitsch is the CEO of MMG. He actually studied for a career at a major car manufacturer. He eventually ended up at MMG via detours, starting out in propeller design in 2009 and has headed the company since 2016

© MMG

Lars Greitsch, CEO at Mecklenburger Metallgus (MMG)

What makes MMG so unique in the propeller market?

Lars Greitsch: There is a laconic saying among propeller designers: it is impossible to design a propeller that doesn't work. You can hardly design a propeller that doesn't move the ship in some way. But that's not the point, it's about delivering the most efficient propeller for the ship in question.

Since I joined MMG, this has always been the issue, especially when awarding contracts. The product had to prevail against other competitors in the test tank. As we were almost never the cheapest supplier due to our location, we always had to score points for efficiency.

We have long since established a reputation for never needing a second round for such invitations to tender, but always delivering very well. This speaks in favour of our design department and our reliability – both of which are very important for time-sensitive projects. There is hardly any room for two or three attempts or reworking, by which time you are often already off schedule.

That is one of MMG's unique selling points, the other is surely its ability to realise certain sizes?

Greitsch: For many years, size was a unique selling point. In the meantime, there are other market competitors in Asia that can produce the maximum that the industry currently requires. Today, however, it is primarily a question of supplying a lighter, more efficient propeller for the same size, as the engine power of the ships tends to decrease rather than increase. People are travelling more slowly, which is why very strongly dimensioned propellers are no longer necessary. The material thickness has decreased.

Our reputation has of course been cemented by the past. Back then, and I'm allowed to say this now, we also agreed to projects that we didn't even know whether we would be able to realise. However, the fact that we have always managed to do this has instilled a solid sense of confidence in the workforce.

What parameters does MMG need from the client, when are you ideally involved in a project?

Greitsch: That varies greatly. We are least involved with shipyards that have their own and above all good hydrodynamics department. Here we receive the geometry and are then asked about the price and delivery time.

At other shipyards, we are incorporated earlier, especially if the client is a European shipowner. They sometimes push for MMG to be involved, which is actually always an advantage for everyone concerned. We consult and contribute our expertise so that the ship design is sometimes even adapted and then becomes even more efficient. We really enjoy these projects because it's a win-win situation. Of course, consulting is followed by a commercial phase, which we still have to pass.

A relatively new topic for us is the requirement to reduce underwater noise emissions. Many shipowners are being told by their customers and ultimately by the end consumer that transport should be as environmentally friendly as possible. One aspect is noise emissions, which we analyse in our design department and reduce as far as possible. Our work is therefore sometimes set in a very large and social context.

How do you see developments in the shipping industry? Where is there a need for optimisation in your segment?

Greitsch: In modern container ships, our propellers have an efficiency of around 80%, which means that 80% of the shaft power is converted into thrust at the propeller. Our task or our claim is to achieve this high value for every project. That's why we have to constantly strengthen and hone our internal design expertise.

Other issues that we will be dealing with or are already dealing with are noise emissions, which must be reduced because the noise levels in busy shipping lanes are currently already very high. We will also have to respond to the use of auxiliary sail drives in commercial shipping. Here I see us as being heavily involved in advising shipping companies and shipyards in order to design an ideal overall system. ■

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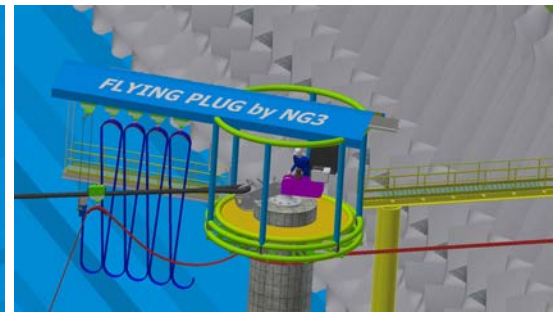
NG3 develops shore power connection for tankers



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NG3's Flying Plug works »contactless«

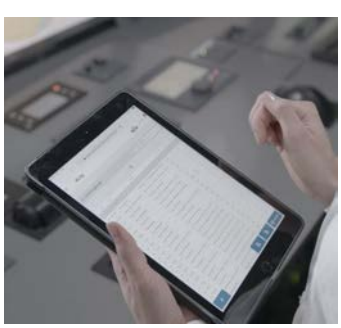
The French company has already developed shore power connections for RoPax ferries operated by the Norwegian Color Line. Now NG3 has launched »Flying Plug«, a solution for tankers. Flying Plug makes it possible to connect tankers to shore power at the stern of the ship, away from the potentially dangerous cargo area and close to the main distribution board, according to the manufacturer. It is based on the proven »plug« connector technology for independent plugging and unplugging, which has been used on numerous RoPax vessels for over a decade, it adds.

