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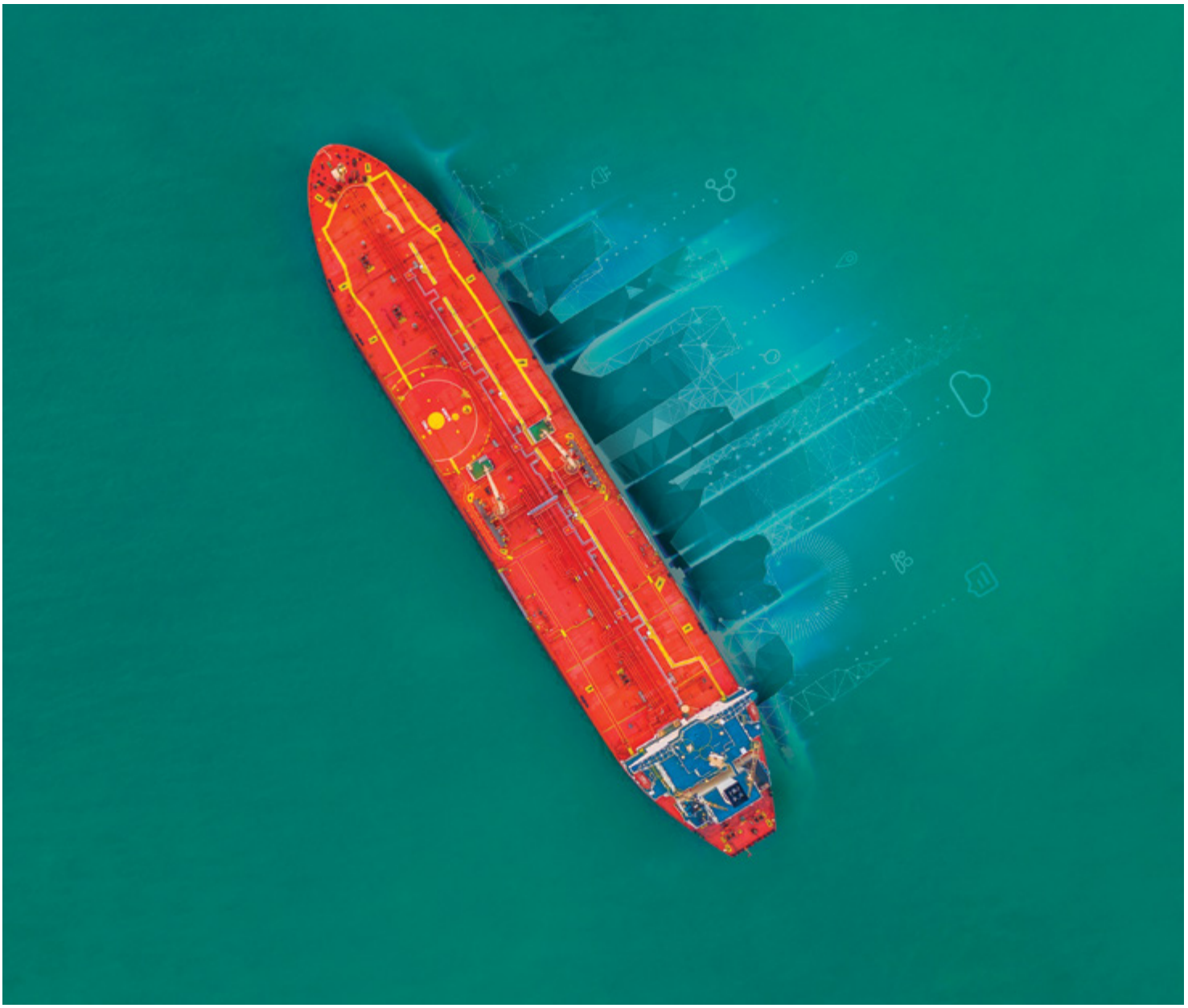
Emanuele Grimaldi
A tribute to seafarers

Anthony Comninos
Maritime heritage
& the younger generation

René Kofod-Olsen
Ship management
in the new era

NAYTIKA



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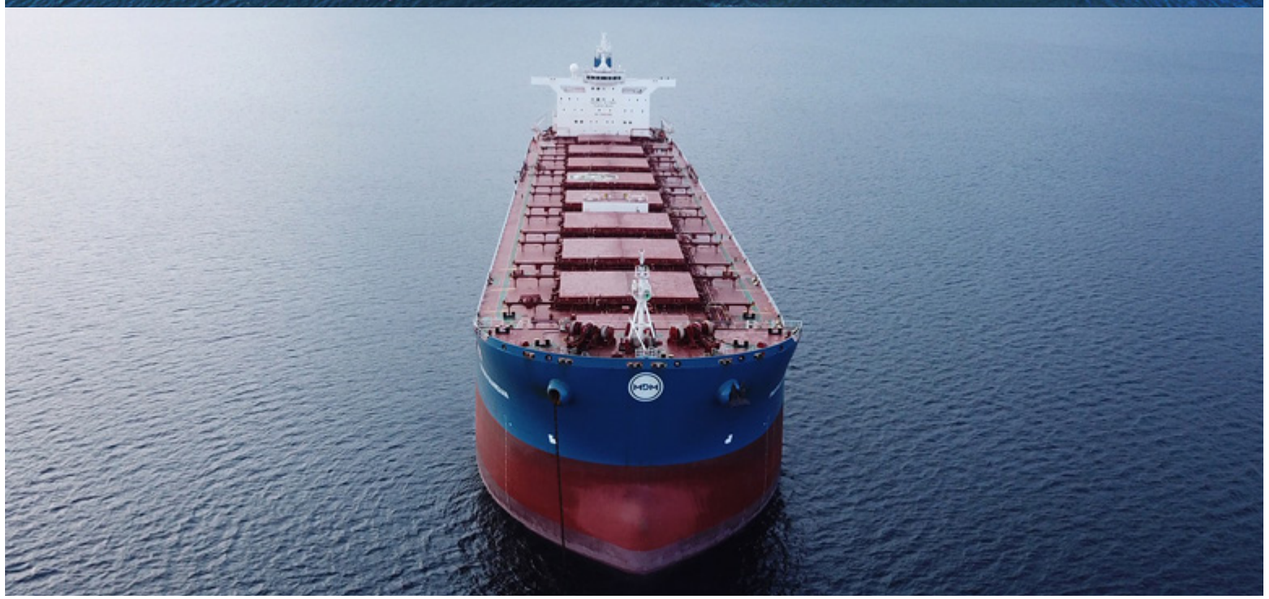

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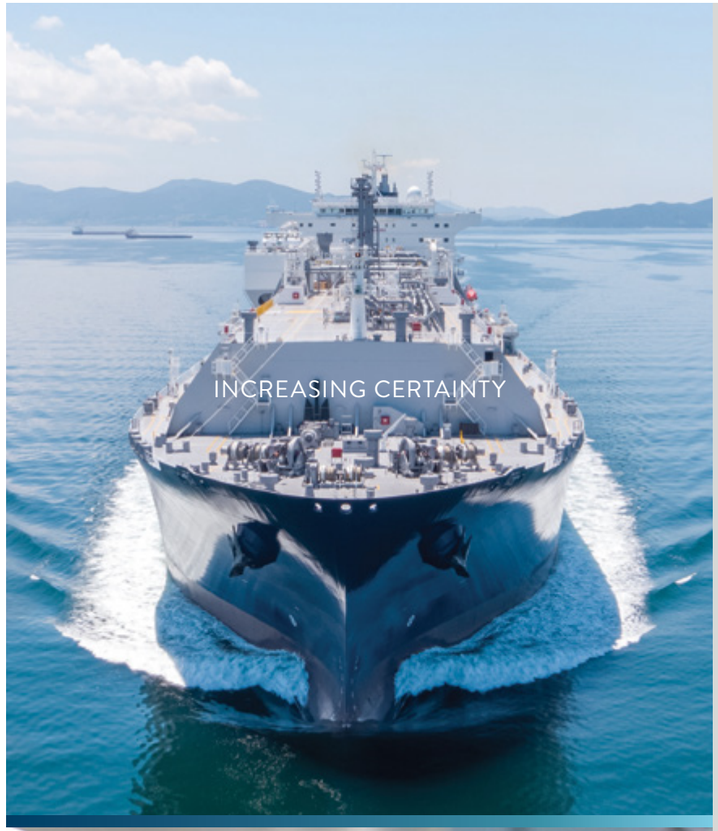

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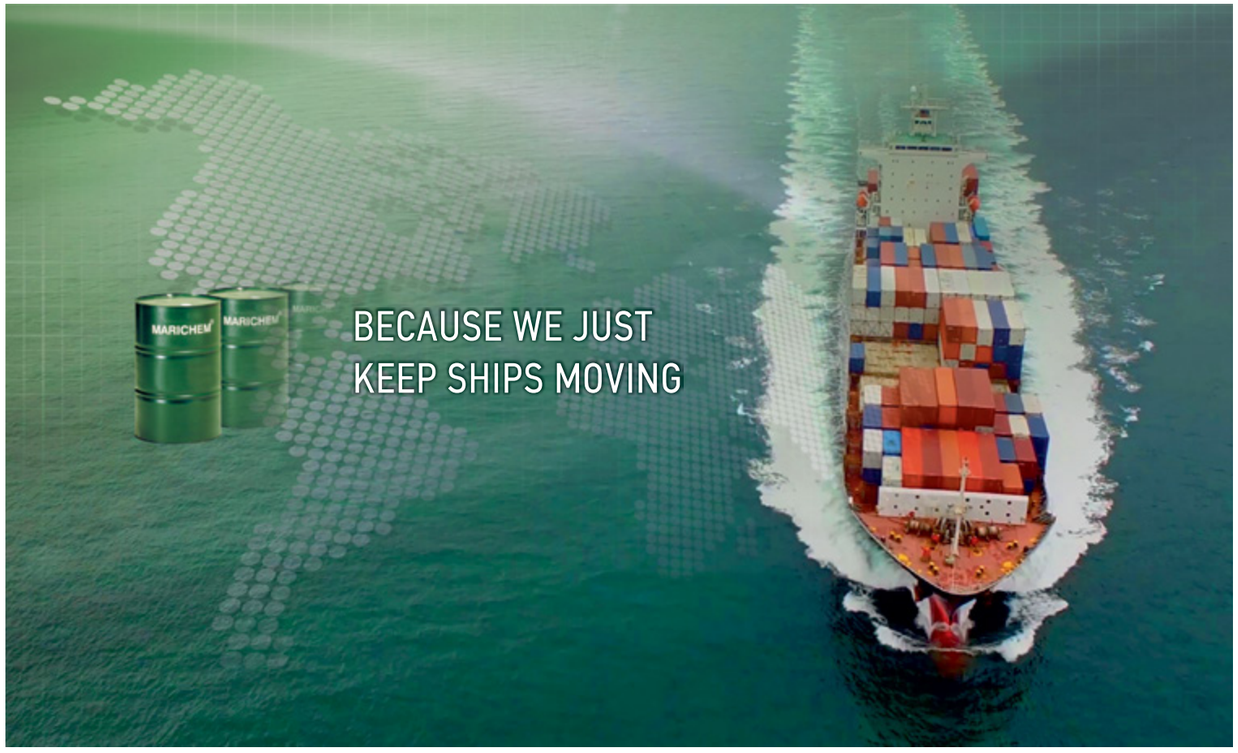

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The International Chamber of Shipping chairman has always expressed his views openly at international fora, highlighting the critical challenges facing the shipping industry. In this interview with Naftika Chronika, Mr Grimaldi discusses the vital role of seafarers in the supply chains. He also expresses his concern about the worldwide shortage of seafarers, talks about the ICS's proposals on the decarbonisation of shipping, and speaks candidly about his investments in Greece.

SEAFARERS: THE UNSUNG HEROES

Emanuele Grimaldi's
interview with
Giannis Theodoropoulos
and Manos Charitos

❶ What are your top priorities as ICS Chairman?

The top priority for ICS is the safety and welfare of seafarers. These critical challenges have intensified in recent years due to the pandemic and the war in Ukraine. Crews from Russia and Ukraine comprise 14% of the world's seafarers. At the same time, shipping is facing a deficit of 300,000 seafarers. In addition, a recent EMSA audit found that the certifications of a vast number of Filipino seafarers do not comply with STCW requirements. That development will create a major problem for the Philippines as it is the country that provides the highest number of seafarers worldwide. As a matter of fact, the Philippines president Marcos came to Europe and met with the Commission in an effort to improve the training standards of Filipino seafarers. ICS is part of the 'International Advisory Committee Global on Global Maritime Affairs' created to address the major maritime issues impacting Filipino seafarers and is actively working to improve this situation.

Supporting seafarers around the globe must be a priority. The challenges they faced in the last few years are unprecedented. They are the heroes who supported the global economy during the harsh pandemic years, delivering goods and everything needed during the worst period before vaccines became available, making it possible for the rest of us to stay at home. Even though they kept the global economy going during that period, they were treated harshly and denied hospitalisation and visas. They could not get back home because there were no flights, and some were trapped on vessels for more than one year.

The pandemic made us realise just how critical their contribution to the global economy is. Now, we must ensure that their contribution is recognised worldwide. Designating seafarers as key workers is of utmost importance. Otherwise, people will stop pursuing careers at sea.

❷ How realistic is the goal of decarbonising shipping, and what do you think are the prerequisites towards this direction?

Decarbonisation is another key issue we need to tackle. The Secretary General of the International Chamber of Shipping (ICS) said today (9 February, Ed.) that we are in totally new territory with advancements in technology, fuels, and engines, which provide several alternatives, some of them suitable for smaller vessels. Ammonia, hydrogen, nuclear, and carbon capture and storage technologies are some of them. So there are plenty of options available, some of them brown and some

Supporting seafarers around the globe must be a priority. The challenges they faced during the last years are unprecedented. They are the heroes who supported the global economy during the harsh pandemic years

of them green. Nevertheless, there are tough questions when it comes to decarbonisation, and we need to be prudent in the beginning.
At the same time, we need to reward the pioneers, the people at the forefront of the decarbonisation efforts. The proposal submitted by the ICS is very much in this direction: a 'fund and reward' system to catalyse the adoption of alternative fuels, and to reward first movers who are pioneers in the use of new fuels. The funds collected will probably finance 80% of the price difference between alternative and conventional fuels. We also aim to reward countries producing new fuels, particularly developing countries, which bear the least responsibility but have suffered the most from the carbon dioxide emitted in the last 20 years. In this context, we must help them develop clean fuels from their untapped natural resources. Our pragmatic submission is gaining momentum in many countries.

❸ **Should the shipping industry be concerned about its public image? What actions and initiatives could it take to improve it?**

Yes, this has been the case for many years. But I see shipping gaining ground in the public's opinion today as it is becoming increasingly crucial for the world economy. Also, all the associations, particularly ICS, are represented everywhere. We were present at COP26 and COP27 and will be there for COP28 as well. We had a big delegation, and we highlighted topics that are critical for the industry. We are lobbying and trying to express our views to find solutions. So today, shipowners' associations are increasingly represented in international fora.

❹ **Are young Italians showing interest in the maritime profession? As a group, have you found that the motives, priorities, and characteristics new generation of seafarers are different?**

We have some homework to do - in Italy, Greece, and all over the world. The living standards and welfare of seafarers onboard ships must be improved. We have to discuss all these things; some are simple, and some are complicated. Ship-to-shore connectivity is one such example. We are open to meeting with the ITF to understand the needs of seafarers. But the shortage of workers is a phenomenon seen in all the logistics sectors. For example, a massive shortage of drivers on land is reported as well. It seems there is a general shortage of workers in professions that are no longer considered "sexy". Many years ago, the seafaring profession was very appealing to young people as they could travel worldwide and gain new experiences. Today, travelling has become easier and the seafaring profession less attractive.

❺ **The Grimaldi Group has publicly expressed an interest in the ports of Igoumenitsa and Heraklion. What are its plans for these two ports, what motivated it to invest in Greece, and why has this interest intensified in the last few years?**

We strongly believe in the potential of the transport sector in Greece and this is why we have decided to heavily invest in the country's port infrastructure.
We recently won the public tender for the port of Igoumenitsa and are contemplating what we can do to modernise the port and achieve carbon neutrality by producing green energy. The Grimaldi Group has introduced solar installations and wind turbines in ports and terminals in which it has invested. We should focus on developing the port's infrastructure and improving the services provided to the logistics sector as well as to the passenger traffic. Igoumenitsa is well connected via the Egnatia Motorway to Northern Greece and the borders to Bulgaria and Turkey. It is also a beautiful area with a long history and is connected to other islands, like Corfu, which attract important tourist flows and have excellent marinas for sailing boats.
At the same time, as you know, we will be participating in the tender for the privatisation of the port of Heraklion, where our sister company Minoan Lines has its headquarters. After all, the Grimaldi Group is the port's biggest customer.

❻ **What are the most significant lessons you have learned in the past 2-3 years?**

The developments are positive. Our industry has proven to be resilient despite the significant challenges.

WE MUST CAPITALISE ON THE LESSONS OF THE PAST

Anthony Comninos, Head of Target Group,
in discussion with Panagiotis Korakas

In an exclusive interview to *Naftika Chronika*, Mr Anthony Comninos discusses new entrepreneurs entering the shipping industry, the prospects of the Greek shipbuilding industry, and the Greek shipowners' fleet development strategies. He also talks about the need to showcase the social contribution of the Greek maritime community and expresses his optimism for the preservation of our maritime heritage.

People often fail to understand the cyclicality of shipping and expect quick profits. Shipping is no different from other industries, so one has to be patient.

❶ **You belong to the generation of Greek shipping entrepreneurs who flourished during a period that was favourable for international trade and transport. However, in recent decades, the number of new entrants into the shipping industry has been minimal. Do you think the general climate is no longer conducive to new entrepreneurs entering the sector?**

Each era has its own characteristics and opportunities.

Your observation is extremely apt. You have raised a serious issue that is relevant today, which we must address since Greek shipping remains one of the main pillars of our country's economy and is undoubtedly the largest shipping power in the world. The financial crisis led to a crisis of confidence, reduced liquidity, and inevitably prevented banking institutions from supporting businesses, thus limiting the methods of financing-related investments and forcing entrepreneurs to turn to alternative forms of capital raising (such as capital markets, funds, etc.). In any case, both existing and aspiring entrepreneurs in the industry have forged on by relying on these solutions, and for the most part, the results have been encouraging.

Moreover, considering the downward trend of the shipping market, which has remained at low levels, especially in the last ten years, it is understandable that the climate has not been favourable for new entrepreneurs to enter the industry. However, there are now clear signs of recovery, which we must take advantage of by capitalising on past lessons and developing our capacity for flexibility and rapid adaptation.

❷ **In recent years, a great effort has been made to revive the Greek shipbuilding industry. What are the current advantages of Greek shipyards and marine equipment manufacturing and supply companies? Where do they excel, and where do they lag compared to their international competitors?**

Indeed, the policy of governments in recent years reveals an effort to upgrade the Greek repair and maintenance industry, not the shipbuilding industry. A striking example is the case of Syros, where high-level repair work is carried out daily on both commercial and passenger ships. The expertise of professionals is the main point of excellence, as it combines a centuries-old tradition in repair with modern technology. And we cannot overlook the strides made in the maritime equipment procurement sector under the guidance of Greek companies.

On the other hand, a relative cost divergence is to be expected, especially when Greek shipyards and supply companies are compared with their foreign counterparts, such as those of East Asia.

As far as shipbuilding is concerned, the truth is that there have been attempts to build ships in the past, especially ocean-going vessels, but they were not successful, at least not to the extent that we had hoped. The "hows" and "whys" constitute a long discussion that should be had at some point. Perhaps we are being given a second chance, as with yachts and small passenger boats, but the State should assist and address the challenge with due seriousness.

❸ **What lessons have you learned from the protracted crises in the shipping markets, especially during the 1980s and the more recent 2008 crisis?**

Undoubtedly, we have learned important lessons from the protracted crises suffered by the shipping markets. The financial crisis of the 1980s hit the shipping sector almost immediately, which was to be expected considering that more than 80% of world trade is carried out by sea. That crisis caused the worst recession in 70 years, dragging down in its wake every developed economy.

In the 2008 crisis, central banks failed to use the tools at their disposal to prevent excessive lending, ignoring the risks that could threaten their financial stability at any time. The global crisis thus led to a significant reduction in

global activity, the collapse of global trade flows, and a drop in ship values. In Germany, where the container market was severely affected, the German managers, through the KG SYSTEM, received subsidies and financing for 100% of the investment. In contrast, we borrowed from banking institutions at a rate of 60% - 70%. The crisis resulted in the collapse and dissolution of these schemes and affected German Banks as the shareholders of the KGs were unable to support their investments.
A healthy business, I believe, is one that can operate in times of recession by using money from the “piggy bank” it created during the high markets of previous years. This is precisely why shipowners do not liquidate fleets during crises but instead lay the foundations for the next bull market.

❹ **Your family traces its origins back to Syros, a historic Greek maritime centre. What do you think is the future of the traditional strongholds of Greek shipping? Have we taken care as a society to preserve the Greek maritime heritage?**

Looking back to the distant or even more recent past, one notices that the Greeks often oriented themselves exclusively towards foreign countries, idealising almost anything foreign at every level. However, the current circumstances seem to be rectifying this through actions that favour the efficient use of own resources.
As far as the Greek maritime heritage is concerned, it seems that an effort is underway - which is expected to intensify in the coming years - to make it more accessible and to contribute decisively to its better understanding. I bring to mind the example of the young people on our island of Syros who have set as their goal the recording and promotion of the marine wealth of Syros and the surrounding islands through decentralised initiatives that, thanks to their digital form, will have an impact not only nationwide but also beyond the borders of Greece.
I find it encouraging that younger generations are actively expressing their willingness to learn about and take advantage of Greek maritime history, and I believe that there is a particular momentum in this direction that we can and should strengthen.

❺ **As an individual, you have been actively supporting initiatives that benefit society at large for many years. More specifically, through the "Anthony E. Comninos" Foundation, you have contributed substantially to strengthening our country's health, education and cultural sectors. However, the maritime community's efforts to promote social welfare often go unrecognized by a large segment of Greek society. What steps should be taken to highlight the philanthropic work of Greek shipping?**

I am sure you will agree that it is not about recognition but about making a real contribution and good use of social action. There is mobilisation on the part of the shipping community, as well as goodwill. Whether one chooses to contribute publicly or does so quietly has little to do with the actual value and impact of the act itself. History has shown that the Greeks from all over the world have always helped selflessly and do so to this day.

❻ **The recent unveiling of part of the Anthony E. Comninos Foundation’s collection at the “Treasures of Philhellenic Painting” exhibition at the Benaki Museum and the Telloglio Foundation of Thessaloniki has won panhellenic and international recognition. This fine collection demonstrates your deep knowledge and love of art and culture. Is there a particular work that best symbolises Greece’s journey towards shaping a national identity for you?**

The painting by the Italian artist Francesco Podesti entitled “The Death of the Zakynthian fighter Spyros Dagliostros”,

one of the collection's first acquisitions, moves me deeply. It is a depiction of the heroic death of a group of young men in the village of Skouleni during the first year of the Revolution. The young fighter depicted, one of the first to fall, is writing to his mother, in his own blood, the moving phrase "Μήτηρ θνήσκω υπέρ πατρίδος, 1821" [trans. Mother, I am dying for my country, 1821]. For me, this phrase sums up the essence of the struggle and proves the strength of the Greek consciousness, which was preserved for centuries and drove the Greeks towards independence.

❼ **Greek shipowners have always followed a counter-cyclical fleet growth strategy. Do you think that over the years and with charter markets making significant profits, they are diversifying that strategy? What do you think of business schemes that enter shipping with the sole aim of asset playing?**

We should all bear in mind that a ship is a 'consumer product'; in other words, it has a fixed lifespan and, therefore, an expiration date. Thus, in my opinion, the shipowner has probably recovered the invested capital by that date, which is a shorter period for oil tankers. "Bad" shipping market cycles are longer, and there are no "significant gains", as you put it, which is why "asset playing" is important so that ship owners can push ahead and add new, more technologically advanced ships to their fleets.

❽ **How do you see the maritime trade map being reshaped by the recent geopolitical crises? Which types of ships and trade routes do you think will benefit from the emerging new order?**

It is too early to answer your question. It will take time for the new trade routes to evolve.

❾ **In the 2000s, many shipping companies of Greek interests chose to turn to international financial markets to raise capital. Under what conditions can such ventures prove to be profitable? Why do you think shipping stocks do not attract much investment interest despite shipping's contribution to the global economy?**

It was an important development, which is still affecting shipping companies, especially now with the presence of LNG and large container vessels, which are huge investments requiring more capital. People often fail to understand the cyclicality of shipping and expect quick profits. Shipping is no different from other industries, so one has to be patient.

In this exclusive interview with Naftika Chronika, René Kofod-Olsen discusses the role of third-party management in the new shipping era and the need to create an environment that will attract young people to the maritime profession. He also shares his thoughts on the future course of Greek-owned shipping.

HOW THE WORLD IS BEING RESHAPED

René Kofod-Olsen,
Chief Executive Officer of V.Group,

in an interview with Giannis Theodoropoulos

❶ What is the role of third-party management in this new shipping era?

We have a global presence with over 60 offices in locations all around the world. The services of V. Group are divided into two main categories: ship management and a portfolio of marine services that support shipping. And that is the answer to your question. As third-party management companies, we are a good complement and not an alternative to global shipping. I come from a shipowning background, so I look at things from the client's side. When I joined V. Ships two years ago, we set a strategy and knew exactly where we wanted to be in ten years. I was surprised at how little shipping is outsourcing: about 16%. In other industries that also require liquidity, real estate, for example, the opposite is true, as there are a limited number of hotels or office complexes managed by their owners. So, we need to and can reverse that. We need shipowners to see us as an alternative option to managing their own ships, and we have to go through a rite of passage to earn that. It is on us, the ship managers, to prove that we are a viable alternative, whereby the shipowners feel that they remain in charge of their strategies, i.e., in charge of the vessels they buy or sell or how they negotiate with their charterers. That's what we do as ship management companies, and that's the core of our business. We are solid partners offering shipowners total ship management services or support services.

❷ Are Greek shipowners reluctant to trust third-party ship management? What is your experience?

Greece is one of the biggest shipowning countries in the world - Greek shipowners own 5,500 to 6,000 vessels. It's significant. Of course, when I spoke about going through a rite of passage to earn the trust of ship owners, I meant the trust of generational shipowning. For a financial investor or a newcomer to shipping, it is easier to call us and say "please help us" as opposed to us trying to explain what we do as a business that offers complementary services. We hold conversations with Greek shipowners, and if you consider the number of ships this office manages, which is almost close to 100, we have proven that we are a reliable partner to Greek shipowners. As an industry, ship management needs to demonstrate what it can do. But I am quite optimistic that we will continue increasing the number of ships in the pool of Greek-owned vessels we manage.

It is hard to run companies today if you don’have the appropriate scale to attract the right people and invest in digital capabilities and the ESG strategies of the future-all this notwithstanding the current regulatory framework at a time of great geopolitical challenges.

❸ **What do you think are the prospects of Greek-owned shipping? What are your strategic goals for the Greek shipping market?**

We don’t set targets on the number of ships we want to run. We set targets related to quality and our ability to continue managing more and more vessels in line with the level of quality our customers expect from us. We don’t always get it right - no one does. But we are certainly trying to ensure that we provide the highest quality services that our clients can get. We have grown substantially over the last five years in all segments. We are firmly focused on Greek shipping and would not have achieved growth if we hadn’t invested in Greek shipping. The owners of the offices where V. Ships Greece is headquartered, the Tsakos family, is one of the most prominent Greek shipping families. We are very honoured to be using those spaces together.

❹ **Do you think that the outsourcing of operational management of small and medium-sized shipping companies is a one-way street, given the increasing requirements related to environmental regulations?**

I would like to start from a different place. I tell everyone that everything will change in the next 10 years; the reason for this is very simple. Looking at what is happening in the world today, there are some aspects that I would characterise as “disruptions”. So, we have a disruption related to the whole emissions and ESG discussion. What will be the propulsion of the future? What kind of supply chain will be built for the energy source that will propel our ships? How do we manage the current vessel portfolio, and how can we ensure we comply with the CII? How do we ensure that EEXI requirements are met by retrofitting or building new ships? That’s a massive disruption.

The next disruption is people. How can we ensure that the next generations of Greek men and women will want to pursue a career at sea? This question concerns all major shipping nations. It is up to us, the shipping companies, to be willing to train them and help them see how their career will develop in the future if they choose a seafaring career or to work in the offices of shipping /ship management companies.

The third disruption is regulations. Shipping is by far the most efficient mode of transporting goods, and regulations - be they on emissions or general regulations - are bound to bring about another disruption.

In my view, the fourth and final disruption is digitalisation. So, if you have these four disruptions, it is evident that scale matters. It is hard to run companies today if you don’t have the appropriate scale to attract the right people and invest in digital capabilities and the ESG strategies of the future - all this notwithstanding the current regulatory framework at a time of great geopolitical challenges. Regulations are ever changing and increasingly complex, and companies need to be able to react quickly to, for example, new sanctions. You can imagine that for small and medium-sized companies, it is a difficult equation to solve. I foresee that outsourcing the management of ships will grow as an alternative. Of course, many companies think it best to do everything themselves, and I deeply respect that. But if you look at the financial aspect of it, I predict that an increasing number of companies will consider outsourcing. And if I put my ship owning hat on, I can surely understand that.

❺ **What characteristics do you think differentiate Gen Z from older generations?**

I see a big difference. You can take two roads. The one is that young people always have to fit in. But you can take the other way and say, “it is us who have to ensure that we create an environment for young people to fit in”. I want young people to have all the career opportunities we had when we were young. But life onboard a ship is different today. Cell phones have made our lives a lot easier but have also done a great deal of damage. We are creating a young generation of individualists, and I don’t think we can fight the forces of nature or battle with technology. We need to

L-R: René Kofod-Olsen and Costas Kontes

ily in digital technology and training. We feel that if there is a clear sight of what young people can do, they may want to join ships. For example, we have recently partnered with universities in Greece to offer maritime degrees via distance learning.

We must get out there and get young people, men and women, to work for us. I say this for two reasons. Firstly, we will face a shortage of seafarers in the future, and I am not talking only about men. Right now, we have a lot of women doing fantastic work. But it is of utmost importance to create an environment where they feel safe and empowered, and their chosen career fits their needs. So, over the next 10 years, we must find a solution to make global shipping a better and more attractive place for young women to decide to pursue a career at sea. It is one of the biggest challenges we will face.

6 CII seems to be favouring vessels that cover longer distances and spend less time at ports. Will this affect the types and sizes of ships you choose to manage or perhaps the contracts you might enter?

Not really. We have our own digital systems and can plan the voyages together with our clients. Using these systems, we achieve a high degree of automation and can prepare for the next trip by incorporating all the available information about the ship. We have heavily invested in AI, which is where the CII comes in because we can help our clients deal with the regulation's challenges. Remember that we do not control the charter. We operate at the client's instruction. The client defines the next port the vessel will call. So, the implementation of the CII doesn't change anything for us, as we have the system capabilities to support the client and the vessel. It doesn't really matter whether it is a long or short-distance voyage. We will operate the vessel entrusted to us by our client to the best of our ability. The disruptions I referred to are emissions and decarbonisation regulations; therefore, it is vital to help our clients in this new shipping landscape. We have been investing a lot of time, money, and resources into the whole ESG disruption and will keep doing so for the foreseeable future.

adapt. In the old days, you would congregate in the mess room when you were on a ship and had finished your shift. Today, young seafarers will return to their cabins, check in with their families, and spend time on social media. So, we need to find ways and create spaces where they feel they can do that.

We must ensure ships have the technology tools for seafarers to communicate with the shore. We need to make it easier for them by bringing technology on board. A young seafarer today would expect that all decision-making is made using not analogue but digital technology. I think two of the four disruptions I talked about, namely people and digitalisation, go hand in hand. Therefore, we are investing heav-

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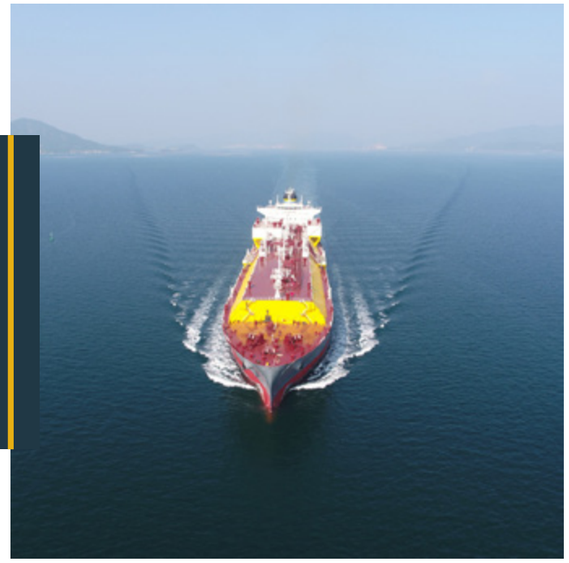

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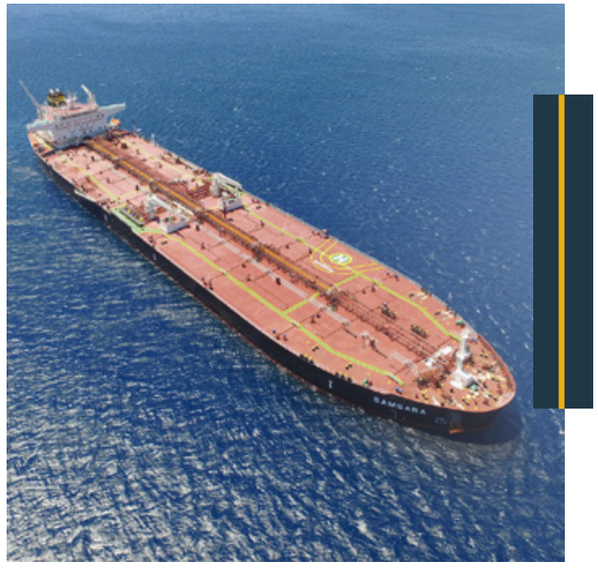

DECIPHERING THE COMPLEXITIES OF THE

From 1 January 2023, it has become mandatory for all ships to calculate their attained Energy Efficiency Existing Ship Index (EEXI) to measure their energy efficiency and to initiate the data collection for reporting their annual operational carbon intensity indicator (CII) and CII rating.
The CII determines the annual reduction factor needed to continuously improve the ship's operational carbon intensity within a specific rating level. However, implementing the IMO indicator as a short-term measure to achieve decarbonisation goals has raised questions, with many stakeholders of the international shipping community already calling for modifications to the index.
In the following pages, industry experts discuss their first conclusions from the implementation of the CII, propose solutions for its improvement, and also refer to how the BIMCO clause affects relations between shipowners and charterers.

