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ΝΑΥΤΙΚΑ ΧΡΟΝΙΚΑ

NAFTIKA CHRONIKA / Triannual English Edition

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GREEKS AT THE HELM

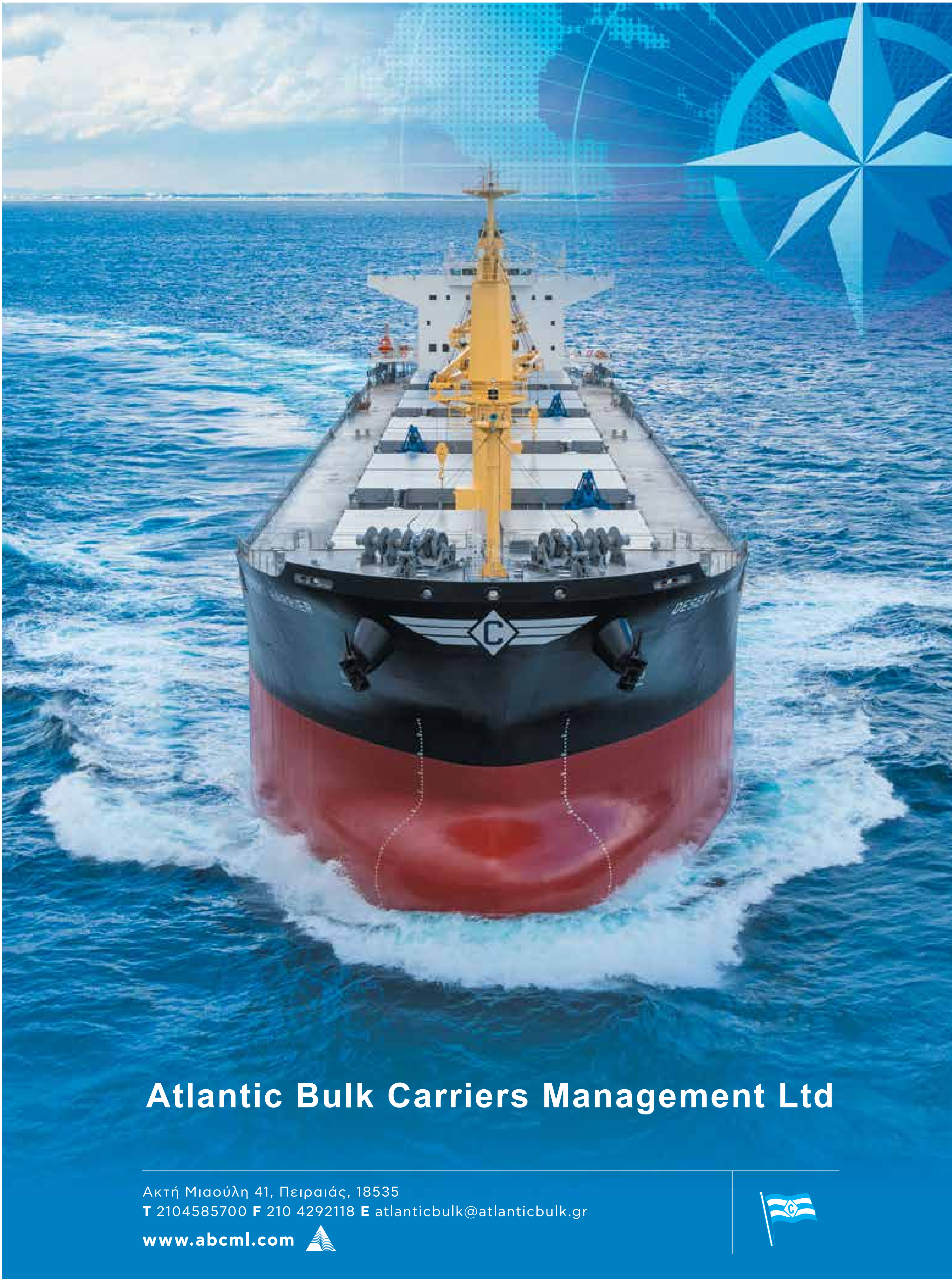
Panos Laskaridis
President of ECSA

Anastasios Papagiannopoulos
President of BIMCO

Dimitris Fafalios
Chairman of INTERCARGO

EXCLUSIVE INTERVIEWS


of the SHIPPING INDUSTRY into
the DIGITAL ERA
DCR
Digital Control Room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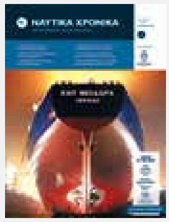

March 2019
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Cover
Euronav's Crude Oil Tanker "CAP THEODORA" during her recent drydock in Yiu Lian Shipyard in Shekou, China.

Photo: Kostas Moutzouris, Technical Superintendent

ISSUE SPONSOR

TOTOTHEO MARITIME

MARITIME NUMBERS

140

billion EUR the contribution to the EU GDP by European shipowners, who control 40% of the global commercial fleet (source: ECSA).

28.1

years the average age of dry bulk ships demolished in 2018, up from 24.7 years in 2017 (Source: BIMCO/Clarksons).

13%

of the world's undiscovered oil and 30% of all undiscovered natural gas believed to be held in the Arctic reserves (source: U.S. Geological Survey).

70%

the global trade by value carried by sea and handled by ports worldwide (source: UNCTAD).

40,000,000

the TEUs of EU export and import cargo transported annually by the member companies of the World Shipping Council (source: ECSA).

14%

the United Kingdom's share in the total tonnages of EU short sea shipping in 2016 (315 million tonnes).

3,000

the number of ships assisted by icebreakers in the freezing ports of Russia since the beginning of the 2018-2019 navigation season (source: FSUE Rosmorport).

18,500,000

the number of barrels per day of crude oil that passed through the Strait of Hormuz in 2016 (source: US EIA).

24

the number of new cruise ships that will enter the market in 2019, making it a record year for new ship entries.

ON THE SEAFRONT

THIS MONTH'S TOP NEWS STORIES FROM NAFTIKACHRONIKA.GR

Greek shipping records an increase in jobs and foreign exchange earnings

On the occasion of the release of the statistical data for 2017 by the Shipping Division of the Greek Ministry of Maritime Affairs and Insular Policy related to shipping and ship management companies (of Greek law) with de-jure or de-facto headquarters or branches in Greece, the Minister of Shipping, Fotis Kouvelis, stressed that "according to a study by Oxford Economics on the economic importance of European shipping in the national economies of the EU Member States, "every €1 million the European shipping industry contributes to GDP itself, it creates another €1.6 million elsewhere in the European economy." Ship management companies (of Law 27/1975) that have established offices in Greece and manage ships of Greek or foreign flag of registered tonnage over 500 tons play an essential role in the management of this shipping capital.

The statistics of the Shipping Division of the Ministry of Maritime Affairs and Insular Policy presented the following developments regarding statistical trends:

FOREIGN CURRENCY IMPORTED FOR THE OPERATION OF SHIPPING COMPANIES' OFFICES

An increase of 6.04% in the total amount of foreign currency imported by the shipping offices of Law 27/75 was recorded for the year 2017 (US$2.98 billion) compared to US$2.81 billion in 2016.

PERSONNEL EMPLOYED

There has been a 3.63% increase in the number of personnel employed in the established shipping offices in 2017 compared to 2016 (exceeding in absolute terms the respective number of employees employed in 2008, which was 14,163).

MANAGED FLEET

In the percentile distribution of the managed fleet by vessel tonnage, there is a

concentration of Greek flag vessels in the over 80,000 GT tonnage category, which underlines the further improvement but also the qualitative characteristics of the fleet. In particular, the ships under Greek flag account for 32.4% of the total fleet managed by Greece in this category (over 80,000 GT).

The percentage of the Greek flag (20.54%) on the total managed fleet by tonnage continues to be higher than the corresponding percentages of ships flying other flags in 2017. Malta's (18.92%) and Cyprus's (4.46%) percentages also remain high.

Despite the current crisis in the freight market in recent years, the steady increase in annual managed fleet capacity between 2002 and 2017 shows the expansion of the Greek-owned fleet as well as the dynamics of the shipping sector in the national economy.

NUMBER OF ESTABLISHED OFFICES

The total number of the established companies (1,387) in 2017 shows a marginal increase of 0.36% compared to 2016 (1,382), while the number of managed vessels (4,353) shows an increase of 4.09% compared to 2016 (4,182).

Economic conditions in the reference year do not appear to have substantially affected the establishment of companies in Greece or the management of the Greek-owned fleet.

SPECIAL ECONOMIC WEIGHT

The overall statistical analysis of the economic data, and in particular the total amount of imported foreign currency, shows that 70% of the shipping currency for covering the costs of established offices is imported by 110 established offices (i.e., by 8.14% of the offices) operating in the ship management sector.

These 110 companies import $2.1 billion of the total $2.98 billion of maritime currency imported, which accounts for 70% of the total amount.

Greece keeps the lead in fleet value

VesselsValue has released its annual World Fleet Values Ranking.

At the top of the list remains the Greek-owned fleet, whose value increased by $ 5 billion mainly due to the increase in tankers and increased LNG orders and currently exceeds $ 105 billion, further proof of the superiority and dynamic presence of Greek shipowners in the global shipping arena.

More specifically, the value of the Greek-owned LNG fleet is the largest in the world and has risen from $13 billion in early 2018 to $ 18.4 billion.

After Greece, comes Japan with the second largest fleet value ($ 94.7 billion) globally. The recovery in bulker values at the end of 2018 was a boost to the overall value of its fleet.

China remains third, with a fleet value of over $ 90 billion up by $ 6.3 billion compared to last year, although it recorded the largest drop in total container fleet value.

The list of the top ten countries with the largest fleet value in the world is completed with Singapore ($49.9 billion), Norway ($ 48.85 billion), the US ($ 44.52 billion), Germany ($ 31.4 billion), South Korea ($ 30 billion), the United Kingdom ($ 29 billion), and Denmark ($ 23 billion).

INTERCARGO: 2019 is a year for dry cargo owners to prepare for landmark changes

INTERCARGO held its Executive and Technical Committee meetings in Hong Kong on 4 and 5 March 2019, along with the Dinner Reception on the first day for Members and Guests. INTERCARGO re-iterated its commitment to a safe, efficient, high quality and environmentally-friendly dry cargo shipping industry and its support for an industry governed by free and fair competition. The meetings were presided over by Chairman Dimitrios J. Fafalios, Vice Chairman Jay K. Pillai, Vice Chairman Spyros Tarasis, and Technical Committee Chairman Tom Keenan.

The main topics discussed are outlined below:

INTERCARGO re-iterates its commitment to a safe, efficient, high quality and environmentally-friendly dry cargo shipping industry

SAFE CARRIAGE OF CARGOES AND INVESTIGATION OF CASUALTIES

The importance of investigating incidents and the subsequent publication of casualty investigation reports in a timely manner, in order for lessons to be learned, cannot be overstressed. INTERCARGO urges all relevant administrations, that have not done so, to investigate incidents and publish the reports – especially the one concerning the Stellar Daisy loss has long been expected by the industry.

Moisture-related cargo shifting, widely referred to as liquefaction, continues to be a major concern for dry bulk shipping. Although there was no reported loss of life or vessel attributed to liquefaction in 2018, INTERCARGO urges all stakeholders to remain vigilant as cargo liquefaction continues to pose a major threat to the life of seafarers. While the ship operators need to be especially cautious when loading cargoes (prone to liquefaction) during wet season, as currently being experienced in certain parts of South East Asia, it is paramount that the shippers and the local authorities fulfil their obligations as required by the IMSBC Code.

AIR EMISSIONS

INTERCARGO, of course, supports the 2020 Sulphur Cap and its implementation date of 1st January 2020. However, our Association cannot ignore the safety issues that are likely to arise from this important regulation. The successful, effective and orderly implementation of the regulation rests not only with ship operators but equally with the IMO Member States and with suppliers (involving oil refineries, bunker suppliers and Charterers) who need to secure the worldwide availability of safe, compliant fuels - a particular problem for ships in the dry bulk tramp trades. INTERCARGO welcomed the initial strategy for the reduction of Greenhouse Gas (GHG) from ships adopted by IMO and continues its participation in the global regulator's deliberations. The ambitious objectives that have been set will require in the long term adequate innovative technological solutions, which are as yet non-existent, as GHG emissions largely depend on the design and the technology of the constructed ships, their engines and machinery, and the fuels used for propulsion. So, it is crucial that charterers, who have the responsibility of how ships are utilised for the transport work and speeds, along with shipbuilders, engine manufacturers, and fuel suppliers also get involved in IMO's deliberations.

BALLAST WATER MANAGEMENT

INTERCARGO remains committed to investigating the ongoing practical problems in retrofitting existing dry bulk ships with BWM systems and operating them. Implementation challenges also include adequate worldwide spares and service support for these systems, and the availability of proven systems that can perform under all conditions. Achieving the effective implementation of the BWM Convention requires the manufacturers and ship operators to work closely together. We urge the port States not to develop more onerous local requirements for ballast water on top of IMO's Convention.

PORT RECEPTION FACILITIES

Compliance with the discharge requirements of MARPOL for cargo residues and cargo hold washing water which may be Hazardous to the Marine Environment (HME) depends largely on the availability of adequate (e.g., per cargo type) Port Reception Facilities (PRFs). The non-availability and adequacy problems of PRFs unfortunately continue. We would urge a more effective system by IMO for information collection and sharing to ensure compliance.

QUALITY & OPERATIONAL EXCELLENCE OF INTERCARGO MEMBERS

The Association's Membership has increased significantly. The latest count comprises 140 Full Members with 2,215 bulkers entered with the Association, with a total capacity of 208 mil dwt i.e. about 20% basis numbers of vessels and 25% basis dwt of the global dry bulk carrier fleet. 75 Associate Members also support the Association. INTERCARGO announced the publication of its latest annual Benchmarking Report for dry bulk carriers, which demonstrated for one more year that Members' vessels outperform industry averages in respect of both Detentions and Deficiencies per inspection.

Secretary-General Dr. Kostas G. Gkonis noted "Regulatory requirements have

been progressing at a rapid pace as in the previous two years – and this will continue. In this context, INTERCARGO's three reference pillars of safety, efficiency, and environmental soundness with our constant aim for "quality & operational excellence" remain more relevant than ever."
INTERCARGO's Chairman Mr. Dimitrios J. Fafalios said "For our industry and our Members, 2019 represents a year of preparation for the consumption of 0.5% m/m sulphur content fuel oil. Ship implementation plans should be in place and applied at the earliest opportunity."
INTERCARGO will hold its next semi-annual meetings in Athens in October 2019.

The hot issues on the Capital Link Cyprus Shipping Forum 2019 agenda

For the third consecutive year, Capital Link organized its annual Cyprus Shipping Forum in Limassol. Participation exceeded 500 people, thus continuing the great success of the two previous conferences. The Cyprus Shipping Forum took place on Wednesday 27 February 2019 under the auspices of the Ministry of Transport, Communications and Works of the Republic of Cyprus, Maritime Cyprus, and the support of the Cyprus Union of Shipowners.

CYPRUS AND SHIPPING

The Shipping Deputy Minister to the President of the Republic of Cyprus, Natasa Pilides, who has already completed a year as head of the Ministry, in her opening keynote address focused on the gradual but steady emergence of Cyprus as a global shipping center through investing in blue growth, improving services and empowering international synergies. At the same time, she said, the Cypriot register had made significant progress in recent years, and its prospects remain extremely positive. It is worth noting that according to Mr. Mark Klerides, Director of CMK Eurofinance, the current Cyprus tonnage tax system regime expires in 2020 and is expected to be renewed for another decade.

"FULL SPEED AHEAD" TOWARDS 2020

One of the key issues ahead of 2020 is the availability of desulphurised fuels, according to Mr. Ian White, ExxonMobil's Global Field Engineering Manager, who went on to say that shipping companies should have a coordinated plan to manage this big transition to the new reality. For his part, Mr. Dieter Rohdenburg, CEO of Internship Navigation, stressed that to comply with the new environmental regulations, shipping companies should know the availability of fuels on the market ahead of time. Referring to the installation of scrubbers on board, Mr. Dimitris Solomonides, Chief Technical Officer of Lemissoler Navigation, expressed his reservations by noting that the scrubbers are a short-term solution and that they effectively transfer air pollution to the sea, while he reckoned that the ban on open-loop scrubbers would continue in many ports around the world. Mrs. Charis Plakantonaki, Chief Strategy Officer at Star Bulk, defended her company's choice to install scrubbers on its entire fleet noting that it is the most effective solution for reducing the environmental footprint of shipping and adding that in the last two weeks thorough studies have been carried out which prove that these systems are the future. For his part, Dr. Lukas Barmparis, President of Safe Bulkers, said that in view of 2020, his company would follow a combined strategy with desulphurized fuel for Safe Bulkers' eco-ships, adding that installing scrubbers is a painstaking process. Mr. Iraklis Prokopakis, Senior Vice President & COO, Danaos Corporation, expressed an interesting view when he said characteristically that "the paradox is that the IMO does not support the regulations introduced in the first place by the IMO itself." Finally, Mr. Fedon Tomazos, Managing Director of Cass Technava, pointed out that just a few months before the application of the Sulphur Cap, there are different and unclear approaches to the issue, and that blended fuels will gain more ground as we head towards 2020, stressing that the existing economic reality does not favor LNG as the prevailing alternative.