One of the main challenges is that the position of tankers during cargo operations is determined by the connection of the midship cargo manifold to the terminal. The stern position of the ship can change depending on the size of the ship and is away from the landside position. The flying plug solution is based on using one of the ship's mooring lines to support a set of dollies that bring the connector and its power cables to the ship where the connection can be made. The operation is »touchless« and requires only one crew member and one terminal operator. The connection/disconnection reportedly only takes a few minutes, without interfering with chartering operations.

On the ship side, the Flying Plug interface is compact and lightweight, while the shore side is a simple »bolt-on« solution to the existing mooring point to avoid extensive port construction, NG3 said. From a safety perspective, the solution provides the required emergency release capability and power exchange capacities are up to 13 MVA under 11 kV, although a 1 kV 2000 A configuration is available to connect smaller vessels to their main distribution voltage and avoid the need for an onboard transformer. The solution is said to meet all IEC 80005 and OCIMF requirements. ■

Anschütz paves the way to paperless shipping

The Kiel-based navigation company Anschütz has developed the electronic logbook eLog to replace classic paper logbooks. ELog includes all relevant log- and record books and complies with various standards, such as ISO 21745:2019 and MEPC 312 (74). Automatic data entries, templates and intuitive workflows facilitate the work of the bridge crew and ensure high data quality.



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elog is not just a logbook it is also the single source for onboard maritime data

With its unique range of books, reports and functions, eLog makes reporting highly efficient and forms the basis for paperless shipping. eLog can also be easily integrated into other systems and enables the further utilisation of consistent and comprehensive onboard data ashore. This includes:

- The StormGeo s-Suite utilises eLog data to ensure regulatory compliance, provide voyage insights, increase transparency between vessel and shore users and support a fully, »paperless« vessel management strategy.
- Time series data from Hoppe's system portfolio and sensor data validation capabilities can be combined with the intelligent workflows and plausibility checks of the eLog to provide the customer with significant advantages in data quality and efficiency.
- The data records entered into the eLog are automatically captured in Osiris' SOFeXChange and made available to shore-based stakeholders in real time.
- The real-time data from the eLog is transferred to and analysed by Stratum Five's Podium5 voyage analytics platform to provide a more comprehensive, reliable picture of voyage performance or efficiency.
- AIS data around the vessel is provided via FleetMon to enable the vessel owner to analyse their own operations with the best possible quality based on live or historical data.

Transforming numerous manual data processes into one digital data chain for sharing, processing and analysing simplifies reporting and provides valuable real-time voyage insights for stakeholders ashore. ■

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Publisher
Prof. Peter Tamm †

Management
Peter Tamm

Editor-in-Chief HANSA Yachts and Special Editions
Anna Wroblewski (AW)
Tel. +49 (0)40 70 70 80-209 | a.wroblewski@hansa-online.de

Editor-in-Chief HANSA
Krischan Förster (KF)
Tel. +49 (0)40 70 70 80-206 | k.foerster@hansa-online.de
Deputy Editor-in-Chief: Michael Meyer (MM)
Tel. +49 (0)40 70 70 80-212 | m.meyer@hansa-online.de
Editor: Felix Selzer (fs)
Tel. +49 (0)40 70 70 80-210 | f.selzer@hansa-online.de
Editor / Correspondent UK: Samantha Fisk

Publishing House
Schiffahrts-Verlag »Hansa« GmbH & Co. KG
A TAMM MEDIA company
Stadthausbrücke 4, 20355 Hamburg | P.O. Box 10 57 23, 20039 Hamburg
Tel.: +49 (0)40 70 70 80-02, Fax -214 | www.hansa-online.de

Commercial Publishing Director
Florian Visser, Tel. +49 (0)40 70 70 80-312 | f.visser@hansa-online.de

Distribution- and Marketingmanager
Riccardo di Stefano, Tel. +49 (0)40 70 70 80-228 | r.distefano@hansa-online.de

Eventmanagement
Kira Huismann, Tel. +49 (0)40 70 70 80-227 | k.huismann@hansa-online.de

Mediaconsulting
Susanne Sinß, Tel. +49 (0)40 70 70 80-310 | s.sinss@hansa-online.de

Advertisement management
Sandra Winter, Tel. +49 (0)40 70 70 80-225 | s.winter@hansa-online.de

Layout
Sylke Hasse, Tel. +49 (0)40 70 70 80-207 | s.hasse@hansa-online.de

Representatives
GB, Frankreich, Spanien, Portugal, Skandinavien:
Emanuela Castagnetti-Gillberg,
Tel. +33 619 371 987, emanuela.hansainternational@gmail.com
USA: Detlef Fox, D.A. Fox Advertising Sales Inc., 5 Penn Plaza, 19th Floor,
NY 10001 New York, USA, detleffox@comcast.net

Subscriber support | Distribution
Schiffahrts-Verlag »Hansa« GmbH & Co. KG
Stadthausbrücke 4 | 20355 Hamburg
Tel. +49 (0)40 70 70 80-111 | abo@hansa-online.de

Print: Lehmann Offsetdruck und Verlag GmbH, Norderstedt

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