WHY SEEMP AND COLLABORATION ARE KEY TO GETTING CII RIGHT

by **Lars Robert Pedersen**,
BIMCO Deputy Secretary General

There will always be teething issues when a new regulation comes into force. At BIMCO, however, we have rarely experienced a regulation that has thrown the industry into as much turmoil as the CII regulation. However, if shipowners fix their eyes on five letters: SEEMP, and work in close collaboration with charterers, the industry may be off to a good start despite a regulatory framework that is complicated and imperfect.
About two months ago, the CII regulation entered into force. While the framework may change over time from a mathematical perspective, the intent of the regulation is here to stay. Indeed, in its current form, the most efficient ship out there is one that is always empty and never calls at a port, but just roams the oceans at eco-speed. While such a scenario is unlikely for commercial reasons, it would give the ship the best possible CII rating. In addition, actual commercial utilisation of the ship would worsen its rating.

The misunderstanding aiming for "C"
While much focus is on the ratings (A, B, C, D and E), and particularly on the mid-point of the letter C, all eyes should in fact be on the five letters: SEEMP. The Ship Energy Efficiency Management Plan is the primary compliance tool in the framework. The required implementation plan documents how a ship will achieve the required CII for the next three years – with measures, timelines, responsible personnel. It also deliberates any impediments related to the measures listed.
It is a common misunderstanding that a ship must achieve a C rating to be compliant. The fact is that any rating, A, B, C, D or E, is in fact a compliant rating. There are however consequences of D and E ratings, namely corrective action plans – which must also be implemented via the SEEMP.
The ship is obliged to document in the SEEMP which concrete measures will be used to bring it back to the mid-point rating of C (the target CII or required CII mentioned above). Since all ships can supposedly achieve a "C" rating by applying the approved measures, compliance lies in the application of the implementation and corrective action plans in the SEEMP, and not in the rating itself.

Managing CII takes two: the shipowner and the charterer
Another common misunderstanding is that responsibility for compliance lies with the charterer. It is correct that the CII framework is an operational regulation and that any commercial decision on the ship's operation will directly affect its rating. However, it is the International Safety Management (ISM) company that is responsible for a ship's regulatory CII compliance.
In the commercial world, without close co-operation and commitment from the operators of the ship, managing the task to improve a ship's CII will be a difficult, even impossible, task.
The CII framework will fundamentally change the way shipowners and charterers collaborate. There will be no business as usual if a ship is to achieve the target CII year after year. Century old practices and standards are therefore up for a significant revisit.

The CII rating: labelling a trade or a ship?
Another issue that we often encounter when we advise our members about the CII framework is that a low rating supposedly equals an inferior ship, a ship

that may not be commercially worth as much as a ship with a higher rating. When looking closer at the CII, what it really reflects, however, is a combination of a certain degree of technical efficiency combined with the actual operation of the ship throughout the previous year. We already have objective measures specifically for the technical efficiency of a ship: the EEXI and EEDI. Most ships are about to have a rating attached to them, and it is important to remember that the rating seen in isolation is not enough to conclude whether a ship is inferior or not. The rating of the ship likely says more about the trade it performed last year than whether it is inferior or not from a technical efficiency standpoint.

Due to the nature of the CII framework, I believe we should be very careful sticking an inferior label on ships based on their ratings. It seems fairer to say that we are labelling the trades that the ships performed the previous year rather than the ships themselves.

Is it even enforced?

"The CII regulation has no teeth". "There is no enforcement". These are common criticisms but, in my view, perhaps premature ones. The regulation is an International Maritime Organization (IMO) instrument, a convention. Its enforcement, as is the case with all IMO instruments, lies with the IMO Member States. It is primarily the flag states that enforce IMO Conventions by implementing them in their national laws and applying them to the ships that fly their flags. In addition, there is a second layer of enforcement by the Port State Controls directed at foreign flagged ships. This is the way the whole system is built.

So, does the regulation have teeth, or not? Is there any "hard" enforcement? Any consequences? The answer is that there is no hard enforcement, yet, and with the CII framework in its current form, perhaps that is not a bad thing. At least for now. We must remember that commercial utilisation of a ship under the present CII framework will likely lead to a poorer rating by default. Once a ship starts calling at ports offloading or loading cargo while not moving, sitting at anchorages awaiting orders, or transporting cargo around the world, the rating is by default negatively affected.

This framework is flawed, there is no doubt about that. But it is here to stay and in its current form, now may not be the best time to call for rigid enforcement and consequences. Our industry is embarking on new ways of doing business, a new way for shipowners and charterers to work together. There are most certainly teething problems but with the will from everyone involved to do their part and co-operate, I believe our industry will be able to adapt to yet another regulation that at least intends to get us one step closer to being greener.

In the meantime, BIMCO and others are busy working out a more suitable CII metric and scope of application to ensure that the rating of a ship is underpinning the business imperative of the market actors. Hopefully, we will be able to introduce the necessary changes during the review of the CII framework to be completed before 1 January 2026.

CHARTERERS SHOULD ASSUME THEIR RESPONSIBILITIES

Mr Panos Zachariadis' views on the CII, as expressed in 13th Annual Capital Link Greek Shipping Forum.

I would like to begin by referring to the debate about the EEOI and AER. In my eyes, EEOI is nothing more than a random number generator. The studies submitted to the IMO show that it is three times as random as AER, which means if you are working with AER, you have a good chance to achieve the rating you want using your own actions, such as reducing the speed of the ship. But EEOI is so random that you cannot reach a rating based on your actions. So, I do not agree with the calls to apply EEOI to CII and think that if that happens, we will regret it in the future.

As far as charterers are concerned, they need to assume their responsibilities. If that were to happen, then it would be fair of them to demand better-rated ships. I was part of the BIMCO Carbon Clauses Drafting Subcommittee, which had been working on the CII clause for eight months, and we left no stone unturned. The clause is very fair, and the fact that several charterers do not like it tells me that perhaps their money is not where their mouth is. We just followed decades of established time-charter-party practice, in line with the most used pro-forma time charters that recognize that the party giving the orders has a higher responsibility than the party that must follow them. The IMO itself has indicated to whom the regulation applies. It says it is an operational measure. Therefore, the CII is a regulation that is primarily addressed to whoever is the ship's operator, who, in the case of a time charter, is the charterer.

As for now, does a good CII score necessarily mean an efficient ship? As a matter of fact, it does not; it just shows if the way the ship was operated during a specific period was compliant with what is currently being asked by the chosen CII indicator. CII leads to slower speeds, and slower speeds mean lower emissions. Speed reduction is the main tool an operator has in order to achieve the desirable CII rating. But if it were up to me to improve the CII, I would take the unfairness out of the regulation instead of changing the metric from AER to EEOI. For example, the CII is unfair to bulk carriers. Bulk carriers have already achieved a 40% reduction in their emissions since 2019 compared to 2008 levels, which means that they reached the 2030 CII target a decade earlier. Therefore, the yearly CII reduction rates for bulk carriers should be amended to perhaps 0.5% per year instead of 2% per year. On the other hand, containerships have achieved a relatively slight reduction in emissions compared to 2008. For these ships, a higher than 2% annual reduction should be set, perhaps 4%, something which for these high-speed ships is easily doable since it may represent only a 1 -2 knot reduction in speed. Such speed reductions are unattainable, however, for bulk carriers. That way, the overall annual CII reduction of shipping will remain at 2% but will be distributed based on each sector's capabilities and its already achieved performance toward the 40% reduction target. These kinds of inefficiencies in the CII should be moderated.

WE NEED REGULATIONS TO BE CLEAR AND SIMPLE FOR EVERYONE

by **Andrea Olivi**,
Global Head of Wet Freight,
Trafigura

We welcome the healthy debate regarding clauses to help the shipping industry decarbonise. As an owner and charterer, we have an interest in helping set the most balanced clauses possible in any new regulation. Owning vessels is becoming an increasingly complicated business, and we want to support ship owners as much as possible through the energy transition. A fair and efficient market requires negotiation periods to test clauses. Having completed an average of over 4,500 shipping fixtures per year over the past two years, we believe we have established a fair and balanced set of terms with most of our counterparties by now.

The BIMCO clause is a good attempt at sharing the burden of upcoming carbon intensity or CII regulations. Conceptually it makes sense for charterers to have some minimum redelivery requirement regarding carbon intensity as they have commercial management of the vessel. But, due to the metric chosen by the International Maritime Organisation for its carbon intensity assessment, charterers with high utilisation rates will be penalised under the regulation. This metric is problematic as it prevents charterers from taking on the burden of high CII scores upon redelivery.

We are big supporters of the Energy Efficiency Operational Indicator (EEOI) as a metric for CII calculations, as it takes into account laden and ballast states of operation, and we disagree with critics who claim it is excessively volatile as a benchmark. There is a clear logic behind this metric. It promotes 'good behaviour' and avoids vessels having to take long ballast legs to reduce their score, which is the big issue with using the Annual Efficiency Ratio (AER) as a metric. We have been focusing on EEOI for a number of years now through our work with the Sea Cargo Charter. And together with peers including Cargill, Equinor, Shell, and TOTAL, we have been focusing on EEOI to reduce the carbon footprint of our chartering operations.

It's too early to tell, but so far, regulation has not created multiple tiers in the spot market, only in the time charter market where charterers will happily pay more for a competitive advantage such as an eco-vessel or a ship fitted with a scrubber. Under the current format, we do not think charterers will penalise vessels with lower scores (D or E, for example) as most of them recognise that as long as CII uses AER, it will be a metric that is not fit for purpose.

We believe the metric should be changed to differentiate between laden and ballast legs instead of total steaming. At the same time, we suggest adding a provision to ensure that vessels waiting for discharge because of payment delays from suppliers, for example, are not overly penalised. We also need to reward market players that run vessels efficiently by minimising ballasts and increasing laden ratios. This is the only solution to transform CII into a metric that can really promote and drive good behaviour and help companies reduce their carbon footprint. By tweaking CII -- so that it focuses on EEOI rather than AER -- we can easily achieve a better result. In addition, we recommend the introduction of a clearly defined penalty mechanism to reward vessels that have achieved higher scores and penalise low scores. This is needed to ensure we maintain a level playing field across the industry.

We also realise that we need regulations to be clear and simple for everyone; it is vital that we create an industry where it is not too complicated, cumbersome, and administratively burdensome for shipowners to invest and operate vessels. The most dangerous thing we can do is introduce more and more complex regulations, as this will drive small and medium-sized owners away from shipping at a time when we need to attract more investment, given that an increasing number of vessels are moving into the so-called shadow fleet and leaving the international market.

WE NEED TO ACCELERATE EFFORTS TO MITIGATE GLOBAL WARMING

Dr Alexandra Ebbinghaus shares her thoughts on the prospects of alternative marine fuels, the challenges shipping is facing on its journey towards decarbonisation, and the initiatives Shell has taken in this direction.

Dr **Alexandra Ebbinghaus**,
General Manager for Decarbonisation,
Shell Marine,

in discussion with Giannis Theodoropoulos

❶ **As a fleet operator and supplier of marine fuels, lubricants, and services, what initiatives has Shell taken to contribute to the decarbonisation of the shipping industry?**

As fuel suppliers, we have been pioneers and innovators regarding LNG. We have been involved in this field for a long time, so we base our current initiatives on the experience Shell has gained over time. Shell was one of the first LNG operators in the 1960s, which means we have developed invaluable experience in LNG as both a cargo and a fuel. From a fuel supplier point of view, LNG is an important part of our business. LNG is a fossil fuel with fewer greenhouse gas emissions. Of course, there are challenges ahead regarding LNG infrastructure as it is not available everywhere. But it follows the demand in the sense that the network is expanding. For every new fuel arising, there is always a game of "chicken and egg". LNG has undoubtedly emerged as one of the critical fuels, and around 30% of new deadweight orders are based on LNG's capabilities.

Regarding our chartering operations, we have examined an enormous amount of data to see how vessels are operated. We have also launched several digital services to help operators improve their vessels' operational efficiency. Being both a fleet operator and a supplier of marine fuels allows us to participate in the discussion. I see it because I attend the International Maritime Organization. It's an entirely different discussion when representatives of oil and gas companies sit together. There, the questions and viewpoints are different. In that way, we have the whole picture.

❷ **Considering the prices and medium to long-term availability of currently available alternative marine fuels, which one do you believe will prevail in the market?**

We believe that a mosaic of different fuels will prevail going forward. There is not going to be a replacement for fuel oil to a large extent. Shipping is very diverse, composed of very different segments. Each segment has very different ambitions. The thing is that none of these alternatives is currently as competitive as fuel oil. Take, for example, short-sea shipping. There are a lot of electrification initiatives which, however, cannot be applied in deep-sea shipping. Looking at the technology available today that can be installed on a vessel, options include dual-fuel engines capable of running on methanol, LNG, and fuel oil. But the ability to use hydrogen and ammonia is not realistic yet due to limitations. There are a lot of challenges associated with various safety aspects, so I would say these are future options. The longer-term challenges are how to get low-carbon methanol at scale, how you get low-carbon methane or LNG, and how easy it is to use liquefied hydrogen onboard.

Instead, we need to consider what is possible today with the existing engines. Biofuels have great potential as an alternative to fossil fuels.

❸ **From your collaborations with many sectors of the shipping industry (tankers, bulk carriers, containerships, etc.) so far, which sector do you think has more potential to improve its operational efficiency via implementing new technologies and adopting new types of fuels in the short term? Do you believe shipowners are willing to make significant investments in this direction at this point?**

Looking at the reported EEXI data for new vessels, it's interesting to see that the segment that consistently excels is containerships. That means this specific segment is doing more or finding it easier to improve its efficiency. Although tankers and bulkers have traditionally operated very well from a design point of view, that doesn't mean they can't do more. I find it striking that very few newbuilds have energy efficiency technology installed, such as air lubrication, draft trim optimisation etc. I think there is a considerable scope for oil segments to improve. Some vessels historically had it harder to improve, but we all need to look at how accurate the information on energy efficiency is. The Fourth IMO GHG report was excellent. Looking at the data collected by the Sea Cargo Charter, an initiative launched by the charterers. We are now in the process of getting actual data rather than modelling data. And that helps us understand where we are in terms of energy efficiency improvement.

❹ **What are the main barriers facing the shipping industry today on the road to decarbonisation, and how can it overcome them?**

Why does a company decarbonise? I don't think you will find anyone who doesn't care about the environment; everyone wants to do something about it. Shipowners are quite pragmatic regarding business decisions that lead to their ships' emissions reduction. Therefore, decarbonisation is something they want to do, but they will have to pay for it. But what about customers? What do they want? Are they willing to pay extra to contribute to decarbonisation? There are a lot of things shipowners can do to reduce their fuel costs and improve fuel consumption. On the one hand, we have low-carbon and alternative fuels like biofuels, but these will be significantly more expensive than fossil fuels. So, who pays for this price difference? Why should shipowners bear the extra cost? Do they have the support of their customers? All these questions need to be resolved.

For shipowners, decarbonisation has two aspects. The first is getting more support from the wider maritime community, which must be willing to pay more for a greener shipping industry. The second is a clear signal from the regulator that there will be a level playing field. We need clear regulations that will accelerate the decarbonisation of shipping and make it more competitive. Nobody can afford to bear the extra cost alone in the long term. Nobody in shipping has profit margins that allow them to say "I will pay for this". The transition will be quite expensive. Shipping is one of the transport modes, and if shipowners charge more but nobody else does, why will customers want to pay more voluntarily? However, if a regulation determines that all transport modes must do it, the transition will be much smoother.

❺ **Do you believe the industry has all the necessary technological tools to achieve the IMO 2050 decarbonisation goals? Or will we also need a new, stricter regulatory framework, such as slow steaming, etc., to push the sector towards achieving its environmental goals?**

As I previously explained, we need a stricter regulatory framework for shipping to move forward. Shipping has never disputed that reducing the sulphur emissions in marine fuels has benefits, especially for coastal communities. But nobody was going to use low-sulphur oil before 1 January 2020, the compulsory date. So, the industry needs the constraints enforced by regulations. The IMO ambition is to decarbonise shipping as soon as possible, and most countries support this vision. But what does that mean for the speed at which shipping is regulated? Now that short-term measures have been agreed upon, the IMO is proceeding with the more intermediate and long-term measures. Part of its initial strategy will be to revise the target. Shell advocates for the IMO to raise the ambition level to net-zero emissions by 2050. The necessity to combat climate change becomes apparent when you look at the IPCC data. To mitigate/reverse global warming, we need to move faster. We need to see what is possible and set specific targets. Investments are also essential; that is not a shipowner's problem only. It is a challenge for all stakeholders in the supply chain.

ON THE SEAFRONT

Edited by:
Giannis Theodoropoulos,
Manos Charitos

TANKERS, THE PROTAGONISTS OF GREEK-OWNED SHIPPING

A recent VesselsValue analysis has broken down the Greek-owned fleet by ship type and value. According to this analysis, the Greek-owned fleet numbers 4,709 commercial ships, whose cumulative value reaches $152.7 billion. Of these, 2,272 are bulk carriers, 1,450 tankers, 430 containerships, and 252 gas carriers, while the rest are of various other types.

Regarding the value of each fleet type, tankers are at the top: the Greek-owned tanker fleet's value exceeds $61 billion. Thus, although the tanker fleet constitutes 31% of the Greek-owned fleet (1,450 out of 4,709 vessels), it represents approximately 40% of its value. The value of the Greek LNG carrier fleet is exceptionally high, given the number of ships that comprise it. According to VesselsValue, although this fleet numbers only 137 ships, its value exceeds $30 billion. Although the Greek-owned fleet of 137 LNG carriers may seem small, the global fleet currently numbers around 710 ships, and, therefore, Greek shipowners control about 19% of the market.

GLOBAL CONTAINER PORT CONGESTION TO DECLINE IN 2023

After more than two years of widespread port congestion, there have been signs of decongestion.

Global pre-berth waiting time remained significantly higher than pre-pandemic levels through 2020-22. In 2019, pre-berth waiting time accounted for just over 17% of the total time at port, but in both 2021 and 2022, the pre-berth wait increased to more than 25% of the total time spent in ports.

In the second half of 2022, the situation improved, despite increased disruptions to supply chains due to transport worker strikes. By 4Q22, only the North America and Oceania regions had pre-docking waiting times that were 10% above 2019 levels. In contrast, pre-berth waiting time in Europe represented 16.6% of the total time spent in ports, just 1.2% above the 2019 average of 15.4%.

Drewry expects pre-berth waiting time to return to pre-pandemic levels in 2023, driven by reduced demand, lower economic growth, and more normal seasonality. Signs of the latter trend were evident in the first weeks of 2023, which heralds more predictable times, although continued blank sailings will increase average berthing times.

THE INTERNATIONAL SHIPPING COMMUNITY BY THE SIDE OF TURKIYE AND SYRIA

The global shipping community has shown its support to the people affected by the catastrophic earthquake in Turkey and Syria.

Maersk has donated 1,000 containers to Turkey to aid those most impacted by the massive earthquake that struck Turkey and Syria on 6 February. The containers are already being converted into demountable houses. They will be ready to be deployed to the affected areas in the coming weeks to provide accommodation for those most affected. In addition, Maersk has announced that it will undertake further initiatives in the coming weeks to help earthquake victims.

At the same time, Japanese NYK and K Line have donated 13 million yen to charities supporting the earthquake victims, while MOL has donated 5 million yen to the Japanese Red Cross. Israel's ZIM, through its office in Izmir, has sent containers loaded with basic necessities, such as baby food, to the affected areas. On Sunday, 13 February, a CMA CGM Air Cargo aircraft flew to Gaziantep in Turkey to transport the civil security field hospital deployed by the French Civil Security. In addition, the CMA CGM Foundation is preparing its contribution to a humanitarian operation for the populations affected by the earthquake in Syria in conjunction with non-governmental organisations and the United Nations.

MAERSK SOUNDS THE ALARM DESPITE HIGH PROFITS

Danish shipping giant Maersk posted record profits in 2022; however, its financial report predicts a possible four-fold reduction in revenues in 2023 due to lower freight rates and container volumes.

Maersk expects underlying earnings before interest, taxation, depreciation, and amortisation (EBITDA) of $8-11 billion in 2023, compared with $36.8 billion last year. In addition, it expects global demand for shipping containers to fall by as much as 2.5% as a build-up in inventories is unwound.

"Freight rates have stabilised at a lower level that is not catastrophic for us," Maersk's CEO Vincent Clerc told journalists. He added that the company's strategic pursuit is to keep costs low at a time when it has been buying up warehouses and distribution networks to offer an end-to-end transportation service rather than just container shipping.

INDIA, A NO-GO ZONE FOR OVERAGE SHIPS: THE BAN'S EFFECTS ON TANKERS AND BULKERS

India's decision a few weeks ago to ban ships over 25 years old from entering its ports for environmental and security reasons has shaken the international shipping industry.

According to a recent analysis by Xclusiv Shipbrokers, India is a "small maritime trade giant" responsible for 17% of the world's seaborne iron ore trade, 19% of the world's seaborne coal trade, and 2% of the world's seaborne grain trade.

Furthermore, regarding liquid bulk cargoes, India is responsible for 12% of the world's crude oil trade and 7% of the world's seaborne oil product trade.

At the same time, MarineTraffic has released some interesting data on the arrival of 25+-year-old ships in India in 2022. A total of 3,802 bulkers and tankers built before 1998 arrived in Indian ports last year.

At the same time, the ban will also significantly impact ships over 20 years of age that are/will be registered in the Indian registry. MarineTraffic data shows that 5% (or 753) of the vessels under the Indian flag were built before 2003. Of these, 133 are tankers, and 61 are bulkers.

However, the ban will have minimal impact on containerships, as the number of containerships approaching or exceeding 30 years is very small. In addition, Xclusiv noted that the large number of orders placed in recent years would renew the fleet.

MELINA TRAVLOS: "OUR SHIPPING INDUSTRY NEEDS A UNIFIED VOICE."

On Wednesday, 8 February, the Annual Ordinary General Assembly of the Union of Greek Shipowners took place in a packed hall at the Eugenides Foundation. Once again, the Union's board of directors outlined the shipping industry's short and long-term priorities, challenges, and prospects.

The priorities and challenges of the most important institutional and collective body representing Greek ocean-going shipping in this period of international economic uncertainty and geopolitical turbulence are numerous and of vital importance. Ms Melina Travlos spoke matter-of-factly and clearly about her strategic aspirations as president but mainly underlined the collective priorities of UGS. She also emphasised the need for shipping to be represented by a single, dynamic voice in Greece and international fora.

"Our supremacy in the seas is unquestionable, as is our historical adaptability to any new order of things. For me, this is due to our unity, our individual and collective potential and, of course, our long-standing expertise. Our superiority is universally acknowledged. At the Posidonia Exhibition, I heard from the foreign delegations that the heart of world shipping beats here, in Greece. Frankly, I would add that the brain of global shipping is here as well. We have sent a resounding message in every direction," said Ms Travlos.

Ms Travlos also referred to the contribution of shipping to the national economy, underlining that Greece's revenues from shipping foreign exchange reached 20 billion euros in 2022 and has historically created hundreds of thousands of jobs. Furthermore, she made extensive reference to the international shipping environment:

"We have been following the international public debate on reducing greenhouse gas emissions and working to reach an agreement to revise the IMO strategy and choose realistic medium-term measures. At the same time, we support the International Chamber of Shipping (ICS) proposal for the adoption in the IMO of a global financial measure based on a contribution system (levy) per ton of carbon dioxide emissions. Regarding the implementation of the Carbon Intensity Indicator (the well-known CII) from 1 January, we have said from the beginning that it needs to be revised. We warned early on, along with international shipping organisations, that compliance with the CII would present weaknesses. Here, too, we had a positive outcome: non-compliance will not have a punitive character, and as we have an informal period of gaining experience until 2026, we are taking advantage of it."

As far as the EU ETS is concerned, the UGS president noted that the recognition of the responsibility of commercial operators is a significant success, but the challenges of its implementation remain.

The position of the president regarding the transition of shipping to a green era was clear: "Greek shipping is committed to the green shipping goal but has set two non-negotiable parameters: Firstly, there needs to be a synergy of all parties involved in the maritime activity chain, such as energy producers, engine manufacturers, and shipyards. And secondly, and most importantly, the safety of seafarers and ships must be guaranteed."

Concluding on the central issues that preoccupied UGS last year, Mrs Travlos referred to a matter of the highest priority for Greek-owned shipping, i.e., the protection of the seafaring profession and the enhancement of the national registry.

"Our competitive advantage is our people working on our ships and in our companies. Therefore, the further development of our shipping sector requires sufficiently trained and well-qualified human resources. However, it is disappointing that Greek seamanship is not developing at the same rate as the rest of Greek shipping. Therefore, immediate interventions are needed before the situation becomes irreversible."

A NEW PAGE IN THE REGULATORY FRAMEWORK OF GREEK SHIPPING

The new Code of Private Maritime Law was adopted by the Plenary of the Parliament on Thursday, 9 February, with the Minister of Maritime Affairs and Insular Policy Giannis Plakiotakis expressing his total satisfaction, stressing that "the new Code, which was changed after 65 years, brings the regulatory framework of shipping into the 21st century".

As Mr Plakiotakis pointed out from the Parliament podium, the new Code of Private Maritime Law "is worthy of the dynamics of Greek shipping and creates, if not the most innovative operating framework for a complex and special industry such as shipping, then certainly one of the most modern worldwide".

Mr Plakiotakis thanked Mrs Lia Athanasiou, Professor of Law, President of the Legislative Committee, and all its members, who worked without any remuneration under challenging conditions due to the pandemic and finally delivered a legal operating framework for shipping that incorporates every aspect of modern shipping activity.

SHIPPING FINANCING: NEW INITIATIVE BRINGS GREECE AND CHINA CLOSER

The recent initiative of the Union of Banking and Financial Executives of Hellenic Shipping and the Shanghai Lujiazui Financial City Council aims to bring Greece and China closer in matters related to shipping finance. In a recent online meeting, the two parties signed an agreement on matters of mutual interest that may positively impact the financial system, particularly shipping finance.

The agreement was signed by Huang Hongyuan, representative of the chair unit of the Lujiazui Financial City Council and vice president of the Bank of Communications and George Xiradakis, president of the Association of Banking and Financial Executives of Hellenic Shipping, in Greece.

Under the agreement, the two parties will establish a collaborative network to stimulate communication between their countries' shipping companies and financial institutions. Greece and China already maintain strong ties within the global shipping industry. After all, Greek shipowners have built hundreds of ships in Chinese shipyards in recent years.

As the Deputy Minister of Shipping and Insular Policy, Kostas Katsafados, pointed out, in the last fifteen years, the Greeks have built more than 1,000 ships worth more than $50 billion in China.

The agreement was also welcomed by the president of the Hellenic Chamber of Shipping, Dr George D. Pateras, who said it is an important initiative because it involves cooperation between representatives of two shipping centres with deep knowledge of the shipping industry.

ITALIAN DEFENCE COMPANIES TO STRENGTHEN COLLABORATION WITH ELEFSIS SHIPYARDS AND THE GREEK INDUSTRY FURTHER

Within the framework of teaming up with the local industries and strengthening the collaboration between Italy and Greece, Italian shipbuilding company Fincantieri and Leonardo, a leading defence and security technologies company, have signed a number of memoranda of understanding (MoU) with potential new Greek suppliers setting the basis for defining possible long-term business relationships.

The event took place on 13 February in Elefsina, where the Onex Elefsis Shipyards are based. Onex Elefsis Shipyards will become the cornerstone of the Fincantieri Group strategy if, as the prime bidder, it is awarded the Hellenic Navy programme pursued by the Hellenic Minister of National Defence.

Thanks to this milestone agreement, the involvement of the Greek industry, not only referring to the corvette programme, continues. Indeed, the Italian team, consisting of Fincantieri, Leonardo - as system integrator for the Combat Management System and its naval main sensors, systems, and artillery - and MBDA Italia and Elettronica, solidly supports the development of a large breadth shipbuilding partner with advanced and reliable skills.

These MoUs follow Fincantieri's signing an official agreement with the ONEX Shipyards & Technologies Group last December to create a corvette manufacturing line & their life-cycle support base, which will be located at Onex Naval and Maritime Elefsis Shipyards.

That agreement:

- provides the terms of collaboration for the construction of 2+1 state-of-the-art technology and top-standard corvettes at Onex Elefsis Shipyards along with the necessary upgrades, improvements, know-how and transfer of technology, equipment, which are estimated at approximately € 80 million;
- is expected to generate the creation of 2,500 direct and indirect new jobs in the shipbuilding industry;
- constitutes a multiple-benefit cooperation for the Greek economy and defence sector while strengthening the prospect of further collaboration between the two groups in future warship and commercial shipbuilding programs.

The agreement was a critical step in the empowerment of domestic defence production. The know-how acquired through the ONEX-Fincantieri collaboration, which involves the whole Italian industrial ecosystem, will be an important cornerstone in developing competitive products that will meet the defence requirements of various markets, giving even greater impetus to the rebirth of the Elefsis Shipyards.

SHIP RECYCLING: PORTUGAL'S GREEN LIGHT TO THE HONG KONG CONVENTION

The Government of Portugal has ratified the Hong Kong Convention, bringing the number of countries that have given the green light to environmentally friendlier ship scrapping up to twenty.

It is worth noting that this international convention will enter into force two years after 15 IMO member states, representing 40% of the world fleet in terms of tonnage and an average of 3% of recycling tonnage for the previous ten years, have ratified the convention.

BIMCO recently noted in a report that while the European list of approved ship recycling facilities continues to grow, new additions do not add significant capacity to meet the global shipping industry's demand. Therefore, the Hong Kong Convention should be ratified as soon as possible.

THE SHIPPING INDUSTRY CALLS FOR HELP TO EVACUATE THE 300+ SEAFARERS STILL TRAPPED IN UKRAINE PORTS

24th of February 2023 marked one year since the onset of the war in Ukraine. The International Chamber of Shipping, in collaboration with over 30 other organisations and companies, has written a joint open letter urgently calling on the UN Secretary-General, His Excellency António Guterres, to prioritise the immediate release of the 331 seafarers and 62 ships that remain trapped in Ukrainian ports.

The open letter states:

"Our seafarers are the heart of our industry and cannot be forgotten. For 12 months now, they have been caught up in a crisis far beyond their control. Simply doing their jobs cannot come at the expense of their lives.

We are committed to supporting the continued success of the Black Sea Grain Initiative; however, this cannot come at the expense of innocent seafarers' lives. Action must be taken now.

Without our seafarers, the movement of vital grain shipments out of Ukrainian ports would not have been possible. While there are challenges to evacuating seafarers and their ships, it must nonetheless be a top priority. Otherwise, we risk our seafarers' lives, which is unacceptable".

ECSA CALLS FOR THE INCLUSION OF FUEL SUPPLIERS UNDER THE SCOPE OF FUELEU MARITIME

As an important part of the European economy, shipping is key in achieving the EU's climate objectives. The FuelEU

Maritime Regulation is crucial for promoting the uptake of sustainable and scalable fuels in shipping, notes ECSA in a recent statement.

ECSA says that as trialogue negotiations on the FuelEU Maritime enter their final phase, ensuring the final text contributes to a successful energy transition of shipping is critical. To that end, all hands-on deck must make sufficient quantities of low- and zero-carbon fuels available in the market at an affordable price.

Therefore, ECSA calls on the European Parliament and the Council to support the mandatory inclusion of fuel suppliers under the scope of FuelEU Maritime as proposed by the European Parliament. It is vital to ensure that shipowners are not unduly penalised if the sustainable fuels necessary for compliance are not delivered. As proposed by Parliament in Renewable Energy Directive III, this provision and a binding target for ship fuel suppliers are essential for shipping's energy transition.

In addition, ECSA supports the introduction of a high multiplier for using sustainable and scalable fuels for shipping under the FuelEU Marine Regulation.

INCREASES IN SUEZ CANAL TANKER TRANSIT FEES

The Canal Authority has recently announced that it will increase the fees for the passage of tankers through the Suez Canal. The new increase will apply to tankers carrying crude oil or refined products and will take effect from 1 April this year.

The charges for laden tankers will increase from 15% to 25% -as a percentage of the transit fees- while for ballast tankers, they will increase from 5% to 15%. According to the Canal Authority, the surcharges have been imposed due to the rates increase in the tanker market. However, they are temporary and may be changed or cancelled depending on the changes in the maritime transport market.

DCSA'S MEMBER CARRIERS COMMIT TO A FULLY STANDARDISED, ELECTRONIC BILL OF LADING BY 2030

Digital Container Shipping Association announced that nine ocean carriers, namely MSC, Maersk, CMA CGM, Hapag-Lloyd, ONE, Evergreen, Yang Ming, HMM and ZIM, committed to 100% adoption of an electronic bill of lading (eBL) based on DCSA standards by 2030. Switching away from the transfer of physical paper bills of lading could save stakeholders $6.5 billion in direct costs, enable $30-40 billion in annual global trade growth, transform the customer experience and improve sustainability.

The bill of lading is one of the most critical trade documents in container shipping. It functions as a document of title, a receipt for shipped goods and a record of agreed terms and conditions. Ocean carriers issue around 45 million bills of lading a year. In 2021, only 1.2% of these were electronic.

Manual, paper-based processes are time-consuming, expensive and environmentally unsustainable for stakeholders along complex supply chains. In addition, paper-based processes break down when cargo in ports cannot be gated out because original bills of lading or title documents fail to arrive or cannot be manually processed in time. In contrast, digital processes enable data to flow instantly and securely, reducing delays and waste.