The Shipping Deputy Minister to the President of the Republic of Cyprus, Natasa Pilides, in her opening keynote address at the Capital Link Cyprus Shipping Forum 2019.

CONFRONTED WITH THE CHALLENGES OF TECHNOLOGY

"Digitalization and smart applications that improve performance" in maritime business allow us today to "create trends that would normally take years to create" noted Mr. Pankaj Sharma, Columbia Control Room Manager of Columbia Shipmanagement Ltd. For his part, Theodoros Baltatzis, Managing Director of Technomar Shipping, focused on the issue of Artificial Intelligence (AI), noting that these are "two scary words for those dealing with shipping." However, the use of AI can significantly help to "optimize our shipping activities," as "diagnostics, prognostics and speech recognition services" can offer a significant time reduction in data management and decision-making, which would take much longer if the human factor was involved. Mr. Terence Zhao, Managing Director of Singhai Marine, pointed out the need to invest in high-quality maritime education, as the human resources employed

in shipping should be suitably trained to meet the requirements of a ship which in terms of technology will constantly be evolving.

MARITIME FINANCE AND CAPITAL MARKETS

The challenges of shipping finance, as well as alternative forms of financing for the shipping industry, were also high on the agenda of the Capital Link Cyprus Shipping Forum. Asked whether HSBC chooses to finance new or second-hand ships, Mrs. Eleni Vrettou, Head of Wholesale Banking Greece and Cyprus-HSBC, said the primary criterion is the credibility of the shipowner. With regard to hedge funds and their growing involvement in shipping, she noted that banks do not see them antagonistically as they are an essential solution to the financing gap faced by small and medium-sized shipping companies. Mr. Iraklis Tsirigotis, Head of Shipping, Amsterdam Trade Bank, stressed that the banks' decision to finance shipping companies is based on the extent to which the counterparties can meet their obligations. Mr. Tsirigotis also pointed out that even traditional small and medium-sized shipping companies have access to financial channels as they are more flexible than big companies; referring to the hedge funds, he said that today there are various options for different needs.

According to Mr. Nikolaos Papanestis, First Vice President in the Oceans' Industries division of DNB BANK, over the last few years, a number of traditional shipping banks had to significantly downsize their portfolios or exit as a result of a) the market cyclicality, b) higher counterparty risk and c) capital requirements of the industry. For banks that turned their focus to lower risk names, the implicit low returns are not proving to be sustainable given the increased regulatory and capital requirements set by the central banks.

Mr. Stefanos Fragos, Senior Representative, Athens Branch YieldStreet Marine Inc., said that in recent years banks have focused on financing big shipping companies, which has resulted in the emergence of financing alternatives such as the platforms that bring investors close to a wide range of options. According to Mr. Fragos, the regulations governing the regulatory framework of banks are expected to become stricter. Mr. Mark Friedman, Senior Managing Director, Investment Banking, Evercore Partners, stressed that Asia is now offering a great variety of ship financing options, while the US is also developing significant activity in this segment; he concluded that there are many finance options for any shipping company that wishes to expand.

German shipping under constant pressure

The bailout plan for German NordLB bank provides among other things for a significant reduction in its exposure to ship financing. At the end of 2015, the bank's ship financing portfolio was close to €17.5 billion while now it is estimated at approximately €7 billion.

German newspapers report that the most likely new buyer of the bank's problematic shipping loans is American private equity company Cerberus. The investor appears to be prepared to pay off debts without any further charges provided that the shipping loans are adequately serviced. It is worth noting, however, that 90% of these loans are classified as "non-serviced."

According to the German news media, these developments are extremely worrying for many members of the German shipping community and possibly signal the sale of more German ocean-going vessels, which will lead it to shrink further.

It should be noted that Germany has seen its commercial fleet shrink by one third as last November the German ocean-going fleet consisted of only 2,359 ships whereas in 2011 it was 3,784 ships.

Handelsblatt reports that many shipping companies will be forced to sell their ocean-going cargo carriers, mainly to Greeks, Chinese or Americans, that is to their competitors with sufficient purchasing power.

Turkey and the Netherlands ratify ship recycling convention

Turkey, one of the five major ship recycling countries in the world, has ratified the IMO Hong Kong Convention, the treaty for safe and environmentally sound ship recycling. The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships 2009 covers the design, construction, operation and maintenance of ships, and their preparation for ship recycling in order to facilitate safe and environmentally sound recycling, without compromising the safety and operational efficiency of ships.

Under the Hong Kong Convention, ships to be sent for recycling are required to carry an inventory of hazardous materials, specific to each ship. Ship recycling yards are required to provide a "Ship Recycling Plan" specifying the manner in which each ship will be recycled, depending on its particulars and its inventory. The treaty will enter into force 24 months after ratification by 15 States, representing 40 percent of world merchant shipping by gross tonnage, and a combined maximum annual ship recycling volume not less than 3 percent of their combined tonnage.

In its accession instrument, Turkey declares that a ship requires explicit approval of its Ship Recycling Plan before it may be recycled in an authorized Ship Recycling Facility(ies). Turkey becomes the seventh State to become a Party to the Hong Kong Convention.

On 20 February 2019, at a meeting of the International Maritime Organisation (IMO), the Netherlands also ratified the Hong Kong Convention and thus becoming the eighth State to become a Party to the said Convention. Under an EU Directive, Dutch shipyards and ship owners are already bound to strict regulations regarding scrapping and recycling. This Convention will procure worldwide entry into force for these regulations. This will benefit Dutch shipping companies, as it will improve their competitive position vis-à-vis countries that have not yet introduced such strict regulations.

The top five ship recycling countries in the world, accounting between them for more than 90% of all ship recycling by tonnage, are Bangladesh, China, India, Pakistan, and Turkey.

Maritime Crime becoming increasingly dangerous

The United Nations anti-crime agency warned the Security Council that maritime crimes are becoming increasingly dangerous as they are occurring in international waters and taking various forms that endanger people's lives and undermine basic human rights.
The anti-crime agency stressed that vessels, crews, and cargoes are targeted by criminal organizations, which often makes it very difficult to prevent and manage such incidents.
Examples of maritime crimes include the attacks in the Gulf of Guinea, the hostage-taking of seafarers in the Sulu and Celebes seas, narcotics trafficking in the Atlantic and the South Pacific, illegal fishing in the Atlantic, Indian and Pacific Ocean, and migrant smuggling in the Mediterranean.
Finally, the head of the United Nations anti-crime agency underscored the importance of the ratification and implementation of international regulations and conventions (e.g., UN Convention against Transnational Organized Crime) by all countries in tackling maritime crime.

Record Greek exports in 2018

Greek exports reached a record high of €33,418,000 million in 2018 an annual increase of 15.7% compared to €28,877,000 million in 2017, according to the latest figures of the Hellenic Statistical Authority.
However, Greek exports declined to €2,570,00 million in December compared to €2,645,000 million in December 2017. On the other hand, the value of imports during the whole of 2018 stood at €55,129,000 million resulting in a national trade deficit of € 21,711,000 million.
With regard to Greece's top exported products, fossil fuels and lubricants were the lion's share (€11.48million) in 2018, followed by industrial goods (€5.24 million) and food (€4.6 million).

Testing of alternative fuels essential

The International Union of Marine Insurance (IUMI) is trying to force refineries to conduct testing on the alternative fuels they produce ahead of the 2020 global sulphur cap.
IUMI has drawn attention to the fact that there is a serious possibility of fuel contamination resulting in damage to ship systems. For this reason, it is necessary that fuel testing is conducted by the refineries and not the end-users, i.e., the shipowners.
As IUMI points out, if fuels do not meet the required quality requirements, the shipowners will bear the additional cost, which the ship's insurance will not automatically cover.

New developments in UK customs controls

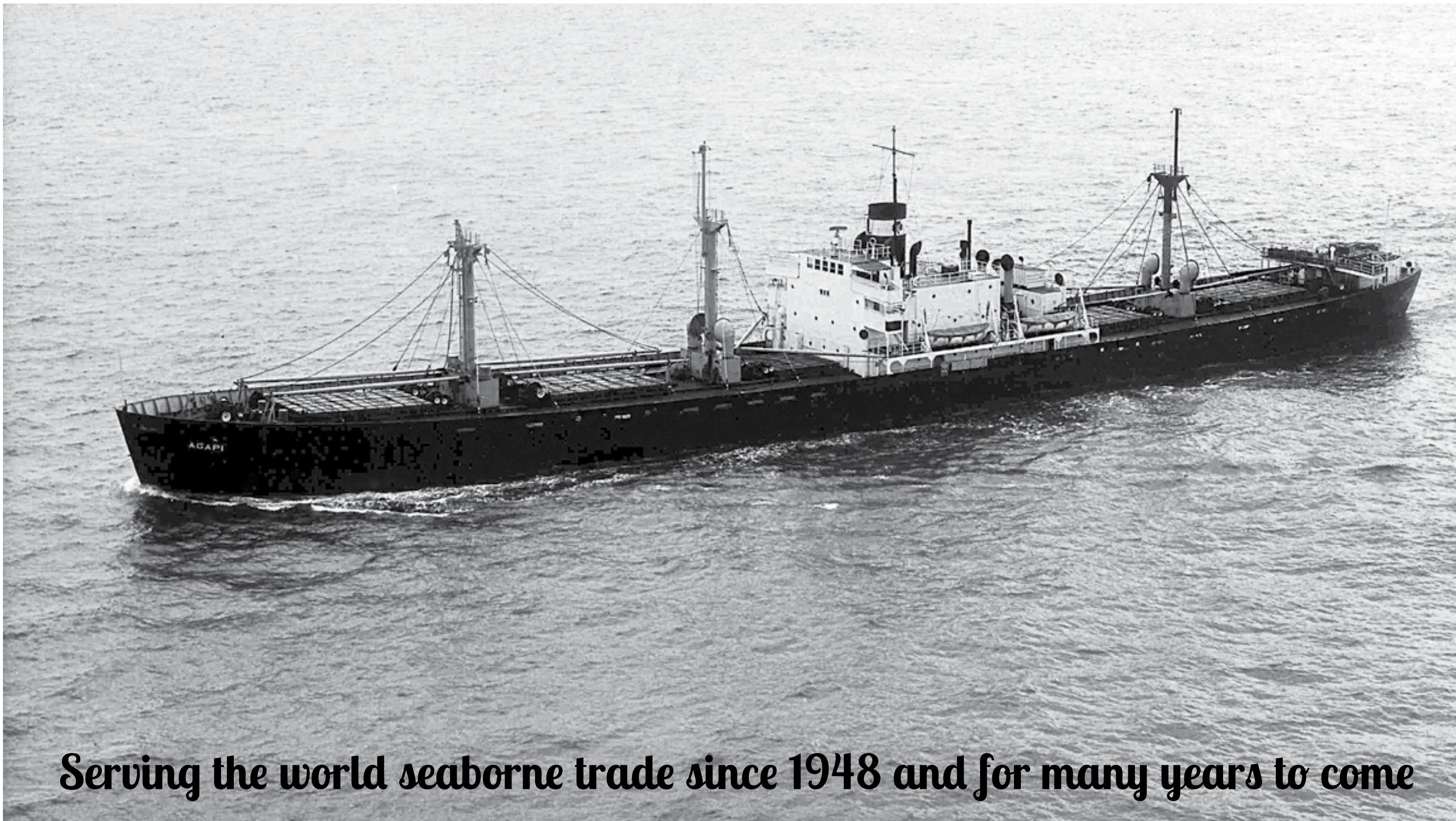
The British government intends to ease customs controls on the import of goods from the EU for at least three months in the event of a hard Brexit.
Freight companies have warned that a no deal Brexit could lead to traffic congestion as customs controls will be required in UK ports and beyond.
To mitigate such phenomena, the British Government is building lorry parks along motorways for goods-carrying lorries.
HM Revenue and Customs Department announced it has put in place transitional procedures for importing goods from the EU through 20 British ports, which it will review three to six months after March 29, which is the BREXIT date.

The Union of Greek Shipowners helps wildfire victims

The Union of Greek Shipowners, through the Non-Profit Greek Shipowners' Social Welfare Company SYN-ENOSIS, faithful to its mission to always help Greeks in need, had committed from the first moment to assisting the victims of the Attica wildfire disasters by appealing to its members to join forces in providing substantial relief and support to the fire victims.
To date, and exclusively for this purpose, the collective response of the shipowners and the shipping community to the call of SYN-ENOSSIS, in addition to other individual and corporate donations from people in the shipping industry, has raised more than 7 million euros and this amount is increasing as donations are still coming in.
This amount will be earmarked for the immediate implementation of the specific action plan drawn up by SYN-ENOSIS, which includes a series of targeted initiatives in different fields, always focusing on people, the environment and society. More specifically, the initiatives concern:

- The repair of (initially) three search and rescue Super Puma helicopters, aiming at their operational readiness.
- The reconstruction of houses that have been totally destroyed by the wildfires, based on income and social criteria.
- The psychological and nutritional support of victims belonging to vulnerable groups, such as the elderly, in collaboration with social organizations that specialize in psycho-social and nutritional support programs.
- The provision of scholarships and support to university and lyceum (Second and Third Grade) students in the affected areas.
- The supply of necessary equipment and essentials items for the support of fire victims.
- The design and implementation of carefully planned tree planting actions in collaboration with environmentalists.
- The installation of generators and fire hydrants, and the restoration of structures and destroyed equipment in the affected areas.

Mr. Theodoros Veniamis, President of the Union of Greek Shipowners and the Greek Shipowners' Social Welfare Company SYN-ENOSIS, stated: "We have committed, from the very first moment to stand by our fellow citizens that have been affected by the destructive wildfires. Today, after the great response and the donations from our members, which have already exceeded 7 million euros, we are ready to initiate our program to support the local communities. The most substantial part of our contribution begins now since SYN-ENOSIS has the direct responsibility for the implementation of the action-plan aiming to effectively cover the needs of people in the affected areas.



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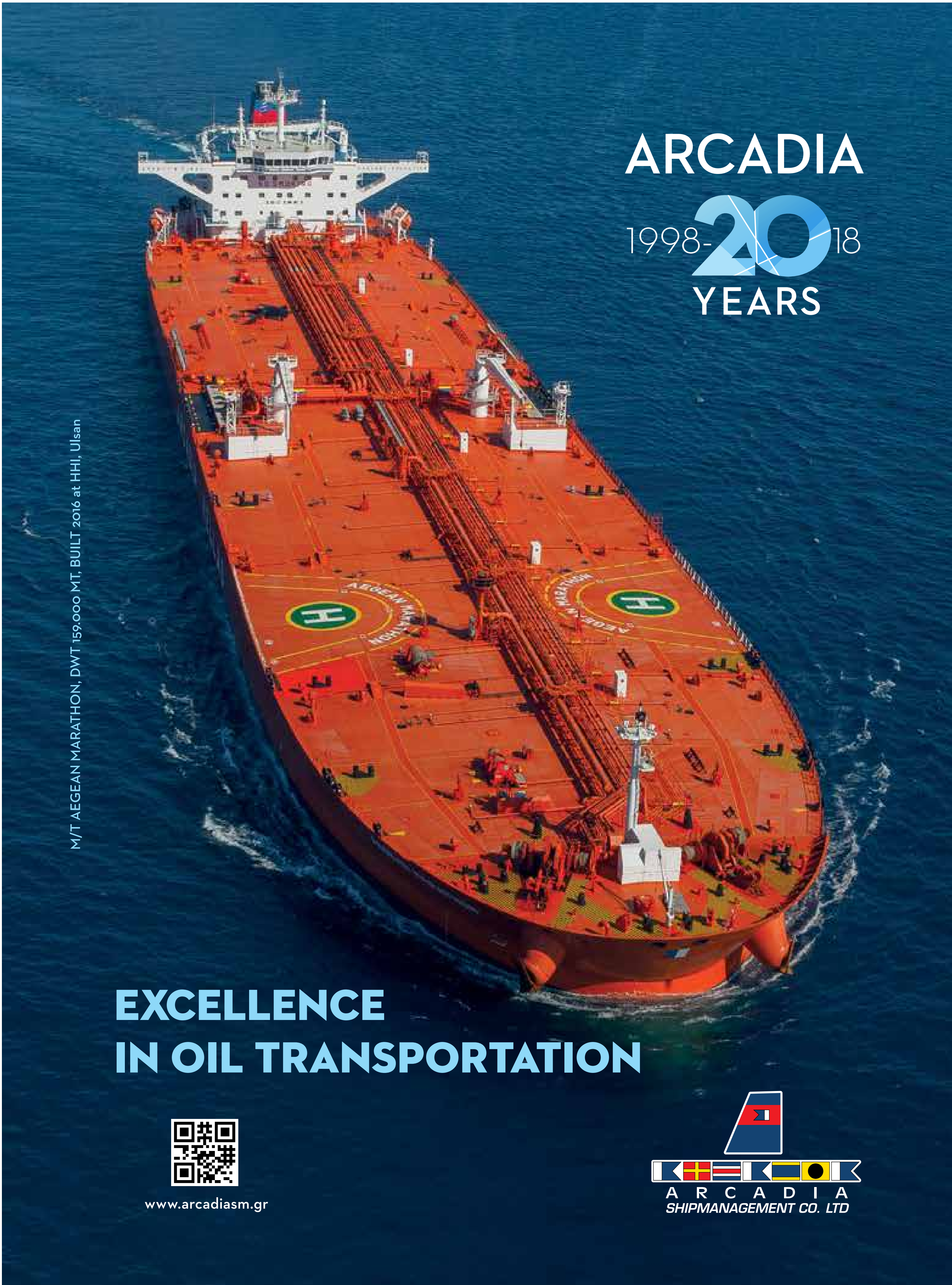

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Greeks at the helm

THE HEADS OF ECSA, BIMCO, AND INTERCARGO DISCUSS THE OPPORTUNITIES AND CHALLENGES IN ALL THE SHIPPING INDUSTRY SECTORS

The coming years are likely to be a major challenge for both the global and the European shipping industries. An increasingly stringent and rigorous regulatory framework, GHG emission reduction strategies and targets, Sulphur Cap 2020 and speed management, the risk of overcapacity in the market, political instability, the fragile and rather anemic growth in the world economy, trade wars, and Chinese imperialism are just some of the main challenges the shipping industry is facing and will continue to face in the years to come in both the wet and the dry markets.