Transforming document exchange through the eBL will accelerate digitalisation to benefit customers, banks, customs/government authorities, providers of ocean shipping services and all maritime supply chain stakeholders.

GTT EXPECTS ORDERS OF UP TO 450 LNG CARRIERS BETWEEN 2023 AND 2032

GTT, a French company specialising in cryogenic containment and ultra-low temperature systems for LNG carriers, expects market growth in the coming years and an increasing number of LNG carriers on order book over the next ten years.

Specifically, in a recent press release on its financial results, GTT estimates that between 2023 and 2032, the order book will include 400 to 450 LNG carriers, reflecting the prediction that LNGCs will undoubtedly be investors' number one choice regarding ships with a lower environmental footprint.

At the same time, the company expects up to ten FSRU orders, not including conversions, five FLNG units, between 25 and 40 VLECs, and between 25 and 30 units for onshore and GBS tanks in the next ten years by 2032.

MARITIME INDUSTRY BENEVOLENCE

Edited by:
Panagiotis Korakas

SYN-ENOSIS: A DONATION THAT FURTHER STRENGTHENS THE NATIONAL HEALTHCARE SYSTEM

The Union of Greek Shipowners (UGS), through its Social Welfare Company, SYN-ENOSIS, consistently contributes towards Greek society. In recent years, it has donated more than 80,000,000 euros for the implementation of actions and projects in the fields of health, education, welfare, crisis management and the support of vulnerable groups.

Continuing its support of the health sector, the UGS strengthens and improves the quality of public health services provided to Greek citizens with targeted, wide-ranging actions.

During the Covid-19 outbreak, the UGS immediately responded to the hospitals' need for medical equipment. In addition, it replaced the linen in all the country's hospitals and the Emergency Aid Centre's (EAC's) linen and renovated the sanitary facilities in Attica's central hospitals.

Following the recent donation of 20 modern and fully equipped ambulances to the Emergency Aid Centre (EAC) and 2 ambulances to the Hellenic Police, SYN-ENOSIS donated 6 new ambulances with upgraded features, which will immediately boost the numbers of the National Health System's existing fleet as of early February 2023.

During the handover ceremony of the ambulances, Ms Melina Travlos, president of the UGS, stated: "Healthcare is the highest social good. This project, which directly enhances the country's emergency services provided by the EAC, is of utmost importance for all citizens and visitors of our country. A thank you from the heart to those on the front line who face human pain and worry about our health and lives.

I am filled with pride that as the Union of Greek Shipowners, collectively, through SYN-ENOSIS, and individually, as members of the Greek shipowning community, we have contributed decisively to the EAC's operations. As Greek citizens, we consider it our duty to stand by the doctors, nurses, and paramedics who serve the National Healthcare System. The new ambulances will facilitate their difficult work of providing immediate medical assistance to every person who needs it in every region of our country. We have been and will always be next to the public healthcare system with actions, not words."

THE EUGENIDES FOUNDATION'S IMMEDIATE RESPONSE TO THE NEEDS OF THE COUNTRY'S INSULAR REGIONS

The Eugenides Foundation recently donated two ambulances to the 2nd Regional Health Administration of Piraeus & Aegean to facilitate transfers to the Health Center of Ios and the Health Center in Gennadi, Rhodes.

At the delivery and acceptance ceremony, which took place on 13 January 2023, the president of the Eugenides Foundation, Leonidas Dimitriadis-Eugenides, stated:

"We feel it is our duty towards Greek society to make this donation. Although the Eugenides Foundation's primary purpose is to support technical, scientific, and professional education, the Foundation has always been present when there were serious challenges and crises in our country. Let us not forget the substantial donation of Eugene Eugenides after the earthquake in Zakynthos or the donation of 3,000,000 dollars by Nikolaos Vernikos-Eugenides after the 1999 earthquake in Attica. During the pandemic outbreak, we donated more than 1.5 million euros for the implementation of direct and indirect actions. In addition, we strengthened education and digital learning by donating tablets to schools and supporting the Merchant Shipping Academies' distance-learning programme to ensure their smooth operation. But we did not stop there. We also considered it our duty to support public healthcare through a program of targeted donations to the Sotiria, Attikon and Children's hospitals.

We felt that we should strengthen our islands and support insularity, especially in these times. I am an islander; I hail from the Cyclades and know their problems very well. The donation of an ambulance to Ios was the result of our excellent cooperation with the Health Center of Ios, an island whose population increases twenty-fold in the summer months. At the same time, the decisive input of the Commander of the 2nd Regional Health Administration of Piraeus & Aegean, Christos Roilos, who pointed out the urgent need for an ambulance in Southern Rhodes, makes us feel that this donation is of great value. We are sure that our actions will make a difference in a holistic way. I hope your work will continue the foundations already laid. A big thank you from the heart for giving us the opportunity to help our islands through these small actions," he concluded.

In total, the Eugenides Foundation's donations exceed 1,000,000 euros, of which 594,980.65 euros were given exclusively towards healthcare. The event was attended by the Minister of Health, Mr Thanos Plevris; the Deputy Minister of Health, Ms Mina Gaga; Cyclades MPs Giannis Vroutsis and Filippos Fortomas; the Mayor of Ios, Mr Gikas; the Mayor of Rhodes, Mr Kambourakis, and the local government representatives.

SURGICAL SIMULATION LAB INAUGURATED AT ATTIKON HOSPITAL IN ATHENS

On 26 January 2023, the Attikon University General Hospital held an inauguration ceremony for the new Surgical Simulation Lab that will be used in the training of general and orthopaedic surgeons.

The creation of the first-ever surgical simulation lab in Greece was made possible through an exclusive grant from the Stavros Niarchos Foundation (SNF) as part of the Foundation's international Health Initiative. Specifically, SNF supported the procurement of four state-

of-the-art virtual reality surgical simulators (one Lap Mentor III, one Robotix Mentor, and two Arthro Mentor IIs). In addition to training practice, the technology also allows for direct evaluation of the competence of trainees' technical work.

The Surgical Simulation Lab began piloting training in March 2022, and to date, 119 general surgeons and 102 orthopaedic surgeons have been trained, performing a total of 1,125 sessions. The creation and outfitting of the Surgical Simulation Lab is part of the educational programme implemented through the SNF Health Initiative to enhance the skills of doctors, nurses, medical and nursing students, and EMS personnel.

The Surgical Simulation Lab and the educational programs on trauma are implemented by the nonprofit Regeneration & Progress in collaboration with NKUA, under the scientific supervision of the 1st Orthopedic Surgery Clinic and the 3rd & 4th University Surgery Clinic of Attikon Hospital.

The training is provided free of charge to interested general surgeons and orthopaedic surgeons through an exclusive five-year grant from SNF. The Lab is housed in the Attikon Building of NKUA's Medical School (AKISA) near the Attikon University General Hospital.

THE SOLIDARITY GESTURES OF THE GREEK SHIPPING FAMILY TOWARDS THE EARTHQUAKE VICTIMS OF TÜRKIYE AND SYRIA

The "Maria Tsakos" Foundation – International Center of Maritime Research and Tradition, responding immediately to the need for humanitarian support and assistance to neighbouring citizens of Turkiye who were deeply affected by the devastating earthquake on 6 February, organised a shipment of 45 boxes of clothing and linen clothing from the Foundation's facilities in Chios.

The assistance and support of the Chian society made it possible for the immediate dispatching of this aid addressed to young children and adults as a small token of compassion in the terrible ordeal they are facing.

The immediate humanitarian response of the Foundation was also recognised by the Turkish press.

The effort to provide even minimal relief to those affected does not stop with the first shipment, as the collection of food and medicine to be dispatched to Türkiye is already underway.

On Wednesday, 15 February, the M/V Neptune Okeanis sailed from the port of Piraeus (Car Terminal - G2) bound for Iskenderun Port (Greek name: Alexandretta) carrying humanitarian aid to Türkiye. The humanitarian material is part of the aid donated by Greek citizens collected by Municipalities, Prefectures, and other agencies. In particular, four trucks boarded the Neptune Okeanis carrying 250 m3 of necessities, such as blankets, bedding, heaters, personal hygiene items, and medicines, which the Turkish authorities requested as a priority. The ship transporting the humanitarian aid to Türkiye was provided free of charge by Neptune Lines Shipping & Managing Enterprises, managed by Ms Melina Travlos. It is noted that the ship altered its scheduled course to reach Iskenderun Port.

INTERNATIONAL WATERS

SHIPPING ENTREPRENEURSHIP DEVELOPMENTS

GASLOG PARTNERS LP AND GASLOG LTD. TO MERGE

GasLog Partners LP recently announced that its board of directors had received an unsolicited non-binding proposal from GasLog Ltd. to acquire all the outstanding common units representing limited partner interests of the partnership not already beneficially owned by GasLog. In connection with the proposed transaction, each common unit would receive an overall value of $7.70 per common unit in cash, consisting in part of a special distribution by the partnership of $2.33 per common unit in cash to be distributed to the partnership's unitholders immediately prior to the closing of the proposed transaction and the remainder to be paid by GasLog as merger consideration at the closing of the proposed transaction.

OSM MARITIME AND THOME MERGER TO CREATE A WORLD SHIP MANAGEMENT LEADER

OSM Maritime Group and Thome Group have agreed to a merger of the two companies. By joining forces, the companies will be building an even stronger platform on which they will continue to deliver world-class ship management services to their customers and continue to improve. The combined company will be named OSM Thome.

Both OSM Maritime and Thome are deeply rooted in the Norwegian shipping tradition and expertise and combine this with the modern drive of Asian business enterprise. The headquarters of the combined company will be located in Arendal, Norway, with strong technical management hubs maintained in Singapore and Europe.

Today, the two companies manage 1,000 ships, of which 450 are on full technical management and 550 are on crew management. Many of the world's leading shipping companies are customers of OSM and Thome, and the fleet consists of different segments such as tankers, bulk, container, car carriers, cruise ships and offshore vessels and units.

Completion of the merger of the two companies is conditional upon approval from the competition and other relevant authorities, which is anticipated during the first quarter of 2023. Until the merger has been formally approved, the two companies will operate as before under separate management and organisations.

HAPAG-LLOYD INVESTS IN TERMINAL INFRASTRUCTURE IN INDIA

Hapag-Lloyd signed a binding agreement under which it will acquire 35% of J M Baxi Ports & Logistics Limited (JMBPL) from a Bain Capital Private Equity affiliate. Additionally, Hapag-Lloyd AG signed a binding agreement with JMBPL and its promoters, the Kotak family, to subscribe to a capital increase by the company and raise Hapag-Lloyd's shareholding to 40 %. The contracting parties agreed not to disclose any financial details of the deal.

J M Baxi Ports & Logistics Limited is a leading private terminal and inland transport service provider in India. The operations comprise container terminals, a multi-purpose terminal, inland container depots, container freight stations and additional logistics activities, such as rail service offerings across India. The company employs around 5,400 staff and handles a combined container volume of approximately 1.6 million TEU. J M Baxi Ports & Logistics Limited recently won additional concessions for operating container terminals in Nhava Sheva and Tuticorin.

"Terminal and infrastructure investments are a crucial element of our strategic agenda, and India is one of our key growth markets. Acquiring a significant share in J M Baxi Ports & Logistics Limited will significantly boost our presence in India with a trusted local partner. It is another important step to build up our terminal and infrastructure business," Rolf said Habben Jansen, CEO of Hapag-Lloyd.

In driving its Strategy 2023, Hapag-Lloyd has continuously expanded its involvement in the terminal sector, most recently through an agreement to acquire the terminal business of Chile-based SM SAAM. Hapag-Lloyd also has stakes in the Italy-based Spinelli Group, the JadeWeserPort in Wilhelmshaven, the Container Terminal Altenwerder in Hamburg, Terminal TC3 in Tangier, and Terminal 2 in Damietta, Egypt, which is currently under construction.

The closing of the transactions is subject to approval by the relevant authorities and additional conditions customary for a transaction of this kind.

NEPTUNE LINES EXPANDS WITH NEW LOGISTICS ENTITY

For more than four decades, Neptune Lines has been supporting its customers' needs in an efficient and sustainable way. Focusing on business innovation and adaptation to the continuously changing market dynamics, Neptune Lines announced the next step in its growth strategy with the establishment of a new entity, Neptune Land Services (NLS).

NLS will deliver logistics services to address customer supply chain needs and solutions, including storage, processing, and inland distribution for finished vehicles.

Mr Dror Noach will lead the new entity as General Manager. Mr Craig Jasienski, CEO of Neptune Lines, said: "I am excited to welcome Dror to deliver our growth strategy with NLS. With his vast experience in both European logistics of fast-moving consumer goods, as well as finished vehicle logistics globally, he is very well suited to drive our ambition." Mr Noach's last position was Vice President of Global Logistics for the CNH Industrial group, responsible, among other things, for global distribution and processing centres for the entire product range, including trucks, agricultural, and construction equipment.

BLUE ECONOMY

NINE IN TEN MAJOR PORTS GLOBALLY ARE EXPOSED TO DAMAGING CLIMATE HAZARDS

Ports are crucial for the economy; they handle the vast majority of global trade, are important hubs for industry and transport, and are large employment providers. But, by their very nature, ports are located in hazard-prone areas along coasts and close to rivers -exposed to storms and floods and will have to cope with sea level rise and even more severe storms because of climate change.

In a recent study published in Communications Earth and Environment, researchers from the University of Oxford's Environmental Change Institute provide a detailed picture of climate risks for 1,340 of the most important ports globally. It combines a new geospatial database of port infrastructure assets with the most detailed available information on natural hazards, including earthquakes, cyclones and flooding, as well as localised information on "marine extremes" (wind speeds, waves, temperature, overtopping). 'We found that 86% of all ports are exposed to more than three types of climatic and geophysical hazards. Extreme conditions at sea (e.g., storms) are expected to cause operational disruptions to around 40% of ports globally. What's more, ports are exposed to other hazards, including river flooding and earthquakes, so port designers and operators have to take multiple hazards into consideration,' says research lead Jasper Verschuur.

Large ports in Asia, the Gulf of Mexico, and Western Europe face the biggest climate risks. However, despite the absolute risk being particularly large in high-income countries, the impacts could be greater in middle-income countries' ports.

The climate risk to ports, mainly attributed to tropical cyclones and river flooding, is estimated to be worth US$7.6 billion each year. This figure is more than half as large as a previous estimate of the climate risk of road and rail infrastructure on a global scale, illustrating that, although ports only encompass relatively small areas, the high value and density of assets can contribute to the climate risk on a national and global scale. On top of the physical damages, port downtime associated with these natural hazards puts trade worth $67 billion at-risk every year, which could result in costly delays, revenue losses, and adverse impacts on the wider economy.

US ANNOUNCES MORE THAN $380 MILLION IN GRANTS TO MODERNISE FERRY SERVICES, REDUCE EMISSIONS, AND CONNECT RURAL COMMUNITIES

The US Department of Transportation's Federal Transit Administration (FTA) recently announced $384.4 million in federal funding from President Biden's Bipartisan Infrastructure Law for expanding and improving the nation's ferry service in communities across the country, as well as accelerate the transition to zero-emission transportation. This funding will benefit millions of Americans – from Alaska to Michigan to Maryland – who depend on coastal waters, rivers, bays, and other bodies of water to connect to their communities.

FTA is awarding 23 grants across 11 states and the US Virgin Islands. The grants will fund projects including replacing old vessels, expanding fleets, and building new terminals and docks. For the state of Alaska, the award means nearly $286 million of investment in the Alaska Marine Highway, which serves remote locations throughout the state. In addition, almost $100 million of the national grants will go toward low- and no-emission ferries, helping decrease greenhouse gas emissions from the transportation sector.

"With these grants, we are improving and

expanding ferry service in the communities that rely on waterways the most—often in more rural, remote regions—connecting people to jobs, services, and city centers while cutting climate pollution," said US Transportation Secretary Pete Buttigieg.

NIGERIA'S LEKKI DEEP SEA PORT: A GAME-CHANGER IN WEST AFRICA

The Lekki Deep Sea Port in Lagos, Nigeria, was inaugurated on 23 January by the country's president, Muhammadu Buhari. The previous day, the port had welcomed the first ship to its facilities, the "CMA CGM Mozart". The $1.5 billion project is expected to ease congestion at the rest of Nigeria's ports while handling cargo for transshipment to other destinations.

With the opening of the new port, which will be the largest in the country, Nigeria aspires to become a major transshipment hub in Africa. Infrastructure development is central to the government's economic policy for Abuja. It is worth noting that the construction of the port, undertaken by the state-owned China Harbor Engineering Company, began in June 2020. Its handling capacity is 1.2 million TEUs.

During the ceremony, the Chinese ambassador to Nigeria, Cui Jianchun, told reporters that the project is a game-changer for the region as it will create over 200,000 new jobs. He also stated that the total economic benefits for the country would exceed $360 billion and emphasised that the port will support the industrial and petrochemical complex in the Lekki Free Trade Zone, which includes the Dangote refinery.

ADDRESSING UNDERWATER NOISE FROM SHIPS

Draft revised Guidelines for reducing underwater noise from commercial shipping to address adverse impacts on marine life have been agreed upon by the IMO Sub-Committee on Ship Design and Construction (SDC 9), which met on 23-27 January.

The draft guidelines recognise that commercial shipping is one of the main contributors to underwater radiated noise (URN) which has adverse effects on critical life functions for a wide range of marine life, including marine mammals, fish, and invertebrate species, upon which many coastal indigenous communities depend for their food, livelihoods and cultures.

The draft revised guidelines provide an overview of approaches applicable to designers, shipbuilders and ship operators to reduce the underwater radiated noise of any given ship. They are intended to assist relevant stakeholders in establishing mechanisms and programmes through which noise reduction efforts can be realised.

The draft guidelines were developed by a correspondence group, with further work completed by a working group which met during the Sub-Committee session.

The correspondence group was re-established to report back to SDC 10 in January 2024 to address the remaining work under the agenda item. In particular, it was tasked with revising a flowchart on the URN Noise Management Planning process to reflect the Revised Guidelines, and the underwater noise management plan included in appendix 3, to be used as a tool for raising awareness. The group will also finalise and prioritise the provisional list of suggested next steps to further prevent and reduce underwater radiated noise from ships.

The Sub-Committee agreed on a work plan that envisages, among other things, identifying ways to implement the Revised Guidelines and increase awareness and uptake; organising an expert workshop on potential co-benefits and trade-offs that may exist between the reduction of underwater radiated noise from ships and energy efficiency; developing a plan of action for further work.

GEOPOLITICS

AUSTRALIA BUILDING BRIDGES WITH CHINA

In a communication between the trade ministers of Australia and China aimed at restoring the two countries' strained bilateral relations, the Australian minister said his government was looking forward to "barrier-free trade" with China.

At the height of tensions with Australia's previous conservative government back in 2020, Beijing imposed steep tariffs on key Australian exports such as wine, beef, and barley.

Australia's then government had enraged China by repeatedly criticising its human rights record and pushing for an independent investigation into the origins of the Covid-19 pandemic.

After the election of Australia's current centre-left government in May 2022, the country has adopted a less confrontational approach and recently discussed a possible "full restoration of contacts" with Chinese officials.

Australian Trade Minister Don Farrell said he had had a videoconference meeting with his Chinese counterpart Wang Wentao during which he underlined the need for "barrier-free trade for

Australian exports". The two ministers agreed to have an in-person meeting in China, although they did not set a specific date.
The tariffs and the de facto embargo from the suspension of the country's coal exports to China have cost Australia more than A$5 billion. Nevertheless, Beijing has given the green light to four companies to resume imports of Australian coal while six bulk carriers have unloaded or are scheduled to unload in China.
Farrell stressed that his conversation with his Chinese counterpart signals "an important new phase in the stabilisation of Australia's relations with China".

JAPAN AND GREECE TO UPGRADE BILATERAL RELATIONS

In late January, the Greek Prime Minister Kyriakos Mitsotakis met with his Japanese counterpart Fumio Kishida at the Prime Minister's Official Residence in Tokyo. The two leaders signed a Joint Declaration of Strategic Cooperation between Greece and Japan, which upgrades bilateral relations to a strategic level and enhances cooperation between the two countries in areas of mutual interest. After their private meeting, a meeting was held in the presence of the two delegations, followed by a formal dinner.
Kyriakos Mitsotakis also discussed the positive prospects of the Greek economy and the reasons for investing in it with executives of Keidanren, Japan's national business and industrial associations body, in Tokyo. The Greek Prime Minister, accompanied by the Greek delegation, was received by Director Toshiaki Higashihara (President and CEO of Hitachi) and addressed the members of Keidanren.
"This is the first visit of a Greek Prime Minister to Japan since 2005. But the main purpose of my visit to Japan and the main purpose of the meetings we will be having over the next two days is to make the point that we have been able to overcome the crisis and that the Greek economy is now on a dynamic path and a high-growth trajectory," stressed Kyriakos Mitsotakis in his speech.
Mr Mitsotakis attributed the rise of foreign direct investments in the country to the positive performance and the prospects of the Greek economy: "And what we saw as a result of all these important changes was a significant increase in foreign direct investment in the country. We had a record year in 2021. We had a record year in 2022. Microsoft, Google, and Amazon have committed significant capital to Greece to build data centres. They're also looking at investing in our technology ecosystem".
The Prime Minister urged Japanese businesses to invest in Greece, explaining the reasons why they should do so.
"Consider Greece an investment destination to the extent that you're interested in investing in our part of the world. I think it is a combination of three things: a prudent fiscal policy which cut taxes, but without endangering the fiscal discipline of the country, significant reforms on all fronts, and the fact that we've cleaned up our banking system", said the Prime Minister.
Kyriakos Mitsotakis also highlighted the role that Greece can play in the new energy architecture being developed in Europe. On the one hand, through the development of infrastructures that upgrade the country's role as an energy transport hub and make it a provider of energy security in the wider region, and on the other hand, through its own hydrocarbon explorations. At the same time, he stressed that Greece is investing in the further penetration of renewables in its energy mix.

UNITED STATES AND INDIA ELEVATE STRATEGIC PARTNERSHIP UNDER THE ICET INITIATIVE

In May 2022, President Biden and Prime Minister Modi announced a U.S.-India initiative on Critical and Emerging Technology (iCET) to elevate and expand the strategic technology partnership and defence industrial cooperation between the governments, businesses, and academic institutions of the two countries.
The United States and India affirm that the ways in which technology is designed, developed, governed, and implemented should be shaped by their shared democratic values and respect for universal human rights.
At the end of January, the two National Security Advisors led the inaugural meeting of the iCET in Washington. They were joined on the US side by the Administrator of the National Aeronautics and Space Administration, the Director of the National Science Foundation, the Executive Secretary of the National Space Council, and senior officials from the Department of State, the Department of Commerce, the Department of Defense, and the National Security Council. On the Indian side, the Ambassador of India to the United States, the Principal Scientific Advisor to the Government of India, the Chairman of the Indian Space Research Organization, the Secretary of the Department of Telecommunications, the Scientific Advisor to the Defense Minister, the Director General of the Defence Research and Development Organization, and senior officials from the Ministry of Electronics and Information Technology and the National Security Council Secretariat participated. The two sides discussed opportunities for greater cooperation in critical and emerging technologies, co-development and coproduction, and ways to deepen connectivity across our innovation ecosystems. They noted the value of establishing "innovation bridges" in key sectors, including through expos, hackathons, and pitch sessions. They also identified biotechnology, advanced materials, and rare earth processing technology as areas for future cooperation.
The United States and India underlined their com-

mitment to resolving regulatory barriers and business and talent mobility in both countries through a standing mechanism under iCET.
To expand and deepen their technology partnership, the United States and India are launching new bilateral initiatives and welcoming new cooperation between governments, industry, and academia in the following domains:

- Innovation Competition
- Defense Innovation and Technology Cooperation
- Resilient Semiconductor Supply Chains
- Space
- Science, Technology, Engineering and Math Talent
- Next Generation Telecommunications.

RUSSIA AND IRAN FORGING CLOSER TIES

Iran and Russia have linked their interbank communication and money transfer systems to help boost trade and financial transactions as both Tehran and Moscow are being hit by Western sanctions.
Since 2018, when the US withdrew from the 2015 nuclear pact with Iran and reimposed sanctions, the Islamic Republic has been disconnected from the Belgium-based SWIFT financial messaging service, a key international banking access point.
Similar restrictions have been imposed on some Russian banks since Moscow invaded Ukraine last year.
The head of Iran's Central Bank, Mohammad Farzin, welcomed the move. "The financial channel between Iran and the world is being restored," he tweeted.
Since the beginning of the war in Ukraine, Tehran and Moscow have taken steps to forge close bilateral ties as both capitals seek to build new economic and diplomatic partnerships elsewhere.
With poverty deepening, largely because of US sanctions on Tehran over its nuclear program, many Iranians have been feeling the effects of galloping inflation and rising unemployment.
Inflation has soared to over 50%, the highest level in decades. According to Iran's Statistics Centre reports, youth unemployment remains high, with over 50% of Iranians living below the poverty line.

PASSENGER SHIPPING

UK INVESTS £77 MILLION TO DECARBONISE MARITIME TRANSPORT

Zero-emission ferries, cruise, and cargo ships will set sail in UK waters within two years, creating thousands of new jobs, thanks to a £77 million government investment in clean maritime technology. The multi-million-pound Zero Emission Vessels and Infrastructure (ZEVI) competition, launched on 6 February 2023, will see innovative companies apply for the funding, which must be used to decarbonise technology both on board and shoreside.
This is the first time in UK history the government is intervening to specifically target this level of funding on green maritime tech, which is already well developed. The funding will take the tech from the factory to the sea – identifying which projects will have a long-term impact in reducing emissions.
Successful projects must show they could use this money to work with major UK ports and operators to launch a zero-emission vessel by 2025 at the latest.
Such technology includes battery electric vessels, shoreside electrical power, ships running on low-carbon fuels like hydrogen or ammonia, and wind-assisted ferries.

PORT EVERGLADES TO ADD SHORE POWER TO EIGHT CRUISE TERMINALS

Port Everglades recently completed a study to add shore power to the Port's eight cruise terminals and has taken delivery of the final report. This comprehensive analysis assessed the capacity of the existing electrical grid and identified the necessary infrastructure upgrades required to deliver shore power to the diverse cruise ships calling at Port Everglades. The recommended plan is capable of delivering up to 16 megawatts of electricity simultaneously to each of the eight terminals in accordance with IEC/IEEE 80005 standards.
To align with Broward County climate change goals, Port Everglades is advancing initiatives to reduce greenhouse gas emissions, including the installation of shore power infrastructure. Engine exhaust gases from cruise ships running on-board power plants while docked are contributors to air emissions. Shore power infrastructure enables ships to turn off their engines and connect to the local electric power grid. Full implementation of this shore power and electrification initiative is projected to eliminate 11,366 metric tons of CO_2 while reducing NOx and SO_2 emissions by 75% and 51%, respectively. This is equivalent to taking 2,470 cars off the road annually. The electricity will be generated by FPL using a variety of energy sources, including natural gas, nuclear, solar, and wind.
The estimated cost for the project, including the cost of FPL supply and distribution system upgrades, is approximately $20 million per cruise terminal, costing a total cost of $160 million. The project is expected to be financed through federal and state grant funds, contributions from FPL, the participating cruise lines, and the County. Implementation will occur in phases. The earliest the construction could begin is mid-2024, with all phases completed by the end of 2027.

COSTA CRUISES RETURNS TO SERVICE IN ASIA

Costa Cruises announced the return to service in Asia of Costa Serena. From June to September 2023, the Italian company's ship will be operating a program of "charter" cruises in cooperation with local Asian partners.

The signing of the commercial agreements took place in Dubai on board Costa Toscana, the flagship of the fleet deployed in the Arabian Gulf throughout the winter of 2022/23.

The total number of cruises Costa Serena will offer in Asia in 2023 is thirty. Six cruises in June 2023 will be dedicated to the South Korean market; from July to September 2023, another twenty-four cruises are planned for the Taiwan market.

The itineraries, lasting from 4 to 7 days, include some of the most beautiful destinations in East Asia, particularly Japan, such as Sasebo, Kagoshima, Otaru, Hakodate, Naha, Miyakojima, and Ishigaki. In addition, departures are scheduled from the ports of Busan, Sokcho and Pohang in South Korea and Keelung in Taiwan.

Costa Serena is an Italian-flagged ship built by Fincantieri that entered service in 2007. She has a gross tonnage of 114,000 tons and can accommodate up to 3,780 guests. Before the pause in operations, which began in late January 2020, the ship offered cruises In East Asia, with departures from China.

INAUGURATION OF THE FIRST AND ONLY CRUISE TERMINAL IN AQABA

Under the patronage of His Excellency the Prime Minister of Jordan, Dr Bisher Khasawneh, Their Excellencies Sheikh Khalifa Bin Mohammed Bin Khalid Al Nahyan, UAE Ambassador to Jordan, and Tawfiq Kreishan, Deputy Prime Minister and Minister of Local Administration in Jordan, inaugurated the first and only cruise terminal in Aqaba at the end of January, which coincided with the arrival of the cruise ship MSC Splendida carrying more than 2,000 guests to Jordan. The new Aqaba Cruise Terminal marks the launch of the first of five strategic mega-projects planned between AD Ports Group and Aqaba Development Corporation.

Under the agreement with Aqaba Development Corporation, AD Ports Group will develop, manage, and operate the Aqaba Cruise Terminal, a world-class facility for international cruise passengers looking to visit Jordan, specifically Aqaba, Petra, and Wadi Rum. Over 50 vessels are scheduled to dock at the Aqaba Cruise Terminal over the next four months, bringing tens of thousands of visitors to the popular winter-sun destination.

The Aqaba Cruise Terminal comprises a 700-metre quay wall, passenger and luggage hall, indoor retail spaces, free Wi-Fi, prayer rooms and offices. The ultra-modern facility is a one-stop-shop for multiple government stakeholders serving the cruise business, improving processes, procedures, and services, and making it an attractive destination for cruise lines, thereby increasing ship call opportunities and passenger volumes while ultimately boosting the economy at large.

CHINA SET TO DELIVER THE FIRST DOMESTICALLY-BUILT LARGE CRUISE SHIP WITHIN 2023

The Xinhua News Agency has reported that China's first domestically-built large cruise ship is expected to be delivered by the end of 2023, as over 91 per cent of its construction has been completed. Citing statements made by the China State Shipbuilding Corporation, Xinhua said the shipbuilding giant has also been building a second large cruise ship since the beginning of August 2022.

This Chinese shipbuilding venture is of particular interest, given that constructing large-sized cruise ships has traditionally been undertaken by American and European shipbuilding companies, which are the pioneers in this sector, as their leading role in the cruise market shows.

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SMART SHIPPING

The future is knocking on the industry's door

Special report sponsored by

Under the auspices of

Global economy is witnessing a barrage of technological changes that aspire to usher in a new era in every industry, including, of course, shipping. However, every change involves numerous challenges, and shipping is no different in this respect. On the other hand, technological progress offers many advantages. In this context, Naftika Chronika conducted a survey on smart shipping, looking into the benefits it has brought to the industry, and examining the challenges that remain unsolved or lie ahead.

We then asked experienced members of the shipping industry to answer questions based on our research findings related to current and future technological developments driving the digitalization of shipping.

A research conducted by Manos Charitos

ZOOMING IN ON FUTURE TECHNOLOGICAL CHALLENGES

MARTECMA* MEMBERS PUT THEIR CARDS ON THE TABLE

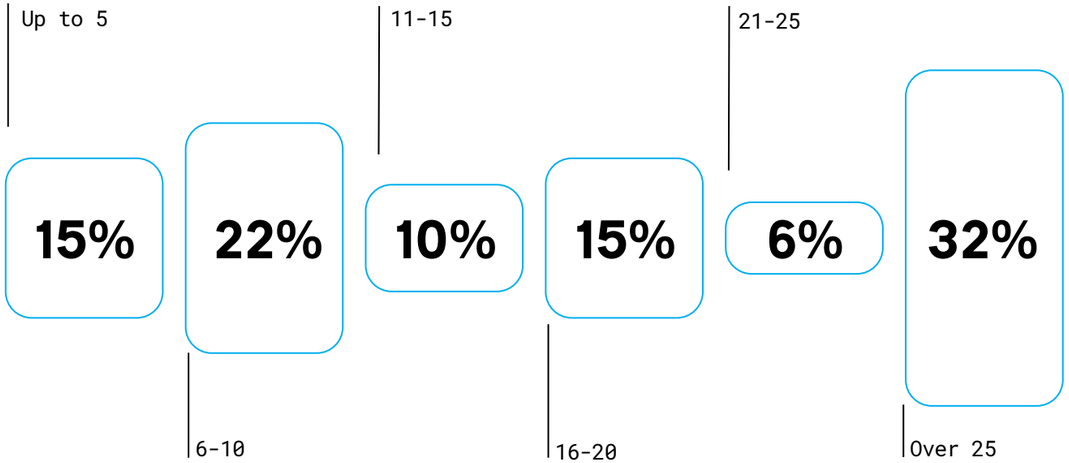
*Marine Technical Managers Association in Greece

Environmental concerns and technological developments in the highly competitive and ever-evolving global shipping industry necessitate changes in the structure, management, and general operation of shipping companies.
Today's race to develop technologies aimed at reducing the environmental footprint of ships and the ever-increasing rate at which digitalisation and the potential dangers it entails are entering the shipping industry make it clear that the future of shipping will remain intertwined with technological progress and the implementation of innovative ideas.

In this context, Naftika Chronika has conducted a survey on the subject of "Smart Shipping" based on the responses of MARTECMA members to a related questionnaire. A total of 75 people participated in the survey, of who 60 are representatives of shipping companies, 13 work for classification societies, and two in companies that provide services to the wider shipping industry.
This research aimed at recording the opinions of experts on the emerging trends driven by the digitalisation of the shipping industry and drawing conclusions about its most important effects.

Graph 1 Distribution of the survey participants based on the type of company they work for

Graph 2 Distribution of the survey participants based on the number of ships managed by the company they represent



DISTRIBUTION OF THE SURVEY PARTICIPANTS BASED ON THE NUMBER AND TYPE OF SHIPS MANAGED BY THE COMPANY THEY REPRESENT

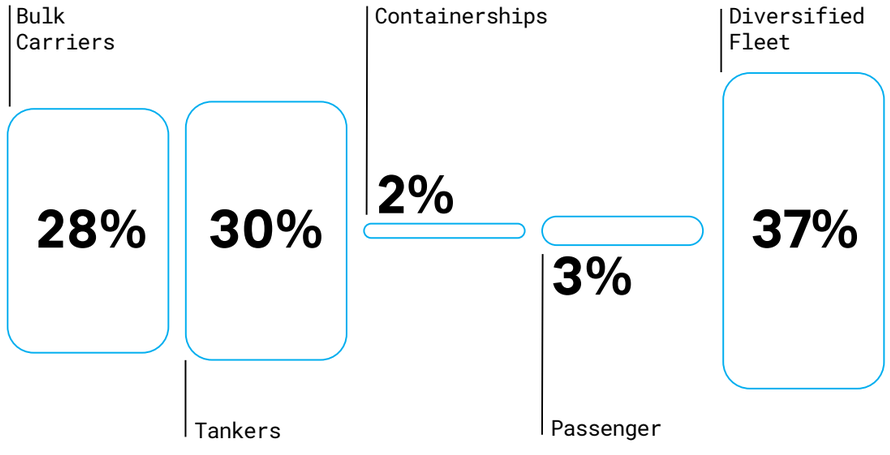
As indicated in Graph 1, 80% of the survey participants represent ship management companies of various sizes, categorised according to the number of vessels they manage. The company size category with the highest representation is companies managing more than 25 vessels. There are 19 such companies in the sample, representing 32% of the total.

To facilitate comparisons based on the size of the ship management companies represented in the survey, we have divided the sample into two further categories: representatives of companies with a fleet of up to 15 ships and representatives of companies with a fleet of more than 15 ships. 28 company representatives belong to the first category of ship management companies, while 32 belong to the second.

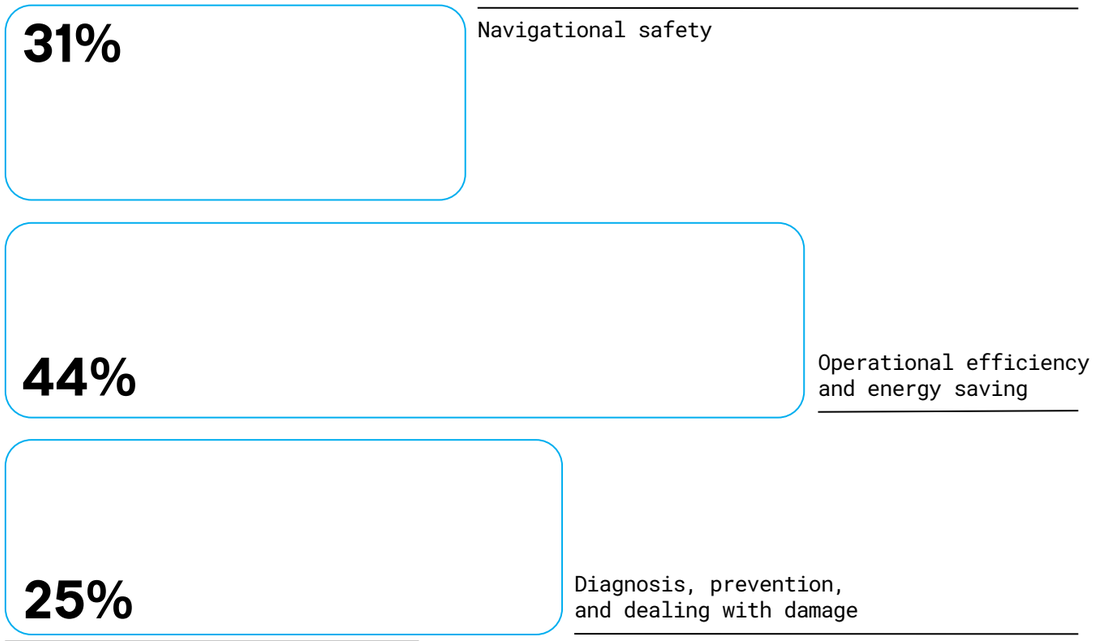
An additional axis of categorisation of survey participants is the type of vessels managed by their company. The critical role of bulk carriers and tankers in the Piraeus/Athens fleet is again evident. Of the survey's 60 shipping company representatives, 17 work in companies that exclusively manage bulk carriers and 18 in companies that exclusively manage tankers. Thus, 58% of the participants work in companies that exclusively manage one of the two main types of bulk shipping vessels.

At the same time, a significant 37% of participants represent companies managing diversified fleets. It is worth noting that four companies appear to be managing four different types of vessels: bulk carriers, tankers, containerships, and gas carriers. On the other hand, 12 participants represent companies only managing carriers and tankers.

Graph 3 Distribution of the shipping company representatives based on the types of ships managed by the company they work for



Graph 4 "Which aspect of ships' operation has benefitted the most from digitalisation?"



THE BENEFITS OF DIGITALISING THE SHIPPING INDUSTRY

One of the questions the 75 survey participants were asked to answer was which field has benefited the most from the digitalisation of the shipping industry. The options available were:

- Diagnosis, prevention and dealing with damage
- Operational efficiency and energy saving
- Navigational safety

44% of participants responded that the field that has gained the most is operational efficiency and energy saving. On the other hand, 31% of participants consider that the field that has reaped the most significant benefits is navigational safety.

Furthermore, one in four participants considers that the field of diagnosis, prevention and dealing with damage has experienced the most significant benefits. It appears that so far, the progress of digitalisation has benefitted operational efficiency and improved energy efficiency to a greater extent, which is probably due to the greater emphasis the global shipping industry has placed in recent years on reducing its environmental footprint, particularly in view of the increasingly stringent environmental regulations that are constantly coming into force.

In any case, it is worth noting that there are some differences if the size of the shipping company represented by the participants is taken into account: among the representatives of companies with more than 15 ships, the percentage of participants who consider that navigational safety has benefitted the most increases to 38% (vs the entire sample's 31%).

Conversely, among the representatives of companies that work for companies with a fleet of up to 15 ships, the percentage that considers that diagnosis, prevention, and dealing with damage has reaped the greatest benefits rises to 32% (vs the entire sample's 25%).

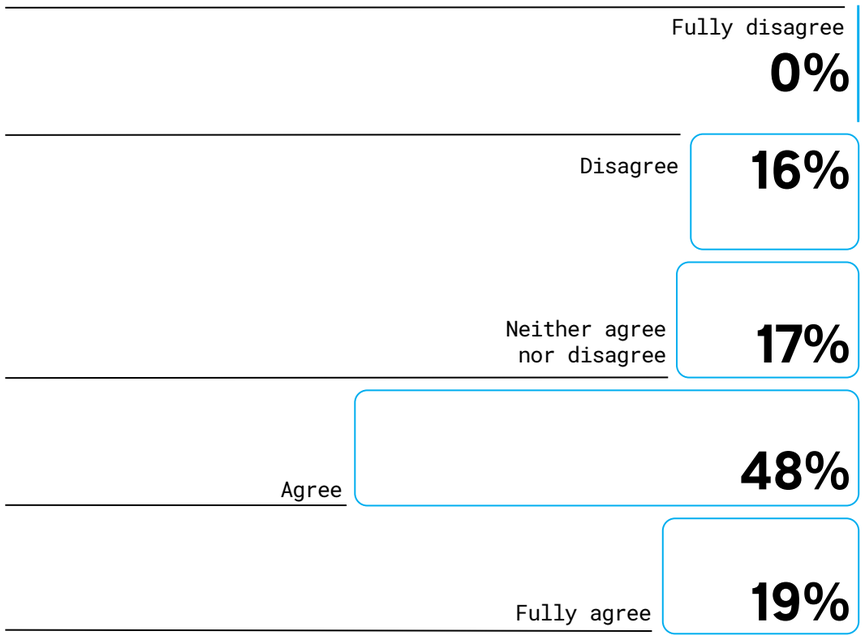
DATA ANALYSIS VS ENERGY SAVING

The next question participants were asked to answer was to what extent they agreed with the following statement: "Investing in connectivity-enhancing technologies and data analytics is just as important as investing in energy-saving technologies and alternative fuels to reduce the environmental footprint of shipping".

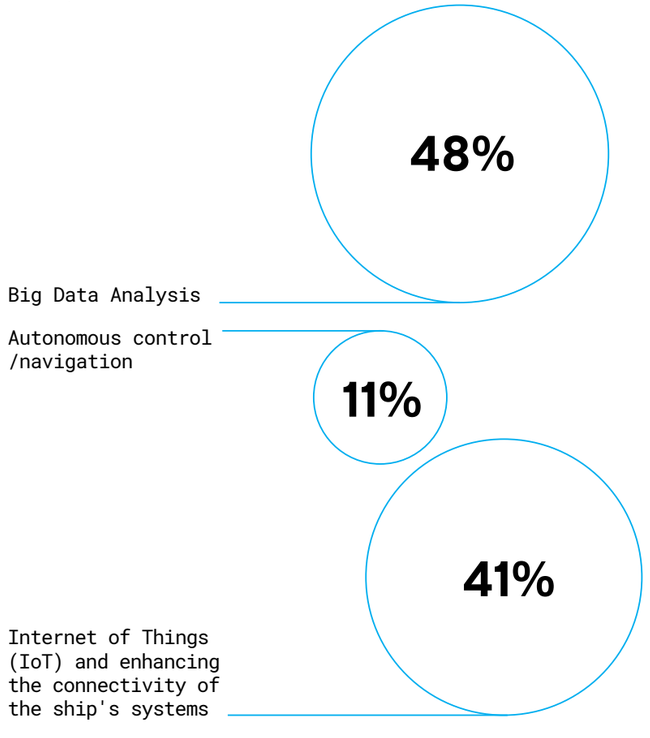
A noteworthy finding is that none of the participants completely disagreed with this statement. On the contrary, 14 participants (19% of the sample) fully agreed. Overall, those who agreed with the statement outnumbered those who disagreed: two out of three participants (67%) agreed or fully agreed with the statement.

Interestingly, when it comes to the representatives of companies managing a fleet of up to 15 ships, the percentage that agrees or fully agrees with the statement drops to 50%. This comes as no surprise, given that connectivity and data analytics needs become more pressing as a company's fleet size increases.

Graph 5 "Investing in technologies to enhance connectivity and data analysis is as important as investing in energy-saving technologies and alternative fuels to reduce the environmental footprint of shipping."



Graph 6 "Which of the following aspects of smart shipping do you think can yield the greatest results in terms of enhancing the ship's operational performance?"



THE OPERATIONAL PERFORMANCE OF SHIPS UNDER THE SPOTLIGHT

Concerning the enhancement of the operational performance of vessels, the participants were asked to answer which of the following aspects of "smart" shipping can bring the greatest benefits. The possible answers were:

- The Internet of Things (IoT and enhancing the connectivity of the ship's systems)
- Big Data Analysis
- Autonomous control/navigation

Based on the participants' responses, it is evident that the vast majority do not consider that autonomous navigation can offer the greatest benefits to the energy efficiency of ships. For example, only 11% chose this answer, while for the representatives of shipping companies with a fleet of up to 15 vessels, it drops to 4%.

Most participants believe that Big Data Analysis will yield the most benefits; however, a significant percentage of the sample said that the Internet of Things and the enhancement of the ship's systems can deliver the most benefits.

THE EFFECT OF DIGITALISATION ON CREWS

One of the most interesting aspects of shipping's digitalisation is its impact on the crews' role on board ships. The technological advances expected within the next few decades have led many to believe that fully autonomous vessels are not just a dream.

In this context, the participants were asked to answer a related question that focused on the effect of digitalisation on seafarers' roles. The possible answers to this question were:

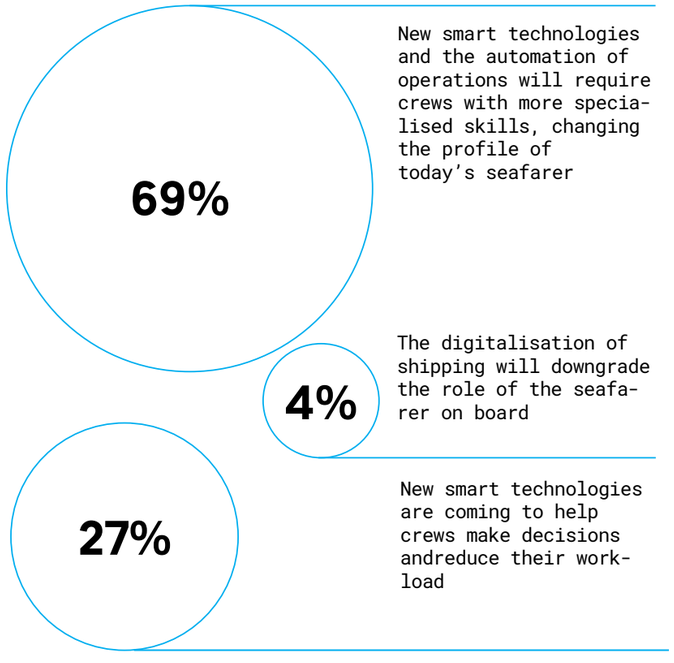
- The digitalisation of shipping will downgrade the role of the seafarer on board
- New smart technologies are coming to help crews make decisions and reduce their workload
- New smart technologies and the automation of operations will require crews with more specialised skills, changing the profile of today's seafarer

Judging by the responses, the survey participants expect the role of seafarers to remain crucial. Only three answered that digitalisation would downgrade the seafarer's role on the ship.

The majority of the participants believe that digitalisation will bring about changes in the training of crews rather than in their role on the ship. 69 participants answered that the profile of seafarers would change in the future due to the need for specialised individuals who will be able to deal with new smart technologies and the automation of certain vessel functions. Notably, for the representatives of companies that exclusively manage bulk carriers or tankers, this percentage increases to 80%.

At the same time, 27% of all respondents believe that progress in shipping's digitalisation will help both at the decision-making level and in reducing the workload of seafarers.

Graph 7 "What do you think will be the effect of shipping's digitalisation on the role that crews have on ships today? "



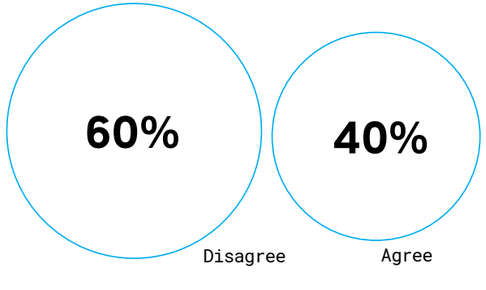
CYBERSPACE AND SECURITY: THE ROLE OF INTERNATIONAL ORGANISATIONS

One of the most critical threats posed by the digitalisation of the shipping industry is cyber-attacks. The more ship operations are carried out through remote or non-remote systems, the greater their vulnerability to cyber-attacks. This particular view has been consistently expressed by many members of the wider shipping industry, who also consider that the role of international organisations in protecting shipping companies is of great importance.

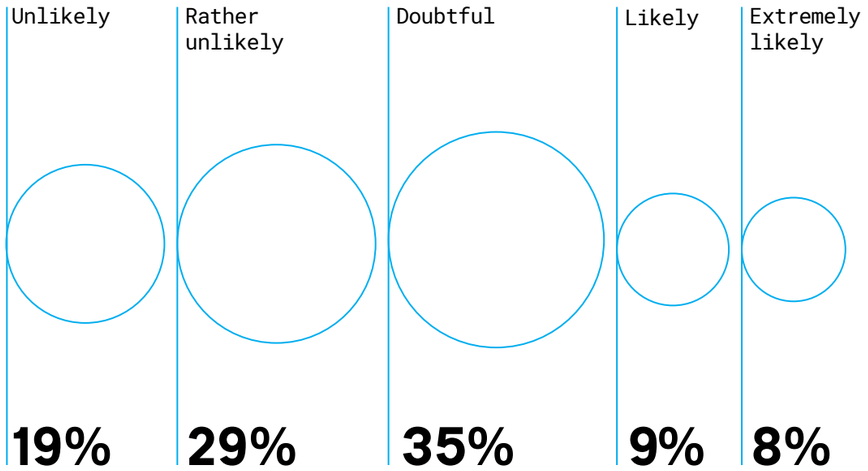
In this context, the survey participants were asked whether they believe international organisations have developed an adequate regulatory framework and provided sufficient information to protect shipping companies from cyber threats. 60% of the participants expressed scepticism regarding the progress of international organisations on this issue.

The concern expressed by shipping company executives and the wider shipping industry evident in their responses is probably based on the ever-increasing cyber-attack threats. According to Oriani Hellas, a provider of digital solutions for shipping, 2021 saw a 33% increase in cyber-attacks, with an average of one attack occurring every 39 seconds.

Graph 8 "International organisations have developed an adequate regulatory framework and provided sufficient information to protect shipping companies from cyber threats."



Graph 9 "How likely do you consider the implementation of fully autonomous navigation in merchant ships, in the near future?"



THE LIKELIHOOD OF FULLY AUTONOMOUS NAVIGATION IN THE FUTURE

Advances in technology raise many questions about the shipping industry's future, most of which are related to whether digitalisation will lead to autonomous merchant ships and, if so, to what extent. Although a part of the ship's operations does take place without human intervention, fully autonomous navigation is a complex matter that greatly depends on external factors, such as the protection of remotely controlled systems from cyber-attacks.

The survey's participants do not seem to consider fully autonomous navigation on merchant ships particularly likely: almost one in two (48%) answered that they think it is unlikely or rather unlikely. Fewer than one in five (17%) said it was likely or extremely likely.

At the same time, a significant percentage remains uncertain about the future; for example, more than one in three respondents (35%) answered that achieving fully autonomous merchant ships is doubtful.

It is noted that the participants' answers varied depending on whether they agreed or disagreed with the statement: "International organisations have developed an adequate regulatory framework and provide sufficient information to protect shipping companies from cyber threats". Of those who agreed with the statement, only 10% (vs the entire sample's 17%) consider fully autonomous navigation in the future likely or extremely likely.

On the other hand, of the participants who believed that there had been little progress in the regulatory framework of international organisations, 22% think that achieving fully autonomous navigation is likely or extremely likely. Consequently, 78% believe it is a doubtful/unlikely/rather unlikely development, which is probably linked to their belief that there has been little progress in the regulatory framework introduced by international organisations. Furthermore, it appears that regulatory unpreparedness regarding cybersecurity makes the achievement of autonomous navigation on merchant ships even more doubtful.

SUMMARY

This survey posed focused questions towards shipping industry representatives regarding the digitalisation of shipping and its possible benefits. Overall, investing in connectivity and data analytics technologies appears to be a high priority for most participants due to the many benefits they can provide in terms of improving performance and enhancing safety, but also diagnosing, preventing, and dealing with damage. At the same time, digitalisation does not appear to be a threat to the crews' role but an opportunity for their career development and improving working conditions on board. Finally, for the majority of the survey participants, fully autonomous navigation appears to be an unattainable goal for the time being. Moreover, a large percentage also believes that the current regulatory framework does not provide sufficient information on the protection of shipping companies from cyber threats.

Mr Panos Kourkountis shares his thoughts on the impact the digital transformation of shipping will have on ship safety and operational performance.

THE DIGITAL TRANSFORMATION OF SHIPPING CAN ADD VALUE TO SHIP SAFETY

by
Panos Kourkountis,
Chairman, MARTECMA;
Technical Director, Sea Traders SA

The field of safety is believed to have benefited the least from the digitalisation of the shipping industry. What factors have led to this result, and what initiatives are necessary to make the desired progress?

Operating ships has always been a demanding task, requiring considerable expertise and effort, especially from crews. In the past decades, challenging commercial obligations and new regulatory requirements have added additional burdens to ship crews and management offices. As a result, the amount of information that must be collected and processed is excessive. Traditionally, the workflow and processes of collecting and evaluating the data required for ships' safe and competitive operation have been a daunting task. However, the introduction of digitalisation has changed the way data is collected and evaluated.

IT systems and ship-to-office connectivity enable the collection and automatic processing of large volumes of data and information. By creating digital workflows and control checks, the initial validation and evaluation of data are done within seconds. Setting routines and standardising acceptable ranges allows data to be segregated and filed while critical information is spotted and highlighted.

Advanced systems evaluate combinations of parameters, and any deviation from the predefined acceptable criteria triggers a warning that cannot be ignored.

The introduction of digitalisation in shipping has not only affected ship management; it has also changed the concept of ship design. The intelligent systems used to control equipment and critical communications between the different systems installed on board improve ships significantly. In recent decades, digital solutions have helped the shipbuilding industry to make progress and build safer vessels, but many of these systems can still be improved. Nevertheless, the digital transformation of shipping can add value to ship safety.

Big data analysis is considered vital to boosting the operational performance of vessels. Will it become essential for companies to employ people with relevant knowledge to perform in-house evaluations of their fleet's performance? Will this be possible for smaller companies, or will outsourcing become a common practice?

Operational performance depends on a combination of factors. The characteristics of the ship, its speed, trim, and cargo, the fuel quality and price, the charter rate, the voyage, and the environmental conditions are parameters that should be considered in optimising a voyage. Constantly changing parameters form a dynamic equation, with the data continuously fluctuating.

For a meaningful optimisation of the ship's performance, all variables should be monitored online, and the parameters should be processed and evaluated by big data analysis tools. Data from previous voyages form the basis for the evaluations and predictions.

Investing in know-how and equipment adds to the operating costs of ships. However, the benefits of operational optimisation outweigh these costs. Especially for companies that have the advantage of spreading performance analysis and optimisation costs across multiple vessels, their impact on OPEX is negligible.

The advantage of large fleets is not only related to performance monitoring' economies of scale also lead to lower long-term averages in almost all categories of ship management expenses. In general, companies whose fleets grow in terms of ship numbers become more efficient.

To overcome the commercial disadvan-

tage of their size, smaller companies should consider outsourcing, collaborations, and joint ventures.

Cyberspace threats seem to be troubling the maritime industry members, given their scepticism towards the initiatives governments and regulatory bodies have taken thus far. What steps will ensure the safety of both crews and vessels in the digitalised future of shipping?

Cyber security is not a matter that concerns only the shipping industry. Instead, it is an issue that needs to be addressed by governments and regulators on a global, regional, and national level.

The increasing automation and digitisation of ships have made them vulnerable to cyber attacks, so they should be adequately protected.

Best practices and procedures guidelines are publicly available. However, the actual measures to be implemented should take into account the specific design and needs of each vessel and company and company.

The measures and hardware used to harden a vessel against cyber attacks should not affect the proper functioning of its systems. All functions and user-friendly operations should be maintained. Selecting the correct procedures and preparing a cybersecurity management plan should be undertaken by specialised consultants. Proper cyber risk assessment will identify threats and risks. The interference of the cybersecurity system with the safe operations of the ship's procedures and other systems should be considered and avoided. Actions against a potential cyber attack should not compromise established security rules and practices.

In addition to implementing measures, a disaster recovery and business continuity plan should be prepared to determine how the ship and company will respond to a cyber security incident. Shipping companies and ships implement multiple layers of defence against cyber attacks. However, it is crucial that shipyards examine cyber risks and ensure that appropriate security systems are incorporated at the design stage. Furthermore, makers of marine equipment should provide adequate hardening of their equipment against cyber attacks.

The shipping industry's efforts to secure the data and the operation of electronic equipment on board ships from cyber attacks should be backed by global regulations and prevention policies that will be applied to all equipment installed on board.

New technologies are expected to alter the necessary skills set a seafarer should have. Does this refer mainly to their general familiarity with technology, or are there explicit skills that will be deemed essential for seafarers in the future?

The successful implementation of new technology on ships should make them safer and simpler to handle, which means that technology will have failed if future vessels become so complex that crews cannot operate them.

The captains, chief engineers, officers, and crews of ships are not just graduates of a school. They all need extensive sea-going experience and training in order to obtain a licence and undertake new duties.

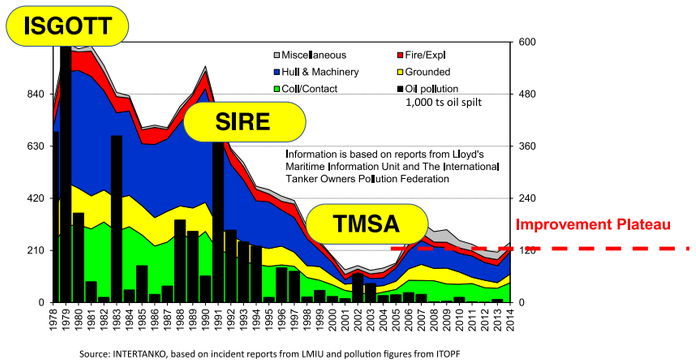
The work on board a ship is demanding, hard, and challenging. However, the majority of seafarers have developed exceptional skills for dealing with unexpected situations.

In general, old-generation systems are harder to operate. For example, anchoring a ship using traditional windlasses and manually handling all the related equipment requires an experienced and skilled crew. New technologies are expected to simplify and automate many traditional procedures.

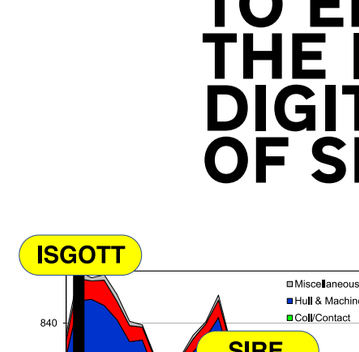
Digital innovations include self-diagnosis systems, automatic sequencing for the operation of different equipment, and remote-control systems. Many of these are already applied in our daily life, and we use them without special training. Seafarer training should be updated to cover the new technology so that the crews of future ships do not face difficulties in operating them.

New design ships will require specialised crews with special training and experience. Future ships will be safer and easier to handle by design, but nothing can prevent unexpected situations. Therefore, crews must be highly skilled, combining knowledge of new technologies and traditional seamanship.

HUMANS WILL BE THE KEY TO ENABLING THE INEVITABLE DIGITALISATION OF SHIPPING

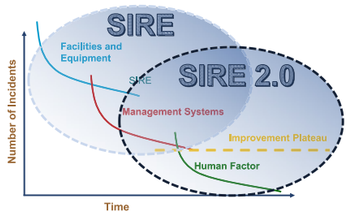


Source: INTERTANKO, based on incident reports from LMIU and pollution figures from ITOPF

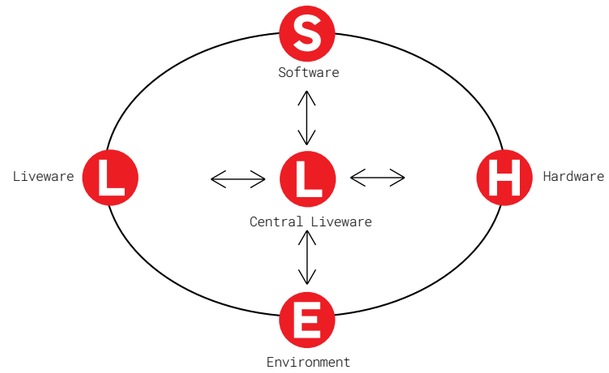


by **Takis Koutris,**
Managing Director
of Roxana Shipping S.A.
and ROKS Maritime Inc.

Digitilisation is already overwhelming our lives at all levels and areas of human activity. The reason or justification for this is that smart "everything" makes our lives more comfortable, boosts our senses, multiplies our options while saving time, and enables us to perform everyday activities such as communicating and monitoring remotely, surfing the internet, etc., at the speed of light.
But what is the role of digitalisation in promoting human safety and well-being? For example, is it helping medicine serve its purpose of improving the quality and length of human life?
The undebatable answer to the latter is yes. However, whether the quality of human life has improved is another question that needs a different approach to the impact of digitalisation.
It is under this perspective that we should address the question of the impact of onboard digitalisation on safety.
The mission of a ship management company is to transport goods as instructed, Health Safety Environment Quality (HSEQ), effectively, efficiently, and incident-free (IF EffEff). Therefore, for ship management companies, safety is a crucial aspect.
Safety was previously defined as 'the control of accidental loss'. Recently, it has been redefined as 'the ability to restore physically and mentally healthy after any failure'.



Whether we agree with the old or the new definition, our opinion is that digitalisation has improved onboard safety. The rate of accidents has been reduced drastically in the last two decades. The learning curve and regulatory framework development over that period indicate clearly how this was achieved. The role of digitalisation has been critical in designing better ships, systems, and equipment and has been crucial in developing better procedures and management systems. However, no matter the level of digitalisation, the role of humans will be instrumental, which is why the last line of defence will always be human performance.
And here again, digitalisation will play a crucial role in assisting company leaders to shape the proper context for humans to operate IF EffEff.
Of course, with digitalisation, we can further boost safety on board, but it has to be sustainable and reliable. Black boxes need to operate correctly; when they fail, they must be restored as fast as possible.
What threatens the reliable digitalisation of maritime safety? We would say oligopolies, cyber risks and human resources. In our view, oligopolies are the biggest threat due to how growth is interpreted and achieved in our capitalistic world. For example, oligopolies produce Printed Circuit Boards (PCBs) and make their components in factories that the end users have no idea about; they rapidly change technologies, market new products, and stop producing and providing support for older products. As a result, we now see products with a 5–10-year life and support for ships with an expected 25-year life. Consolidations and oligopolies are also observed in equipment suppliers, who assemble the components into modules for their systems. Because of these consolidations, a radical degradation in the after-sales service is experienced and, considering the limited role of the crew on board in troubleshooting black boxes, the reliable operation of digital technology is threatened, and its role in boosting safety on board is adversely affected.
Another threat to reliably digitalise for safety is cyberspace threats, which we will elaborate on further below.
Crew non familiarity with digital technologies is not a threat comparable to oligopolies and cyber threats because we are all familiar with smart "everything" in our daily activities. Therefore, we can cope with smart technology on board. What will be needed is a new learning curve that will have to be applied to alternative fuel technologies on our way to the 2050 zero carbon target, but that is a topic beyond the scope of this discussion. Nevertheless, we consider sea-going and office personnel non familiarisation with evaluating big data and managing cyber hazards as a real threat to the benefits offered by digitalisation.
Big data is useless without proper processing and evaluation to determine if and what actions are required. An advanced engineering skill set will be needed for efficient analysis and evaluation of big data. This skill set can be developed in-house or outsourced, depending on the software (in-house or outsourced), the company size and structure, and the competence of individuals. No matter what option will be exercised, it is a fact that specialised human resources should be employed to cope with the evaluation of big data and propose to the management team actions to be taken.
Despite advances in the regulatory framework, technology, and the installation of various software and hardware systems to counter cyber threats, the weak link in cybersecurity continues to be human behaviour. Hackers have become increasingly sophisticated in their tactics, using social engineering techniques to trick individuals into divulging sensitive information or compromising their devices. These tactics include phishing scams, baiting, pretexting, watering hole attacks, and ransomware. Therefore, it is vital to keep all software and systems up to date and to have a backup of important data stored in a secure location.



While technology can significantly mitigate cyber threats, it is essential to remember that human behaviour will always be the weak link. However, by increasing awareness of the above tactics used by hackers and taking proactive measures to protect against them, individuals can greatly reduce the risk of falling victim to a cyber-attack for themselves and their company.
Concluding, we believe that humans will be the key to enabling the inevitable digitalisation of the shipping industry, which in turn, properly applied, will boost HSQE IF EffEff operations on board ships.

Mr Antonis Georgantzis presents his views on the future skills a seafarer will need as shipping's digitalisation progresses.

CYBERSECURITY: CREW TRAINING IS PART OF THE EQUATION

by
Antonis Georgantzis,
Chief Operational Officer of Latsco Marine Management Inc.

The field of safety is believed to have benefited the least from the digitalisation of the shipping industry. What factors have led to this result, and what initiatives are necessary to make the desired progress?

Digitalisation is undoubtedly increasing equipment capabilities when used correctly, provided you have the right platforms to bring the data back to shore. At the same time, you also need to have the right people to assess the quality of the data and be able to extract the essence behind the numbers. This is vital since numbers can be misleading and sometimes lead to erroneous results. Monitoring the vessel's machinery performance is a crucial function. We can monitor how critical machinery is operating, thus preventing downtime or damages; often, it is a case of having a real-time view of how engines, generators, and cargo handling systems, especially in gas carriers we operate. Digitalisation is also assisting a lot in troubleshooting. We are moving into a more advanced way of troubleshooting problems the vessels experience compared to all the traditional ways of doing things in the older days. For example, instead of the chief engineer having to send the alarm lists, we can now extract them automatically from the office. Therefore, we at the office know what is going on and can provide instructions. Digitalisation, with the appropriate hardware on board and the knowledge of people - which needs to be increased and targeted on specific areas - provides the basis for moving from more traditional ways of carrying out maintenance to condition-based maintenance schemes. We can decide when the equipment should be maintained by relying on periodic measurements and data and decide when maintenance will be done, always in line with the Maker's recommendations.

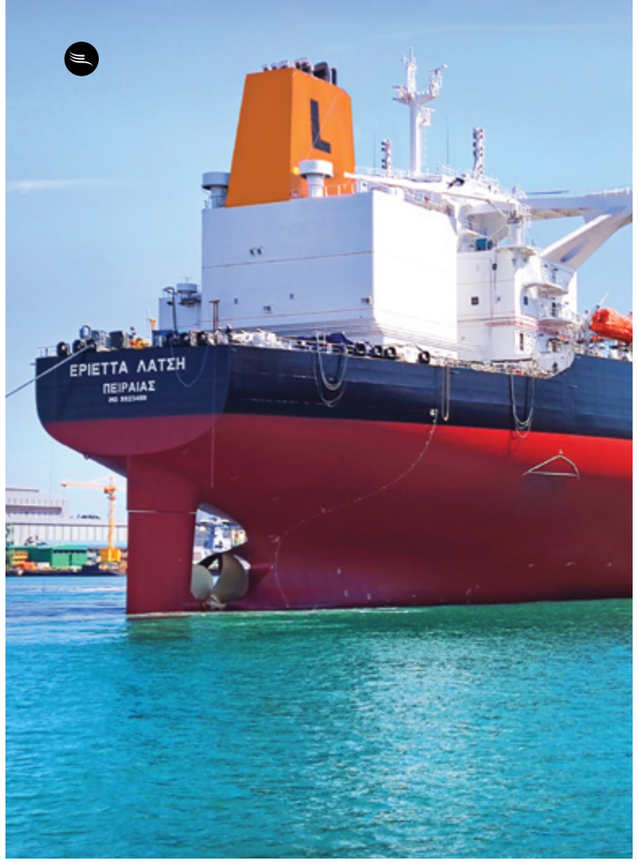
Big data analysis is considered vital to boosting the operational performance of vessels. Will it become necessary for companies to employ people with relevant knowledge to perform in-house evaluations of their fleet's performance? Will this be possible for smaller companies, or will outsourcing become a common practice?