Another hot issue for the European and international shipping community is the fragmented representation of the shipowners' voice, while given the forthcoming elections, the need for a more coherent and holistic European maritime policy is high on the European agenda.

The editorial team of *Naftika Chronika* met with Mr. Panos Laskaridis, President of ECSA, Mr. Anastasios Papagiannopoulos, President of BIMCO and Mr. Dimitris Fafalios, the newly elected Chairman of INTERCARGO, and discussed the significant challenges facing the global shipping industry today.

Edited by
Panagiotis Kapetanakis

Europe should support us instead of being aggressive towards its own fleet

In his interview to *Naftika Chronika*, ECSA's President Panos Laskaridis talks about the challenges facing the European shipping industry, the need for a more cohesive and holistic European maritime policy in view of the upcoming European Parliament elections, and the threats arising from the Far East.

Panos Laskaridis, President of ECSA, CEO of Lavinia Corporation/Laskaridis Shipping Company Ltd. talks to Ilias Bissias and Panagiotis Kapetanakis

Do you believe that European shipowners can have a united voice?

This is a question that has been occupying my mind since I started being involved in ECSA. I think the correct answer is that they can have a unified voice on several issues but on a few isolated issues they cannot simply because they see things differently. Therefore, we must be united in what unites us and deal separately with the issues that separate us.

I think there are two different kinds of issues. Firstly, there are issues that are more pressing for a certain portion of European shipowners than they are for others. Take for example the issue of Brexit. Brexit is extremely important for a certain portion of European shipowners because they deal on a daily basis with Ro-Ro or other passengers ships or cross channel ferries to the UK. However, for people who operate VLs in China, the issue of Brexit holds no interest. The second type of difference refers to certain categories of shipping which are much more under the scrutiny of politicians simply because they are based in Europe and much of their business has to do with Europe. Therefore, unlike the big international deep-water fleet, these shipowners feel more vulnerable to the pressures of European politicians (e.g. EU Parliament, Commission, Council of Ministers) and therefore they hasten to take more "progressive and proactive" actions and propagate more proactive policies.

In other words, there are shipowners engaged in areas where, unfortunately for them, politicians have much more of a say and can press them much more. On the other hand, others do not face such issues because they simply do not have to answer to any political pressure. They are all over the world. They are here today, they will be somewhere else tomorrow, whereas the above-mentioned companies cannot do that. That explains why there are differences arising out of the different businesses, different considerations, and different political pressures.

However, when it comes to the big issues, for example, the general good of shipping, the challenges of shipping for tomorrow, the competitiveness of the fleet, the upcoming regulations and the threats from shipping centers in the Far East, we are all united. And I think this is where we must concentrate our work while, of course, we look at the issues that separate us calmly and logically.

Why are European shipowners more suspicious towards the legislators in Brussels than they are towards those in Washington?

Because when shipping deals with the challenges it faces, such as environmental issues, greenhouse gases, policies on recycling, MRV regulation, ballast water systems and, now, the scrubbers, European politicians normally demand more aggressive propositions and solutions from European shipping than the international scene demands. But what we say is that shipping is an international business and there have to be international regulations. The EU is quite used to demanding and trying to impose strict and aggressive regulations on the shipping industry and this is a problem. I am very much opposed to this reality, as are most of my colleagues.

As I mentioned before, there are some colleagues who are afraid to raise their voice because they have genuine worries since they are situated and do business in Europe. And there are others who are more vocal, like our colleagues in the tramp fleet, which after all represents 75% of the European fleet, and what they are simply saying is that Europe has absolutely no assets of international importance other than its merchant fleet, which represents 40% of the world fleet and carries 40% of the world's goods. Therefore, instead of actually being aggressive towards its own fleet, Europe should protect and support us so that this fleet does not evaporate tomorrow and does not go to Dubai or Hong Kong, or Singapore, or Shanghai.

Are the Americans less aggressive?

The Americans are much less aggressive because they have influence in this world and they realize why both the European and of course the Greek fleet, which comprises half of the European fleet, are extremely important strategically to all the western nations. The Europeans, on the other hand, cannot fully realize the importance of shipping because they have this bureaucratic and somewhat limited mentality and because they cannot project their power to the world as the Americans can. Therefore, what we are telling them is to try to understand the strategic significance of the European fleet and not to repeat the same mistakes made 30 years ago when we threw ourselves out of the shipbuilding industry, which has now gone to the Far East and has resulted in there being no shipbuilding industry of any significance in Europe today.

In May we are having elections for the next European Parliament and a new European Commission. As chairman of the ECSA and an important maritime figure, you have met many commissioners. What is your opinion of EU commissioners and what do you think the EU policy related to the maritime agenda, e.g. maritime transport, maritime taxation should be?

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One of our urgent tasks now is to submit our views on the challenges facing European shipping to the current Commission so that they are included in the brief which the current Commission will obviously have to prepare for the next Commission.

To which Commissioners?

Our commissioner is Ms.Violeta Bulc, the Transport Commissioner. But you have touched a very sensitive issue here, which also happens to be the subject we mean to try and promote. A lot of issues and responsibilities which have to do with shipping are split among different Directorates. Shipping's environmental issues are very much affected by the Directorate-General for Climate Action (DG CLIMA). So, what we are suggesting is that there ought to be a separate Directorate, which should be called "Maritime". We are not sure whether this is very easy to do. I'm sure it is not at all easy. It would take time and it is not realistic to expect that this can happen immediately upon the election of the next Commission. If it ever comes, it would need at least one full tenure to work with the President of the Commission, with governments, with everybody. What can happen and what we can actually press for in order to get some results is to have some kind of a sub-Directorate which will address all maritime issues, which, as I said, are now the responsibility of different Directorates.

What about the Commissioner for Maritime Affairs, the Maltese Commissioner Karmenu Vella?

I' m not quite sure whether his portfolio includes such important maritime issues because whenever we have any problems, we address them either to Commissioner Bulc or to Commissioner for Competition Margrethe Vestager or the Directorate for Climate Action. But if the Directorate for Maritime Affairs were to remain, then it would need to be strengthened by taking over the various responsibilities which are split out. In any case, something has to be done; there are too many people involved and we are not getting any results.

Was Commissioner Maria Damanaki more proactive than the current Commissioner?

In Maria Damanaki's term in office there was a Directorate called "Fisheries" which did a good job. Now they call it Directorate-General for Maritime Affairs and Fisheries and I think it deals mostly with issues related to maritime systems and fisheries and how to save marine ecosystems. But basically, it is a directory responsible for Fisheries and the big shipping issues are not its concern. Generally speaking, there should be some kind of integration and hopefully in future there will be one Commissioner responsible for the whole industry, who will take over all the responsibilities from the other Directorates and departments. Prior to having such a separate Commissioner, the current Commissioner of Transport should have all maritime responsibilities under his jurisdiction. But this is a political issue.

Until now, Greece as a flag state was mostly focused on shipping policies whereas we see that Europe is trying to promote maritime policies. Is there a difference between shipping and maritime as a notion and do you think that today we should be talking about a more differentiated approach to policies that will complement both the vessel and its surrounding industrial environment?

The situation is quite simple yet here in Greece we have taken a very long time to understand it because of our tradition. For us, shipping is what we call shipowning. Recently we have been trying to promote the cluster, something that Europe dealt with many years ago. Why has it been done in Europe? There are several reasons. First of all, a very simple reason is that a cluster has many more votes than shipowning. There are 500 shipowners in Greece with 5,000 loyal employees, and that's it. On the other hand, the Greek cluster has almost 50,000 votes and the European Cluster has many many more. In Europe, they have understood that we must call ourselves "shipping" in general and now the new trend is to go to "maritime" which could include ports, river traffic and other sectors of the industry and grow even more. From the European perspective, this is absolutely normal and very useful. From the Greek perspective, if you want to stay only with your ships, it is something that may not harm you but obviously, your voice will not be as strong if you only talk for yourself. Unfortunately for us, if we don't follow this trend, our ability to influence things in Europe will become weaker because, as you can understand, the shipping policies will be developed by all these people representing the whole maritime cluster. And then what do you do? Do you stay outside and think you do not need anybody? That's definitely a mistake. Therefore, we should be more engaged, we should try to increasingly promote the shipowners' point

of view and I can say that this is also the view of ECSA. We should be in the cluster, we should be in the maritime world, but we should try to tell all the stakeholders that everything starts from the ship. If you don't have a ship, you don't need a port, a lawyer, an insurance broker, you don't need any of these things.

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We see a lot of fragmentation in the representation of the shipowners' voice in Europe and internationally. There is ECSA, there is BIMCO, there is Intercargo, there is Intertanko and there are also the national associations which have their own strong voice. What are your relations with all these associations?

First of all, ECSA is not a direct entry organization. It is an association of associations. Intercargo and Intertanko are very dedicated to their own ships and they do a good job but, clearly, they do not participate in the big picture. BIMCO is an organization which does a bit of everything. Some people do not like this, some people do. We have good relations with all of them. I cannot tell you that we have daily contact or that we work together on a daily basis but we do not have any major differences. On the contrary, we have made a great effort, together with my colleagues who head these organizations. As you know, BIMCO and Intercargo and Intertanko and ECSA are all headed by Greeks. So, whilst we don't work together every day, we meet, we talk, and we try to raise the same concerns.

What about ICS?

That is another interesting issue. ICS is, of course, the voice of the shipowners of the rest of the world and in ECSA we have the following dilemma. Due to the fact that ICS deals with the international issues, what we are basically saying is that we have to side with ICS because we think shipping is an international business and therefore ICS is the appropriate forum ECSA should follow. This creates a bit of a concern about whether ECSA, i.e. the Europeans, should deal with the political issues by themselves and have their own views. I think the compromise is yes, we should have our own views, but when things become international, we should side with ICS. On European issues, exclusively European issues, of course, we don't even consult with ICS. But if they are international issues, nine times out of ten we side with ICS.

Is there something like a round table discussion of all organizations and associations where you regularly hold your meetings and voice your views?

There is a round table discussion in which ECSA does not participate.

Why is that?

I think that it may be because ECSA is an association of associations and when you participate in these meetings you may feel it is very difficult to properly represent the views of everybody. Also, don't forget that ECSA is a body where things are decided by consensus. It is like the United Nations, except it does not have a Security Council. And this makes things very difficult. We are supposed to decide by consensus, but some things cannot be decided in this way. We don't hold votes for example. We try to bring everybody together and span the gap between the interests of everybody. It is an exercise in diplomacy. That is how the organization works.

Have you ever clashed with the Greek association because of your chairmanship at ECSA?

No, I haven't. The question is whether the ECSA Board clashes with the Greek position. In many things, the Board has different opinions to those of the Greek National Association. What I must not do, and I try very hard not to, is to show that the chair takes one or the other side. I try to agree with whatever I think is right. But there is no chance of this Chair or the previous Chair or any other Chair taking the side of its national association. There is no doubt about that.

The Northerners say that as owners we Greeks are very traditional and sometimes conservative in our approach. Do you share this opinion?

Yes, I do. This has various reasons and it also has various results. You must realize that many, if not most, of the northern countries' representations do not consist of individual owners but of big or corporate companies, so the representatives are normally CEOs or other high standing members of these associations. And of course, as we all know, there is a difference between being a company's boss and paying with your own money and being a representative of a big multi-owned company. There are certainly differences in mentality. The result of this is that obviously an owner, who pays everything from his own pocket, tends to be more conservative, tends to be more careful. This is one issue. On the negative side, an individual owner does not have this broad overview of the overall political situation which a very strong multi-ownership company may have and therefore the policies and the strategies he develops are not as refined as those of big corporations. So, as I said at the very beginning, we must look at the things on which we agree.

Are you worried about Chinese imperialism?

Yes, we are. And again, you may ask whether an individual owner is worried about Chinese imperialism, but this issue is very important. It was only last year that Commissioner Violeta Bulc called a very small group of people, some shipowners and some other shipping people from Europe and we had a two-day closed session in Florence to talk about the chal-

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lenges of the future. We identified and discussed these challenges and one of them was precisely how this level playing field between Europe and the Far East is going to be maintained. Let me give an example. The Chinese can come here and buy ports, whereas we cannot go to China and buy Chinese ports. This is simply impossible. We have a lot of Chinese participation in European businesses such as Volvo, Deutsche Bank, and many others. The Chinese are also getting into countries which are not yet members of the EU, like Serbia, and they are investing in projects like the modernization of the rail systems thus making it easier for Chinese products to reach central European countries. So, yes, we are concerned. But this is a small part of a much bigger concern which has to do with services and manufacturing, in which the Chinese are very aggressive. This subject is on the table but besides talking about it, we must also do something about it.

When you deliver a speech, you often mention that slow steaming is a solution but under certain preconditions. What are these preconditions, in your opinion?

Let me answer this question more generally. First of all, as you may well know, due to political and diplomatic reasons, we don't call it speed reduction, we call it speed management or EEDI improvement or by some other name. This is just hiding behind our finger. It is a very complicated issue and this is why until two years ago no one spoke about it. It is a matter that has recently reached the tables of the organizations which deal with issues such as the environment and greenhouse gases. And now this discussion is gaining some traction. And why is this happening?
The first reason is that it is simply put on the table by the environmentalists who are pushing the politicians, among others, otherwise, it would have never become an issue, and the second reason is that right now, it is the only way to achieve a GHG reduction as big as 30 or 40%. With all the other ways (propeller, hull, and machinery) you can achieve a reduction of just 1, 2 to 3%. My personal view is that it has to happen. Indeed, we cannot ignore everybody so I think that a good idea would be to target a speed reduction of 20%. If you target a 20% speed reduction, you will end up with a 44% reduction in GHG. But because of all these complications and different business and different types of ships, my proposal is that there should be a 10% mandatory speed reduction for everyone and then a second reduction of 10%, which would be voluntary and whoever needs or wants to avoid this further 10% reduction would have to pay a form of levy into a "green" fund. This is somehow a more manageable proposal. It is by no means a final proposal. So, I am positive about speed management, but it needs a very careful and sectoral approach.

And one final question about the Greek crisis and whether we have overcome it; after all, you are also a Greek entrepreneur. So, are we over the crisis?

If you want an honest answer, I would say that we are nowhere near having overcome the crisis. We have overcome the monetary crisis. We have overcome part of the financial crisis in the sense that we are not producing the huge debts of the past anymore. But we have done absolutely nothing in the way of reforms. Even though we have voted many reforms, 99% of them are not being implemented. So, we are nowhere near a good and strong economy and what we need is a revolutionary change of course.

Is the shipping community helping in this crisis to be over?

They are, but first and foremost, shipowners are not philanthropists. Secondly, they do what they can, and there are people who are doing huge things, which in absolute terms - in terms of the Greek problem - are still very small but in terms of comparison to what is happening ashore in the shore businesses, they are gigantic. We should press and ask for more things to be done but that in itself cannot change the course of the country. What needs to be done is 10,000,000 people must start working more seriously and of course, there should be drastic policy changes.

Greek shipping is in a position to lead international organizations because it has global interests

In his interview to *Naftika Chronika*, Mr. Anastasios Papagiannopoulos presents his views on the key issues and trends in the shipping industry and analyzes the challenges facing the global maritime community due to emerging protectionist policies and the new IMO regulations.

Anastasios Papagiannopoulos, President of BIMCO, Principal of Common Progress Co Na S.A., talks to Panagiotis Kapetanakis and Giannis Theodoropoulos

As BIMCO's President, what do think are the main challenges the shipping industry will be facing in the new year in both the wet and dry market?

One of the major challenges is the environmental regulations which have been widely debated and of course shipping should be willing to do its share. However, there are still many unclarified points with regard to their implementation, which will create problems that I hope will be resolved. The second major challenge is protectionism, which has greatly affected international trade and is something that is particularly evident in the dry cargo and container markets. The third major problem is international politics, which, of course, is a strategic issue.

We live in a world where old constants no longer apply. There is a strong conflict between two great powers, which does not have a clear ideological background

like the one that existed between communism and capitalism in the past. There is another kind of antagonism that is difficult to control, whose results we do not know yet. The fourth major issue is that of the rapid technological development that is generally changing everything we have known up to now. There is a redistribution of wealth from the developed countries to the benefit of the developing ones, while in the developing countries themselves the middle classes are suffering.

Is it easy to measure the effect of protectionism on sea trade and shipping?

At BIMCO, analyst Peter Sand has carried out many studies and seminars on what the situation would be like if there were no protectionism. Studies show, with some reservations, that the effect of competition on the international GDP is between 0.5-1%. International trade figures have always been higher than the international GDP. In the last 4-5 years, however, the size of international trade has been the same or a fraction of the international GDP. This is something partly linked to protectionism which should really concern us as it reverses everything we have known. At the same time, some of the other economic indicators, which we regularly monitor, do not inspire optimism. Today, countries are "isolating" themselves more and more in their domestic and regional trade.
Globalization and technology have disrupted the way the international economy works. Furthermore, our way of thinking has not allowed us to adapt to these new conditions because adaptation requires more time. For this reason, we do not have a complete picture, but based on the measurable results there seem to be rapid changes in the global economy. On the other hand, the middle classes in the West are under severe pressure and we are witnessing the emergence of many political parties that support protectionist policies. We are, therefore, in a transitional phase and there is a great deal of uncertainty about the future.

Do you think today's shipping could be described as a "fragmented industry"? Do you believe the cooperation of Intercargo, Intertanko, BIMCO, ICS, and ECSA through the Round Table could help to overcome this obstacle?

Definitely. Cooperation is necessary and very useful. In recent years we have been lucky to have Greeks in four very critical positions in INTERCARGO, INTERTANKO, ECSA, and BIMCO, and that was a kind of "experiment" because we Greeks do not always agree when we are in key positions. Fortunately, the rest of the Greeks with whom I have collaborated, John Platsidakis, Panos Laskaridis, and Nikos Tsakos, they were exceptional. During this period, we managed to put forward a common position and I hope we have planted the seeds of cooperation deep in the organizations and that it will continue to exist in the next phase. However, it will be devastating if we fail to maintain a climate of communication and cooperation among our organizations in the future.
In recent years, Greek shipping, which is a world leader - and this is something all Greeks, even those who are not involved in shipping, must recognize and feel proud of - has also managed to bring these issues to the fore, which had not been the case in previous years. Greek shipping, therefore, is in a position to lead international or-

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ganizations because it has global interests. As members of the Union of Greek Shipowners and the Chamber of Commerce, we have all understood the usefulness of international organizations. For example, there had been a mutual distrust with BIMCO, despite the fact that long ago its President had been George Livanos, who was a great President, as was Philippos Empiricos 10 years ago. Today, the Greeks constitute the largest national community in BIMCO. The same is happening in all the RT organizations. Therefore, our interests must also be respected by international organizations. This has been achieved in recent years and I think it will help us to remain a global power.

So, do you feel that the trust of your foreign colleagues towards the Greek shipowner and Greek shipping has increased?

I feel it has, to a large extent, because in recent years our foreign colleagues have seen that in order to protect our own interests, we really want to support international shipping. This has persuaded many people who had been skeptical, and this is, in fact, the only way to survive in the future and for shipping lobbies to have some possibility of intervention.

Do you think that in the immediate future there is a risk of the shipping industry shifting or turning completely towards the East and thus of Europe losing the importance it has today in the global maritime system?

This issue, as history has taught us, has to do with policy and strategy. In the US, shipping is a marginalized industry. On the one hand, I see that Europe, which relies financially on trade and whose history and prosperity have been built on shipping, is not interested in working out a strategy for its shipping. Apparently, it relies on the idea that it is not important whether goods are transported by non-European ships. Yet history has shown that this is not the case when it comes to the quality and geostrategic importance of transport.
On the other hand, there has not been a European maritime strategy that Greece can join and promote together with Cyprus and Malta. We must take advantage of our potential and build a maritime European strategy in alliance with the other European nations which have the same interests, i.e. mainly Cyprus and Malta.

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Is there a need for more intensive and systematic lobbying by the shipping community in Brussels so that your voice can be heard more?

There definitely is, but let's not get this wrong. Being very sensitive to shipping issues, all Greek governments have raised these issues, as have the Greek Shipowners' Union and its President. Unfortunately, we are at a time when Europe is dominated by particular political interests, so it is very difficult to formulate a coherent policy. Consequently, the European edifice and Europe as a whole, with its leaders, must re-examine the issue of shipping. And allow me to say that Greek shipping is European shipping, yet instead of being one of Europe's strategic weapons, it has become a footnote in the strategy of the EU.

In your opinion, what are the prerequisites for Piraeus to become a European maritime center and what does Brexit mean for Greek and global shipping?

I think Brexit is detrimental for Europe and it is tragic that Britain with its long shipping tradition is leaving Europe at this stage. It is a great strategic loss. I also consider it a loss for shipping because the British might not have a big ocean-going fleet, but their know-how and expertise have allowed their maritime cluster (clubs, banking, ship-broking etc.) to operate very efficiently. I do not know what the arrangements will be in the next phase. I hope that Britain will not be operationally isolated from the rest of Europe and that it will continue to be part of European shipping. But if short-sighted views prevail, i.e. if there is a hard Brexit, then England will inevitably be alienated from Europe.
In that case, Greece could potentially become the new European shipping center. However, even if England remained in some kind of relationship with Europe, that would not in any way exclude a close cooperation between Britain, Greece, and Cyprus, which would enable them to form a triangle of shipping centers that would interact with each other. In any case, I think that the result of Britain's forthcoming exit from the EU combined with Germany's reluctance to lead European shipping leaves space for Greece to serve the European maritime interests from a central position and to show our potential as an economy and as a country.

The IMO Sulphur Cap regulation will take effect in a few months. Are you in favor of the "experience building phase"?

I am all for it but we need to consider not only what is right but what is attainable and politically feasible as well. For political reasons, a long experience building phase is not feasible. What we can achieve is a few months extension so that the Sulphur Cap is put into effect in March 2020. On the other hand, of course, the survival of those able to survive will not depend on a few months' extension. Older ships, companies that cannot minimize consumption, companies unable to keep their ships in good condition, which results in their engines consuming more than necessary, will not be saved in a period of months. What would really help the experience building phase is having more supply points of low sulphur fuel.

In a recent statement you stressed that you do not want us to get to a point where there will be a dispute between a shipowner who chooses scrubbers and one who does not.

As I do not see a big increase in the freight market in the next two years, I do not anticipate a surge of newbuildings in the near future.

It is purely a commercial decision and we should not give it other dimensions. Everyone has the right to invest wherever they want. Just as we do not "target" someone who invests in technologically advanced vessels, for example in LNG, we should not "target" anyone who chooses or does not choose scrubbers. I do not think that installing scrubbers will prove to be a winning tactic, but I respect the right of any shipowner to do so. It is a level playing field.

Can we therefore assume, Mr. Papagiannopoulos, that the implementation of a slow-steaming policy is also considered feasible or that it is acceptable by the shipping community?

This is a very sensitive issue that concerns not only us at BIMCO but also all shipping organizations. I would not call it slow steaming, I would call it speed optimization. And the speed optimization measure will include ports to the extent that they will be issuing timely alerts so ships can determine their speed, but will also include shippers so that they know how to organize their trade efficiently. Of course, the measure also applies to each individual ship, allowing it to move at optimum speed and to follow the best course depending on weather conditions.
For example, on ships carrying agricultural or sensitive products, speed reduction is not possible. However, within this context but also in each separate sector, we could find a way to go at a speed that meets the needs of each sector without competing about who will go faster. In other words, we are talking about maximizing the benefits without having a rigid regime that will create distortions.

Another issue is the risk of overcapacity reappearing. You have deep knowledge of both the wet sector and the dry sector. Do you think the shipping industry is once again faced with the risk of overcapacity with whatever that may entail for freight rates and all this in an environment of low growth rates in the global economy and trade?

There are some elements that do not justify massive ordering of NBs. These are the following: First, there is no easy money. The interest rates are rising, and the stock markets are at a peak making it difficult for companies to be listed on stock exchanges or to draw additional money. At the same time the fact that the majority of listed companies are under pressure, limits the amount of capital for new buildings. This is a very positive development as every time there was easy money, we "rushed" to order ships without realizing the consequences. Secondly, I get the feeling that because environmental regulations and technological developments are still in progress, big companies are cautious about their ship orders because they do not know what tomorrow's requirements will be. Thirdly, in Japan production capacity is limited while in China there is a shift in strategic orientation from heavy industry towards new technologies and consumer goods. So, there too, the shipbuilding industry will not be at the center of developments as it was ten years ago. All this, plus the fact that international trade has stopped being higher than the world GDP, makes it difficult to have a repetition of what happened between 2004 and 2010. I think this is very positive for shipping in the medium term. Consequently, as I do not see a big increase in the freight market in the next two years, I do not anticipate a surge of newbuild-

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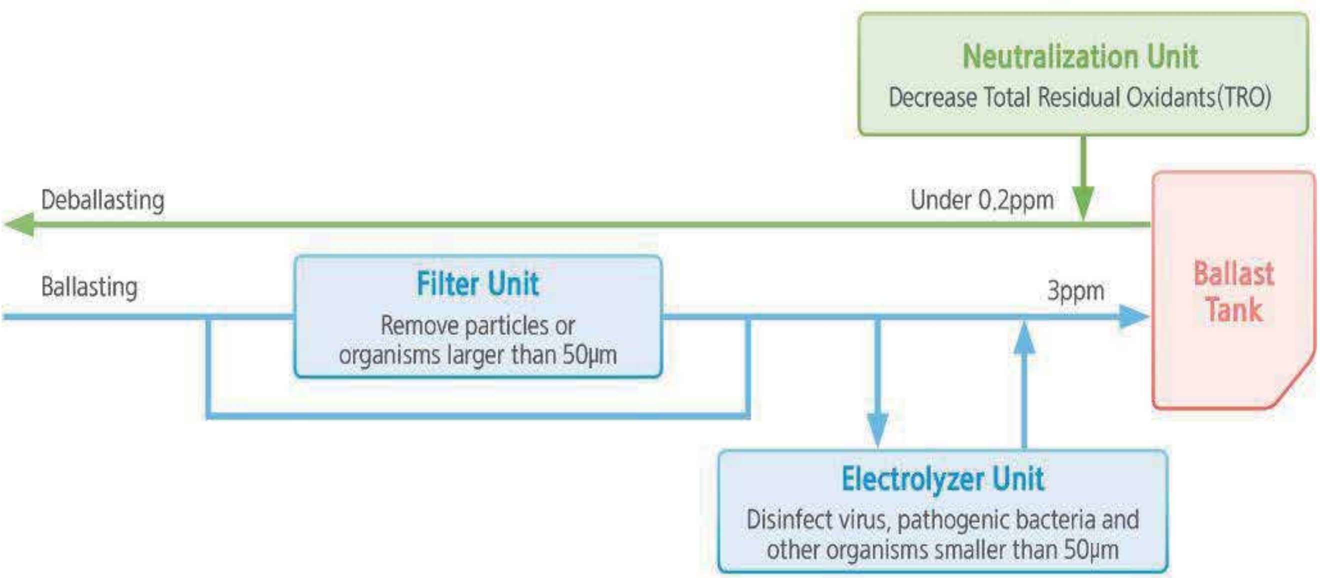

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ings in the near future. In some technologically advanced sectors, LNG for example, there might be a trend towards newbuildings, but in general, I do not foresee shipowners ordering ships massively.

So, does it seem that the maritime community has somehow learned its lesson?

This lesson only lasts for a while because with the next good freight market we forget it. It is a mixed blessing that we function this way because it allows us to move on. The important thing is to get back up after a fall. Greek shipping has always managed to get back on its feet again. So, generally, I do not see mass orders, I do not see the big Chinese companies ordering, I do not see the Japanese ordering, and the existing international trade fleet is already adequate. Problems may start to appear after 2020 when there will be a percentage of ships that will not be able to adapt to the new requirements and, consequently, slowly but steadily opportunities for the yards will start to emerge.

And a question about the young generation, Mr. Papagiannopoulos. How do you see the future of shipping as far as the attraction of young people to the marine or the maritime professions is concerned?

I feel there is a division here. We have reached a good position with regard to the maritime professions because we have very good young people who are shipping professionals, charterers, bankers etc. However, we have a shortage in the hard core of shipping, which is seamen. We must solve this with a strategic plan, which should be about reforming education. You cannot have maritime education with hourly paid teachers. Look at the example of Cyprus, which is creating both marine academies and maritime universities, and look at how Cypriots approach this issue seriously and strategically. The world's largest maritime nation should not have a shortage of seafarers. We need to revisit this issue strategically, and the Greek politicians need to listen to the Union of Greek Shipowners so that we can move forward because shipping means people. In the history of maritime powers, those on board made the difference.

Pertaining to the issue of attracting and training seafarers, do you see autonomous ships becoming a reality in the near future?

That is another big issue, which has two dimensions. One concerns the companies that produce these new technologies, the new ships, while the second concerns the countries with a shortage of human resources. Up to now we have had the experimental use of autonomous ships in Norway and Japan. Both Norway and Japan are countries with low birth rates but at the same time, they are quite rich, which results in these countries' young people not turning to the sea. On the other hand, of course, the general problem that needs to be emphasized is that this is an uncharted area and, in my personal view, adopting it in its entirety and moving towards the fully autonomous ship will raise important issues. Imagine the case of an autonomous ship accident and what impact that would have on the industry and on the way the world perceives shipping. It is perhaps inevitable that shipping will move in this direction, but not to the fully autonomous ship. It would make sense in the future to have a crew of 8 instead of 15 people because of the technological advances. Seafarers, however, should not be alienated from the ship's control and from her operations at sea. That would be devastating.

Mr. Papagiannopoulos, you are serving your last months as BIMCO's President and your successor has already been decided. We would like your comment on what lies ahead for the organization.

As I said when I took over BIMCO's presidency, BIMCO must be a bridge between cultures, nations, and genders. I am glad that as far as gender, culture, and nationality are concerned, the next presidencies meet the requirements of this strategy. Mrs. Sadan Captanoglu, the President-Designate of BIMCO, is a lady who comes from Turkey and is a shipowner and therefore fulfills all these requirements. After Mrs. Captanoglu, we may have another woman as BIMCO's President, Mrs. Sabrina Chao from Hong Kong, a development that is part of our opening up to the East. I believe that the international organizations I mentioned above have to some degree been euro-centric so far. They must now open up to the East. These new economic and maritime powers must feel that they are being adequately represented.
On the occasion of the expiry of my term of office as BIMCO's President, allow me to conclude our discussion on a personal note. I want to express my thanks to the other members of my family. Due to my workload I could not have served as President without them. The help and support of both Michael and Vangelis Pateras have been invaluable and essential because they took over the management of the highly demanding daily routine of the company.


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Greeks have the ability to combine modern concepts with traditional seafaring

In his interview with *Naftika Chronika*, Mr. Dimitris Fafalios discusses the contemporary challenges facing the global shipping industry, especially the dry cargo sector, as well as his main priorities as the newly elected chairman of INTERCARGO.

Dimitris Fafalios, Chairman of INTERCARGO, President of Fafalios Shipping S.A. talks to Panagiotis Kapetanakis

In your opinion, what are the challenges facing the dry cargo industry in 2019?

Our main issues are volatility, political instability, and a significant tonnage overcapacity. The political instability affects cargo volume or the willingness to place cargoes into the market, particularly dry cargoes. And of course, we have several other factors which negatively affect the market on an annual basis. For example, in the first quarter of each year, we have quite a lot of newbuildings entering the market, we have the Chinese New Year, we have the end of the Japanese fiscal year. So, all these factors, often combined with other macroeconomic factors, drive the market down in the first quarter at least.

Do you believe the industry is moving in the right direction?

The industry has to be very disciplined

when it comes to newbuilding orders. This is a big issue. Newbuilding orders must be fully justified, yet often they are not, so this has a negative impact on our business. In general, I think the dry cargo industry is moving in the right direction, but we need to be very cautious regarding our newbuilding orders.

What are the current strategies and future goals of INTERCARGO, the only international and voluntary non-profit association representing the interests of dry cargo vessel owners?

Our current strategy, which also happens to be our primary and fixed strategy, is to assist our members to voice their concerns in the various international fora which INTERCARGO attends. Regarding future goals, I think that the INTERCARGO work program will keep our secretariat busy for a substantial amount of time. Our future strategy is to focus on how INTERCARGO can respond quickly to developments in shipping and the dry cargo industry. On the issue of future fuels, for instance, we want to be able to voice our members' opinions and positions on how these fuels should be implemented on dry bulk carriers. We need regulations to be more sector-specific.

What will your main priorities be as the newly elected Chairman of INTERCARGO?

My main priorities are to consolidate the excellent work carried out by the previous Chairman, Mr. John Platsidakis, who served three two-year terms and accomplished a great deal for the association. The secretariat will be one of my main priorities. The secretariat has been strengthened and can possibly be expanded to take into account what our members may wish for the future. I would also like to increase membership, i.e., the number of ships and companies entered, as well as the number of associate members. I am not willing, however, to sacrifice quality in order to attain growth in figures. So, I am talking about cautious growth.

What are INTERCARGO's priorities regarding other major issues in the market of dry cargo vessels?