I believe the traditional company's structures developed in the past will find it difficult to cope with big data. You need dedicated people with a solid theoretical background and knowledge. At the same time, you need experienced people who understand what goes on the vessel and make the right decisions.

Big data analysis is becoming increasingly vital to boosting the operational performance of vessels, and it may become necessary for shipping companies to employ people with relevant knowledge to perform in-house evaluations of their fleet's performance. However, this may not be feasible for smaller companies, as they may not have the resources or expertise to conduct such analyses. In such cases, outsourcing may become the only solution to apply, accommodated with considerable high cost and limitation in flexibility to adopt new requirements. Our company has created a specialised department that includes data engineers, electrical engineers, and naval architects who collaborate to develop performance applications in-house. They analyse and evaluate performance data collected from our vessels and work closely with our marine, operation, and technical departments. By filtering and interpreting this data, they are able to make informed decisions that optimise vessel operations, resulting in improved efficiency and reduced environmental impact. Though at times we may face resistance to change, our primary goal is always to enhance vessel performance and big data analysis has provided us with the necessary foundation to achieve this. Furthermore, we have implemented preventive maintenance schemes and use data to monitor and identify potential problems or performance issues, which has resulted in more reliable and cost-effective vessel operations. Overall, our commitment to big data analysis has enabled us to operate our vessels more efficiently, safely, and sustainably. It is important to recognise that utilising data for preventive maintenance and vessel operation should not be considered as a replacement for taking action to troubleshoot and address issues on the spot. These are parallel actions that work together to achieve the best possible results. While preventive maintenance and data analysis can help identify and mitigate potential issues before they become larger problems, it is still necessary to take immediate action when an issue presents itself (day 2 day operation, traditional approach). By combining these approaches, vessel operators can optimise performance and reliability, ensuring that their vessels operate at the highest level of efficiency and safety.

New technologies are expected to alter the necessary skills set a seafarer should have. Does this refer mainly to their general familiarity with technology, or are there explicit skills that will be deemed essential for seafarers in the future?

Seafarers will need to follow developments in the transition towards a digitalised and automated way of doing things. Electricians need highly specialised skills; we see that the younger generations coming out of academies are more familiar with new technologies. However, to be able to operate and troubleshoot the systems, we need to provide adequate training on the actual systems installed. So, we do not need general training, but training on the specific systems and machinery seafarers will operate when on board ships.



In the near future, skills such as proficiency in advanced navigation systems, remote monitoring technologies, and cybersecurity will be essential qualities for seafarers. More precisely, these skills may include:

- Proficiency in the use of advanced navigation systems, including electronic chart display and information systems (ECDIS) and automatic identification systems (AIS)
- Ability to work with remote monitoring technologies and automation systems, including the use of drones and other unmanned systems for vessel inspection and maintenance
- Data analysis skills, allowing seafarers to interpret and analyse large amounts of data generated by vessel sensors and systems
- Cybersecurity skills to prevent, detect, and respond to cyber threats that could compromise vessel systems and operations

While it is important to acknowledge that specific skills will be required of future seafarers, we must not lose sight of the valuable benefits that can be gained from sea experience under challenging conditions. By combining traditional best practices with emerging technological skills, we can enhance our seafaring operations and achieve even more fruitful results. The knowledge and expertise gained through experience at sea, coupled with a willingness to learn and adapt to new technologies, will be essential for success in the digitalised future of the maritime industry. Ultimately, a balance between traditional maritime practices and emerging technological skills will be necessary to optimise vessel performance and ensure the safety and well-being of all crew members.

We are fortunate to have many sister ships and tend to train people with the same methods, increasing their experience and knowledge in certain aspects.

Cyber threats seem to be troubling shipping industry members as they are sceptical about the initiatives taken by governments and regulatory bodies so far. In your view, what steps are needed to ensure the safety of both crews and vessels in the digitalised future of shipping?

The increasing prevalence of cyber threats in the maritime industry is a growing concern, and it is clear that action needs to be taken to ensure the safety of both crews and vessels in the digitalised future of shipping. We have invested heavily in cybersecurity by establishing an in-house department. Key action steps include conducting cybersecurity risk assessments, implementing training and awareness programmes, establishing regulations, and fostering collaboration and information sharing between industry stakeholders. A multifaceted approach that includes these measures will be necessary for effective cybersecurity management in the maritime industry. It is of very high importance to involve all the stakeholders (engine manufacturers, for example) in the whole exercise in order to have a correct risk assessment of the cyber threat.

The maritime industry is rapidly becoming more digitalised, and data utilisation will play an increasingly vital role in the daily operation of vessels, both for troubleshooting and for predicting failures and improving reliability and financial efficiency. As digitalisation continues to expand throughout the industry, there is no going back, and it will be essential to balance the benefits of this technology with the potential risks and challenges that come with it. Maintaining the safety of vessels and crews must remain a top priority, and proactive measures such as cybersecurity risk assessments, training and awareness, and collaboration will be necessary to manage and mitigate any associated risks.

Mr Konstantinos Kyriakopoulos focuses on Artificial Intelligence and Big Data and how it can enhance vessel performance.

AI IS ALREADY AN ABSOLUTE NECESSITY

by
Konstantinos Kyriakopoulos
Co-founder and CEO, DeepSea

Big data analysis is considered vital to boosting the operational performance of vessels. Will it become necessary for companies to employ people with relevant knowledge to perform in-house evaluations of their fleets' performance? Will this be possible for smaller companies, or will outsourcing become a common practice?

I would say the opposite is true. In terms of understanding and improving vessel performance, we're reaching the limit of what any shipping company can do internally - regardless of company size. In fact, to be more specific, we are reaching the limit of what they can do accurately.

That happens naturally in every industry – a technology or approach gradually becomes increasingly specialised – and delivers more and more impact. There is, of course, a complexity limit to what any company can – and should – consider doing 'in-house'. Until a few years ago, 'industry standard' approaches to fleet performance fell below this limit - so most companies invested in people and infrastructure to do this themselves. Fleet performance became an in-house specialisation in the age of noon reports and low fuel prices.

That age is over, and there are two fundamental reasons why. Firstly, technology has rapidly advanced in complexity. Every serious owner or operator is now either deploying – or planning to deploy – a bank of approaches, including high-frequency data collection, advanced modelling techniques (such as AI), and cloud-based infrastructure. Attempting to build the expertise to do all this in-house is a fool's errand, as many companies have found to their detriment. While larger and even smaller companies have built very impressive in-house systems, maintaining and keeping these systems up to date as technology advances become increasingly expensive, and the risk of being stuck with a legacy solution becomes unavoidable. At the same time, the company's in-house teams can repeat work already done by others and cannot reap any of the benefits offered by solutions that incorporate learnings from multiple companies into modelling processes. This pathway is a living nightmare – I strongly urge no company to consider it.

Secondly (and very positively), technology has rapidly advanced in results. Today's solutions do more than "evaluate" a fleet's performance - they radically improve it (by up to 10% in DeepSea's case). These well-proven approaches are fast becoming standard in the industry, so anyone looking to "strategically" build these capabilities in-house needs to be certain of their success and able to beat what's already out there.

For companies of all sizes, the game is now about choosing the right tools. For example, when was the last time anybody built their own internet browser in-house?

New technologies are expected to alter the necessary skills set a seafarer should have. Does this refer mainly to their general familiarity with technology, or are there explicit skills that will be deemed essential for seafarers in the future?

Very much in line with my previous answer, we're already seeing the same sort of transition happening on board vessels. There are a series of core functions that a vessel will always be required to perform in order to operate effectively. These include tasks such as route planning (for minimum fuel consumption and safety), responding to weather conditions, altering speeds, watchkeeping, reporting, cargo planning, and many others. These are currently part of the core "in-house" skills all seafarers must master. However, as technology develops, these tasks will, and are, becoming increasingly automated – often completed to a higher standard than human workers are capable of.

The 'captain of the digital age' has a broad understanding of all these areas – like the CEO of a company – and, importantly, understands how they fit together to achieve a strategic goal. They understand which 'levers' they can pull to achieve their objectives. Seafarers will develop specialisations that facilitate the interaction between, and processes around, these different systems. Their task will become, in many ways, a specialised form of general management.

Critically, they will need to have a good understanding of the limitations of each technological system they use and what, in exceptional circumstances, should be done manually. Today's airline pilots already work this way – their primary job is not to be specialists in manual flight. Today's planes are highly automated, and most of the flying is done by the aircraft's computer systems.

Seafarers' task will become, in many ways, a specialised form of general management.

Pilots primarily monitor these systems – weather forecasting technology, sophisticated navigation systems, and autopilots, and adjust them as needed. As a result, flying has never been safer, and pilots have never played a greater role in decision-making.

How will technology continue altering the shipping industry's commercial fabric? For example, will the adoption of AI become a necessity to achieve the operational efficiency that will be demanded from vessels in the short-term future?

The commercial fabric of the shipping industry is held together by different forms of charter party agreements, which govern the relationships between the participants in a shipping transaction.

Gradually, more and more players are beginning to realise that the standard charter party no longer accurately reflects the challenges – or solutions – of today's voyages. The frameworks used today were established during an (albeit recent) time when vessel behaviour was poorly understood, and metrics such as CII didn't exist. Today, the landscape is different – AI has given us, for the first time, a remarkable level of predictability in terms of vessels and their voyages. As a result, the charter party has, in fact, become an obstacle rather than a safeguard. For example, the world's most advanced speed optimisation technology is rendered ineffective when pitted against a charter party policy that mandates a constant speed of 12 knots.

The tipping point is coming, and we look forward to contributing to the 'charter party 2.0' when that time comes.

Regarding the necessity of AI, the answer is yes. AI is already an absolute necessity to ensure the maximum efficiency of any vessel. Whilst neural networks are a complex technology, we use them to fulfil a simple requirement in shipping: making vessels truly understandable for the first time. Without knowing exactly how your vessel responds to different weather conditions, you simply can't plan an efficient route or speed plan (in fact, you might end up making a detrimental one). It's impossible.

A few months ago, we announced our partnership with Wallenius Wilhelmsen, the world's first shipping company to adopt AI voyage planning across its entire 120+ vessel fleet. This pioneering step is powered by DeepSea's Performance Routing technology. So far, we have proven a 6.9% efficiency improvement and expect this value to reach 10% once the roll-out is complete. Today, it is Wallenius Wilhelmsen; tomorrow, it will be the remainder of the world's fleet.

MARITIME TECH'S SOLUTIONS WILL COME FROM LOOKING OUTSIDE THE INDUSTRY

by **Paul Sells**,
CEO of ABS Wavesight

Maritime is among the oldest industries in the book, and emerging technology has sat at its heart for generations. Since ships first set sail, there have been experts and inventors putting their minds to work to optimize and enhance the processes that enable maritime operations. You can draw a line from these ancient innovators to today's maritime tech players, and it's thanks to their work that we can now navigate the oceans, ship goods on unthinkably large vessels, understand the effects of weather on journeys, and connect the ends of the Earth.

Still, these nautical inventors and industry insiders are not the only figures that we can thank for the industry's growth. Today's shipping industry is a reflection not only of the sailors, seafarers, and ship owners and operators who came before us but of the forward motion of technological innovation as a whole.

It's a fact that we in the industry sometimes forget—and it's one we would do well to remember more often. This is especially true in today's climate because, as shipping becomes more connected, the solutions to the challenges it faces will increasingly stem from collaborations with businesses from all sectors.

THE DREAM OF MARITIME DIGITALIZATION

Maritime shipping finds itself at a crossroads. The dawn of this new year is bringing in a new era of regulations with it, and fleet operators must act quickly if they are to comply. The United Nations and IMO have outlined decarbonization goals in the hopes that fleet operators will improve the sustainability of their operations by 2030 and 2050, respectively.

Despite the relatively long timelines associated with these regulations overall, operators will need to act sooner rather than later to get up to speed. The first wave of updates has already taken effect as the UN began enforcing its rating system and updated emissions guidelines in January of 2023—and many fleets are falling short. Estimates have only one-third of ships meeting the guidelines that came into effect earlier this year.

For decades, maritime sector businesses assumed that efficiency would come from cleaner fuels and redesigned ships, but with the first deadline for compliance already in the rearview mirror—and more stringent requirements on the horizon—the time of hoping and waiting for giant leaps forward has passed. Now, vessel designers and fleet operators must find ways to update their legacy vessels to pursue cleaner operations without these miracle innovations. And digitalization is leading that charge.

Modern digitalization software and internet of things (IoT) systems offer shipping companies valuable insights into every facet of their fleets' operations. These systems, which were once impossible on seaborne vessels, are now a reality thanks to the proliferation of low-earth orbit (LEO) satellites by networking and telecoms providers. With high-speed internet now available aboard, ships will be able to use IoT devices and analytics software to monitor and track environmental performance in real-time ensure compliance and highlight areas ripe for optimization. Operators can use the reports these systems generate to build emissions profiles—which show total emissions across laden voyages, carbon intensity indices, emissions per transport and distance, and total emissions per consumer—at the vessel and fleet levels to see how their operations compare across the enterprise.

COLLABORATING FOR A BRIGHTER FUTURE

They're promising technologies, and we have other industries to thank for their use. While maritime technology organizations, like my own, are now putting these tools to work to achieve decarbonization goals, the innovations that enable these IoT devices, analytics programs, artificial intelligence suites, monitoring equipment, LEO satellites, and more all come from progress elsewhere.

The work we do relies on deep industry knowledge and experience, but success as the UN and IMO deadlines draw near will hinge on collaboration and outside-the-box thinking. With the urgent need for decarbonization and efficiency boosts looming over the shipping industry and threatening to change how business is done, it's time for maritime tech leaders double down on and seek out strategic partnerships that will push shipping forward.

ABS Wavesight™ is leading the charge toward a more collaborative future. Our model is built on a culture of participation and partnership with other leading companies both within and outside of maritime. We've benefitted greatly from welcoming input from leaders in telecoms, artificial intelligence, construction, and more, and plan to continue to do so. Through these and other collaborations, we've built the premiere vessel performance and management software, My Digital Fleet™ and Nautical Systems™, which are collectively installed on over 5,000 vessels across the global fleet. Both platforms leverage next-generation technology developed outside maritime that has been tailored meet fleet operators' needs using ABS' 160 years of experience in maritime shipping. Together, My Digital Fleet and Nautical Systems offer operators a comprehensive view of their fleet status based on the former's environmental, fuel, performance, and voyage insights and the latter's asset, compliance, performance, and workforce management tools.

Wavesight's suite is emblematic of our vision of Maritime's future: one that's built collaboration, cooperation, and the realization that we don't have all the answers. We believe that, to succeed on this journey, we will need to work closely with great minds across sectors to overcome shipping's most pressing challenges, combining our knowledge of maritime with the insights and expertise of other industries. After all, the most fertile ground for innovation lies between disciplines—and innovation is exactly what this industry needs to rise to the occasion, meet the present moment, and ensure the future of our planet.

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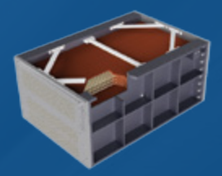

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Through a seafarer's eyes

HORIZON FROM THE BRIDGE

by Capt. George Georgoulis

MARITIME EMERGENCY AND BRIDGE – ENGINE ROOM INTERACTION

Emergency response on board vessels is normally comprehensively covered by the Emergency Guidance Manual or similar publication within the vessel's Safety Management System. An Emergency Guidance Manual will ordinarily address the issue of ship/shore/management interaction. However, a critical interface is often either overlooked or given scant attention, and that is the interaction between the bridge and engine room teams.

One must remember that, in many cases, the incident may not be a single event; for example, a collision may also lead to subsequent pollution, or a fire may involve injuries and fatalities. Therefore, be prepared for multiple scenarios.

Life – this is your first priority, as it cannot be replaced.

The environment is your second priority, as usually pollution incidents can only be rectified with time and expenditure.

Property – your ship, cargo, and third-party assets can always be replaced; hence why these are priority number three.

Remember 'Life / Environment / Property', or LEP, when dealing with an emergency situation.

After an incident, the following factors will need to be communicated clearly and concisely, using simple language to ensure all involved are aware of what is occurring and enabling them to provide the most appropriate support from one team to another, and ensure that the most appropriate help can be sought from third parties, be it port state authorities or the vessel managers:

What has happened?

Where has it occurred?

Why has it taken place?

When did it happen?

Who is affected?

Initially, sufficient information needs to be provided so that appropriate actions can be instigated. Time is key following an incident, and further advice can, hopefully, be provided later once a situation stabilises. You should be open about the information shared as trust is essential in being a strong team; it can only ease the flow of advice, while holding back information is likely to be unhelpful. Remember to remain calm; shouting down the telephone or radio helps nobody. Being calm will also reinforce to others that you are in control and hopefully provide a reassuring influence at a time of confusion and stress. It is important that messages given to the bridge, engine room teams, or others onboard, such as an emergency response team or fire party, are consistent.

One must remember that when a team, be it the bridge or the engine room team, is primarily dealing with an incident, they will be busy and repeated calls from the other team asking for updates may be unhelpful and a hindrance. Therefore, we should ensure that all communications are measured, necessary, and proportionate, also bearing in mind that the deterioration of the situation should be communicated immediately to all parties. Often, one party calls the other, and when they do not get an answer, they call repeatedly. However, the other party may be well aware of the call but simply unable to answer at the time, so repeated calls may be distracting. Generally, the other team will contact you as soon as possible.

We should be aware of time. Information should be shared periodically between the two groups, and misinformation or rumours may arise if time goes by without an update. Even if there is nothing else to say to the other team, being in regular contact in an emergency can be reassuring. Where possible, we should provide an update on when you expect more information to be available, as having a rough timetable is helpful in such a stressful situation.

When a disturbing event occurs, it is natural for people to revert to speaking in their native language, as this is more natural and is what they are most comfortable with. There will almost always be several nationalities on board, who will

generally converse in the working language of the ship, which is usually English. However, when a person switches back to their native language, it can lead to confusion about what exactly happened. Although it is difficult to change such a natural reaction, it is recommended that this particular topic be emphasised to the crew as part of onboard safety training. In the unfortunate event of a serious incident, they should be encouraged to try to remain calm, think about what message they want to convey and then immediately transmit the information clearly and concisely so that the necessary action can be taken as soon as possible.

The means of communication between the bridge, engine control room, engine side, and steering flat are of crucial importance. Ordinarily, telephones will be the principal means of communication and will not need to be tested as they are used almost daily. However, secondary and other backup means of communication will require periodic testing and should be included within the vessel's Planned Maintenance System (PMS). Sound-powered telephones, talk-back systems, and remote walkie-talkies that are infrequently used should be subject to periodic testing. A worthwhile exercise, if not undertaken already, is to test any handheld walkie-talkie system, be this VHF they UHF, to determine where any "dead spots" may exist within the machinery spaces, which could hinder communications with the bridge team in an emergency situation. Being aware of any areas of very poor or no radio communication signal in advance makes dealing with the issue slightly more manageable at a time of high stress.

Remember that the bridge and engine room teams will need to work together in an emergency; therefore, clear, concise, and measured communication is a crucial factor in ensuring a successful outcome for all parties - this further highlights the absolute necessity and importance of conducting frequent realistic onboard drills to prepare the crew for stressful emergency situations in the best possible way. Ashore, this would also include simulator training where specific emergency scenarios can be rehearsed.

Source: Britannia P&I Club

ENCLOSED SPACE ENTRANCE FATALITIES ON BOARD: THE CASE OF M/V "NOZOMI"

Factual Information

On 1 April 2022, after completing the loading of coal cargo, the Singapore registered bulk carrier, Nozomi, was anchored at the Tanjung Api-Api anchorage, South Sumatera, Indonesia.

While waiting for cargo export documents and the departing pilot to embark, four crew members were tasked with greasing the booby hatch dog handles for the No.5 cargo hold.

During the greasing process, one of the four crew members, an able seafarer, was discovered lying inside the cargo hold on top of the coal cargo. An emergency rescue was initiated but could not save the ASD. The crew had used a totally wrong procedure to rescue the person in danger by using inappropriate equipment (EEBD), resulting in the crew member's death.

The Transport Safety Investigation Bureau classified the occurrence as a very serious marine casualty. The investigation revealed that the seafarer had entered the cargo hold to retrieve a dropped dog handle and had likely succumbed to the oxygen-deficient atmosphere while exiting the cargo hold. The investigation also determined that the greasing task was unplanned, and the hazards associated with the coal cargo were overlooked. In addition, there was no proper signage to warn the crew to treat the cargo hold as an enclosed space.

From the information gathered, the following findings were made. However, these findings should not be read as apportioning blame or liability to any particular organisation or individual.

The seafarer had likely entered the No. 5 cargo hold without the knowledge of the other crew members to retrieve a dog handle. The cargo hold had low oxygen concentrations due to the coal cargo. The ASD1 collapsed while climbing out of the cargo hold.

The maintenance of the booby hatch was an unplanned task and did not require entering the cargo hold. In addition, no provisions had been made for dropping parts into the cargo hold.

The Company's SMS procedures in English has a section on "enclosed space entry procedures", which describes the characteristics of an enclosed space - limited opening for entry and exit, inadequate ventilation and not designed for continuous work occupancy, such as cargo space, fuel tank, void space, etc. The procedures state that these spaces would be hazardous and could result in rapid death from harmful gases or lack of oxygen, and it should never be assumed that a cargo hold or tank is safe.

The CO had agreed for the deck crew to grease the dog handles, and the booby hatch cover had been opened to facilitate the greasing. However, there was no evidence that reminders had been given to the crew about the hazards of the coal inside the cargo hold when the booby hatch cover was opened. While the crew may be

expected to remember or recognise the hazards associated with the cargo carried on board, the occurrence has proven that such an important aspect can be overlooked. For the crew's safety, it is essential to remind them of the hazards of the cargo carried.
The risks associated with working in the vicinity of a hazardous environment (cargo hold loaded with coal) had not been identified, and a risk assessment was not carried out. In addition, the hazards associated with the coal cargo had been overlooked when the booby hatch maintenance was carried out.

Lesson learned
The lessons learned from this incident are:

- The procedures for entering enclosed spaces should be executed as provided by the company's SMS
- Relevant drills, training, and information should be provided as outlined in the company's SMS
- No entry should be attempted without an Enclosed Space Entry Permit issued prior to entry by the master or the nominated responsible person and completed by the crew members tasked with entering the space.

POTENTIAL FOR DELAYS IN THE CONTRACTING AND ENGAGEMENT OF SALVAGE SERVICES IN MARINE CASUALTIES

In 2020, traditional LOF contracts were reportedly at a historic low, confirming a continued decline in its use over recent decades. There was also evidence of parties entering into alternative contractual arrangements leading to delays in the engagement of salvage services and, in some cases, pollution and wreck liabilities that might otherwise have been avoided. In light of this concern, the International Group of P&I clubs has conducted an independent, impartial and objective review that investigated the possible direct and root causes for delay in these circumstances and what changes might be made to improve the use of LOF.
The final full report was presented to the Group and subsequently published in July 2022. In addition, a presentation was made at Lloyd's in September 2022, and the findings are being considered in conjunction with Lloyd's own review of LOF.
In summary, the review carried out found that:
Delays in the contracting and engagement of salvage services are on the increase and might lead to an escalation of a situation to a point where a significant loss or danger to life might occur.
The unfettered authority of the Master or Designated Person Ashore (DPA), and their timely response to an incident, are critical.
Some of the key stakeholders in a maritime incident seek greater certainty over costs and often opt for a non-LOF contract that can cause delays whilst parties engage in negotiations for a less expensive option. Some maritime authorities confirmed that, in circumstances where delays are unreasonable, they would be entitled to use their powers to select a salvor and an appropriate contract at the shipowner's expense.
Where time is of the essence, or there is an emergency, LOF remains the 'contract of preference' for stakeholders. The 'no cure-no pay' principle provides an additional incentive, and LOF is simple, effective and straightforward to use. However, there are concerns over alleged 'historic' abuse/misuse, the time taken to assess the salvage award, and uncertainty over the award and costs.
The use of "side letters" can lead to further delays.
Fewer LOF contracts might disincentivise salvors to continue investing in new technology or equipment, and these costs may eventually shift to the shipowners and their insurers.
Coastal State 'intervention', or the threat of intervention, was recognised as positively influencing 'faster or rapid' decision-making when lengthy contractual negotiations were ongoing.
Education and training must be targeted at the appropriate individuals.
The lack of agreed practices and procedures does not mitigate and even contributes towards the likelihood of delays.
There needs to be effective communication and collaboration between all stakeholders who will have a key role in casualty response.

In light of the above findings, the Report's main recommendations are as follows:
The International Chamber of Shipping (ICS), supported by H&M and P&I underwriters, should remind operators of the need to ensure that, in compliance with ISM, their Masters, DPA, or other nominated person(s), as named in the SMS, have the appropriate knowledge and experience with regard to the procurement and provision of salvage services and are given the authority to act promptly and decisively.
The ICS may wish to consider submitting a paper to the IMO's Marine Safety Committee (MSC) requesting that any future amendments to Circular 6 (Guidance on the Qualifications, Training and Experience Necessary for Undertaking the Role of The Designated Person) include reference to the provision of salvage services.
All interested parties should identify communication channels with key decision makers in the maritime authorities and endeavour to keep each other informed of casualty response assessment, response methodology, contractual options and progress being made. Any failure to liaise may lead to delays or result in State intervention with the added risk of being

'directed' to take a specific action that is likely to be more costly.

The International Union of Marine Insurance (IUMI) should consider whether there is any scope to improve existing arrangements, including a system where the 'overall claims lead' in the H&M market can be identified quickly by all stakeholders and facilitate earlier dialogue between interested parties.

An Education Steering Group/Committee on Salvage Contracts, Services & Operations should be established, with an independent chair and cross-industry representatives.

All the above efforts to reduce delays in salvage operations and pollution prevention must bring all the above stakeholders to the dialogue table in a mutually acceptable process for concluding salvage agreements.

Source: Skuld

THE INVESTIGATION OF MARINE INCIDENTS

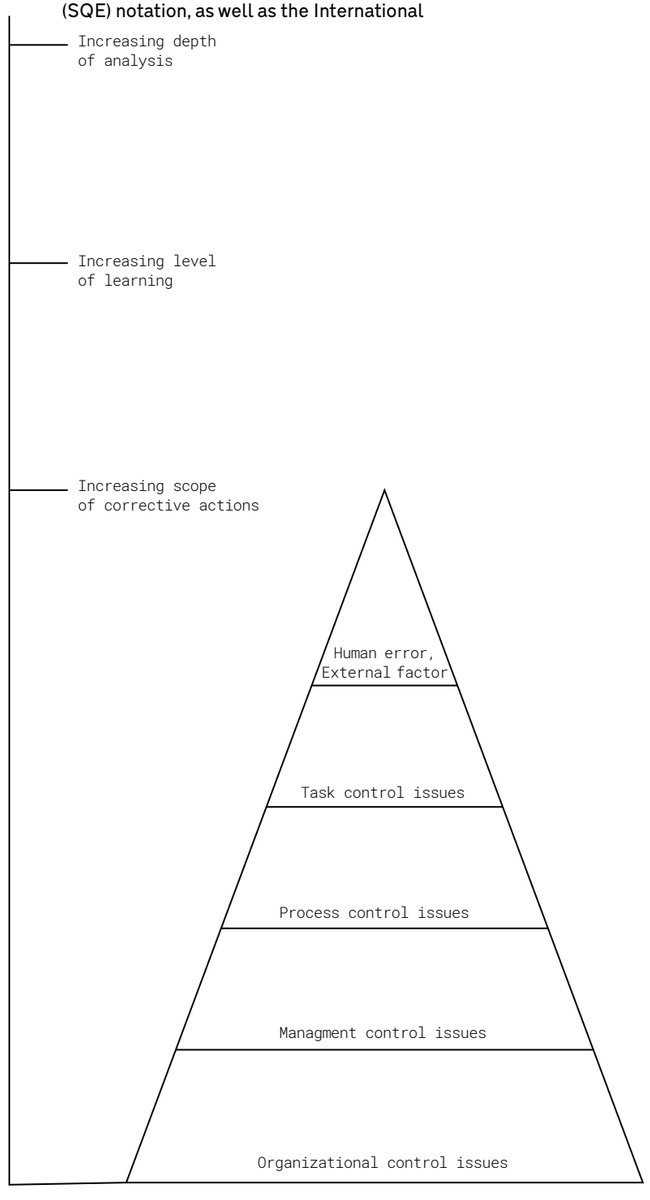
The marine industry experiences incidents that range from major accidents to near misses. These incidents should be investigated since many flag administration regulations require it, and international agreements, such as the IMO "International Safety Management Code", mandate it, and industry initiatives encourage it. In addition, an incident investigation is a process designed to help organisations learn from past performance and develop strategies to improve safety.

Contrary to popular belief, an accident investigation interview aims not to find who is guilty and who can be blamed but to discover the truth about what has happened. Once that is known, measures can be implemented to stop it from happening again.

Root cause analysis

According to ABS, the Marine Root Cause Analysis Technique provides an effective and efficient approach for investigating marine incidents of any magnitude. ABS developed the MaRCAT methodology by customising and combining the best techniques available and by proving and improving the overall approach during numerous investigations. The MaRCAT approach to incident investigation caters to the unique needs of the marine industry, including human element, machinery and engineering, structural, and security concerns. The objectives of the ABS MaRCAT approach are as follows:

- Provide ship operators with a technique to guide incident investigators while conducting root cause analyses, identifying, documenting, and trending the causes of accidents and near misses.
- Assist clients with the investigation of a variety of types and sizes of incidents.
- Allow the analysis of losses regardless of whether they are related to safety, the environment, human element concerns, security, reliability, quality, or business losses.
- Support Class-related activities such as ABS Safety, Quality and Environment (SQE) notation, as well as the International



Safety Management Code (ISM Code) and the International Ship and Port Facility Security (ISPS) Code.
- Provide a sufficiently flexible technique to allow the customisation of a client's management system, Health, Safety and Environment (HSE) programs, or related initiatives.

A standardised, systematic approach to incident investigation allows companies to identify the underlying causes of incidents and to make the necessary changes.

Marine incidents, ranging from major accidents to near misses, are investigated to establish the cause of an incident using various analysis tools. In this case, a Triangle Analysis of the factors contributing to marine incidents has ranked human error when handling a vessel's machinery, equipment, or outfitting items as the leading cause of maritime incidents.

As shown in the Triangle Analysis diagram below, human error and external factors are at the top of the triangle, followed by task control issues. Further down come problems of process control and management and organisational control issues. An in-depth analysis of the triangle increases awareness of how the organisation functions, allowing it to develop corrective and preventative actions that are more fundamental in nature and broader in scope, enabling the company to solve problems once instead of several times.

Conducting interviews with the personnel involved: a critical step in incident investigation

Unlike a management interview, where the manager drives things forward, the dynamics in an accident investigation interview are usually quite different. As the interviewee might have something to hide – they might have done something wrong or might be protecting a friend – there is the potential for a hidden agenda.

That means the manager could be under scrutiny, even if they do not realise it. The interviewee wants to know what is going on. So, they will listen very carefully to what is being asked and to what is not being asked. They will focus on how the interviewer responds to things. And they will even see if the interview can be manipulated. But, with a careful approach, the interviewer can still keep the upper hand.

You cannot blindly go into an interview like this and hope for the best – you will come unstuck and miss half of the important information being revealed. So, you have to plan where you are going and how you will get there. And be prepared for surprises on the way.

The room itself must be somewhere quiet. Police interview rooms are quite spartan for a reason: you do not want anything to distract the interviewee; you want them to concentrate solely on the interview.

Whether you use a desk or two chairs next to each other depends on the situation. But a more formal setting also concentrates the interviewee's mind, which is especially useful if you suspect somebody is potentially an offender.

Have ready access to any documents you might need: training records, service schedules, emails, etc. You do not want to get to a crucial part of the interview and say you need to find a form – you want the interview flow to continue. Initially, put the interviewee at ease, ask if they want a drink, and ensure they are comfortable. Next, outline the interview, so they are as relaxed as they can be in that setting. You should make mental notes: what is their tone of voice like? Do they look you in the eye? Are they nervous and fidgety, or are they relaxed and confident? That gives you a baseline regarding their normal behaviour. Take it steady, don't rush in and don't be overawed. Have only one interviewer – any more can be overpowering, and you may end up working at cross purposes. Note-taking is important, but it can also be a giveaway if the interviewee is trying to find out what you know. Scribbling furiously indicates they are saying something of interest to you. So, take notes out of sequence. If the interviewee says something interesting, do nothing; carry on as if you know all about it. Only when they say something innocuous later, pretend that it is interesting while writing down notes from the answer to three questions before.

Ask open questions to which they will need to answer with more than just 'yes' or 'no'. Double questions and leading questions are not helpful. If the person wants to mislead you, they will say whatever is convenient. And if they want to get the interview over with, they will say whatever they think you want to hear. So rather than asking, 'Did you see Fred driving the forklift truck?' you should ask, "Did you see who was driving the forklift truck? If you did, can you identify them and say who it was?" That way, you're giving away no clues.

A successful interview will lead to information verification through which the root causes of an incident are determined. These will be analysed later with the triangle method, ultimately revealing the company's management and organisational issues. Then, by taking measures and correcting the underlying issues that emerged from the root cause analysis, the company will ensure there will never be a recurrence of such incidents.

Source: ABS

The European Union (EU) has been pursuing an ambitious policy on climate action and has put in place a regulatory framework to achieve its 2030 Green House gas emission reduction target.[1]

[1] Directive 2003/87/EC; Regulation 2018/842; Regulation 2018/841; Communication of the 28th November 2018; "Clean Energy for All Europeans" package, (Directives 2012/27/EU, 2018/2001/EU, 2010/31/EU).

THE IMPLICATIONS OF THE EU ETS AND EUROPEAN GREEN DEAL ON SHIPPING

by
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Department of Shipping Trade and Transport

THE EU-ETS

The EU Emissions Trading System (ETS) is the European Union's policy to combat climate change and reduce greenhouse gas emissions. It is an environmental law set up in 2005, which works on the "cap and trade" principle and offers an incentive to invest in renewable energy technology. The greenhouse gases it covers are carbon dioxide (CO2), nitrous oxide (N2O), and perfluorocarbons (PFCs).

In line with the UN's Kyoto Protocol, in March 2000, the European Commission presented the Green Paper containing the initial design of the EU ETS, which led to the adoption of the EU ETS Directive in 2003. Its implementation was initially divided into three phases (trading periods), but the system underwent several changes, and presently it does not have an end date. As a "cap and trade" scheme, the EU ETS works by capping the overall GHG emissions of all participants in the system. The legislation created allowances, meaning rights to emit GHG emissions [equivalent to the global warming potential of 1 tonne of CO2 equivalent (tCO2e)], which are allocated freely or by auction.

During the first two phases, the free allocation of allowances was decided via National Allocation Plans (NAPs), which are no longer used. In addition, member-states were required to prepare "allocation" measures (National Implementation Measures, NIMs), which the Commission checked and approved; the allocation method was determined by EU-ETS Directive & Implementing Commission decision 2011/278 EU.

In phase 3 of the EU ETS (2013-2020), the Union-wide cap for enterprises covered by the emissions trading scheme decreased each year by a linear reduction factor of 1.74% - at the end of each year, the participants had to return an allowance for every tonne of CO2e they emitted during the year. From the third trading period onwards, the auctioning of allowances has been governed by the Auctioning Regulation (EU Regulation No 1031/2010), which uses a benchmark for the allocation of allowances, i.e., a reference value for greenhouse gas emissions in CO2 relative to production activity, which does not represent an emission limit or an emissions reduction target.

In addition, an MRV reporting and verification system considered essential to emissions trading was introduced that complied with the Monitoring and Reporting Regulation (MRR) 2018/2066 (19 December 2018) and was based on principles such as completeness, transparency, continuous improvement, etc. Furthermore, the annual EU ETS compliance cycle includes steps for operators, such as the beginning of the monitoring period, receiving free allowances (if applicable) for the current year, the end of the monitoring period, etc.

If a company fails to meet the system's deadlines for surrendering GHG emissions allowances, it runs the risk of triggering enforcement procedures, such as fines, and the shortfall in compliance is added to the compliance target of the following year.

THE EUROPEAN GREEN DEAL

The European Green Deal is an action plan, a European climate law, which aims to turn Europe climate neutral by 2050. It was launched in 2019 with the Communication (COM (2019) 640 final) (see also, COM (2020) 80 final). According to the European Green Deal, all Union policies should contribute to the climate-neutrality objective, and all sectors should play their part. In 2017, the European Parliament voted in favour of including international shipping in the EU-ETS as of 2023. In December 2019, the European Commission announced it was considering incorporating the maritime sector into the EU-ETS.

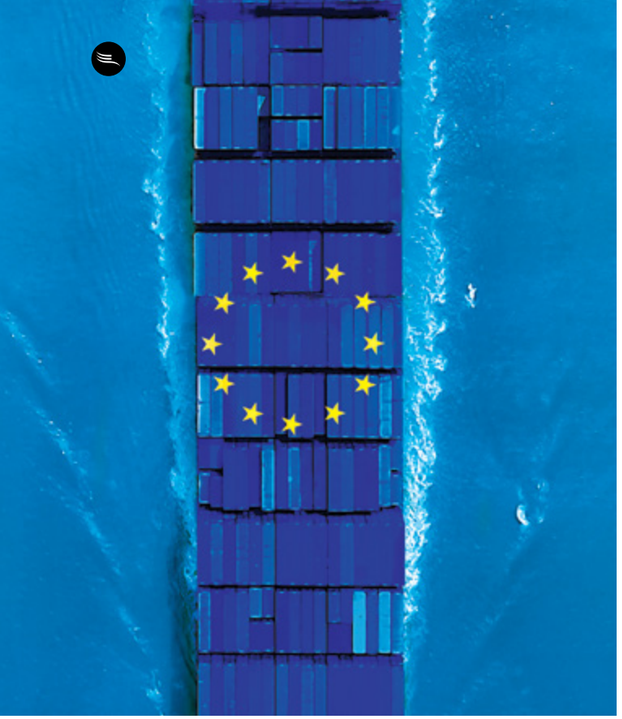
The EU strategy on the GHG emissions of the shipping

Shipping is of strategic importance to the EU's economy, as every year, 2 billion tonnes of cargo are loaded and unloaded at EU ports.

However, in 2015, emissions from shipping represented around 13% of the total greenhouse gas emissions of the entire EU transport sector. Furthermore, in 2018, global shipping emissions represented 1,076 million tonnes of CO2, accounting for almost 2.9% of global emissions from human activities. In 2019, maritime transport was an emitter of over 144 million tonnes of CO2.

In 2013, the European Commission set out a strategy towards reducing GHG emissions from the shipping industry, which consists of the following steps:

- Monitoring, reporting, and verifying CO2 emissions from large ships that use EU ports,
- Greenhouse gas reduction targets for the maritime transport sector
- Further measures.
- From 1 January 2018, large ships over 5000 gross tonnage, loading and unloading cargo or passengers at ports in the European Economic Area (EEA), are to monitor and report their related CO2 emissions and other relevant information.
- The amendment to the EU ETS Directive



by Directive 2018/410 emphasises the need to act on shipping emissions.

- Monitoring, reporting and verification (MRV) is to be effected according to Regulation 2015/757 (as amended by Delegated Regulation 2016/2071) - EU MRV Regulation.
- The European Commission also supports the implementation of international energy efficiency rules and standards, i.e., the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP).

Obligations of companies under the EU MRV Regulation

From 2019, the companies, through THETIS MRV, submit to the Commission and the flag States a satisfactorily verified emissions report for each ship that has performed maritime transport activities in the European Economic Area in the previous calendar year. In addition, from 2019, companies shall ensure that their vessels visiting ports in the European Economic Area carry on board a document of compliance issued by THETIS MRV by June of each year; this obligation may be subject to inspections by Member States' authorities.

IMO Data collection system and the initial greenhouse emissions strategy

In March 2018, the IMO adopted a mandatory Fuel Oil Data Collection System (DCS), which came into effect on 1 January 2019, by which ships calling into European Economic Area ports must comply with the reporting requirements of the EU MRV Regulation and the IMO DCS. Furthermore, in April 2018, the IMO agreed on an Initial Strategy for the reduction of GHG emissions from ships to reduce total annual GHG emissions from international shipping by at least 50% by 2050, compared to 2008.

IMO- levels of ambition

The Initial Strategy's levels of ambition are: (i) Strengthening the energy efficiency design requirements for ships to reduce their carbon intensity (ii) Reducing CO2 emissions per transport work, as an average across international shipping, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008. (iii) Pursuing efforts consistent with the Paris Agreement temperature goals - the 2015 Paris Agreement was agreed upon by parties to the United Nations Framework Convention on Climate Change, according to which the global temperature rise this century should be kept well below 2 degrees, and preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

The advantages and disadvantages of incorporating international shipping into EU-ETS, according to the ECSA-ICS study dated July 2020

- Potential advantages: it is a proven mechanism for allocating carbon permits and trading platforms; by allowing the price on carbon, it is ensured that CO2 emissions are reduced in the most economical way; the already-implemented EU MRV system for ships trading internationally to and from the EU can serve as a basis for the implementation of the EU-ETS in shipping.
- Potential disadvantages: risk of undermining IMO negotiations on the implementation of the Initial Strategy on the Reduction of GHG from Ships; greater uncertainty over the price of emitting a tonne of CO2, as it depends on supply and demand; significant administrative burden and cost compared to other MBMs; unlikely to address the complexity of the shipping market (numerous ship types, contractual relationships, etc.); funds raised from carbon allowances bought by the shipping sector are not retained in the shipping sector.

Proposal for an International Maritime Research and Development Fund

In March/April 2020, ICS, BIMCO, CLIA, INTERCARGO, INTERFERRY, INTERTANKO, IPTA and WSC submitted to the IMO a Proposal to establish an International Maritime Research

and Development Board (IMRB) and Fund (IMRF) to oversee an IMRD Programme to accelerate the introduction of low-carbon and zero-carbon technologies and fuels, according to paragraph 4.7.9 of the IMO Initial Strategy on the Reduction of Green House Gas Emissions from Ships.

Furthermore, on 25 October 2022, in a paper to the IMO, the ICS proposed a "fund and reward" system to catalyse the adoption of alternative fuels, which currently cost at least two or three times more than conventional marine fuels (F&R proposal). The proposal combines elements of various recent GHG reduction proposals by several governments, plus a flat rate contribution system previously proposed by ICS and INTERCARGO.

EU-ETS revision - inclusion shipping in the "fit for 55" package- provisions for transferring the ETS costs from shipping companies to other entities

In July 2021, the European Commission adopted legislative proposals for reducing greenhouse emissions by at least 55% by 2030, extending the EU-ETS to maritime transport.

In particular, the Proposal for a Directive of the European Parliament and the Council (COM/2021/551 dated 14.7.2021), as amended on 30 June 2022, adopted, among other things, the following basic provisions: Scope of application to maritime transport activities; Phase-in of requirements for maritime transport: Shipping companies shall be liable to surrender allowances according to a schedule; Provisions for the transfer of the ETS costs from the shipping company to another entity: the Member States shall take the necessary measures to ensure that when the ultimate responsibility for the purchase of the fuel or operation of the ship is assumed by a different entity than the shipping company, the shipping company is entitled to reimbursement from that entity for the costs arising from the surrender of allowances. Nevertheless, the shipping company remains responsible for surrendering allowances (Article 3ga and Article 12 of the Directive), Monitoring and reporting emissions from maritime transport; Verification and accreditation of emissions from maritime transport; Administering authority in respect of a shipping company; Reporting and review.

In regulating the above, the Proposal Directive took into consideration the following:

- The need to regulate shipping emissions from vessels below 5,000 gross tonnage; therefore, the Commission was asked to present a report to the European Parliament and the Council later than 31 December 2026, examining the feasibility and cost-effectiveness of the inclusion of emissions from ships below 5,000 gross tonnage in the Directive.
- The need to regulate the following: in line with the "polluter pays" principle, the shipping company should be entitled, under national law, to claim reimbursement for the costs arising from the surrender of allowances from the entity that is directly responsible for the decisions affecting the CO2 emissions of the ship.

In conclusion, the above emission reduction system is still being processed, discussed and developed. The author's opinion is that it should be guided by IMO experts and regulated by special maritime legislation.

[2] Press release ICS, 25th October 2022, www.ics-shipping.org, "International Chamber of Shipping proposes global CO2 reduction fund to reward "first moves" using low emission fuels". Ναυτικά Χρονικά, "Απανθρακοποίηση της Ναυτιλίας: Η πρόταση του ICS", 26 Οκτωβρίου 2022.

[3] See, also, "the Joint letter of ECSA, the Advanced Biofuels Coalition, CLECAT, CLIA, ESPO, eFuel Alliance, ENMC, ESC, EWABA, FEPORT, SEA Europe calling for the earmarking of the EU ETS revenues to the European maritime sector to foster its decarbonization", in ECSA website, "Maritime industry unites to call for earmarking of ETS revenues", 29th September 2022. Also, in ECSA website, "Provisional ETS Agreement: Earmarking of revenues can mark turning point for European shipping's decarbonization.

[4] Finally, on 18 December 2022, the European Parliament and Council came to an agreement on the revision of the EU Emission Trading System, extending to shipping from 1st January 2024 (preliminary agreement to include shipping).

ATLANTIC BULK CARRIERS
MV "DESERT FAITH"

VESSEL CHARACTERISTICS

Name	**Length**
"DESERT FAITH"	199.980 m
Type	**Flag**
ULTRAMAX, BULK CARRIER	GREEK
IMO No.	**Builder**
9942067	IMABARI SHIPYARDS, JAPAN
DWT	**Year built**
63,675 MT	2023

Atlantic Bulk Carriers reinforces its fleet with a newly built Ultramax

At the start of the new year, specifically on January 20, Atlantic Bulk Carriers Management Ltd. received delivery of the "Desert Faith" Ultramax bulk carrier at the Imabari Shipyard in Japan. The ship has a capacity of 63,675 dwt, a length of 199.98 meters and will fly the Greek flag.

MARAN TANKERS MANAGEMENT: "MARIA A. ANGELICOUSSIS"

VESSEL PARTICULARS

Name
"Maria A. Angelicoussis"

Type
VLCC TANKER

IMO No.
9930789

DWT
320,500 MT

Flag
GREEK

Shipyard
SAMSUNG HEAVY INDUSTRIES

Date of delivery
15th of February 2023

Maran Tankers Management welcomed a second dual fuel VLCC to their fleet after the company took delivery of "Maria A. Angelicoussis" on Wednesday 15th February by Samsung Heavy Industries (SHI). The vessel was named after the wife of the Group's founder, Antonis I. Angelicoussis.

She has a capacity of 320,500 dwt and was designed to be both highly efficient and environmentally friendly. The vessel is in fact the second in the series of the most environmentally friendly low-emission VLCCs on the water today, since the company took delivery of the newbuilding VLCC "Antonis I. Angelicoussis" in January, which has similar technical specifications. "Maria A. Angelicoussis" will fly the Greek flag.

A Hub of Marine and Offshore Equipment Systems

S&SYS

S&SYS was established as a spin-off company from the Machinery & Electric System team of Samsung Heavy Industries on September 1, 2017.

Based on technologies and knowhow accumulated over 28 years in the shipbuilding and marine business, S&SYS has developed key equipment such as Ballast Water Treatment System, Ship Automation System, Marine Switchboard, Fuel Gas Supply System and Energy Storage System.

Products

Ballast system / Automation system / Switchboard / FGSS / ESS

The company has continuously researched and developed ECO friendly new technologies since it was founded in 1994, with a promise to provide the best quality and worldwide after-sales service.

PURIMAR™, Ballast Water Treatment System

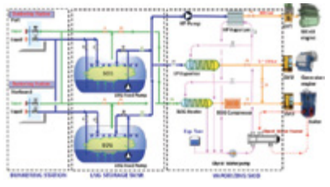
- Filter + Indirect Electrochlorination
- Less power consumption, Less neutralizer consumption
- No holding time in sea water & brackish water

Energy Storage System

- DNV type approval in 2019, KR type approval in 2021 respectively
- Two products (2.5C, 1C) available acc. to ship's configuration
- ESS installation retrofit based on each ship's electric load analysis
- ECO ship supply package including ship's design, installation and supervision

PURIGAS™, Fuel Gas Storage & Supply System

- Total Package Service for Engineering & Supply
- Engineering support with proven technology and eoperating experience for various ship types
- Much engineering data for ship design relevant to FGSS



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- Proven performance through various experiences more than 2,000 vessels

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Edited by: Nikos Vergounis

WORLD-UNIQUE METHANOL BUNKERING CARRIED OUT IN THE PORT OF GOTHENBURG

A milestone for the use of methanol as a marine fuel was achieved in the Port of Gothenburg in late January, as the methanol-propelled vessel Stena Germanica was the first non-tanker vessel in the world to be bunkered with methanol ship to ship.

The bunkered ship was Stena Line's ro-ro and passenger vessel Stena Germanica, which until now has been bunkering methanol solely from trucks.

"The Stena Germanica, connecting Gothenburg, Sweden with Kiel, Germany, became the world's first methanol-powered ferry when Stena Line converted the 240-meter vessel in 2015 in partnership with Methanex, Wärtsilä, the Port of Gothenburg and the Port of Kiel. We welcome ship-to-ship bunkering as a tool to achieve a stable and efficient supply chain for methanol, which is critical in Stena Line's shift to alternative fuels, and to retain our position as a leader in sustainable shipping," said Maria Tornvall, Head of Sustainability at Stena Line.

The historic bunkering was made possible through the collaboration of a number of different stakeholders throughout the whole process. Operating regulations for methanol bunkering are a prerequisite that the Port of Gothenburg was the first in the world to publish in April 2022. Stena Line is the owner of the vessel in question and the purchaser of the methanol. In practice, the tanker operator E&S carried out the bunkering itself, and methanol producer and supplier Methanex provided the fuel.

MOL AND MITSUI ACQUIRE AIP FOR LARGE AMMONIA-POWERED BULK CARRIER

Mitsui O.S.K. Lines, Ltd. and Mitsui & Co., Ltd. announced that they had received Approval in Principle (AiP) from the Nippon Kaiji Kyokai (ClassNK) for the design of a large ammonia-powered bulk carrier.

MOL and Mitsui jointly determined the size and specifications of the vessel, and both companies entrusted Mitsubishi Shipbuilding Co., Ltd. with the vessel's design. The AiP covers a 210,000 DWT Cape-size bulker, a highly versatile class of ship.

The design calls for a main engine fueled by ammonia, which emits no CO2 when burned, thereby achieving zero CO2 emissions during the voyage. The vessel will also feature two ammonia fuel tanks on deck to maximize the cruising range for various routes and to make the most effective use of cargo space. Furthermore, ClassNK is scheduled to conduct a risk assessment (HAZID; Hazard Identification Study Note) to confirm that no unacceptable risks exist at the basic design stage and to identify items to be considered in the detailed design, which will incorporate safety measures fully taking into account the toxicity of ammonia, and other factors.

Amid the trend toward decarbonization, global interest in ammonia as a next-generation clean energy source is growing, and the maritime industry is accelerating its efforts to utilize it strategically as a fuel. As expectations for ammonia as a marine fuel increase, MOL and Mitsui will promote the expansion of net-zero emission ocean-going vessels and play a role in society's overall efforts to achieve decarbonization.

MAERSK USES DRONES TO MANAGE INVENTORY

Warehouse inventory management is one of the most important barometers of the supply chain flow, financial cost exposure, and business decision-making. It is also one of the most difficult, repetitive, and tedious tasks to perform consistently in warehouses, with the quality of data often questioned and requiring workers to work at heights.

"As a supply chain integrator, we are constantly looking for innovations and engineering solutions in our warehouse operations. We wanted to deploy a safer, more accurate, data-driven inventory solution that would address our decarbonization goals for customers and prevent our workforce from working at heights. Verity's system has delivered data accuracy, safety, and speed, which makes our warehouse management system stronger, faster, and more effective for customer decision-making", said Erez Agmoni, Senior Vice President of Innovation & Strategic Growth for Maersk North America.

Verity's warehouse drones navigate from pallet

L-R: Antonis Georgantzis (Latsco Marine) and Elias Kariambas (ABS)

to pallet, collecting accurate inventory data in three dimensions by scanning barcodes at any height using onboard, high-resolution cameras. The system requires one day of operator training. At the same time, the electric-powered drones return to the battery charging pad when necessary, operating at night or the weekends and without the overhead lighting turned on. The drones take photos of SKUs on pallets to identify inventory errors, such as missing or misplaced pallets. Once the data is collected, the system compares the findings with data stored in the warehouse management system (WMS). Then it distils that information into critical insights delivered directly to users via the user dashboard. The results are cloud-based, shareable, and provide actionable warehouse data that offers better analytics for supply chain leaders.

"We view the Verity solution as an important differentiator to make our customers more competitive through higher quality, faster inventory data," added Mr. Agmoni.

LATSCO MARINE MANAGEMENT ENTERS CONDITION BASED MAINTENANCE ERA

Latsco Marine Management Inc received the Preventative Maintenance Program for Condition Based Maintenance (PMP-CBM) notation from ABS for a pioneering project that adopts predictive maintenance principles for equipment onboard vessels.

Latsco's LPG carrier Hellas Sparta will constitute a pilot vessel for the gradual transition of the fleet's maintenance schedules to a new era of condition-based programs.

The key element in the project is a Preventative Maintenance Program (PMP) based on a Condition Based Maintenance (CBM) approach. Equipment maintenance under CBM is conducted on a more frequent or real-time based measurement of operational parameters rather than on rigid time intervals in traditional Planned Maintenance programs. ABS reviewed and awarded the PMP-CBM notation for selected critical equipment on the Hellas Sparta including vibration analysis components and high-end infrared thermographic cameras. These systems complement monitoring techniques already onboard the Hellas Sparta including direct current (DC) insulation resistance measurements for polarization index calculations, air circuit breaker (ACB) tripping protection device inspections and health status/internal resistance measurements for selected critical batteries.

TOTOTHEO MARITIME INCORPORATES STARLINK INTO ITS SERVICE PORTFOLIO

Tototheo Maritime ™ has added Starlink's new low latency high-speed connectivity to its portfolio of services.

The agreement between Tototheo and Starlink was finalized in December 2022, and the well-known maritime technology solutions integrator will commence deployment of the Starlink Kits within January 2023.

Tototheo customers will have the maximum flexibility of selecting the configuration that best suits their needs by integrating the Starlink Service (LEO) with Inmarsat GX (Ka-Band & L-Band), TM Flex (Ku-Band), Iridium (L-Band), LTE (3G/4G) and terrestrial connectivity solutions.

SpaceX has launched a huge constellation of low earth orbit (LEO) satellites to provide high-speed, low-latency connectivity with speeds of up to 350Mbps.

"This marks a new era for maritime connectivity", said Tototheo co-CEO Despina Panayiotou Theodosiou. "With a fast-expanding coverage area, the speeds Starlink offers will enable a leap forward in the integration of more effective and sustainable maritime technologies," she added.

"We have always looked ahead and believed that the future of maritime technology lies in synergies and integrated solutions. Therefore, we look forward to the addition of Starlink to our range of services as a further step towards enhancing the reliability and flexibility of choice when it comes to onboard connectivity", said Ms. Panayiotou Theodosiou.

This is a game changer and a complete solution for all customers who value reliability, speed, low latency, and security of their data links onboard their vessels or shore infrastructures.

HMM STEPS TOWARD CARBON NEUTRALITY WITH NINE METHANOL-FUELLED 9,000 TEU CONTAINERSHIPS

HMM announced that it has signed newbuilding contracts with Hyundai Samho Heavy Industries(HSHI) and HJ Shipbuilding and Construction(HJSC) for nine 9,000 TEU containerships powered by methanol dual-fuel engines.

Last July, HMM unveiled a mid-to-long-term strategy to leap forward to be a global top-rated shipping and logistics company by enhancing fleet competitiveness. With the order of methanol-powered containerships, HMM has taken an initial step toward expanding its eco-friendly fleet using alternative fuels.

Methanol significantly reduces greenhouse gas emissions compared to conventional oil-based fuels, bringing an immediate improvement in air quality around ports and shipping lanes. Sulphur oxide (SOx) and particulate matter emissions are virtually eliminated, and nitrogen oxide (NOx) emissions are cut by 80%.

Furthermore, methanol's biodegradable and water-soluble qualities significantly reduce the risk to marine environments.

Under the agreement, HSHI and HJSC will build seven and two vessels, respectively, costing a total of USD 1.12 billion. The ships are scheduled to be deployed on the Asia-North/Latin America trade lanes and the Asia-India routes, with expected delivery from 2025 to 2026. In particular, green shipping corridors between Busan in Korea and key ports in the U.S. are also one of the potential routes to operate the new ships.

COLLABORATION FOR THE DEVELOPMENT AND DEMONSTRATION OF SMR TECHNOLOGIES FOR LARGE SHIPS

KAERI signed an MOU with 8 institutions on February 9th at the Gyeongju City Hall. The participating institutions included Gyeongsangbuk-do, Gyeongju-si, Korea Research Institute of Ships and Ocean Engineering (KRISO), Korean Register (KR), H-Line Shipping Co., Ltd., HMM Co., Ltd., Wooyang Shipping Co., Ltd., Sinokor Merchant Marine Co., Ltd.

This MOU aims to lay the foundation for developing and demonstrating SMR technologies for large ships and commercialization in the future.

Recently, the development of eco-friendly ships has been intensifying worldwide due to the strengthened greenhouse gas emission regulations in the international shipping sector. Last year, the International Maritime Organization (IMO) discussed ways to adjust the 2050 greenhouse gas reduction target in the shipping sector.

The MOU signed by these institutions will allow them to jointly contribute to the development of the SMR industry and enhance the competitiveness of the Korean maritime and nuclear industries.

WÄRTSILÄ AND BERGE BULK COMPLETE MARITIME INDUSTRY'S FIRST INLINE SHAFT GENERATOR RETROFIT

The technology group Wärtsilä has successfully retrofitted an inline shaft generator system on the 'Berge Toubkal', a cape-size bulk carrier owned by Singapore-based Berge Bulk. This is the marine industry's first-ever shaft generator retrofit, and its successful completion will improve the vessel's Energy Efficiency Existing Ship Index (EEXI) while reducing its overall carbon footprint.

Shaft generator systems onboard ships are driven by the main engine to supply power to the mains, thus saving fuel and emissions. They are sized to eliminate the need to operate auxiliary engines while at sea. While such systems, also referred to as Power Take-Off (PTO) systems, are today's standard installations on newbuild vessels, large inline versions with the generator sitting directly on the propeller shaft and turning at 50 to 100 rpm have never before been retrofitted.

The retrofitted shaft generator will also provide power to an air lubrication system installed at the same time. The system includes a Wärtsilä control system, as well as a converter to allow the generator to operate over a broad span of rpm. The existing intermediate shaft and bearings were replaced to accommodate the increased weight.

BLENDING HYDROGEN WITH NATURAL GAS: AN AMBITIOUS PROJECT OF DNV AND KOGAS

DNV has been selected by South Korea's state-owned natural gas importer and transporter Korea Gas Corporation (KOGAS) to assess the viability of blending hydrogen into the nation's gas transmission network.

The two-year project will assess the scope for blending hydrogen with natural gas in KOGAS' 5,000-kilometre-long domestic transmission network.

The work plan includes assessing and demonstrating the viability and impact of blending hydrogen with natural gas at various ratios in KOGAS' transmission pipeline system, advising on the options, construction and operation of hydrogen injection facilities and equipment, reviewing methods for controlling the concentration of hydrogen blending for customers, providing on-site technical support and data analysis for the hydrogen demonstration project and supporting KOGAS in addressing the requirements of the energy regulator through the application of knowledge gained in related projects internationally.

DOOR TO DECK GLOBAL MARINE LOGISTICS JOINS FORCES WITH MARINETRANS

Significant developments are taking place in the field of marine logistics, the specialized area of logistics focusing on the needs of shipowners to forward their spare parts around the world. Marinetrans (part of the GTS - Global Transport Solutions Group), the biggest provider worldwide in supply chain solutions for ship owners and ship management companies, has acquired Door to Deck Global Marine Logistics (D2D), an upcoming marine coordination specialist in Cyprus and Greece. Marinetrans already had an office in Athens and will gain a substantially larger presence in Greece with this acquisition. The co-founders of D2D, Kyriakos Tsitouridis and Michalis Theodosiou, will be driving further business development of D2D, Marinetrans and GTS in the entire Mediterranean area and will become shareholders of the GTS Group.

John Burgstra, co-CEO of GTS, commented on the transaction: “With this partnership, Marinetrans will significantly expand its foothold in the Greek and Mediterranean market, enabling us to provide our Greek clients with more scale and service close to their home. D2D has a strong position in the Greek market, which they have gained through superior customer service and profound knowledge of the Greek maritime- and shipping industry. Teaming up with them is an important strategic step for both companies.”.

By joining forces, D2D gains access to an international 3PL and warehousing network and can leverage GTS’s strong IT infrastructure, project logistics expertise, and innovative 5PL solutions. Kyriakos Tsitouridis, co-founder of D2D: “With its international scale and position as a global market leader, Marinetrans is at the forefront of providing intelligent and data-driven logistics solutions to ship owners and ship managers. By tapping into this knowledge and international network, we can provide our clients with more value-added services and international troubleshooters on the ground. Besides that, there is an excellent fit between our customer-centric company cultures and management teams – and we are sure that fit will make this combination a success.”

Michalis Theodosiou, co-founder of D2D: “Our clients will definitely reap the benefits of our companies’ joining forces. They will continue to be serviced by the experienced operating teams they know and are accustomed to while gaining access to new solutions and products. One of the services our customers have especially valued is our worldwide import & on-deck delivery service – and we think we can use each other’s knowledge, network, and capabilities to improve it to an even greater degree. We are very much looking forward to meeting all our new colleagues at GTS”.

Global Transport Solutions is the holding-company of Marinetrans and Best Global Logistics, offering specialized 4PL and 3PL international time-critical logistics with a geographical presence on all continents, mainly focused on marine spare parts and other time-critical and complex logistics.

Marinetrans is the world’s largest fourth-party logistics (4PL) service provider specializing in forwarding and logistics of marine spare parts. The company has 9 offices in central locations around the globe. Marinetrans offers services in 22 warehouses and 2,000 ports worldwide through a network of dedicated partners.

Door To Deck Global Marine Logistics is a fourth-party logistics (4PL) service provider with offices in Greece and Cyprus specializing in the forwarding and logistics of marine spare parts worldwide. Since its foundation in 2017, D2D has grown exponentially and now manages marine logistics for a large share of the Greek and Cypriot-managed merchant fleet. It is particularly characteristic that D2D has consistently doubled its revenue during each year of its operation, a feat documented by the company’s inclusion in the 7th edition of the Financial Times 1000 Europe’s Fastest Growing Companies 2023. This has been accomplished through the company’s continuous investments and excellence in customer service as well as through D2D’s proficiency in organizing global import & on-board deliveries efficiently and in a cost-effective manner.

FREIGHT

A YEAR OF WAR IN UKRAINE: THE EFFECTS ON SEABORNE TRADE

It has been a year since President Putin decided to invade Ukraine, thus disrupting the long-standing peace in Europe and causing an unprecedented humanitarian crisis.
Western powers reacted immediately, imposing severe sanctions on Russian cargoes and vessels, which are still in place today. In the following pages, shipping market analysts highlight the changes that have taken place in the freight markets following the reshuffling of trade flows and the reshaping of the seaborne transport map.

MARKETS

LNG SHIPPING: THE ELEMENTS THAT LEND SUPPORT TO A BULLISH OUTLOOK

by **Phillip Tripodakis**,
LNG Chartering & FFAs,
Simpson Spence Young

The invasion of Ukraine by Russian Federation forces almost 12 months ago catalysed a paradigm shift in the global energy markets. The need to diversify away from Russian exports was acutely felt across commodities but arguably most of all in energy, especially LNG. Prior to the invasion, Russian pipeline gas accounted for almost 40% of Europe's natural gas needs, according to Eurostat. As the war escalated and the prospect of a quick resolution to the conflict diminished, it became apparent to European leaders that this heavy reliance would have to be materially reduced as quickly as possible. While European utilities were scrambling to secure Floating Storage and Regasification Units, on 26th September 2022, Nord Stream I – a major pipeline transporting Russian gas to Europe – was sabotaged. This previously unthinkable event continued to exert upward pressure on European index prices, keeping them high above historical levels. The TTF front-month index hit $58.828/MMBtu on 28th September 2022, more than doubling from the $26.92/MMBtu recorded exactly a year before, as European nations raced against time to fill up natural gas storages before the winter. Although Russia had already limited exports through the Nord Stream I, losing it entirely meant Europe's potential natural gas supply was irreversibly reduced by 55 billion cubic feet per annum (bcm), the pipeline's max capacity. To put this in LNG shipping terms and to translate it to demand for new LNG cargoes, 55bcm per annum is roughly 40 million tonnes of LNG per annum (mtpa). 40mtpa of supply roughly equals 500 LNG cargoes of a 174,000cbm parcel size.
The obvious source for this incremental supply has been LNG from the USA. Unlike Sale and Purchase Agreements (SPAs) of the past, which had destination restriction clauses, US LNG volumes are purchased under contracts which allow off-takers to sell their cargoes to the highest value market. Reflective of the flexible nature of US volumes is the swift way in which the percentage of US cargoes delivered to Europe increased following the invasion. Indicatively, in cal2021, 34% of US LNG cargoes were delivered to Europe versus 69% in cal2022. More specifically, in Q4 2022, 72% of US cargoes went to Europe versus 48% in Q4 2021.
At the end of Q3 2022, there was a narrative that suggested that with Europe pulling the bulk of US LNG cargoes, we would witness shorter tonne-mile demand and, therefore, increased vessel availability. However, that did not materialise. A mild winter and healthy natural gas storages levels combined with the continuous pull of a large number of cargoes eventually led physical deliveries into the European grid to trade at significant discounts to the TTF index. This discount steepened in the front

and pushed the market into contango. Seeking to capture this contango and not sell their cargoes at a prompt discount, market participants started floating their cargoes for long periods. Indicatively, at some point in November, more than 40 vessels were floating outside the EU, waiting to discharge at the right time. That significantly increased tonne-time (utilisation) and kept vessels employed for longer under their US Gulf -> EU rotations. While this was happening in Europe, the Far East saw very muted demand for LNG due to healthy stockpiles, a mild winter, and lower-than-usual industrial power demand, especially from China, which had not lifted COVID-19 restrictions. Owing to its stronger pricing relative to the Far East (accounting for the cost of shipping to either destination), Europe pulled 65% of US cargoes in October, 76% in November, 75% in December and 72% in January, based on cargo data from Kpler. As we leave this winter behind us and look ahead to the mid and long-term, there are several elements which lend support to a bullish outlook for LNG shipping. Several US-based LNG liquefaction projects are on the cusp of reaching Final Investment Decisions (FIDs) and moving ahead with construction. These new volumes will come onstream in approximately 4 to 5 years and create fresh demand for newbuild vessels in 2027-2028. In the meantime, the record number of vessels already on order will be delivered in time to cover production that will come on stream from the previous round of under-construction projects. These under-construction mega projects are set to commence production between 2024-2027 and absorb the large number of carriers on order, which has exhausted the capacity of the Korean yards until 2027. In the last 24 months, the price for a newbuild 174,000cbm 2-stroke LNG carrier has risen by roughly $60 million compared to the mid-high $180mil for a unit delivered in 2023 to the low $250mil for earliest delivery in 2027. Owners who have placed orders in time will be able to command significant premiums for long-term charters as charterers have run out of options for modern carriers in the front (2023-2026). Indicatively, the rate for a 10-year charter of a modern 2-stroke carrier with delivery in 2024 has risen YoY by nearly $25,000/day from roughly mid $70s/day in Q1 2022 to low $100s/day in Q1 2023. In addition, Korean and Chinese yards are operating at full capacity, and demand for modern LNG carriers is only expected to grow with more production facilities receiving

FID, as mentioned above. The above elements combined point to a term charter market that is not set to weaken but only strengthen going forward.