A wide variety of issues are considered important by our members and the dry cargo market, such as cargo liquefaction, design and construction, machinery and operations, life-saving, piracy, cyber risks, Ballast Water Treatment, coatings, emissions, manpower and the human element to name but a few. These issues actually reflect the priorities of the association as well. Our secretariat is united in trying to look at developments that specifically affect dry cargo vessels and dry cargo owners. It might be an issue like a Ballast Water Treatment System fitted to a dry bulk carrier, especially a smaller one which may not have the same amount of space or electrical power to install and operate it as a containership or a tanker does.
Therefore, we would like to concentrate on dry cargo-specific issues. At the moment we are considering the possible implementation of BMSA which is similar to TMSA but will hopefully be adapted to the bulk carrier industry where there is a large number of companies. The company size tends to be smaller and the main differences with tankers are the charterers, the terminals and the physical trading partners of the vessels. So, that is an area we would like to focus on.

Our future strategy is to focus on how INTERCARGO can respond quickly to developments in shipping and the dry cargo industry.

Snapshot from INTERCARGO's Annual General Meeting and Executive and Technical Committees' meetings in London (October 2018). From left to right, front row: Vice Chairman Capt. Jay K. Pillai, Mr. John Platsidakis, member of the Executive Committee since 2002 and Chairman from 2012 until end of 2018, Mr. Dimitris Fafalios the newly elected Chairman of INTERCARGO and the Secretary of the Association Dr. Kostas G. Gkonis.

Do you believe that BSMA will help the bulk carrier industry?

If BMSA is appropriately implemented, in a way that the industry can live with and support, I believe it will be beneficial, but only under these conditions.

How difficult is it for the regulators to come up with specific enforceable and implementable regulations without disturbing the everyday life of the shipping industry? Do you believe that the regulators and the IMO Member States have the necessary expertise in the modus operandi of ocean-going tramp shipping or is there a lack of knowledge that affects shipping?

The regulators clearly have the expertise, but rule making should take into account sectoral differences. For instance, some regulations will impact the container sector, or the dry bulk sector, or the tanker sector more. So, although the regulators have the expertise, it is the job of single-entry organisations like INTERCARGO and INTERTANKO, and other organisations like ICS and BIMCO to try to clarify sectoral differences, which are probably one of our biggest challenges; we need to work more closely with the regulators on this.

If BMSA is appropriately implemented, in a way that the industry can live with and support, I believe it will be beneficial, but only under these conditions.

As an organisation you have often made it clear that some regulations are the result of political pressure without paying due attention to the real needs of ocean-going tramp shipping. What can INTERCARGO do about that?

INTERCARGO can make early contact with the regulators or rather get involved in the rule making process earlier, which is probably the best way for INTERCARGO to get the most beneficial result for its members. Using our members' expertise and hands-on experience, we would like to encourage more practical regulations that take into account our sectors' needs.

In your opinion, is shipping a fragmented industry? Can this problem be overcome through the Round Table with other associations like BIMCO, INTERTANKO, ICS or does it call for other initiatives?

Certain sectors in the industry are fragmented, and the dry bulk sector could definitely be considered fragmented. On the one hand, you have the major companies or very large industrial shippers that are relatively concentrated. Conversely, you have a large number of small owners that may have one, two, three or five vessels which I think is slightly different to let us say the container or LNG or Ro-Ro sector where the industry appears more consolidated. Having said that, although our sector appears fragmented, it is remarkably good at speaking in one voice. At INTERCARGO we facilitate this not only through our members but also through our links to the Round Table. I think the dialogue among the Round Table members is extremely useful and beneficial as it allows us to outline the sectoral differences clearly.

You mentioned earlier all the political factors that can have an impact on the shipping industry. How easy is to measure the impact of developments like the trade wars and protectionist policies that dominated the world economy in 2018?

Trade wars have a considerable impact on our industry. The problem is that many other factors affect our industry at the same time. Therefore, it is quite hard to measure or to model the effect of a single factor because events such as trade wars never happen in isolation, there are always other factors at play as well.
As an aside, years ago a very eminent MIT professor tried to model the tanker industry and did an excellent job. But when he tried to model the dry cargo industry, he threw up his hands. So, our industry covers an enormous number of ports and terminals and a huge variety of cargoes. The impact of the trade wars has been significant, but is it quantifiable? There is no easy answer to that.

Do you believe the shipping industry will be faced once again with the challenge of excessive new capacity leading to worsened shipping market conditions? Have the shipowners learned their lesson during the recent big crisis?

Ships are often ordered and built for the wrong reasons although it is hard to say what the right reasons are. However, if one believes in the dry cargo market, as a tonnage user, one should also trust that the market will automatically serve owners, charterers, and tonnage users equally. Sometimes it is believed that a significant newbuilding programme is not instigated for traditional supply-demand reasons nor driven by the correct economics. So, perhaps we have not fully learned our lessons as an industry. I think what we need is restraint. We need to ask ourselves whether it is worth ordering six ships of average specifications rather than four ships of good specifications. Perhaps today we are going for quantity instead of quality.

Greeks nowadays hold key positions in the international shipping industry by being at the helm of associations like INTERCARGO, BIMCO, and INTERTANKO. How did Greek shipowners gain the trust of their foreign colleagues? And on the other hand, how important is it for the Greek shipowning community to serve in such associations?

Greece has a lot to bring to the table besides a substantial fleet in many sectors. Firstly, we are by nature hands-on shipowners; secondly, we tend to be responsible for our investment from the moment it is an idea in our head to the moment the ship is scrapped or sold. We have the advantage of extensive through-life experience in the operation, design, construction, and maintenance of vessels. Greeks have a tremendous ability to combine modern concepts with traditional seafaring. Greek operators are very close to their officers and crews. Seafarers must not be forgotten in this huge industry.

So, Greeks should be trusted by the international shipping community on account of their ability to combine traditional shipowning with the new trends in the ship's management and operation?

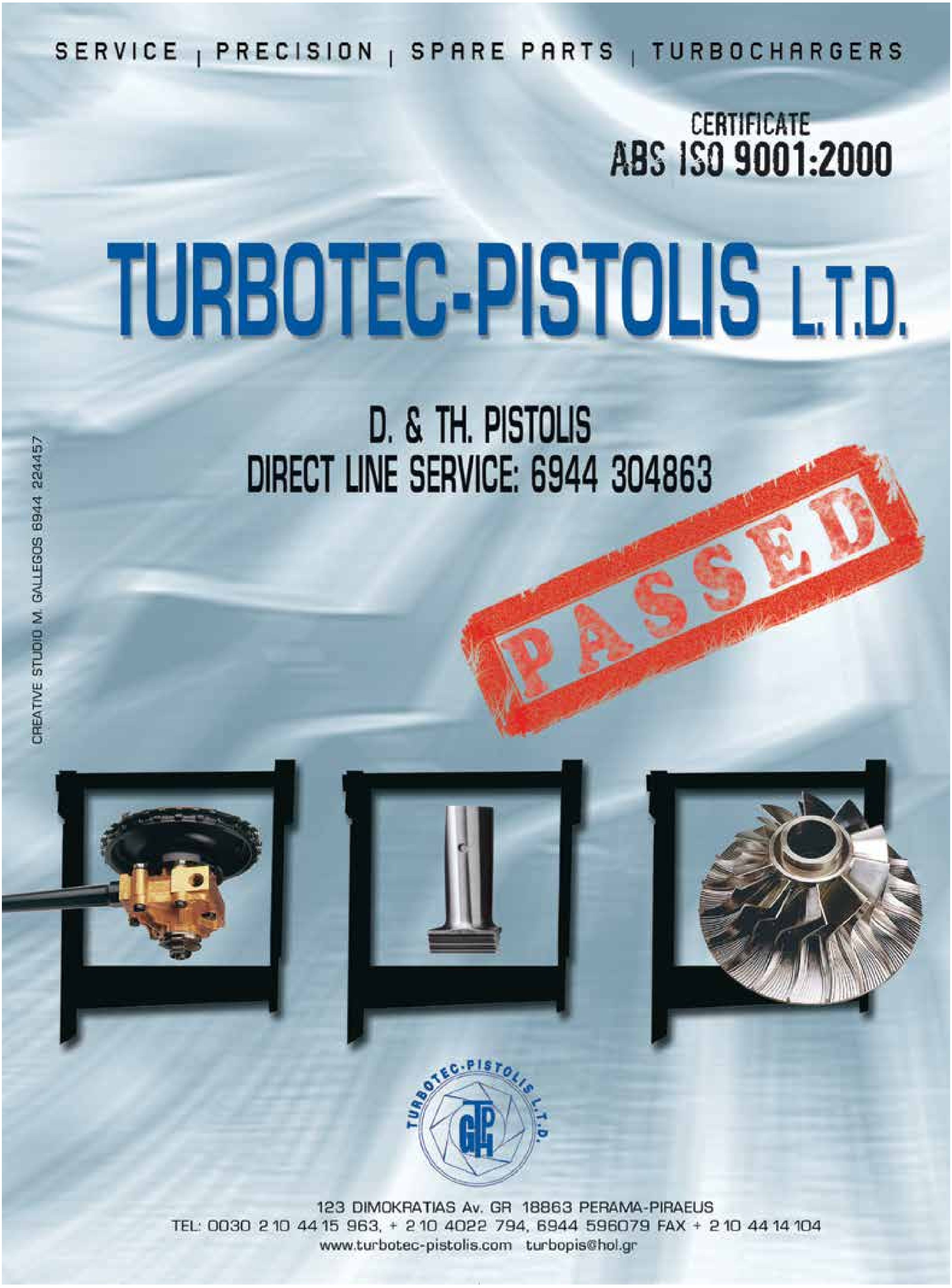
They should be trusted on account of this ability, but there is another reason, which is their understanding of the human element and the really positive impact of the officers and crew onboard the vessels. I, therefore, believe that the Greek members of international fora - not just the chairmen but committee members at all levels as well- bring an in-depth knowledge, a high level of education as well as a substantial amount of experience to shipping. And this is a very attractive package.

Do you believe that hands-on management as a business model will be maintained in the future or will it become a thing of the past?

The essence of Greek shipping development has been the seafarer or master or chief engineer or somebody who had a dream of starting a small company or starting with one vessel as part of a bigger company, and I hope that this carries on for many years to come as these companies end up becoming big companies. This model has a bright future.

In your opinion, what does 2019 have in store for Greek shipping?

Greek shipping has always been very flexible and able to keep pace with developments. A critical element to its success is the ability to react and change, to move with the times, and often to identify emerging trends in advance. The future of Greek shipping looks positive. We are blessed with a huge number of young people willing to be part of this future and this industry. As long as we have this flow of young people and this input of education, knowledge, experience, and ambition, Greek shipping will continue to flourish for many years to come.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The present of Greek shipping and the future we envision for it

The term 'shipping' refers to all the activities related to the support of transporting people and goods by sea. The word 'shipping' also refers to a country's shipping industry, which is the sum of its maritime transport activities. In Greece, history, culture and the economy have always been inextricably linked to the sea.

By **Dionisis Temponeras**,
General Secretary, Ministry of Maritime Affairs and Insular Policy of the Hellenic Republic

Due to its geographical position, its insularity, its historical path, and its human potential, our country enjoys significant advantages that offer the opportunity to formulate ambitious maritime policies. It is estimated that the first open sea voyage for commercial purposes took place 10,000 years ago in the Aegean Sea for the transport of obsidian from Milos to Argolis and the Northern Sporades. Moreover, Greek history includes apothegms that praise the seamanship of the race, for example, Pericles' "Great is the might of the sea," and Xenophon's "Your safety depends entirely upon the sea."

Greece has the world's largest merchant fleet - which accounts for half of the EU fleet - while it holds a leading position in the International Maritime Organization. The State must safeguard the leading position of Greek shipping and at the same time increase and expand the collateral benefits for the country. For this reason, it places particular emphasis on strengthening and supporting the following maritime policy axes:

OCEAN-GOING SHIPPING

Greek ocean-going shipping is a fully globalized business activity in which Greece has been excelling for a long time and which mainly depends on external factors, economic and geopolitical. A key feature of the maritime policy is the strengthening of the Greek flag and Greek-owned shipping with a view to increasing employment on ships and in companies, direct income from maritime activities and indirect value added to GDP.

Directly associated with ocean-going shipping is the development of the cluster by focusing on Piraeus as an upgraded global maritime center, and the strengthening and expansion of synergies between the Ministry, universities, research centers, and the private sector. In this direction, Memoranda of Understanding were signed recently between the Hellenic Ministry of Maritime Affairs and Insular Policy and the Democritus University of Thrace, the University of Piraeus, and the Industrial Systems Institute (ISI). At the same time, we are promoting cooperation with the World Maritime University, which is under the auspices of the International Maritime Organization.

In the international arena, our Ministry has taken initiatives in international organizations and EU institutions and has actively supported the role of the IMO in adopting global rules defining shipping's contribution towards the fight against climate change and the seamless application of the new sulphur limit in shipping fuels. In the

European Union, there has been a shift in European maritime policy towards competitiveness, digitization, and the protection of the marine and air environment. The maritime role of Greece in the Eastern Mediterranean has been strengthened through significant multilateral maritime co-operation agreements with Cyprus, Malta, Israel, Egypt, Jordan, and bilaterally with China, Israel, the Emirates, Russia, the USA, and many other countries.

The results of our actions are tangible at the level of maritime entrepreneurship, the ship, and the human factor. The establishment of shipping companies in Greece and foreign currency from shipping are on the rise while the number of well-trained young people choosing the maritime profession is also rising dramatically. This is the greatest justification for our choices and the best investment for the long-term sustainable development of Greek shipping.

A stable institutional shipping framework has been established at European level through the increase of Greek state aid to the shipping sector and the achievement of a stable tax regime for at least ten years, while a reduction in seafarers' taxation is also being examined.

However, the most important actions we have undertaken had to do with the most significant element of our shipping, the human factor, to which we turned our attention with sincerity. The global shipping community is particularly concerned about the lack of officers for crewing the global fleet.

REFORMING - SUPPORTING - STRENGTHENING MARITIME EDUCATION

Maritime education is the sector related to the education, training, retraining, and certification of seafarers, which is managed and overseen by the Ministry of Maritime Affairs and Insular Policy. It is a focal point of maritime policy-making which is particularly important as it has a multiplier effect on shipping development and by extension on the national economy and employment. It is, therefore, our strategic choice to maintain the public nature of maritime training and, to date, we have implemented corrective interventions at various levels related to the operation of public maritime training and the need to adapt it to international requirements. Indicatively, the following are mentioned:

- Establishment of new training structures: (a) Merchant Marine Academy/ KALYMNOS (the academic year began on 7 December 2018 with the admission of seventy (70) students), (b) Training Centre for Merchant Marine Officers/MACEDONIA, (c) Fire-fighting & Rescue Training Academy (Oinousses),
- Increase in the statutory posts for educational staff, (b) Financial support to students (providing food and housing allowances, free transportation on public transport, internship allowances, etc.),
- Reform - modification of study programs.
- Modification - reform of the regulatory framework.
- Recruitment of educational and technical staff.
- Increase in the capacity of schools.
- Collaborations with non-profit institutions and universities abroad.
- Immediate promotion of memoranda of cooperation signed by Marine Academies and local higher education institutions and institutes - memoranda of cooperation have already been signed for the first time between the Ministry of Maritime Affairs and Insular Policy and the Democritus University of Thrace, the Ministry of Maritime Affairs and Insular Policy and the University of Piraeus, the Alexander Technological Educational Institute of Thessalon-

iki and the Merchant Marine Academy of Macedonia, and the Technological Educational Institute of Piraeus, the University of the Aegean and the Merchant Marine Academy of Aspropyrgos.
- Coordination with the Ministry of Education for the maximum possible upgrading of the Vocational Senior High Schools.

In addition to the above, we are implementing actions under the "Human Resources Development, Lifelong Learning and Training" Operational Program budgeted at €57,585,294.15. Within the framework of the Regional Operational Programs, we are implementing actions related to equipping the State Merchant Marine Academies budgeted at €9,670,769.24. Furthermore, the Operational Program for Territorial Cooperation between Greece and Cyprus is implementing the "INFRASTRUCTURAL MARITIME SAFETY SYSTEM" budgeted at €900,000.
Finally, our Ministry is promoting donations of equipment/materials from Institutions/Bodies/Companies /Individuals to public Merchant Marine Academies to the total value of €520,000, and a Grant Agreement for the repair and renovation of the Merchant Marine Academy of Kymi by the Eugenides Foundation, amounting to €86,040.00.
Moving on to the field of Maritime Labor, we are fighting a constant battle to protect Maritime Labor. Examples include:

- Establishing a framework for the protection of seafarers employed by coastal shipping companies, particularly in the event of a company's non-compliance with pay provisions for the commensurate satisfaction of seafarers' claims (payment of arrears);
- Providing emergency financial support for the Easter holidays to seafarers who were abstaining from work due to non-payment of accrued earnings;
- Extending this grant to include subsidized students;
- Introducing a fine in the event of uninsured maritime labor, with the discharge of a master's responsibility to pay a fine jointly with a shipowner, if the shipowner has been informed of the breach.
- Introducing a fine in the event of a breach of seafarers' rest periods, with the discharge of a master's responsibility to pay a fine jointly with a shipowner, if the shipowner is informed of the breach.
- Establishing the Active Seafarers Register;
- Taking the appropriate measures to ensure that seafarers work and live in an environment free from intimidation and harassment.
- Increasing basic monthly salaries by 2% under the "2018 Collective Work Agreement for Internal Ferry Crews".

COASTAL SHIPPING DEVELOPMENT AND COMBINED TRANSPORT MEANS

The importance of short sea shipping for the proper and seamless operation of the Greek economy is obvious as there are more than 100 inhabited islands in the country with more than 1.4 million inhabitants and approximately 15,000 kilometers of coastline. The insular character of the country, a unique phenomenon in the European Union, creates particular needs for adequate and quality transport and intensifies the social character of coastal shipping for the purpose of preserving territorial cohesion, ensuring conditions for equal economic development for the islands, and empowering local entrepreneurship in the context of the equal opportunities policy.
We will mention the following individual actions:
- The reform of the institutional framework of coastal transport,
- The redesign of the network of infrequent lines,
- The further development and licensing of waterways in cooperation with the Ministry of Transport and Infrastructure, to gradually create a functional network with a multitude of nodes and links.

INSULARITY MEASURES

Greece is the country with the largest percentage of island area and population among all EU member states. While it is ranked 97th in the world in terms of total area, it has the 11th longest coastline. The Greek island area is an important part of the national territory covering 16.3% of the country's total area and accounting for 13.3% of the country's total population.

The difference between Greece and the rest of the EU insular member states lies in the fact that its island area consists of many scattered small islands with small population size and seasonally varying needs for resources and human potential. Consequently, the economic and social activity on the islands, especially in the summer months, is particularly high whereas in winter it is low, resulting in isolation.

The specific objectives and actions at the institutional level, include:

- The Transport Equivalent, a program we have implemented for reducing the unsustainable cost of the transport of people and goods moving between the islands and from the islands to mainland Greece. 2019 is also the year of the universal application of the Transport Equivalent in all Insular Greece. The Transport Equivalent, a pilot project on 49 islands since 01/07/2018 which has subsidized thousands of islands residents on over 60,000 ferry trips and 3,100 Island businesses in transporting goods and raw materials to and from the islands, has been extended to all the country's islands. The measure is also being implemented in businesses to boost island entrepreneurship thus creating growth opportunities. For the first time, special support will be given to those who live and operate in the Sporades, the Argosaronic and the Ionian Sea, since besides the Dodecanese and the Cyclades, the measure now also includes the North Aegean.
- European initiatives to upgrade the EU's island policy. The challenges in the maritime sector remain, and complacency would be the worst advisor in the effort we all need to make for the sustainable development of Greek shipping – an effort that must always be updated to respond to the new data that continually arises. It is certain that investing in safety, environmental protection, quality of service, education, innovation, and new technologies will keep our country at the forefront of the world's maritime arena.

Investing in quality shipping and new types of environmentally friendly ships is the best option. Similarly, the position of shipping in today's economically unstable environment should be safeguarded from restrictive practices or unilateral measures by certain countries. In this context, further efforts will be made to promote the liberalization of shipping services, both bilaterally and multilaterally, based on the existing negotiating experience and practice of both our country and the EU. At the same time, actions to digitize shipping are already an integral part of our future strategy and will increase in the future. Digitization will allow shipping to break through barriers of an administrative and commercial nature; it will also minimize safety and environmental hazards and significantly improve working conditions on board. Greece should be involved in these developments and have an improved presence in the EU institutions and the IMO, with a strategic vision for a shipping industry that will continue to be a steady driving force behind global economic growth.

Still growing! Is there an end to it or is the sky the limit?

By **Michael Sarlis,** Shipping Advisor

Despite all the major regulatory, environmental, and economic challenges of our time, the Greek controlled fleet has managed to maintain a prominent presence in the world's seas. In this article, Michael Sarlis presents all the latest facts related to Greek controlled shipping as well as his thoughts and views on the present and future of Greek shipping.

Available data show that since 2010 Greek controlled shipping (GCS) has grown faster than the world shipping average recording 8.1% growth in 2010-2014 (world shipping 6.3%) and 5.8% growth in 2014-2018 (world shipping 3.3%). *

Back in 2010 Greek owners controlled 16.99% of the world dwt capacity whereas according to the latest count on 1.7.2018, their share today stands at 20.1% (tankers 24.1%, bulkers 22.5%, containerships 10.3%). It is noteworthy that the Greek presence in the general cargo and passenger vessel segments is limited to 3.2% and 4.7% respectively.

The People's Republic of China (PRC) now holds the second position with 249 million dwt as against the 372 m dwt of GCS.

81.8% (versus 74.8% in 2014) of Greek tonnage is registered in open registries (Liberia 75.5 m dwt, Marshall Islands 71.6 m dwt, Malta 67.6 m dwt, Panama 30.3 m dwt, Bahamas 19.6 m dwt, and others 81.8 m dwt).

The top 3 shipping nations control 47% of the world capacity.

There are 300 management companies established in Greece, managing a minimum of 3 ocean going vessels each. Of these, 15 (managing 1,037 ships) are listed. Therefore, about 3,690 ships are managed by companies not listed on the stock exchange.

Of the total Greek controlled fleet, three groups, the Angelicoussis Group (1.3% of world capacity), the Navios Group (0.9%) and Dynacom Tankers Mngt (0.8%), rank among the world's top 15 owners. Angelicoussis and Dynacom are among the 15 top tanker owners, Angelicoussis, Navios and Star Bulk Carriers among the 15 top bulk carrier owners, while Costamare and

Danaos rank among the top container ship owners.
Considering that a substantial portion of sea transport concerns domestic trades, we may safely assume that GCS is involved in over 25% of international waterborne transport.

What is to be expected from now on?

With globalization experiencing hiccups, the imminence of the 2020 fuel sulphur regulation, the concerns over the availability and quality of marine fuels, the erratic behavior in commercial relations, and for several other reasons, prospects in shipping appear uncertain. But is not uncertainty permanent in shipping? However, GCS has historically taken advantage whenever incertitude prevailed in the market. We may therefore reasonably exclude the possibility of Greek Shipping being affected more than others by the looming risks.
In fact, 2020 is expected to affect older and obsolete ships more, and there are plenty of them afloat. The age differentiation of Greek controlled ships (11.5 years as against the 14.6 world average) leads to the assumption that a larger percentage of non-Greek controlled ships will be heading for the scrapyards. Furthermore, considering that the cost of investing in new technologies is proportionally higher for small sized vessels than it is for the larger ones and that the average GCS vessel is twice as large as the world average, one should expect that recycling will affect smaller rather than larger ships.
The situation with other fellow shipping nations shows that:
Following the impressive growth of the period 2010-2014, Japanese shipping is showing signs of stagnation (0.1% growth in 2014-2018) and has been overtaken by China which has recorded a most impressive performance more than doubling the 121 m tons dwt it controlled in 2010. It remains to be seen whether the Chinese appetite for tonnage has now been sated. German shipping was the hardest affected having lost a lot of ground due to a lack of diversification and questionable finance and taxation policies. The fleets controlled by Korea, Singapore, and Taiwan, are not keeping pace with the average growth of the world fleet. On the other hand, the USA's better performance can be attributed to the growth of its cruise fleet, while the progress of Italy, which has now overtaken Denmark in the 10th position, has to do mainly with the increase of Italian controlled container and cruise ships.
With no major contender closely approaching and no imminent exogenous factor that may selectively affect GCS, it seems the field we should be concentrating upon is human resources. While ashore there is an abundant supply of well-educated executives, the lack of Greek ship personnel may put the well-tested Greek shipping company model at risk.
The proposals and suggestions of the Greek shipping community for the revival of marine education and training should be adopted and implemented by the State as a major priority.
Apparently, the sky's the limit!

*Source of data: The Institute of Shipping Economics and Logistics (ISL), Bremen based on updates from Clarkson Research Services Limited.

Investing in Greek shipping. The legal and tax framework for the Greek shipping business*

I always like to start a story with a story; to dive in history and draw some lessons. The past always helps us to understand today and to predict tomorrow. The story, in this case, is that the historical relationship between the Greeks and the Sea is long, adventurous and passionate; hence it is so strong. Odysseus is perhaps the first symbol of the Greek sailor, the eternal traveler, the pioneer, the entrepreneur. His fatal relationship with Poseidon, the God of the Sea, is the symbol of man's fight against his destiny.

By **Rea Metropoulou**, LL.M. Cantab., Attorney at Law at COZAC Law Offices

"Great is the country that controls the sea," were the words of Pericles to the Athenians in 430 BC, as reported by the great historian Thucydides. Earlier, Herodotus had written: "We have land and a country when we have ships and sea." Capt. Panagiotis Tsakos told me once: "Shipping is our destiny." I think he was speaking the language of his ancestors…

During the Ottoman occupancy, the Greeks ruled the sea. And in the modern era, there was an increasing use of the Greek flag after World War II. From 1970 onwards, once the institutional and legal framework became competitive and the necessary infrastructure was developed, Greek shipping companies rapidly moved their headquarters and activities to Piraeus. Nowadays, when more than 90% of the commercial trade is being transported by sea, and the EU relies on international shipping for 75% of its external trade, Greek shipping remains the world's champion. Greek shipping controls a little less than 20% of the total world dwt and 48.29% of the total EU fleet.

So, it appears to me that something important is going on with Greek shipping, which is worth building upon and investing in.

In order however to assess this, one has to understand how the Greek shipping miracle works.

Understanding the legal and tax framework of the Greek shipping business is a necessary prerequisite for assessing the investment opportunities.

The Greek Shipping Business Structure is multi-tiered.

It basically consists of single vessel owning companies managed and represented by a ship management office of a separate foreign company established in Greece by virtue of article 25 of Law 27/1975. The one-ship company is a very old and successful practice of the Greek shipowners as it provides protection to each vessel from the liabilities of other vessels under the same beneficial ownership or in the same fleet. Shipping is a very risky business; ships call at perilous ports in jurisdictions which are not always sophisticated. Furthermore, the values are very high and so are the claims and liabilities. Imagine a collision of a huge cruise ship or a big oil spill polluting US waters. With the single vessel company structure, the operational and commercial risks are framed and limited within each ship owning company and its underlying vessel.

The structure is completed by the parent holding companies which own the single vessel ship owning companies directly or through multiple tiers of holding companies. Usually, the shipping funds are located in bank accounts of such holding companies, hence not exposed to the risks and liabilities of the owning or management companies. The Greek individual shareholder is the shareholder of such final tier parent holding company.

The role of the ship management com-

pany in the above structure is equally critical because it is the link between the international shipping activity of the group and the Greek jurisdiction. The Greek State has established a beneficial tax treatment for foreign ship-owning companies on the strict condition and so long as their vessels are operated and managed in Greece by the Greek ship management office.

With regard to the legal framework, the cardinal law is, of course, Law 27/1975. It provides mainly tax benefits to the ship management companies, the ship owning companies, their holding companies and the ultimate beneficial owners ("UBO") of the ship owning companies, as it explicitly exempts them from tax obligations for the income (in the form of trading profit, sale proceeds or dividend as the case may be) arising from their shipping activity. So, the tax imposed on the shipping business is solely the tonnage tax imposed on the vessels and payable to the Greek State via the Greek ship management office.

Furthermore, the principal Greek Tax Law 4172/2013, as amended, specifically exempts the companies established and operating under Law 27/1975 from the provisions regarding the Greek Tax Residence and, pursuant to Circulars issued by the General Secretary of Public Revenues in 2014, these companies as well as the companies, legal entities and trusts owned by a person affiliated with the companies established under Law 27/1975 and, further, the companies whose funds derive from shipping activity or where the shipping funds are invested in are specifically exempted from the provisions of the Greek Tax Law regarding Controlled Foreign Corporations. In the same context, article 1 of Law 791/1978 provides that the incorporation and the legal capacities of the companies established under Law 27/1975 and of their holding companies are determined by their registered place of business (instead of their actual place of business which may indeed be in Greece).

Finally, the Greek State has exempted the above companies from any obligation to declare their assets to the Greek Tax Authorities. They further do not have an obligation to maintain financial statements according to Greek Accounting Standards or submit tax return statements to the Greek State (except for the ship management and ship chartering/ship broking companies which submit zero tax return statements).

So, basically, the Greek tax system does not appear to be particularly interested in the companies of Law 27/1975.

And as mentioned above, the Greek Tax Resident UBO is also benefited by being exempted from tax on his ship owning income. However, in view of the recession in the Greek economy, the Greek Shipping Community, represented by the Union of Greek Shipowners, has opted to contribute even more to the national economy. There is, therefore, a new agreement, with the blessings of the European Union, which is expected to come into force within the next couple of months, which basically provides for a flat 10% levy imposed on the shipping dividends imported into Greece by Greek Tax Resident UBOs of ship owning companies. Furthermore, this agreement provides that the amounts declared by the Greek Tax Resident UBOs in their tax return statements as their "worldwide shipping income" may be applied freely to any expense/purchase of the UBO in Greece (subject to the 10% levy as above) or out of Greece. This is particularly important in light of the restrictive regulatory regime currently being applied in Greek and foreign banks, where in certain cases the shipping funds (being tax exempt) may have raised questions… and eyebrows as to their actual origin!

There is also a very interesting discussion taking place with regard to an equally beneficial tax treatment for the bare boat chartering activity, in view of the recent trend of the Greek ship owners for bare boat chartering schemes on the basis of lease agreements concluded between shipping companies and – mainly- Chinese financial institutions.

So, the above provisions really do establish a beneficial framework legally and taxwise for those who wish to expand their shipping business in Greece or to invest in Greek shipping. Most importantly, Piraeus is a major shipping hub, the shipping cluster is powerful, dynamic and of an exceptionally high quality especially with regard to the human element whose educational level and maritime expertise in all the various fields of the shipping business (from seafarers, shipbuilders, naval architects, engineers, suppliers to brokers, insurers, lawyers, bankers and financiers) are almost incomparable to any other place in the world. Following Brexit, Greece may and should have an even higher strategic role in the EU plans for developing an internationally competitive shipping sector. And… most of all, history proves that Greeks know how to do the job well, as they have been doing for thousands of years!

***** This article is based on a presentation by Rea Metropoulou at the Metropole Hotel in Geneva on 30 January 2019. Rea Metropoulou is an Attorney at Law, qualified in Greece, and is the head partner of shipping at COZAC Law Offices in Athens (www.cozac.gr). She also works as the Legal and Claims Counsel of ship management companies in Greece. She has studied law in Athens Law School and holds an LL.M. degree from the University of Cambridge in the UK.***


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Digitalisation is not a revolution, it is a natural evolution

Mr. Mark O'Neil talks to *Naftika Chronika* about the modern challenges facing a ship management company, presents Columbia's future plans following the company's merger with Marlow Navigation and analyzes the enormous impact of digitization on the global shipping industry.

Mark O'Neil, President of Columbia Shipmanagement, talks to Panagiotis Kapetanakis

Over the years, Columbia Shipmanagement has evolved into a huge organisation with a global presence. What are your plans for the future?

We are a "service" company, and we should always and continuously remind ourselves of that: we are here to serve our clients' specific tailored needs, whether those clients operate one ship or a hundred ships. What does this mean in practice? It means simply that our development plans must meet our clients' (small and large) individual needs. To this end we have developed an innovative and world-beating procurement platform, GenPro, delivering to our clients the best prices available for parts and consumables and achieving the economies of scale necessary. We have also teamed up with Lufthansa and Tototheo, as well as our own inhouse IT/software experts Blue Dynamics, to bring aviation standards of digitalization into the maritime space. Our Client and Crew Portals are market-leading, as is our innovative and ground-breaking Performance Optimisation Control Room. The latter not only optimizes vessel safety, it also optimizes performance (fuel consumption, delays, weather routing, etc.), crew rotation and training, preventative maintenance and charterers' commercial requirements. Such facility allows us and our managed clients a commercial advantage by optimizing the service. Both the Portals and the Control Room allow and provide for complete transparency for our clients. Our digitalization partners are able to assist our clients in formulating their own digital visions and agendas in a focused and dedicated manner. On training, we have led the way in recognizing the importance of Crew E learning platforms by partnering with Adobe to develop and implement the first E learning platform. Again, a market-leading development which will allow crew greater flexibility to learn ashore and onboard during downtime from their laptops, tablets and mobile phones, and will allow us the flexibility to design our own tailor-made courses relevant for specific clients and sectors. On catering management, we have recognized the absolute importance to our crews' health not only of top quality, fresh, non-processed food but also of menu variety and effective stock management. Furthermore, we are focusing on the broader issue of crew welfare including mental health, fitness, and pastoral care. Our ambition is to lead the way on the related issues of crew training, catering, and welfare.

Recently, Marlow Navigation merged with Columbia to create a holding company, Columbia Marlow. What are the reasons behind this development and what are the strategies for each company?

The merger between Columbia and Marlow is at shareholder level only, with both companies remaining entirely separate and distinct operationally. For the moment, while shareholders explore possible cooperation and synergies, this is how it will remain. I cannot comment on the strategy of Marlow. Columbia will continue to develop its business as outlined above with its mission to be one of the very best third-party ship management companies worldwide at the very cutting edge of new developments and technologies and focusing on providing its clients with tailor-made, non-commoditised, quality services.

Last year your company cele-

brated its 40th anniversary. It was in 1978 when Columbia's founder, Captain Heinrich Schoeller, traveled to Cyprus to establish a robust ship management industry. What are the reasons for your steady commitment to Cyprus since that date?