One possible headwind quoted by some market participants is the impact of the extensive demand destruction, which occurred mainly in Asian importing nations due to high LNG prices over the last 18 months. However, the real impact of this demand destruction is yet to become fully transparent since it has been difficult to discern to what extent the muted Asian demand for LNG this winter was owed to a mild winter versus the possible mid-term demand destruction itself. The counterargument to this narrative is that the record amount of production coming on stream in the next few years will lead to a normalisation of LNG prices which will once more stimulate its growth in the energy mix of Asian countries. After all, Asia is expected to drive 70% of energy demand growth over the next 20 years, and the US will be a major source of the natural gas that will eventually come to meet these increased needs. Reflective of this outlook is the great number of Sale and Purchase agreements signed by Asian buyers with US projects over the last 12 months, especially after the war. The new volumes under these contracts are likely to travel long distances into the Pacific basin, leading to longer tonne-miles and higher fleet utilisation in the long term.

Another bullish element over the mid-long term is the pressure that environmental regulations will apply to market participants for fleet renewal and modernisation. Currently, older-generation Steam Turbine vessels make up roughly 35% of the existing LNG conventional carrier fleet, while TFDE vessels make up 26%. Firstly, the EEXI, and toward the end of the decade, more heavily, the CII, will start impacting the trade of most of these vessels and will therefore lead to fresh orders to replace older tonnage, which will be forced to the market's sidelines. By the end of the decade, more than 300 vessels will be over 20yrs of age, with almost a quarter of them being more than 30yrs of age and, therefore, will have to be replaced by modern LNG carriers with a friendlier environmental footprint. These carriers, however, come with a price tag of $250mil+, and any new orders will not be delivered earlier than 2027.

2023 - a year in which less than 10 vessels remain under the control of independent owners and thus open for term business - will undoubtedly see exciting developments in the market in the coming months. Other things to look out for are the long-awaited Final Investment Decisions for a handful of US projects, the ongoing deliberations of market stakeholders on the CII regulation and its implementation rollout, and the possible return of Chinese LNG buyers as China hopefully gains momentum and returns to pre-Covid levels of industrial and commercial activity.

DRY BULK MARKET: OUT OF THE MOUNTAIN OF DESPAIR, A STONE OF HOPE*

*Extract from Martin Luther King, Jr.'s "I Have A Dream" speech, Washington, DC, August 28th, 1963.

by **Sevi Katemoglou**,
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Rough start to the year

When contemplating the, admittedly rough, start to the year, it is important to also reflect on how the previous year ended; in 2022, China managed a mere 3% growth in its GDP, registering one of its worst performances in nearly half a century and same was reflected on the Baltic Dry Index with its downward spiral carried over in 2023.

Dry bulk market participants witnessed spot rates bottoming to nearly 3-year lows when on February 16th, the BDI was published at 530 points. Seasonal weakness, retrieving port congestion, extensive Covid-19 lockdowns and China's lingering property crisis, all weighed on the country's economic performance and reverberated on the dry bulk freight market.

Subdued demand for steel, and therefore the raw steelmaking ingredient of iron ore, pushed Capesize bulkers to have to run at significantly below operating cost for the entire month of February, averaging at upper US$3,000's/d. The Panamax asset class also took a hit, largely attributed to thin coal cargo volume interrelated to a relatively mild winter in the Northern Hemisphere which limited the energy needs of most coal importing nations.

Further, the medium-sized bulkers have been impacted by a late Brazilian grain harvest which affected the actual commodity supply, leading their average earnings in February to mid US$8,000's/d for Panamax and low US$8,000's/d for Supramax bulkers.

It is indicative that during the first three weeks of January, the daily average of Brazilian soybean exports were lower by 67% compared to the same period last year as the pace of the South American harvest has been particularly slow, affected by heavy droughts during the planting season last summer.

That said and as we have entered the last month of Q1, grain shipments have somewhat picked up pace, offering some much-needed hope for an increased tonne-mile demand going forward.

February 24th marked one year of the Russia-Ukraine war and despite multiple efforts from the international community to accommodate grain transportation, Ukraine's agricultural exports in the 2022/23 season up to mid-February have been down by nearly 29% y/y.

The UN-brokered Black Sea Grain initiative has encountered a number of challenges including safety and insurance, while Russia has been repeatedly accused of intentionally delaying inspections of vessels carrying Ukrainian grains, creating backlog in the region and averting traders from upping shipments' volume.

On a positive note, the month of February close with an upward trend for the freight market across all bulker sizes as the physical market regained some ground and showcased a notable turnaround, also supported by a green forward curve.

Where to from here

Despite the still unstable global geopolitical landscape and a number of challenges in various fronts, we do expect a recovery of the freight market, mainly supported by China's economic reopening and its retrieving Covid-19 cases, also reflected on projections of the IMF for an annualised 5.2% China GDP growth in 2023.

For the time being, forecasts for Chinese demand for steel and iron ore remain relatively discouraging: in 2023 the Asian behemoth is forecast to see its steel demand contracting by 1.1% y/y to 910 million tonnes and its iron ore exports down by 2.7% y/y to 1.07 billion tonnes.

Of course, much will depend on how the government and local banks will choose to support the property sector and set in motion infrastructure-intensive projects as the year progresses.

And while 2022 was the first year on record when new construction activity and land sales in China declined, in January credit conditions improved significantly when the Chinese banks issued a record 4.9 trillion CNY (circa US$ 720.21 billion) in loans, in an effort to galvanise the country's economy.

Home prices in China are slightly rising and at the same time mortgage rates are falling (to 4% in February), while

Chinese authorities are gradually easing restrictions on land sales, all acting in favour of the Chinese property market and therefore offering a bullish indication for dry bulk trade.
Moreover, in mid-February China announced the construction of a new mega airport in Nantong area (a promising project said to handle circa 40 million passengers annually), which we feel sets the tone for robust infrastructure spending and forthcoming stimuli. Further, a new High-Speed Railway (HSR) connecting Shanghai with Anhui province is currently under discussions by the National Development and Reform Commission.
Of course, these grandiose plans the Chinese officials often announce in tandem with supportive policy measures, tend to have a large time lag between the announcement and the implementation and even larger delay for when these actually bear fruits on the dry cargo market. They do, nonetheless, offer a positive undertone on what to expect.

Furthermore, it seems that we approach the end of the 2-year long Sino-Australian trade spat as Chinese utilities are stepping up their purchases of Australian coal, while the world's second largest coal importer, India, invoked in late February an emergency law to essentially force local utilities that run on imported coal to maximise electricity generation, with the aim to meet an expected surged power demand this summer – both perceived as good news for the dry bulk market.
Additionally, Brazilian soybean output is forecast to reach the record 153 million tonnes this year, out of which 91 million tonnes are intended for export. If realised, this will register a yearly increase to the tune of 15% and will therefore lend significant support to the Panamax and Supramax bulkers that benefit markedly from the long-haul grain trade.
However, expectations for Ukrainian grain shipments in 2023 are somewhat bearish, as the ongoing war, abandoned fields, inflation and challenging logistics, make the case that this year's grain harvest will be the lowest since the Ukrainian independence.
That said, lately we have seen some concerted efforts for the grain corridor deal (ending March 18th) to be extended for a year, which can bring some positive momentum to the agricultural market in the region.

A balancing act

All in all, a mixture of both positive and negative indicators carve out the current and projected state of the dry bulk freight market and make, once again, for a sweet and sour cocktail. Of course, this fascinating market is intertwined with the world's destiny and the global geopolitical and economic progress.
Given the widespread uncertainty which influences key metrics, how market players navigate next few months can prove to be a balancing act. However, we have reasonable hope that healthy profit margins will be sustainable throughout the year, notwithstanding the unavoidably highly volatile ecosystem which we all operate in.

Russia's invasion of Ukraine in February 2022 was at the core of a new global crisis at a time when the global economy hadn't recovered yet from the pandemic disruptions and lock-downs. The sanctions against Russia that followed sent energy prices soaring - in March 2022, the WTI climbed to $120/barrel, the highest level since August 2008 - and triggered a wave of inflation the likes of which the global economy had not seen for decades.

THE EFFECTS OF THE UKRAINE WAR ON THE TANKER MARKET

by **Eirini Diamantara**,
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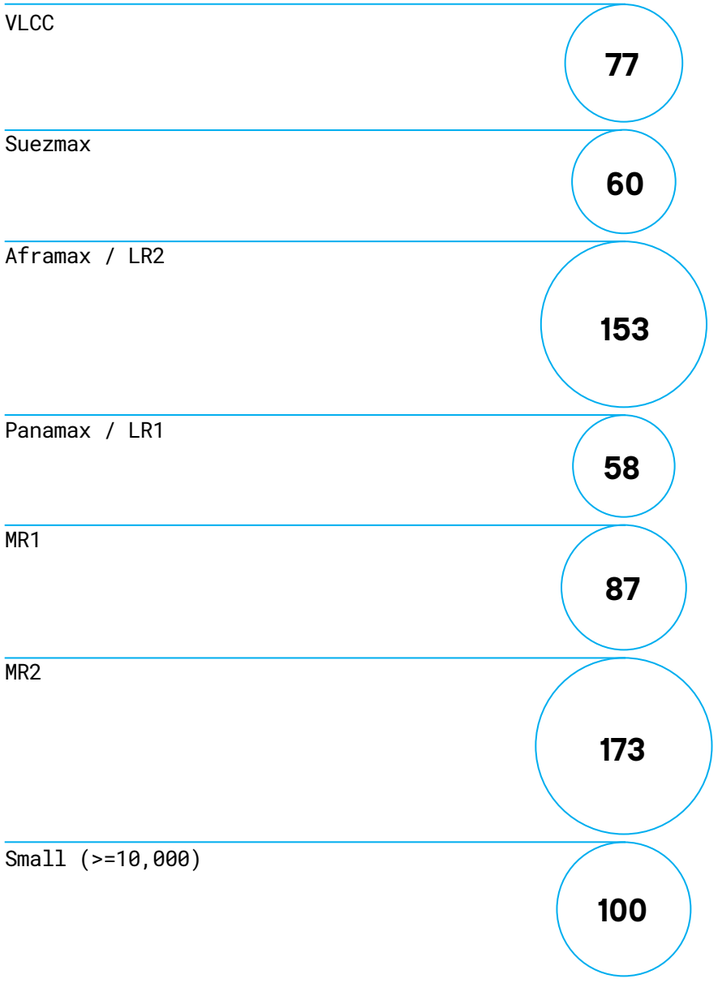
Europe's gradual moving away from Russian oil has benefited the Suezmax and Aframax markets, given the short-and medium-haul demand for North Sea, West Africa, and US crude. On 18 February 2022, just one week before the Russian-Ukraine conflict commenced, the Aframax TCE paid USD 4,411/day. However, by the end of 2022, it had risen significantly to USD 73,004/day after peaking at around USD 125K/day at the end of November 2022.

Furthermore, the Suezmax TCE rate was negative, reaching USD -1,820/day in mid-February 2022, while it closed the year at USD 83,640/day. Another boost for the wet market was that refineries increased production as they imported great volumes of crude oil due to the post-pandemic recovery of oil consumption. But during the pandemic, many refineries were shut down due to the declining demand and low oil consumption, triggering issues in many countries, especially in Europe, and pushing the seaborne oil trade mainly from East of Suez to the West. As a result, clean tankers benefited from the increase in tonne miles. For example, on 18 February 2022, the MR Pacific Basket and the MR Atlantic Basket paid USD 7,969/day and USD 15,658/day, respectively. However, by the end of 2022, those rates surged to USD 57,851/day and USD 35,964/day, respectively.

The booming of the tanker market, driven by the Russian invasion of Ukraine and sanctions on Russian oil, led the second-hand tanker market to heat up in 2022. High oil prices and the increase in tonne miles, triggered by oil suppliers' efforts to find alternative consumers and vice versa, drove freight rates to record highs in 2022. During 2022, 708 tankers were sold, 183 more than in 2021 - the highest volume since 1995. As can be seen in the pie chart, the main interest was in the MR2, Aframax/LR2 and Chemical sectors, which account for 79% of the total tanker sales. The VLCC sector was the only sector whose sales volume decreased by about 9% in 2022 compared to 2021.

Furthermore, the age preference, as in 2021, was for ships between 11 and 20 years, which represent 72% of 2022's transactions as these asset ages were considered better priced, and age-wise, they were acceptable by the major oil traders. Increased buying appetite for tankers has firmed up second-hand prices. From January 2022 to December 2022, 10-year-old second-hand prices rose by 40% in the VLCC sector, while 10-year-old second-hand prices in the Suezmax, Aframax/LR2, and MR sectors increased by around 50%. For instance, in February 2022, the LR2 "Phoenix Hope" was sold for about USD 18.25 mill, whilst 7 months later, the same vessel (renamed to Keros Voyager) was sold for USD 36 mill.

During 2022, we observed a renewed interest in ship-to-ship transfers in the Mediterranean, with cargoes either being combined onto larger vessels or transferred from Ice-classed tankers to others to allow those vessels to be



2022							2021						
Vessel Type	**0-5Y**	**6-10Y**	**11-15Y**	**16-20Y**	**20+Y**	**Total**	**Vessel Type**	**0-5Y**	**6-10Y**	**11-15Y**	**16-20Y**	**20+Y**	**Total**
Small (>=10,000)	18	7	50	15	10	100	Small (>=10,000)	8	10	37	8	6	69
MR1	6	10	34	32	5	87	MR1	2	2	18	8	2	32
MR2	10	36	80	38	9	173	MR2	30	17	61	21	2	131
PANAMAX/LR1	0	11	24	23	0	58	PANAMAX/LR1	4	4	20	12	0	40
AFRAMAX/LR2	10	10	56	67	10	153	AFRAMAX/LR2	24	10	40	41	4	119
SUEZMAX	3	9	12	33	3	60	SUEZMAX	5	5	5	19	5	39
VLCC	14	7	17	32	7	77	VLCC	28	3	17	30	7	85
Total	**61**	**90**	**273**	**240**	**44**	**708**	**Total**	**101**	**51**	**198**	**139**	**26**	**515**

As there are no evident signs that the conflict between Russia and Ukraine will end soon, the tanker market has started to feel the impacts of the EU's oil ban on Russia. After prohibiting crude oil imports on 5 December 2022, the EU halted refined oil imports on 5 February 2023, which means that Russian oil can no longer be carried by EU-owned vessels unless the oil product is sold at or below the agreed G7/EU price cap. It is noteworthy that Russia is Europe's largest oil product supplier. Europe's reliance on Russia is demonstrated by the fact that Europe depends on Russia for 60% of its diesel imports, a dependence that rises to 70% for North-West Europe, whereas, in the Mediterranean, only 25 % of diesel imports come from Russia. If the cap works similarly to the crude oil cap, global oil product flows will be reshuffled, Europe will try to find alternative suppliers, and Russia must find new customers for its refineries production. Europe may turn to the US, Middle East, and India for oil products, adding tonne miles to the wet market, thus reducing the supply of product vessels and strengthening the freight rates. As for Russia, it may reduce its refined product prices, as it has already done for crude oil, in an effort to find alternative customers.

operated in the Baltic during winter. As far as Ice-classed tankers are concerned, we witnessed an increased buying appetite for such vessels. In 2022, around 136 Ice-class tankers changed hands (accounting for 20% of the total tankers sales), nearly twice the number of 2021's Ice-class tanker sales.

2022				2021			
Vessel Type	**Total Sales**	**Ice class**	**Percentage**	**Vessel Type**	**Total Sales**	**Ice class**	**Percentage**
VLCC	**77**	0	0%	VLCC	87	0	0%
SUEZMAX	60	10	17%	SUEZMAX	40	3	8%
AFRAMAX/LR2	153	35	23%	AFRAMAX/LR2	126	13	10%
PANAMAX/LR1	58	14	24%	PANAMAX/LR1	41	15	37%
MR	260	52	20%	MR	174	23	13%
SMALL (<=10,000)	100	25	25%	SMALL (<=10,000)	69	18	26%

MARITIME TRAFFIC: THE IMPACT OF THE GEOPOLITICAL CRISIS ON THE MEDITERRANEAN SEA

by Manos Charitos

The Mediterranean Sea is one of the most important geographical regions for global maritime trade as three critical sea passages are located within it, i.e. the Suez Canal, the Bosphorus Strait and the Strait of Gibraltar. Thousands of different ships sail across its waters each year on their way to one of the hundreds of ports worldwide.

Which types and sizes of ships dominated the maritime transport that crossed the Mediterranean Sea, and which countries were their main destinations? How strongly are recent developments reflected in the global orderbook?

VOYAGES IN THE MEDITERRANEAN SEA

According to MarineTraffic data provided exclusively to Naftika Chronika, in the second half of 2022, 14,450 tanker, gas carrier, and bulk carrier crossings through the Strait of Gibraltar and the Bosphorus Strait were recorded. 66% (9,540) concerned ships crossing the Straits of Gibraltar, while 34% (4,910) ships crossing the Bosphorus Strait.

For tankers and gas carriers the most important sea passage throughout the second half of 2022 was the Strait of Gibraltar, whereas for bulk carriers the Bosphorus Strait. Based on MarineTraffic data, in the second half of 2022, no LNG carriers crossed the Bosphorus Strait.

Most of the activity in the Strait of Gibraltar involved tankers. 53% of the Gibraltar Strait crossings were tanker crossings, 5% were LNG carrier crossings, 4% were LPG carrier crossings, and 38% were bulk carrier crossings. On the other hand, 91% of ships crossing the Bosphorus Strait were bulk carriers, which is not surprising, given that the crisis in Eastern Europe caused significant disruptions to maritime traffic and the transfer of goods from ports in the Black Sea was focused on food and fertilizer exports.

The above is also confirmed by the sizes of bulk carriers that crossed the Bosphorus Strait: 76% were Handysize bulk carriers, and 12% were Handymax bulk carriers, which means that only 12% were medium-to-large and large-size bulk carriers. In addition, the tankers that crossed the Bosphorus were also small-size vessels. None of the tankers was of over 60,000 dwt capacity.

Clearly, a significant proportion of smaller-size vessel activity is to be expected, given that small-size vessels usually travel distances and make a greater number of voyages than larger vessels over the same period.

Due to the dramatic changes in maritime traffic over the past year in the shadow of the Russian invasion of Ukraine, the shipping landscape has seen each of the main types of oceangoing shipping playing an important role. However, amid the ensuing energy and food crisis, LNG carriers, tankers and bulk carriers were the types of ships that were most affected and made the headlines internationally.

As the second quarter of 2022 was a period of adjustment to the new reality of maritime trade, shipping traffic in the second half is particularly interesting. The three critical factors that shaped the maritime freight map were the barrage of LNG carrier arrivals in Europe, the bulk carriers that left the Black Sea under the Ukrainian grain export agreement, and the transportation of Russian oil to the East.

Amid the ongoing changes severely impacting maritime trade - notably the embargo and caps on Russian oil and its derivatives - the next day for shipping traffic appears turbulent.

INDIVIDUAL SHIPS

Based on data from MarineTraffic, in the second half of 2022, 3,782 ships passed through the Strait of Gibraltar and 1,244 through the Bosphorus Strait at least once, while some may have passed through both the Strait of Gibraltar and the Bosphorus Strait.

The 1,349 tankers that passed through the Strait of Gibraltar were of various sizes: 34% were Handysize, 19% Handymax/MR, 24% Aframax, while 13% were Suezmax (Panamaxes and VLCCs accounted for 7% and 3% of vessels respectively).

The distribution of LNG carriers by size is particularly interesting: 177 LNG carriers passed through the Straits of Gibraltar, of which 88% had over a capacity exceeding 140,000 m3. That indicates that smaller ships are becoming an endangered species in the Mediterranean market, given Europe's need for large LNG cargoes.

Moving on to LPG carriers, the market within the Mediterranean is divided into two categories: small-sized and large-sized. In contrast, medium-sized vessels do not play an equally significant role. For example, of the 123 different LPG carriers that crossed the Strait of Gibraltar, 63% had a capacity of less than 25,000 m3, and 33% had a capacity exceeding 61,000 m3.

At the same time, according to MarineTraffic data, 3,141 bulk carriers of various sizes passed through the Strait of Gibraltar or the Bosphorus Strait. The majority were small and medium-sized: 50% were Handysize, 18% Handymax, 16% Panamax, and 11% Post-Panamax. Consequently, 95% of bulk carriers had a capacity of up to 120,000 dwt.

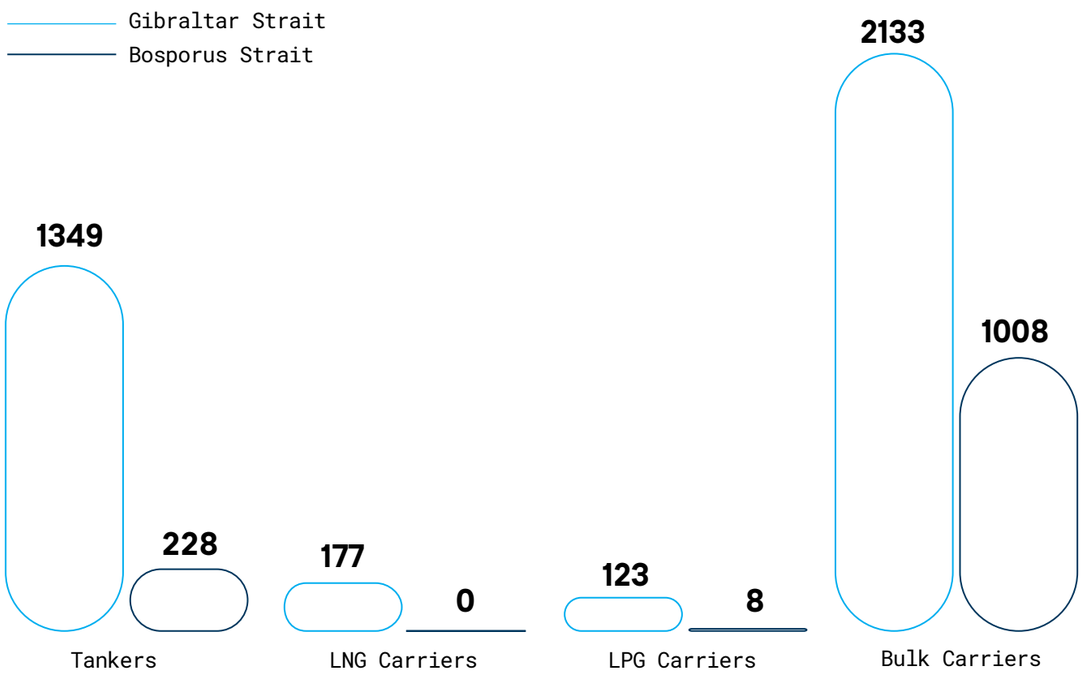
MEDITERRANEAN PORTS: DESTINATION COUNTRIES BY SHIP TYPE

Based on ship arrivals at Mediterranean ports, Spain, Türkiye, Italy, and Greece play a major role in the tanker, gas carrier, and bulk carrier markets.

Tankers

In 2022, Spain, Türkiye, Italy, and Greece were the top Mediterranean destinations for tankers up to 200,000

Number of individual vessels



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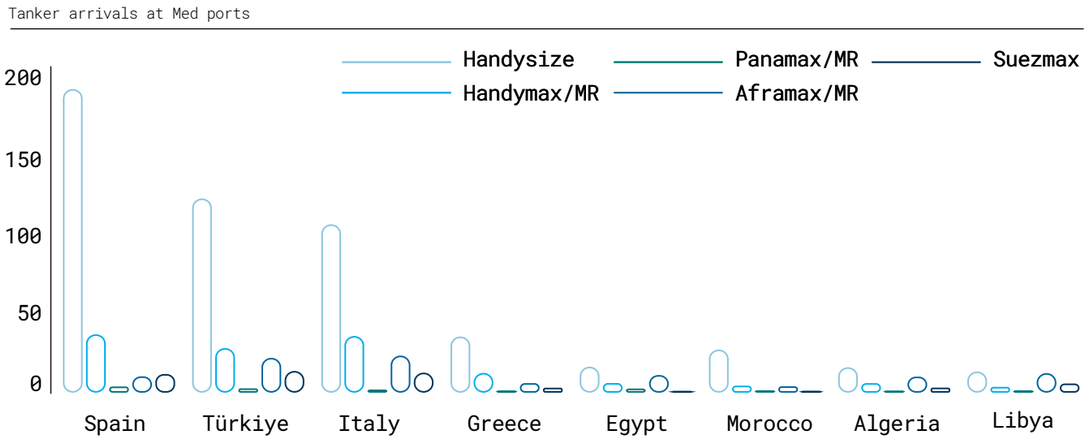


dwt. Of the 16,833 arrivals of tankers of this capacity, 67% took place at a port in these countries. Regarding vessel sizes, most were smaller-sized: 66% were Handysizes, and 16% were Handymaxes/MRs.

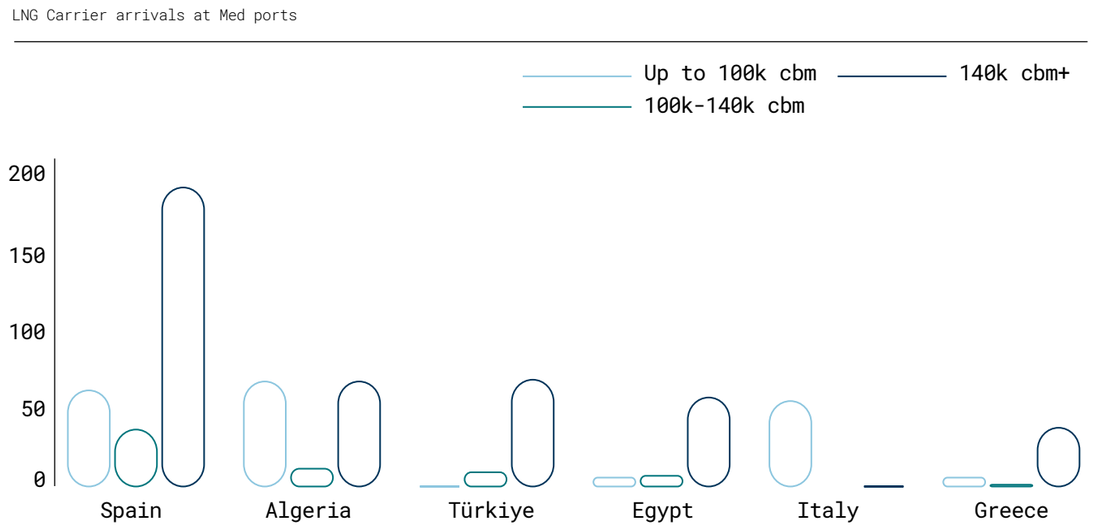
LNG carriers

Regarding LNG carrier arrivals, larger tonnage ships played a leading role, demonstrating the market's shift to larger-size vessels. Of the 870 LNG carrier arrivals at Mediterranean ports, 569 were LNG carriers with a capacity exceeding 140,000 m3.

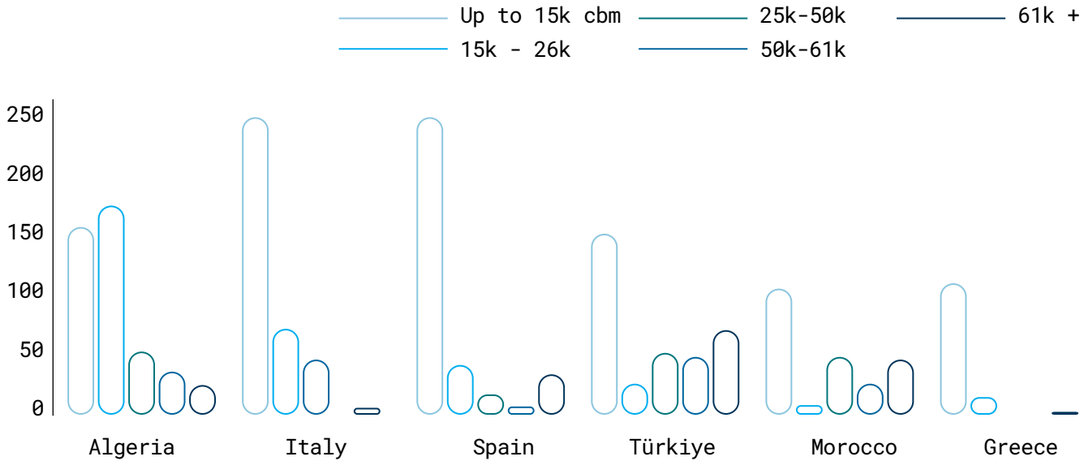
The destination of a significant percentage of these LNG carriers was Spain and Algeria. Notably, only smaller-sized LNG carriers with a capacity of up to 100,000 m3 had Italy as their destination.

LPG carriers

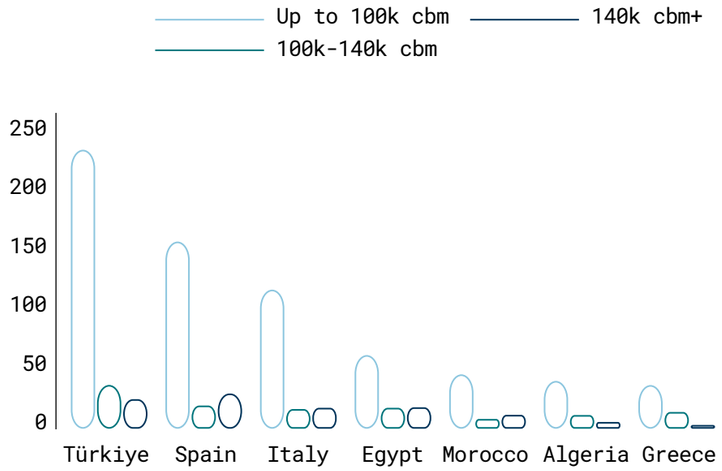
In the second half of 2022, 2,200 LPG carrier arrivals took place in Mediterranean ports, with the size distribution demonstrating that smaller LPG carriers have a strong presence in the Mediterranean: 57% of LPG carrier port arrivals involved vessels of up to 15,000 m3 capacity, while 18% were of 15,000-26,000 m3 capacity. In fact, Greece was the destination of most LPG carriers of this size.



LPG Carrier arrivals at Med ports



Bulk Carriers arrivals at Med ports



The destination of LPG carriers with a capacity of 61,000 m3 and above were mainly Turkey and Morocco.

Bulk Carriers

Based on the MarineTraffic data, in the second half of 2022, there were 20,091 arrivals of Handysize, Handymax and Panamax bulk carriers in Mediterranean and French non-Mediterranean ports. The bulk of the activity concerned Handysizes, which accounted for 76% of total arrivals.

The top Mediterranean country in terms of bulk carrier arrivals was Türkiye, which demonstrates the strong presence of bulk carriers in the Eastern Mediterranean.

THE FLEET, THE ORDERBOOK, AND THE SHORT-TERM OUTLOOK

LNG carriers

The significant presence of LNG carriers in the Mediterranean was evident during the previous year, with many of them having the ports of European Union countries as their destination. However, Europe's broader shift away from Russia's pipelines and gas has caused confusion in the energy market and a significant appetite for new orders.

According to VesselsValue's data provided exclusively to Naftika Chronika, the LNG carrier orderbook numbers 327 ships, the largest of which has a capacity of 267,000. Given that the global LNG carrier fleet numbers 671 vessels, the orderbook to fleet ratio is 49%.

Furthermore, most newbuilds entering the global fleet will have a carrying capacity equal to or exceeding 174,000 cubic meters. The way the LNG carrier market is evolving shows that it is rapidly moving away from smaller or medium-sized ships towards larger vessels, or even the massive Q-Max, primarily ordered by companies aiming to accommodate Qatar's export needs.

The next day for the LNG carrier market promises to be interesting: With China heading into a summer of extreme weather, its demand for LNG is expected to be high. At the same time, Europe remains "locked" in LNG imports, so a possible "rivalry" between Europe and China over LNG cargoes cannot be ruled out. It remains to be seen whether supply in the global market and the number of ships in the LNG carrier fleet will be enough to prevent another boom in energy prices.

Tankers

Focusing on the Mediterranean as our area of interest, it is evident that maritime traffic in this region in the second half of 2022 involved mostly smaller and medium-sized tankers, with Handysizes, MRs, and Aframaxes having the strongest presence in the wider region.

The global Handysize fleet numbers around 2,500 vessels, hundreds of which sailed in the Mediterranean in last year's second half. According to VesselsValue, the Handysize petrochemical tanker fleet consists of 226 ships, while the orderbook of only nine.

Moving on to the sizes of greater interest, the hallmark size for carrying oil products are MR tankers, whose fleet numbers 2,300 vessels, while the orderbook numbers 118 orders. Also, the global Aframax

The prevailing optimism about the tanker freight market's future is not only due to the low orderbook. The sanctions imposed on Russia, especially those on Russian oil and its derivatives, have separated the energy market into two camps: one that opts for Russian energy goods due to their competitive costs and one that avoids them.

Since Russian oil is subject to sanctions and the tankers carrying it might face penalties, the "dark" tanker fleet is growing, reducing the available capacity of the fleet participating in the international market.

Bulk carriers

A significant portion of bulk carrier activity in the Mediterranean involved Türkiye and Spain. However, the wider region's bulk carrier market, particularly regarding smaller-size bulk carriers, is related to the Black Sea and the export of Ukrainian and Russian goods.

In this context, the Handysize and Handymax sizes are of particular interest: their fleets are comprised of 2,317 and 440 vessels, respectively, while the former's orderbook numbers 196 orders and the latter's 11. However, whether there will be increasing maritime activity in the Mediterranean, using the ships passing through the Bosphorus Strait as a benchmark, remains doubtful, given the unrelenting conflicts in Eastern Europe.

In any case, if there is to be a recovery in the bulk carrier charter market, which at the time of writing has been under pressure for several weeks, there needs to be increased activity in the economies of Asia, especially those of India and China.