The reasons for setting up business in Cyprus remain as true today as they were in 1978, indeed more so. Not only is Cyprus blessed with excellent infrastructure (roads, schools, hospitals, etc.), it is home to a professional service sector (accountants, lawyers, IT specialists) every bit as good as one would expect to find in the capitals of Western Europe. Its legal system is reliable and efficient and its Government hugely supportive of the shipping Industry and business generally. Finally, above all else, the Cypriot people manage to combine a universally high level of education with an amazingly pro-active, engaging, versatile and can-do attitude. The climate is clearly an added bonus! These factors all add to a compelling argument for the past and continued commitment to Cyprus as a base for our company.

The global shipping industry is experiencing the results of the 4th industrial revolution, e.g., digitalisation, big data, AI. How will digitalisation help serve the core functions of your company?

Digitalisation is not a revolution. It is a natural evolution. It is but a means to an end, the end being optimization. Companies will and should digitalise relevant areas of their businesses so as to optimize the services they provide. Digitalisation helps them to do this in the same way as the word processor and internet did previously. This is evolution, not revolution. As I have said before, however, companies must remain client/market facing in their digitalization ambitions. Being ahead of the (digitalisation) curve will render one irrelevant to one's clients/market, in just the same way as being behind the curve. This is why it is so important that companies do not fall foul of the Y2K-type scaremongering within the industry to digitalise everything at great expense, but rather formulate a clear digital vision and agenda in-step with their clients'/market developments. Only digitalise that which needs digitalizing! At Columbia, we have spent a considerable amount of time with our partners Lufthansa and Totheo establishing where we need to be digitalised and what needs to be done for us and our clients. We believe that we are where we need to be but are conscious of the continuing need to develop in a measured manner.

What does the future of crew management and recruitment look like? How can training institutions ensure that the cadets are future-ready?

It is a truism that a well- trained, well-fed, well paid and well looked after (and consequently well-motivated) crew will continue to provide the backbone of any successful operator within the shipping industry going forward, irrespective of technological advancement, increased automation and digitalization. The importance of the "Human Element" on board and ashore will only grow and grow. Crew Management and Recruitment must harness digitalisation, technological advances and human resource development to optimize the service provided to both crews and clients.
Training Institutions and academies must ensure that cadets receive sufficient education and quality training to operate in this fast-changing environment and that they can absorb additional training to keep up with developments.

Make or break: Maritime Consortia and competition law at a legal crossroads*

By Dr. **Anna Bredima**,
Attorney at Law h,c, Supreme Court of Greece, Senior Policy Advisor on European Affairs Cyprus Union of Shipowners

Since 1993 consortia in liner shipping have been governed by an EU Regulation providing their block exemption from competition rules subject to certain conditions. In view of the expiration of the Regulation in 2020, the EU is at a legal crossroads: Is it going to abrogate, modify or prolong the Regulation? The answer will be given following extensive consultations with interested stakeholders in 2019. The timing of the review coincides with a critical moment for the future direction of the EU general competition legislation. Are these developments going to influence the review of the Consortia Regulation? Who will prevail in the consortia review? Competition law purists or proponents of European champions able to compete globally?

Block Exemption Regulation no 697/ 2014 of maritime consortia in liner shipping

On 25/4/2020, the block exemption Regulation no 697/2014 of maritime consortia in liner shipping (BER) will expire[1]. The BER declares the prohibition of article 101[1] of the Treaty on the Functioning of the European Union (TFEU) not applicable to certain types of agreements between maritime companies in liner shipping to cooperate in consortia, i.e. in the provision of regular and scheduled international shipping services. Consortia are vessel sharing agreements of container companies applying to ships calling to and from EU ports. The Regulation adopted initially in 1993 has been reviewed four times[2]. In view of its expiration in 2020, the Directorate General for Competition of the European Commission (DG COMP) launched a Questionnaire for interested parties with a deadline for submissions on 20/12/2018.

The stakeholders' views

The views of the shipping industry, European, Asian and international are at one in favoring an extension of the BER for an additional five years. The World Shipping Council (WSC), the European Community Shipowners Associations (ECSA), the International Chamber of Shipping (ICS) and the Asian Shipowners Association (ASA) emphasise that:

- The BER provided transparent and practical legal guidance to vessel sharing arrangements for international liner shipping services operating to and from EU ports
- Despite recent mergers in the liner industry, the industry remains not concentrated and highly competitive
- The BER helps carriers reduce air emissions and greenhouse gases through higher utilization of vessel space[3]

The Global Shippers Forum (GSF) calls upon[4] DG COMP not to renew the BER. GSF recommends that "these special privileges should come to an end and the liner shipping industry should begin the transition to normal competition conditions. There is potentially scope for the existing legal instruments to be replaced by modified or augmented arrangements but only where the impact of this transition could cause unnecessary disruptions. The parameters of any replacement regime should be discussed by the Commission with the representatives of the stakeholders, which would have the additional benefit of engendering a much-needed consensus on the future of a vital industry"[5]. In the 127 pages report[6] on container alliances, the International Transport Forum (ITF) administered by the OECD called on the EU not to renew the BER. "A repeal of block exemptions is unlikely to result in the termination of the current and future alliances, as these could still be authorized under competition law on a case-by-case basis. However, it would ensure greater scrutiny of individual alliances and, thus, more effectively deter any anticompetitive conduct in the sector".

Alliances and mega ships

Developments in the world market indicate that increased concentration in the form of alliances will dominate the market. There is a worldwide tendency to gigantism for alliances and mega ships[7]. The argumentation of shippers, ports and some national administrations states that mega ships pose problems of access to ports in view of their size and may cause delays, congestion and extra costs in ports in order to accommodate them. In view of the fact that several ports are not private container terminals but public ports, there are state aids for the increase of port installations and for the continuous dredging required for mega ships. Moreover, the vertical integration of alliances and container terminals purportedly can be seen as a factor reducing competition and the choices of shippers. Mega ships enjoy preferential treatment in container terminals belonging to their carriers. The consultation procedure regarding the consortia BER inevitably brings to the fore discussion about the legal implications of maritime alliances and mega ships used by them. Nowadays, in order to provide economies of scale, the larger mega ships in container shipping can carry over 20000TEUs[8]. However, this process may be ruinous in some cases. Lessons should be drawn from the Hanjin Shipping insolvency[9].

Is the EU regulatory framework properly responding to deal with these developments? The answer is "no". This is to the detriment of all concerned: Alliances, ships outside alliances, shippers, ports. There is scope for EU guidance to global alliances in order to do their self- assessment. Otherwise they run a risk of huge fines. It is in the interest of all market players to have clear guidance from DG COMP and legal certainty. Alliances advance the argument that they should get clearance because they are environmentally friendly and energy efficient. This may be one consideration to look at under article 101 para 3 TFEU alongside the commercial, antitrust considerations.

One also has to distinguish between small and medium carriers and big carriers which are parties to alliances. The BER is still needed for consortia because consortia are the legal vehicles to accommodate small liner carriers. The real problem arises for the very large carriers who are members of alliances. How are alliances going to fit in the legal vehicle of a consortium regarding their market shares? How are they going to fit in this Procrustean bed?

International repercussions from the lifting of BER

Liner shipping is a global activity. It requires more cooperation between competition authorities involved worldwide. If the BER is lifted, this will have a spillover effect in other jurisdictions all over the world that provide BER (e.g. Singapore, Hong Kong, New Zealand, Australia). However, the European Commission's tendency is to lift BERs in all sectors. The consortia BER Regulation is one of the few still existing. Under the present rules, a consortium is exempted if it has a market share below 30% of the relevant trade. Nowadays, three alliances control 90% of the market[10].

The same agreement existing in Europe-Asia routes cannot be judged illegal in the EU and legal in Asia. In global trades, one cannot have the luxury of treating a worldwide phenomenon like the global alliances only with "European glasses" because they run a huge risk. In view of the fact that alliances have mixed participation of EU carriers and carriers from other countries, one must not overlook the worldwide repercussions of lifting the EU BER. For the sake of legal certainty there is need of a regulatory intervention because, following the abolition of liner conferences and of Regulation 4056/1986 in 2008, liner trades are governed only by the consortia Regulation. There is scope for guidance to alliances by the EU and for more cooperation between competition authorities of the EU/US/China and other countries. Most characteristically, the ASA states: "Many Asian economies/countries have legal regimes that treat liner shipping consortia in the same competitive manner as the EU. It is in the interest of international trade that policies and laws are aligned globally at both ends of the trade route which will provide clear guidance for international shipping"[11]. The European Competition Network and the International Competition Network should be mobilized in this respect.

Geopolitical considerations

The issue at stake also has political ramifications. Under a geopolitical perspective, according to a view propounded by Germany and France referring to the future EU industrial policy: "Let European companies merge their way into the top leagues", i.e., Europe needs an increasing number of "European champions" able to compete globally. This thinking translated into competition law terms means "EU competition guidelines should be modernised so that European titans can emerge"[12]. On the other side, there are purist fans of competition rules which forbid "national champions" and aim to give consumers a fair share. The competition law skeptics insist that these competition rules are hindering the emergence of European champions capable of taking on rivals from China and America. Regarding consortia, however, one has to bear in mind that alliances consist of EU and non-EU participants. Therefore, it is unknown to what extent this tendency of the general competition policy will have any bearing on the review of the consortia Regulation.

In view of the above, if one had to guess at this stage rebus sic stantibus, it could be the case that another five-year extension of the Regulation would be granted but subject to stricter conditions for consortia.

The EMLO Annual Conference 2018

The 24th Annual Conference of the European Maritime Law Organisation (EMLO) was held in London (26/10/18) under the presidency of Lord Phillips, former first President of the Supreme Court of England and Wales. EMLO is a nonprofit making organisation established to provide a neutral and independent forum for maritime affairs including shipowners, shippers, and the European Commission.

The Conference dealt, inter alia, with the issue of maritime consortia. The keynote speaker, Mr. H. Morch, Director of Transport in DG COMP highlighted the impressive consolidation in liner shipping since 2015 by the global carriers. Three alliances of container ships control 90% of the market. There is evidence of tough competition and rates have gone down by 50%. Therefore, there are efficiency gains in that respect. DG COMP had to examine the effectiveness of consortia. The following questions are currently examined:

- Do consortia benefit consumers?
- Do they cut costs? Is it relevant to have a block exemption Regulation of consortia with the parallel existence of three big alliances?
- Is it coherent with the general competition law?
- What is the added value of the Regulation?
- Should it be prolonged, modified or abrogated?
- Should it be replaced by a Guidance instead of a block exemption Regulation?
- Liner shipping is capital intensive, there are economies of scale and economies of scope by the consortia. However, do these benefits pass on to consumers?
- Is there competition between the alliances and, within one alliance, between its members?
- Has the quality of service improved?
- To what extent should the access of mega-ships used by alliances to ports and state aids be accommodated?

The legitimacy of alliances requires a more thorough examination in order to decide whether to prolong, modify or abrogate the existing Regulation. A panel examined the Commission's review and initial thoughts on the consortia BER. The panelists were divided between pro consortia and against consortia. According to the former, lines have to self-assess their agreement under article 101 TFEU. The BER creates a regulatory level playing field with the EU's major trading blocs internationally. If the Commission removes the BER, there is no equivalent guidance for consortia. There is an added value to the Regulation because it legally influences other non-EU jurisdictions. A lifting of the BER will increase the compliance cost. According to the view expressed by Mr. J. Hookman, director of the Global Shippers Forum, "Shippers around the world tolerated the BER as a transitional measure, not as a new norm. There are downsides to the shipping activity of consortia and environmental costs. Shippers are against the renewal of the Regulation unless evidence of the need to renew is demonstrated". In view of the polarisation of views pro and against consortia, one wonders what path the Commission is going to take.

Conclusions

DG COMP is at a legal crossroads having to choose between conflicting considerations:

- There is a general tendency in DG COMP to abolish BERs in all sectors.
- In parallel, the EU favours mergers in order to be globally competitive with big market players.
- Shipowners favour the extension of the current regime.
- Shippers oppose the extension of the BER, unless "persuaded" about its necessity, i.e., subject to stricter rules.

The Regulation has survived for 25 years. A tough horse-trading regarding its future lies ahead in 2019. From a regulatory perspective what all parties need is a clear, stable regime that allows carriers and shippers to plan and to innovate [13]. What global trade does not need is a shifting regulatory landscape at the same time that the liner industry is adjusting to a new economic reality. DG COMP has to do a balancing act of all the above considerations in order to arrive at a meaningful solution on consortia. Will it be make or break?

Footnotes

[1] Commission Regulation no 697/2014 of 24/6/2014, amending Regulation 906/2009 as regards the period of application, OJ L 184/3, 25/6/2014).

[2] Opinion of European Economic and Social Committee 30/1/1991, CES A138/91, rapporteur Anna Bredima referring to Regulation 479/92 OJ L 55, 29/2/1992, p.3

[3] Press release ECSA, WSC, ICS, ASA 20/12/18.

[4] Press release "Shippers demand end to European consortia block exemption", 24/12/18

[5] GSF position paper, "The implications of mega-ships and alliances for competition and total supply chain efficiency: An economic perspective", 14/11/2016).

[6] ITF report on container alliances (November 2018)

[7] The impact of mega ships: Report http/www.internationaltransportforum.org/Pub/ pdf/15CSPA Mega-ships.pdf Olaf Merk).

[8] On the problem of ever-larger ships to achieve economies of scale and improved efficiency at sea: UNCTAD Questionnaire for the 17th Session of the Intergovernmental Group of Experts on Competition Law and Policy.

[9] The South Korean Hanjin Shipping before its downfall and financial demise in 2017 was one of the top ten container carriers worldwide.

[10] The current (2018) alliances and their participant companies are as follows:

- 2M alliance (Maersk, MSC)

-THE alliance (Hapag- Lloyd, K Line, MOL, NYK, Yang Ming)

- OCEAN alliance (China OSCO, Evergreen, CMA-CGM, OOCL)

[11] ECSA, WSC, ICS, ASA, press release 20/12/18.

[12] Economist, December 22, 2018.

[13] Press release WSF/ECSA/ICS/ASA and GSF.

*Disclaimer: The views expressed in this article are the personal views of the writer.

The Tototheo Maritime DCR designed & developed to facilitate the transition of the shipping industry into the digital era

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Tototheo Maritime has a long history when it comes to maritime technologies. With over 30 years of experience, we have evolved alongside the technological advances made and applied within the shipping industry. What really sets us apart is our core maritime background. We are a maritime company whose products and services answer the question “what does the maritime industry need to stay relevant and competitive?”.

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Meeting the demands of today and preparing for tomorrow

In order to effectively utilise resources such as connectivity, data and knowledge, organisations need to think in terms of future goals and aspirations. What is it that they want to achieve? When this question is asked, we are often called to support our partners and customers in answering it. Once the end goal is clearly defined, we start to think about what needs to be measured and how this can be done. With vessels being more connected than ever, with their environment being the office, the ports and other stakeholders, the answers are not always straightforward as the number of parameters to consider is vast.

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ECLIPSE

Maritime policy: The Norwegian Paradigm

WHAT DOES THE FUTURE HOLD FOR THE NORWEGIAN MARITIME INDUSTRY?

- **Why are the oceans so important for Norway?**
- **How will the Norwegian maritime cluster remain competitive in the years to come?**
- **How has the oil crisis affected the Norwegian economy and what are the plans for the future?**
- **What is next for Norwegian maritime technology?**

In view of the Joint Maritime Conference organized by the Royal Norwegian Embassy in Athens, *Naftika Chronika*, and Isalos.net, which will take place on 26 and 27 March 2019 at the Aikaterini Laskaridis Foundation, the editorial team of *Naftika Chronika* has asked distinguished members of the Norwegian government, Norway's Ambassador to Greece, as well as representatives of successful and forward-looking Norwegian companies, to talk about their aspirations and concerns regarding the future of the shipping industry.

Edited by
Charis Pappas

The oceans hold the key to the future

Why Norway is playing a leading international role in ocean affairs

Greece and Norway are both maritime nations. We share a commitment to advancing the global ocean agenda. We are both keenly aware of the abundant resources we can harvest from the sea, and of the need to strike the right balance between sustainable use of resources and protection of the marine environment. A quick glance at the map will tell you why the oceans are so important for our two countries.

By the Honorable **Ine Eriksen Søreide**,
Minister of Foreign Affairs of Norway

The sea has always given us food, transport routes and strategic space. As seafaring nations, it has also been our gateway to the rest of the world. Due to their shipping industries, our countries have built up close maritime ties. Our relationship is one of both healthy rivalry and mutual respect. Maritime expertise is a key asset for both Norway and Greece. This is particularly true when it is applied in transformative ways to promote economic growth and safeguard the marine environment.

The oceans cover two-thirds of our planet, produce half of the oxygen we breathe, and absorb around one-third of our CO_2 emissions. More than 90 percent of the world's trade is carried by sea. Every day, billions of terabytes of data are transported through intercontinental subsea cables. Currently, around 5 percent of the food consumed globally comes from the oceans. However, there is still huge untapped potential in the oceans.

It is my ambition that Greece and Norway should cooperate more closely on ocean matters, both internationally and bilaterally. Our countries complement each other in various ways, and given today's competitive environment, closer cooperation makes perfect sense. Greece is not only a major shipping nation, but it also has a growing aquaculture industry and is now developing its offshore oil and gas sector. Norway has valuable expertise and experience to share in this area. For both our countries, our expertise, combined with our proven ability to constantly evolve and innovate, is what gives us our competitive edge.