From production to seaborne transport and consumption

COMMODITIES

Edited by:
Giannis Theodoropoulos

AN INSIGHT INTO SUPPLY AND DEMAND TRENDS

DRY BULK CARGOES

COAL

Indonesia's exports on the rise
Indonesia's decision in January 2022 to impose a temporary ban on coal exports to prevent power loss and blackouts after supplies at domestic power plants fell to critically low levels came as a bolt out of the blue. Given that Indonesia is the world's top exporter of thermal coal, the ban it imposed sent prices soaring and caused unprecedented market volatility. Nevertheless, Indonesia's coal exports in 2022 reached 448.5 million tons, an increase of 14.4% compared to 2021.
The southeastern Asian country has significantly increased its exports since January 2022; if exports continue at this rate, it is bound to become the first country to exceed 500 million tonnes in coal exports in just one year. According to Kpler's cargo-tracking data, the country exported 449 million tonnes of coal in 2022, up 14.3% from 393 million tonnes in 2021.
The Russian invasion of Ukraine has dramatically changed the energy landscape by bringing coal back into the equation. This means Indonesia's coal sales this year will increase significantly despite energy transition efforts. At the same time, other parameters such as the restart of the Chinese economy, the EU embargo on Russian energy goods and India's limited domestic coal reserves will theoretically also boost Indonesian coal exports.

Japan's moves amid price rally and energy crisis
Japan's coal-fired power plants are taking measures to fight inflation and bolster energy security.
According to a Reuters report, Japanese power plants are switching to lower-quality coal and widening their import sources. Japanese officials told Reuters that Japan, the world's third-largest coal importer, is turning to supplies from Africa and South America after cutting imports from Russia due to sanctions.
The galloping inflation has resulted in power plants asking for an increase in electricity prices from April or June, as the cost of importing coal is exceptionally high. However, although coal prices have fallen 39% so far this year, market circles are concerned about a renewed rally due to China's return to the markets, particularly the Australian coal market.

EIA: US production to decline in 2023
The US Energy Information Administration (EIA) recently published its February Short-Term Energy Outlook (STEO) report that provides the US Energy Information Administration's (EIA) near-term perspective on energy markets.
The EIA expects US coal production to decline by 13% to 518 million short tons (MMst) in 2023, after increasing in both 2021 and 2022, with a further 5% decline to 494 MMst in 2024. Primarily, it forecasts a 16% reduction in coal consumption by the electric power sector in 2023, followed by flat consumption in 2024. That decline largely reflects almost 9.6 GW of coal-fired capacity retirements in 2023, followed by another 2.8 GW closing in 2024.
The EIA notes that two other factors will be the lower natural gas prices and the 19% increase in renewable generation over those two years. Consequently, coal imports in EIA's forecast decline by 47% from 2022 to less than 4 MMst in 2024.
Steam coal exports will increase from 39 MMst in 2022 to 45 MMst in 2024 due mainly to greater demand in Europe. Coal from the United States is helping supply Europe following the EU's ban on coal imports from Russia. US coal exports also fulfil demand in Asia.

IRON ORE-STEEL

The restart of the Simandou project
Guinea has announced the resumption of works to develop Simandou, the world's biggest untapped deposit of high-grade iron ore, after The China Development Bank, the Export-Import Bank of China, and the Industrial and Commercial Bank of China also participated in these talks.
Rio Tinto Group, Winning Simandou Consortium, and China Baowu Steel Group agreed to restart infrastructure development at the site in this month, Guinea's military government said in a statement.
Last year, the project went through hell and high water due to disagreements between the government and other stakeholders over the government's share of the revenues and how the estimated $15 billion for the project would be financed.
The restart of the project will give a boost to China, which is looking to reduce its dependence on Brazil and Australia for iron ore supplies. According to data from the International Steel Association, China consumed 67% of iron ore shipped internationally in 2021.

Fortescue's dynamic entry into Gabon
Australia's Fortescue Metals Group has clinched a deal with the government of Gabon to extract iron ore from the Belinga deposit.
Fortescue, the fourth-largest iron ore miner globally, is searching for high-grade iron ore to blend with its Australian product.
The company is expected to start mining in Gabon in the second half of this year.
As Fortescue's Chief Operating Officer Dino Otranto said in an interview with Reuters, the Belinga deposit, which the company has been eyeing since 2018, could rival Guinea's giant Simandou deposit for scale and quality.
The produced iron ore will be transported via Gabon's existing road and rail networks to the Owendo Mineral Port, from where it will be shipped to international markets.

EU steel demand to contract in 2023

All downside factors that materialised in the first half of last year have persisted, continuing to impact the European steel market. In that respect, Eurofer expects apparent steel consumption to see a deeper-than-expected drop of -4.6% for 2022 (previously set at -3.5%). The outlook for 2023 also remains negative (-1.6%), paving the way for the fourth steel demand recession in five years. Though subject to high uncertainty, a modest recovery will be in sight in 2024 (+1.6%). Despite a more general resilience of the EU economy, in the third quarter of 2022, apparent steel consumption reached its lowest level after the pandemic.

The consequences of high energy prices, the continuation of the war in Ukraine, and its related disruptions are set to drag on and weigh more heavily in the first half of 2023. That could lead to the second recession (-0.6%) in Steel Weighted Industrial Production (SWIP) since 2013, according to Eurofer. However, a gradual recovery is expected in 2024 (+1.6%) if a positive scenario is confirmed and confidence is back.

GRAINS

Another record-breaking harvest for Brazil

Brazil is set for another record-breaking grain harvest. As a result, the US Department of Agriculture maintains its corn planted area forecast at 22.5 million hectares for MY 2022/2023, and corn production is forecast at 125.5 MMT for MY 2022/2023, up 8 per cent from the estimated 116 MMT for MY 2021/2022. The US Department of Agriculture forecasts corn exports for MY 2022/2023 at 47 MMT, based on the continued interest in international markets. The forecast for rice planted area for MY 2022/2023 is reduced to 1.53 million hectares, based on the continued loss of profitability of rice crops in Brazil and high maintenance costs. For MY 2022/2023, milled rice production is forecast at 7.2 MMT of milled rice equivalent (MRE), a 1.4 per cent drop from 2021/2022. Brazil is expected to reach record wheat production. Wheat production for MY 2022/2023 is expected to be 9.6 MMT.

WHEAT

Projections for record global outturn

In its new Cereal Supply and Demand Brief, FAO raised its forecast for world cereal production in 2022; however, global cereal supplies are still forecast to tighten in 2022/23.

Global cereal output in 2022 is now forecast at 2,765 million tonnes or 1.7 per cent below the 2021 outturn. Upward revisions for Australia and the Russian Federation now point to a record global output for wheat in 2022, while total coarse grains production is expected to decline by 3.3 per cent from the previous year. On the other hand, the forecast for world rice production was revised downward as lower-than-expected output in China more than offset upward revisions for Bangladesh and several other countries. As a result, global rice output is now predicted to decline by 2.6 per cent from its all-time high in 2021. Looking ahead to 2023, early indications point to likely area expansions for winter wheat cropping in the northern hemisphere, especially in the United States of America, driven mainly by elevated wheat prices. However, high fertiliser costs may affect application rates with adverse implications for yields.

Low domestic prices could result in a small cutback in wheat plantings in the Russian Federation, the world's largest exporter. At the same time, severe war-induced impacts in Ukraine are estimated to reduce winter wheat area plantings by 40 per cent. On the other hand, record plantings are forecast in India, spurred by high market and support prices, and relatively high plantings are projected in Pakistan as standing water from the 2022 floods is causing less hindrance than initially anticipated.

Most of the 2023 coarse grain crops in the southern hemisphere have been sown. Brazil may post record maize plantings, while those in Argentina could decrease due to low soil moisture levels. Weather conditions augur well for maize yield prospects in South Africa.

In its new brief, FAO predicts international trade in cereals in 2022/23 to decline by 1.7 per cent from the previous year's record level to 474 million tonnes.

SOYBEAN

The latest forecasts on global production and trade

The US Department of Agriculture (USDA) recently published its monthly "World Agricultural Supply and Demand Estimates" report for February. Global 2022/23 soybean supply and demand forecasts include lower production, crush, and ending stocks.

Global production is reduced by 5.0 million tons to 383.0 million on lower crops for Argentina and Ukraine. Argentina's crop is reduced by 4.5 million tons to 41.0 million on lower areas and dry weather conditions impacting yields. Ukraine's crop is down 0.4 million tons on lower reported area harvested. Global soybean exports are nearly unchanged, with lower exports for Argentina offset by higher shipments for Paraguay and Brazil.

Soybean imports are increased for Argentina while down for the EU. EU imports are reduced on the pace to date, and higher imports of rapeseed and sunflower seed. Pakistan's imports are also down due to restrictions on import licenses of genetically engineered soybeans.

WET BULK CARGOES

CRUDE OIL

OPEC+: No change in output policy

The 47th Meeting of the Joint Ministerial Monitoring Committee (JMMC) of OPEC+ took place via videoconference on Wednesday, 1 February 2023.

The Committee reviewed the crude oil production data for November and December 2022 and noted the overall conformity for participating OPEC and non-OPEC countries of the Declaration of Cooperation (DoC).

The Members of the JMMC reaffirmed their commitment to the DoC, which extends to the end of 2023 as agreed at the 33rd OPEC and non-OPEC Ministerial Meeting (ONOMM) on 5 October 2022. They urged all participating countries to achieve full conformity and adhere to the compensation mechanism.

OPEC+ agreed in early October 2022 to reduce production by 2 million barrels per day from November and for 2023.

Forecast for rising demand

The International Energy Agency published its Oil Market Report (OMR) in January. According to estimates, global oil demand is set to rise by 1.9 mb/d in 2023 to a record 101.7 mb/d, with nearly half the gain from China following the lifting of its Covid restrictions. Jet fuel remains the largest source of growth, up 840 kb/d.

The IEA expects world oil supply growth in 2023 to slow to 1 mb/d following last year's OPEC+-led growth of 4.7 mb/d. An overall non-OPEC+ rise of 1.9 mb/d will be tempered by an OPEC+ drop of 870 kb/d due to expected declines in Russia. The US ranks as the world's leading source of supply growth and, along with Canada, Brazil, and Guyana, hits an annual production record for a second straight year.

Demand to peak around 2030

Global oil demand is expected to peak from the late 2020s to the early 2030s as Russia's invasion of Ukraine has accelerated clean energy investment. Governments are looking to boost energy security by increasing the share of renewables in their countries' energy mix, BP emphasises in its Energy Outlook 2023 report.

In its report, the energy giant notes that oil demand will show signs of stability over the next ten years or so before declining by 2050, mainly due to reduced demand by road transport as vehicles become greener and use alternative forms of energy.

Under the "New Momentum" scenario, one of three scenarios BP is considering, oil demand would remain close to 100 million barrels per day until the end of the decade before falling to 93 mb/d in 2035. Under the Accelerated scenario, oil demand will be 91 mb/d in 2030 and decline to 80 mb/d in 2035. Finally, under the Net Zero scenario, demand oil demand will decrease to 70 mb/d in 2035.

According to Spencer Dale, BP's chief economist, the desire of countries to bolster their energy security by reducing their dependency on imported energy and turning to domestically produced energy suggests that the war in Ukraine is likely to accelerate the pace of the energy transition.

Israel enters the exporters club

Energean confirmed that the first-ever lifting of an Israeli crude oil cargo had taken place at the company's Karish field, the first time in Israeli oil & gas production history that hydrocarbon liquids will be exported to global markets.

Utilising the regionally unique liquids storage and offloading capability of the FPSO "Energean Power", the liquids are offloaded in a controlled manner and sold into various global markets. That creates a significantly differentiated income stream, fundamentally separate from gas-derived revenues. The cargo has been sold as part of a multi-cargo marketing agreement with Vitol and was the first to reach Europe from a new East Med energy source.

China to hit record imports in 2023

The global economic outlook looks positive, especially regarding oil trade, as analysts estimate China will import a record amount of crude oil in 2023.

More specifically, China's crude imports are expected to rise by 500,000 to 1 bpd this year and are likely to reach the record level of 11.8 million bpd. As Reuters reports, this estimate is based on the recovery of fuel demand as the global economy, followed by the Chinese economy, enters the post-pandemic era, and new Chinese oil refining facilities are starting operations.

The prospect of Chinese record imports is an additional optimism factor for the oil market, which also expects to be supported by the OPEC+ group's production cuts and the ban on Russian crude from international markets.

However, given China and Russia's trade relations, a large part of Chinese imports is expected to come from Russia. The effect of this development on the tanker market is positive since tankers are exclusively engaged in the transportation of Russian crude, and, therefore, the supply on the international market is reduced. At the same time, the output of Chinese refineries is increasing, strengthening tonne-miles, as a significant part of the refined products are exported.

LIQUEFIED NATURAL GAS (LNG)

Strong interest in the Revithoussa Terminal

DESFA's auction process for the allocation of unloading slots and gasification capacity at the Revithoussa LNG Terminal for the 2023-2027 period has attracted strong interest from domestic and foreign users of the National Natural Gas System. The annual planning for 2023, 2024, 2025 and 2026 was finalised in January, while the relevant process for 2027 was recently also completed.

For the year 2023, all 26 slots, corresponding to the unloading of a total quantity of 19TW, were reserved. Taking into account the slots auctioned in 2021 for the year 2023, overall, 43 slots have been reserved for unloading 36TW by 4 domestic and 3 foreign users. Therefore, the reserved Gasification Capacity for 2023 corresponds to 80% of the Terminal's Maximum Gasification Capacity (regasification).

For the year 2024, 25 out of the 30 slots offered have been reserved for unloading a quantity of 17.5 TW. A total of 9 users participated in the bidding process, of which 5 were domestic and 3 foreign.

Adding this to the results of the 2021 auction, 5 domestic and 3 international users have reserved 40 of the 45 available slots to unload a quantity of 32.5 TW in 2024. The reserved Gasification Capacity for 2024 corresponds to 72% of the Maximum Gasification (regasification) potential of Revithoussa.

For 2025, 30 out of the 45 slots offered were reserved for unloading 25.5 TW by the 5 domestic and 1 foreign user who participated. The reserved Gasification Capacity for 2025 corresponds to 55% of the Maximum Gasification Capacity of Revithoussa.

For the year 2026, 21 out of the 45 slots offered were reserved for unloading 16.5 TW by 3 domestic and 1 foreign user who took part in the process.

For the year 2027, in the auction completed at the end of January, 21 of the 45 slots offered, corresponding to a total of 17 TW, were reserved by 1 domestic and 1 foreign user.

The significant interest of users creates a favourable condition regarding the security of supply of Greece and the wider region, given the substantial increase in exports to Bulgaria and the broader Southeastern Europe region that has been recorded in the past year.

A tight market expected in 2023

European gas prices have collapsed over the Northern Hemisphere winter. Mild weather and weak industrial demand have ensured that gas storage has remained strong. "The region got through this winter comfortably, and prospects also look better for the 23/24 winter", says ING.

A well-supplied European market has meant that there have been some shifts in regional spreads. Most noticeable is the spread between TTF and Asian spot LNG. For the bulk of last year, TTF was trading at a premium to Asian LNG in order to pull in cargoes and make up for Russian supply losses. However, since mid-December, TTF is trading at a discount to Asia. This should support the redirecting of LNG cargoes towards Asia.

Weaker Chinese demand through 2022 offered relief to Europe. Last year, China imported 87bcm of LNG, down 20% year-on-year and the weakest annual import volume since 2019. However, the relaxation of Covid measures and several support measures to help the domestic property sector could drive a recovery in demand this year. China also has a larger volume of contracts with fixed destination clauses this year (100bcm vs 88bcm last year, according to the IEA).

Ultimately though, Chinese demand is a big uncertainty for the global LNG market. While an increase in demand is expected, it is difficult to gauge precisely how much stronger it could be this year, notes

ING, which expects that Chinese demand will not return to 2021 levels.
The restart of the Freeport LNG plant (20bcm per year) could provide some relief to a tight LNG market, particularly if a stronger-than-expected Chinese demand is recorded. There appears to be some progress on the regulatory front for the plant's restart, but the market may have to wait a while longer for exports to resume, according to ING.

India's ambitious goal
India is seeking long-term deals on LNG imports in a bid to reduce the use of coal in its energy mix. According to a Bloomberg report, Petronet, the country's top gas importer, is trying to secure long-term deals for an additional 12 million tonnes of LNG per annum. This figure corresponds to 2/3 of India's total annual LNG imports.
New Delhi wants to increase the share of natural gas in its energy mix from 6% to 15% by 2030 and considers long-term deals the safest way to achieve this. In this context, Petronet is increasing its LNG supplies from Qatar by 1 million tons per year, notes Reuters.
India is expanding its gas distribution network in cities, which will lead to higher demand. That demand will be met by increasing the capacity of LNG import terminals in ports by 53% in the coming years.

Freeport LNG returns to service
Freeport LNG recently announced that it had received regulatory approval to commence commercial operations of its natural gas liquefaction and export facility. The authorisation provides for the immediate return to full service of one liquefaction train, which has already restarted, and the incremental restart and return of a second train to full service. The restart and return of Freeport LNG's third liquefaction train to service will require subsequent regulatory approval once certain operational conditions are met. A conservative ramp-up profile to establish three-train production of approximately 2.0 billion cubic feet per day is anticipated over the next several weeks as stable operation of each incremental train is established and maintained. Operations are initially utilising two of Freeport LNG's three LNG storage tanks and one of its two LNG berths. The second LNG berth and third LNG storage tank are expected to return to service in May. First LNG production and ship loading from the facility began on February 11.
"Returning to liquefaction operations is a significant achievement for Freeport LNG," said Michael Smith, Freeport LNG Founder, Chairman and CEO. "Over the past eight months, we implemented enhancements to our processes, procedures, and training to ensure safe and reliable operations and significantly increased staffing levels with extensive LNG and petrochemical operating experience to reduce overtime, enhance operational excellence, and improve quality assurance and business performance. Eight months of diligence, discipline and dedicated efforts by our teams working collaboratively alongside the regulatory agencies and local officials have positioned us to resume LNG production and commence ramp-up to the safe establishment of commercial operations of our liquefaction facility."

China-Qatar mega-deal
China National Petroleum Corp (CNPC) is about to finalise a deal to buy LNG from the Qatari energy giant QatarEnergy over the next 30 years. According to international press reports, the LNG supplied to China by QatarEnergy will come from Qatar's North Field expansion project, in which Qatar is looking to increase output.
When sealed, this will be the second deal between Qatar and the world's second-largest LNG importer, as Beijing is trying to increase the share of gas in its energy mix by reducing coal use. It is noted that last November, QatarEnergy signed a 27-year deal to supply China's Sinopec with 4 million tons of LNG a year for the next 27 years, the lengthiest LNG agreement that Qatar has signed to date.

China's appetite a risk for the energy market?
As China's LNG demand rebounds, the country is seeking to increase its LNG imports from June 2023 to June 2024, causing worldwide concerns over the market's delicate equilibrium. A Bloomberg report focuses on the possibility of a price game between Asia and Europe as the two continents compete for LNG supplies.
Beijing aims to revive the Chinese economy as it enters a period when its zero-tolerance policy against the pandemic is a thing of the past. Thus, analysts and market circles predict increased LNG imports by China, the world's largest fossil fuel importer.
In this context, the LNG market is walking a tightrope. Europe, having replaced its dependence on Russian natural gas with a reliance on LNG cargoes, depends on sea transport to meet its needs. However, the market's current shortfall in supply versus demand makes a significant increase in LNG prices within the year seem highly probable.

The latest developments on the energy front

ENERGY & NATURAL RESOURCES

Edited by:
Giannis Theodoropoulos

RECORD PROFITS FOR OIL MAJORS

According to a Reuters report, oil giant ExxonMobil's profitability in 2022 reached exceptionally high levels, surpassing its competitors and taking the leading position in the West's energy market. More specifically, ExxonMobil posted a $56 billion net profit for 2022, taking home about $6.3 million per hour, which is not only a company record but a historic high for the Western oil industry. This increase in profitability prompted ExxonMobil to increase its investments by $22.7 billion (or 37%) annually.

Shell also posted record profitability last year. The British giant broke its 2008 profit record of $28.4 billion, reaching $39.9 billion.

At the same time, TotalEnergies, the French oil and gas group, recently announced a net profit of $20.5 billion for 2022, up 28% from 2021, the highest profit the company has ever posted. Excluding the accounting losses associated with its exit from Russia, amounting to nearly $15 billion, TotalEnergies' adjusted net profit (excluding extraordinary expenses) was $36.2 billion.

Similarly, Chevron saw its profits reach $36.5 billion due to the rise in oil prices in 2022 and the increase in production.

In any case, the record annual profits in 2022, due to increased demand, have sparked criticism against the industry - many are now calling for an increase in the taxation of energy companies.

WIND AND SOLAR POWER GENERATED MORE ELECTRICITY THAN GAS DID IN THE EU LAST YEAR

European countries were forced to accelerate their renewable energy capacity after Russia's invasion of Ukraine sparked a global energy crisis. The EU's REPowerEU plan aims to increase the overall share of renewables in final energy consumption to 45% by the end of the decade.

However, a new report by the Ember energy think tank shows that the EU's green energy transition is already making a significant difference. Solar and wind power generated more than a fifth (22%) of its electricity in 2022, pulling ahead of fossil gas (20%) for the first time, according to the European Electricity Review 2023.

Europe also managed to avoid resorting to emissions-intensive coal power for electricity generation as a consequence of the energy crisis. Coal generated just 16% of the EU's electricity last year, an increase of just 1.5 percentage points.

The record surge in solar and wind power generation helped compensate for the nuclear and hydropower deficit. Solar power rose the fastest, growing by a record 24% last year, almost doubling its previous record, with wind growing by 8.6%.

Forty-one gigawatts of solar power capacity was added in 2022, almost 50% more than the year before. Ember says that 20 EU countries achieved new solar records in 2022, with Germany, Spain, Poland, the Netherlands and France adding the most solar capacity.

The Netherlands and Greece generated more power from solar than coal for the first time. Greece is also predicted to reach its 2030 solar capacity target by the end of this year.

SHELL CEO: "A LONG WAY TO GO BEFORE THE END OF THE ENERGY CRISIS"

According to Shell's CEO Wael Sawan, Europe's energy crisis is a "multiyear issue", and governments will have to work faster to address gas supply shortages.

On the sidelines of the energy giant's release of its financial results, he emphasised to analysts that the fact that full LNG terminals and the mild winter pushed prices down does not mean a return to normality. "We are not out of the energy crisis in Europe. We have a long way to go [...] We should not have to rely on the weather," he said.

It is characteristic that European LNG import flows surged last year as the Old Continent looked to boost energy security and replace pipeline gas from Russia. Most of these flows came from the US.

TRILLIONS INVESTED IN GREEN ENERGY

Green investments are increasing while the competition between green energy and fossil fuel projects is fiercer than ever. According to an AFP report, investments in green energy will exceed $1 trillion in 2022, nearly surpassing investments in fossil fuels.

This development is an aftereffect of the energy crisis sparked by the Russian invasion, according to a BloombergNEF report cited in the AFP article. Investments in renewable energy sources, nuclear energy, zero-emission vehicles, and recycling projects amounted to $1.1 trillion in 2022.

It is worth noting that the largest investor in energy transition projects is China, which is also the top energy producer worldwide. Almost 50% of the total investment was on Chinese soil and focused on recycling, renewable energy, and electric vehicles.

RUSSIAN REFINERY PRODUCTS WILL CONTINUE TO FLOW IN 2023 DESPITE THE EUROPEAN PRICE CAP

The European Commission's announcement that the EU is proposing a US$100 per barrel price cap on Russian oil products such as diesel, jet fuel, and gasoline, and a US$45 per barrel cap on discounted products like fuel oil, would not severely impact Russian refiners, according to Wood Mackenzie.

Speaking at Wood Mackenzie's London office on 31 January, Mark Williams, Research Director of Short-Term Refining & Oil Products, said that the oil products price cap, which came into force on 5 February, would have minimal impact on Russian refining crude runs and distillate exports.

"With Russian Urals trading at US$40/bbl on an FOB basis, capping the price at US$100 per barrel and US$45/bbl, respectively, would still see Russian refining margins of US$20-US$30 per barrel," Williams said. "Russian refining economics are still very strong at these levels, so the incentive to refine crude into oil products remains high."

Alan Gelder, Vice President of Refining, Chemicals and Oil Markets at Wood Mackenzie, said that the challenge for Russian refiners is finding a pool of new, more distant buyers to replace the distillate barrels currently clearing into Europe. However, he added that with the price cap set at the proposed levels, Russian distillate prices could theoretically discount by a further US$200/tonne vs market benchmarks before eliminating the commercial incentive to operate their refining sector.

Russia has increasingly diversified its distillate exports in recent months, according to Wood Mackenzie's VesselTracker data. However, despite the emergence of new export markets for Russian distillates, the re-distribution of Russian oil product trade from the EU import ban does have a broader market impact. Williams expects Q1 2023 Russian crude runs and diesel exports to be ~800 kb/d and ~200 kb/d lower than Q4 2022 levels, which will support both global crude and diesel prices through H1 2023.

GREECE-BULGARIA DEALS CHANGE SE EUROPE'S ENERGY MAP

Prime Minister Kyriakos Mitsotakis spoke of agreements that "change the energy map of Southeast Europe" during a joint statement with the President of Bulgaria, Ruben Radev, in Athens recently after signing two memoranda on energy infrastructure with the neighbouring country. According to the prime minister, these agreements (including the possible extension of the existing Alexandroupolis-Burgas pipeline agreement) will enable the two countries to provide energy to the European Union and contribute to Europe's energy security. Energy Ministers Kostas Skrekas and

Rossen Hristov signed the Memoranda that deepen the strategic energy cooperation between Greece and Bulgaria, based on solidarity and reciprocity and strengthening energy security in our wider region within the broader context of the European countries' efforts of European countries to wean the European economy from Russian hydrocarbons.

The first Memorandum concerns energy cooperation in natural gas supply and storage and exploring the possible construction of a new oil pipeline project connecting the Ports of Alexandroupolis and Burgas.

Mr Mitsotakis, referring to the first Memorandum concerning the security of supply and storage of natural gas, said that this development is timely because of the geopolitical situation and noted that "Russian revisionism stumbles on the brave defence of the Ukrainian people, but causes economic pain by turning energy into a means of state blackmail. The Bulgarians are well aware of this because Russia cut off the natural gas to our neighbouring country last year."

The second Memorandum of Cooperation concerns oil and "emancipation from Russian sources," as Mr Mitsotakis said. In particular, it concerns exploring the possibility of building a new pipeline connecting Alexandroupoli to Burgas, rather than the opposite, as envisaged by a previous similar project, which will supply Bulgaria with energy resources.

"The new pipeline is being revived in the light of the new conditions as the Alexandroupolis-Burgas pipeline, not as Burgas-Alexandroupolis, offering new alternative sources of supply. Not because it replaces the tankers that have to cross the straits of the Bosphorus, but, in this way, it will be added to other energy facilities, such as the IGB and the FSRU in Alexandroupolis. The ultimate goal is for natural gas to reach even Ukraine," Mr Mitsotakis stated.

UGANDA BECOMES PART OF THE GLOBAL OIL MAP

As the global energy market's equilibrium remains fragile and the energy needs in the East and West seem to be gradually increasing, interest is focusing on new players who can enter the market, which is precisely what is happening in Uganda, where oil giants are working with local operators to start oil exports from April 2025.

In the country's west, drilling has already begun at the Kingfisher field near Lake Albert, managed by Chinese oil giant CNOOC. Later this year, drilling is also expected to start at the Tilenga well, operated by France's TotalEnergies.

The Ugandan subsidiary of oil giant CNOOC has started drilling production wells at the Kingfisher oilfield on the shores of Lake Albert in the west of the country. At the same time, drilling is also expected to start later this year at the Tilenga well, managed by France's TotalEnergies.

The oil will be transported through a 1,400 km long pipeline to Tanga Port in Tanzania and shipped to international markets. In addition, Uganda is looking for partners to develop refining infrastructure to supply derivatives to local markets.

Legendary ship owners and milestone events in the history of Greek shipping

LEGENDS & MILESTONES

Edited by:
Panagiotis Korakas

MARCH 2023

Snapshot of Minister of Foreign Affairs Evangelos Averof-Tositsas awarding the Order of the Phoenix medal to Costas M. Lemos (New York, 1962)

The “National Defender”- a 67,000 dwt supertanker, launched at Newport News Shipyards in Virginia in 1959, which was built for Ioannis Theodorakopoulos. At that time, it was considered to be the biggest vessel to fly the American flag

The “Anangel Solidarity” - a 161,643 dwt bulk carrier built at Hyundai Heavy Industries in 1993 and managed by Anangel Shipping Enterprises

The “Hellenic Pride” - the first of six liner ships built at the Wärtsilä shipyards in 1971 for Pericles G. Callimanopulos

Snapshot of Professor Stratis Andreadis and Nobuo Inouye, president of Hitachi Shipyards, signing the order contract for a 500,000 dwt tanker in 1973

AVIATION INDUSTRY

Edited by: Manos Charitos

BOEING 747: END OF AN ERA FOR THE "QUEEN OF THE SKIES"

The delivery of the last Boeing 747 to Atlas Air marks the closing of a chapter in the history of the aviation industry. The Boeing 747, nicknamed "Queen of the Skies," revolutionised air travel towards the end of the 1960s by providing an affordable option for the passenger public, as Reuters noted.

As Guy Norris, a co-author of "Boeing 747: Design and Development Since 1969", wrote, "It's the aeroplane that redefined the aviation industry and air travel.

Billionaire Richard Branson, the founder of the Virgin group, who was inspired to start an airline with a single Boeing 747 after getting stuck on a delayed flight, called it a "wonderful beast" as he bid it farewell.

The production of the Boeing 747 has ended due to the construction of more energy-efficient aircraft by Boeing itself and by Airbus, its main competitor. The company announced discontinuing the production of the 747 in 2020, but the signs had already been there, as the production rate had dropped to about six aircraft a year.

Now, the airline industry is awaiting the successor to the Boeing 747, the 777X. Boeing has confirmed that it expects to deliver its first 777X aircraft in 2025.

EMIRATES: A MILESTONE DEMONSTRATION FLIGHT POWERED WITH 100% SUSTAINABLE AVIATION FUEL

Emirates has operated its first milestone demonstration flight on a Boeing 777-300ER, powering one of its engines with 100% Sustainable Aviation Fuel (SAF). The flight took off from Dubai International Airport (DXB), flying over the Dubai coastline for more than one hour.

The demonstration flight powered by SAF holds particular significance as the UAE has declared 2023 the 'Year of Sustainability'. The year will showcase the UAE's commitment to seeking innovative solutions to energy and climate change challenges and other sustainability-related issues. The flight supports collective industry efforts to enable a future of 100% SAF flying and help advance the UAE's sustainability objectives.

Emirates' demonstration flight, the first in the Middle East and North Africa to be powered by 100% SAF, supports broader efforts to reduce lifecycle CO_2 emissions as the industry looks to scale up its use of SAF. The flights will also help to refine the playbook for future SAF demonstrations and support future certification where 100% drop-in SAF fuel is approved for aircraft. Currently, SAF is approved for use in all aeroplanes but only in blends of up to 50% with conventional jet fuel.

Emirates worked alongside partners GE Aerospace, Boeing, Honeywell, Neste and Virent to procure and develop a blend of SAF that closely replicates the properties of conventional jet fuel. A host of chemical and physical fuel property measurements was carried out at each blend ratio. After multiple lab tests and rigorous trials, they arrived at a blending ratio that mirrored the qualities of jet fuel. Eighteen tonnes of SAF were blended, comprised of HEFA-SPK provided by Neste (hydro-processed esters, fatty acids, and synthetic paraffinic kerosene) and HDO-SAK from Virent (hydro-deoxygenated synthetic aromatic kerosene). The 100% SAF supplied one GE90 engine, while conventional jet fuel supplied the other.

EUROPE'S TOURISM RECOVERY GAINING MOMENTUM

Ryanair is basing its prediction for robust air traffic in the summer months on rising demand from American and Asian travellers bound for Europe. The CEO of the low-cost airline, Michael O'Leary, underlined the above based on the bookings already recorded.

The Financial Times reports that favourable currency conditions are an incentive for travellers, particularly Americans since the euro's depreciation against the dollar has reduced their costs. At the same time, the rise in demand from Asia is partly due to the end of Beijing's strict travel policy during the pandemic. In addition, the ability of the Chinese to travel abroad has been particularly limited in recent years, leading to a build-up in demand.

It will be interesting to see how this development will affect the demand for oil and oil derivatives. After all, aircraft fuel is a petroleum derivative; therefore, an increase in aviation demand means an increased demand for fuel. In addition, this development may also positively affect the demand for tankers, both for those transporting the refined product and those transporting crude oil to international refineries.

AIRBUS WINS THE "BATTLE OF THE SKIES" AGAINST BOEING

Airbus retained its leading position as the world's top aerospace company for the fourth consecutive year in 2022, surpassing its US rival Boeing in aircraft deliveries.

The European Group has announced that it delivered 661 aircraft to 84 customers in 2022, an 8% increase over 2021. However, it fell short of its target of 720 aircraft deliveries. On the other hand, Boeing's percentage increase in deliveries was higher, as from the 340 aircraft it delivered in 2021, in 2022, the number rose to 480.

The two giant companies faced significant challenges last year, such as raw materials and labour shortages and delays in aircraft engine deliveries. In addition, the war in Ukraine and high energy costs have added to Airbus and Boeing's headaches.

After three difficult years, China's lifting of travel restrictions has revived hopes for an aviation industry recovery. However, the CEO of Airbus, Guillaume Fourie, said in a statement that he is concerned about the industry's short-term prospects, stressing that 2023 will be another year of significant disruptions in the supply chains.

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MARITIME NUMBERS

320

the number of LNG carriers in the ordebook

66%

the percentage of MR tankers in the worldwide product tanker fleet

2,000,000 B/D

the increase in oil demand expected in 2023, according to IEA

185

the number of ports around the world that offer LNG bunkering services

3%

the percentage of the container fleet vessels older than 29 years old

1,878.5 MILLION TONNES

the world steel output in 2022

485

the number of ships in the global cruise fleet

12.53 YEARS

the average age of the world's bulk carrier fleet

79%

the percentage of the world's merchant fleet registered in the 10 largest registers