In order to meet the challenges of the future, we need to continue to combine our

Our ability to drive sustainable growth and innovation in ocean-based industries will be crucial for our future prosperity.

expertise with innovation. Our expertise can be a force for change and transformation. We need to create synergies between industries like shipping, aquaculture, and offshore energy.

When Norway first struck oil in the North Sea in 1969, we knew very little about the petroleum sector. We could, however, draw on our experience from managing fisheries and running one of the world's largest merchant fleets. Prudent resource management, transparent government, political stability and a willingness to take business risks enabled us to quickly exploit the resources in an efficient way. Now our experience and expertise from the offshore oil and gas sector are being used to transform our aquaculture industry. Promoting climate-friendly shipping is another important priority for the Norwegian government. Today, mainly drawing on expertise gained from our oil and gas activities in the North Sea, Norwegian shipyards are building gas-driven and electric ferries and sightseeing vessels. The Government is launching an ambitious strategy for green shipping this year. Through funding for research and other incentives, we are encouraging a cross-sectoral approach – and Norway's businesses are following our cue. For example, a Norwegian bank has established a separate ocean division for the aquaculture, shipping, and maritime industries, tailored to investors who are taking a cross-sectoral approach. In a move to promote cooperation between Greek and Norwegian companies on innovation and business development for blue growth, Norway and the other donor countries under the EEA and Norway Grants scheme are launching the first business grants this month. Greek companies will be eligible for support, and those that have a partner from Norway or any other donor country will be given priority.

As we all know, the oceans are under threat from the effects of climate change, pollution, plastic waste, loss of biodiversity, and unsustainable use of marine resources. It is therefore vital that we work to combat these threats and ensure healthy and productive oceans. This work is also essential if we are to reach the Sustainable Development Goals (SDGs). The UN Convention on the Law of the Sea provides the international legal framework for all our efforts in this area, and respect for the multilateral system and international rules and conventions is essential. So is close international cooperation.

Our expertise can be a force for change and transformation. We need to create synergies between industries like shipping, aquaculture, and offshore energy.

It is precisely for this reason that Norwegian Prime Minister Solberg has established the High-level Panel for a Sustainable Ocean Economy. The panel is made up of serving world leaders, and aims to trigger, amplify and accelerate action to protect the oceans and increase their productivity. The goal is to help build an ocean economy that will safeguard the oceans while optimising their value for humankind. A key message from the work of the High-level Panel is that we need to improve the management of our sea and coastal areas. We need to take an integrated, science-based approach to ocean management. This will be a key focus of the sixth Our Ocean Conference, which Norway is proud to be hosting in 2019.

In preparation for the future, the Norwegian Government has presented a strategy for ensuring sustainable growth in our ocean industries and a white paper on the place of the oceans in Norway's foreign and development policy. The Government's ocean policy is both national and global in scope – and focuses on both job-creation and problem-solving. It covers a range of areas, from green technology, digital solutions and the use of marine resources to international diplomacy and the fight against illegal fishing and plastic pollution. Norway is playing a leading international role in the area of ocean affairs. If Norway succeeds in its bid for a seat on the UN Security Council for the period 2021-2022, the world's oceans will be part of our agenda.

In short, our ability to drive sustainable growth and innovation in ocean-based industries will be crucial for our future prosperity. Whatever the future brings, Norway is committed to advancing the ocean agenda, together with Greece and other partners.

The oil crisis has made the Norwegian maritime industry more diverse and resilient

The Norwegian government wants to make the sustainable use of the oceans a top global priority

In his interview with *Naftika Chronika*, Norwegian Minister of Trade and Industry Torbjørn Røe Isaksen presents his views on the innovative Norwegian maritime cluster, the potential of Oslo as a maritime capital, the competitiveness of Norwegian mariners and, of course, the maritime technologies of the future.

The Honorable **Torbjørn Røe Isaksen**, Minister of Trade and Industry of Norway talks to Charis Pappas

A sustainable ocean economy is a top priority for the Norwegian State. How would you describe the notion of "ocean strategy" and what is the vision behind Norway's ocean strategy(ies)?

The Norwegian government wants to make the sustainable use of the oceans a top global priority. We believe that the best protection is through responsible use. The key is to ensure a competitive and prosperous industry while at the same time protecting the marine environment. It rests on the assumption that the industry must be part of the effort. It entails new technology, new products, services, and business models.

We have to find solutions to combat climate change, and at the same time ensure healthy food, provide clean energy and transport while ensuring good jobs for our growing population.

The maritime sector is indeed part of the solution to these global challenges. That is why we need cleaner ships, greener shipping infrastructure and greener and smarter operations. The focus on emissions and fuel costs is here to stay. Fortunately, green shipping is good for the environment, and at the same time, good for business.

Can Norway compete with the emerging maritime centers of Asia? What is the competitive advantage of Oslo as a maritime capital?

The strength of the Norwegian maritime cluster is owed to Norway's long and rugged coastline and the rich resources of our vast ocean space. They are the foundation of the strong maritime traditions and skills that are still honed and maintained, as well as the strong urban centers where we have world-class clusters in shipping finance, maritime technology, science and education, and shipping. The Norwegian maritime cluster maintains an impressive breadth and competes across the entire spectrum of maritime and ocean industries.

These strengths combined with the Norwegian government's support of research and development and the maritime and ocean space industries will ensure that Norway is well-situated to compete with the emerging maritime centers of Asia. Though Norway's long maritime traditions are important, our maritime cluster is among the world's most innovative clusters. This is illustrated by its leadership within green shipping, with, for instance, the world's first electric car and passenger ferry having been designed, built and equipped in Norway. In addition, the world's first hydrogen ferries are currently under construction in Norway. We are confident that the Norwegian maritime cluster will remain one of the strongest and most competitive in the world, as it has been for centuries.

Oslo, as a maritime capital, draws on all the different sectors of the Norwegian maritime cluster. In a recent report by Menon Economics and DNV GL, Oslo was named the third most important maritime city in the world, and the world's most important city in terms of maritime technology.

The further digitalization of the shipping sector is one of the groundbreaking initiatives supported by the Norwegian maritime clusters and state funding. Taking into consideration that maritime transport must be safe, green but also economically viable for all stakeholders, do you believe that cutting-edge technology will lead to an escalation of costs for maritime operations and, by extension, an escalation in international trade costs?

The maritime sector is evolving quickly. Shifts in regulations, technology, and markets in both shipbuilding and ship navigation will affect workers and businesses.

Shipping will become even more digital as automation and autonomous technology approach an inflexion point and become central drivers of innovation and technological development. This will also affect the way ships are built and operated.

Like all changes or disruptions, such trends will affect those employed or invested in the maritime industry. The Norwegian government is committed to pursuing a forward-looking policy for our maritime industries and ensuring that workers and businesses can adapt to changing needs to be on the right side of industry development. An essential precondition is providing open markets and a business-friendly environment, which contribute to increased demand and competition, which in turn stimulate technological innovation.

During our recent visit to a Marine Academy in Alesund, we noticed that Norway had initiated new educational methods for future officers. On which areas of education enhancement does your Ministry place particular emphasis?

Higher education institutions have a large degree of autonomy in Norway. Both the

> **We are confident that the Norwegian maritime cluster will remain one of the strongest and most competitive in the world, as it has been for centuries.**

higher education institutions and the industry clusters, including the maritime clusters, have a great responsibility when it comes to aligning education with skills needs. MARKOM2020 is a development project for maritime skills established by the Ministry of Education and Research in 2011. The primary goal is to lift education to a higher and more specialized level by providing world-class education.

Is the number of Norwegian mariners shrinking? How can Norway maintain its maritime workforce and maritime tradition though skilled merchant marine officers?

There have been close to 20,000 registered Norwegian mariners in the last years. The government's most important measure to maintain and develop further a highly skilled maritime workforce is the grant scheme for sailors, which is budgeted to total around 200 million euros in 2019. The Norwegian government is also committed to strengthening both the vocational and academic educational offerings for young Norwegians considering pursuing careers as sailors or officers and to providing opportunities for continuing education for current sailors and officers. The government has already increased the availability of apprenticeships on board Norwegian ships. We believe that digitalization and automation will increase demand for highly-skilled workers – thereby probably increasing the competitiveness of Norwegian sailors. We are working to ensure that the Norwegian maritime workforce is well-positioned to meet these technological changes.

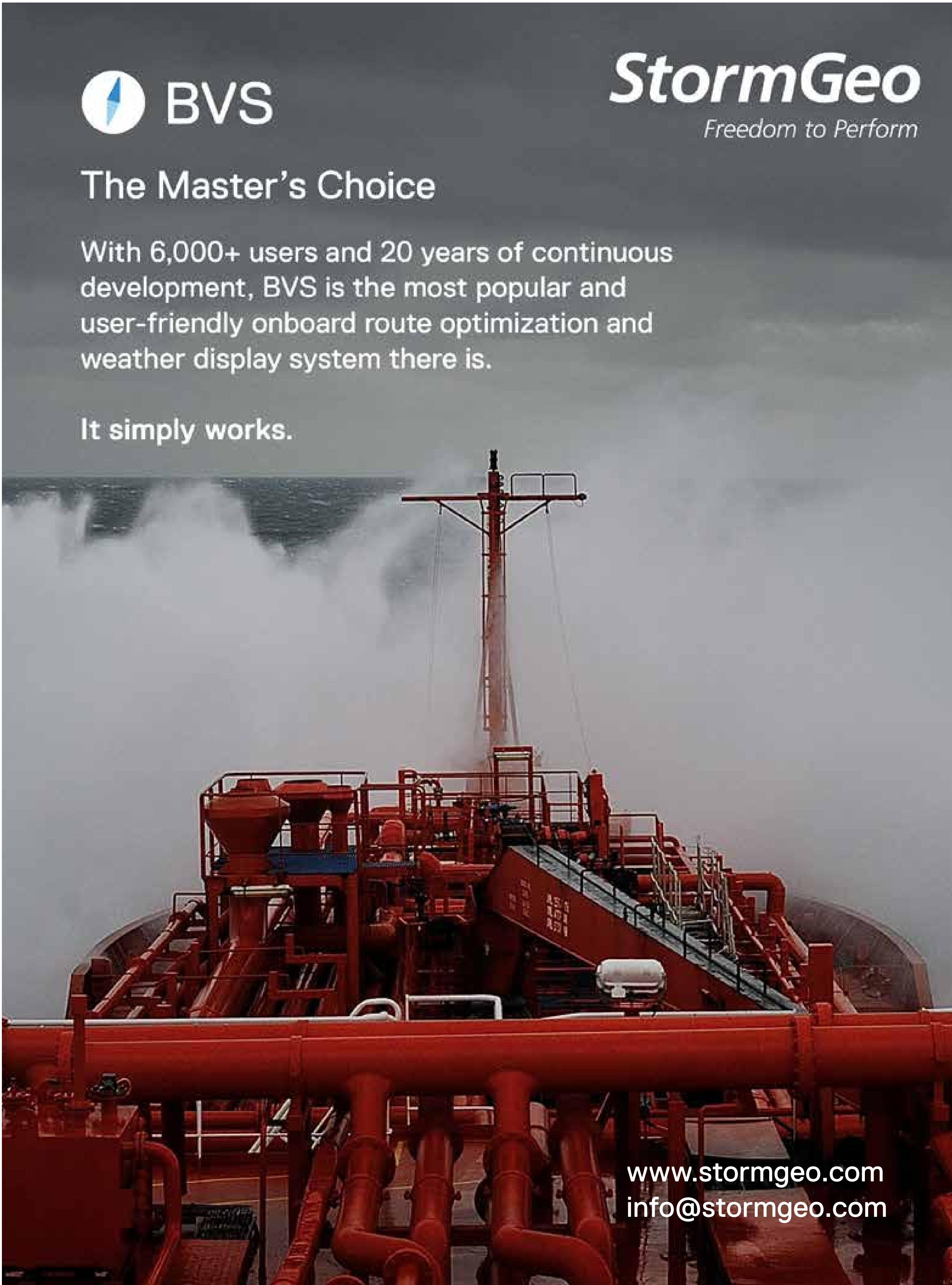
The Norwegian Parliament has recently adopted new regulations regarding zero-emission in the fjords. How will this political decision affect the cruise and coastal shipping industries and the local economies of your country?

Norway is a popular destination for the international cruise industry and the growth in cruise tourism experienced over the past years has been economically beneficial for us. The Norwegian Government is currently in the process of implementing and enforcing stricter environmental regulations concerning ships and ferries sailing in the Norwegian UNESCO world heritage fjords.

The proposed measures will help safeguard the world heritage status and at the same time take account of health and environment in the world heritage fjords. Economically speaking, this might ensure the long-term attractiveness of the world heritage fjords as a cruise and tourism destination and further promote business opportunities for green shipping in Norway.

The crisis in the oil sector has caused concern in all oil producing countries leading them to explore new areas of economic growth. How has this crisis affected the Norwegian economy and what does your Ministry advise the government concerning state-funding? What will be the impact for the Norwegian maritime sector?

There is no denying that falling oil prices presented a challenge for both the Norwegian economy and the Norwegian maritime sector. It should be emphasized, however, that the petroleum sector remains, and will remain for decades to come, important for the Norwegian economy. The Norwegian government is committed to maintaining good framework conditions for the petroleum sector. Although large parts of the Norwegian maritime industry suffered greatly from the decline in oil prices, it has also spurred innovation in the industry and made it more diverse and resilient.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The EEA grants are moving into financing for companies in blue growth

The sea, oceans, rivers, lakes, and islands represent resources for innovation and economic growth

In his interview to *Naftika Chronika*, Norway's Ambassador to Greece H.E. Mr. Jørn Eugene Gjelstad presents his views on the importance of the EEA & Norway Grants in developing a fruitful cooperation between Greek and Norwegian companies to promote Green Industry Innovation, Blue Growth, and ICT.

H.E. Mr. **Jørn Eugene Gjelstad**, Norway's Ambassador to Greece, talks to Panagiotis Kapetanakis

Your Excellency, business development and innovation are emerging as two new priority areas. Why does Norway consider investment in these areas important?

Greece is in a crucial phase of restructuring its economy right now, many companies need to be revitalized and would benefit from increasing their competitive edge. Many young people have left Greece, and it is clear that there are too many talented people and not enough work to match their skills. We are therefore very excited that the new EEA programme will involve grants to private companies in Greece. We believe that we can make a difference with the grants by including small and medium enterprises which can benefit from financing.

What do you believe will be the added value for Greek enterprises participating in the programme?

The competitiveness of a company depends on its capacity to stimulate innovation of products, services, and processes. This programme will have a strong focus on innovation, and Greek companies could use this financing opportunity to bring their business to a higher and greener technological level, to apply more ICT solutions in their production process, or to commercialize already developed new products or services. Innovation can be on a company level, sector level, national level or an international level.
The focus areas in the Business programme are green industry innovation, blue growth, and ICT. SMEs can apply for co-funding of 50 000 to 1,5 million euros, (the total budget is 21,5 million euros).

What do you mean by Blue Growth – and what projects are you looking for here?

Blue Growth supports sustainable growth in the marine and maritime sector in general. The sea, oceans, rivers, lakes, and islands represent resources for innovation and economic growth. Examples of projects could be innovative marine equipment, green shipping technology, the greening of vessels, ship repair, maritime and marine safety and development of small-scale tourism along the coasts. The development of new products from living organisms in the sea is another innovative example.

In what ways can the Business Innovation Greece Programme strengthen bilateral relations between Norway and Greece?

The grants are for Greek registered companies, but companies that have a partner in the donor countries will be given extra points when their applications are assessed. Through partnerships with Greek companies, Norwegian companies can learn more about the Greek market and its business opportunities, exchange knowledge and technology and perhaps find a partner to develop a future manufacturing collaboration, work together in international markets, and possibly establish a joint venture.
We are actively trying to introduce Greek and Norwegian partners to each other. We will hold networking meetings in Oslo and Piraeus, where companies can meet each other. Greek companies can apply for funding, through a simple form on Innovation Norway's website, to travel to Norway to explore potential partnerships. We hope the programme will put interested companies in touch to develop fruitful and long-term partnerships.

The Business Innovation Greece Programme is part of the EEA and Norway Grants 2014-2021. What are its primary focus areas?

The EEA & Norway Grants represent the contribution of Norway, Iceland, and Liechtenstein to reducing economic and social disparities and strengthening bilateral relations with the EU countries in Central and Southern Europe. Through the European Economic Area Agreement (EEA), Iceland, Liechtenstein, and Norway are partners in the internal market of the EU member states. To put it simply – the EEA and Norway Grants are our contribution to European cohesion, on par with EU's social cohesion funds. They are part of the EEA agreement that regulates our relations and close ties with the EU in many areas. We consider this a win-win situation.
Norway has contributed EEA grants to Greece for 25 years, and we have supported many areas – including good governance, social inclusion and poverty reduction, migration and asylum as well as green energy and water management. These are also the key areas of the new programme. And we are enthusiastic about the Business Innovation Greece programme, which is being launched in Greece for the first time.

The competitiveness of a company depends on its capacity to stimulate innovation of products, services, and processes.

The shipping industry must assume responsibility for creating more sustainable business practices

The Iron Lady of Shipping Finance presents her views on the sustainability (and environmental responsibility) of the maritime sector

Mrs. Kristin Holth and the editorial team of *Naftika Chronika* discuss the corporate and environmental responsibility of the shipping industry, the new high standards of access to shipping finance and the sustainable use of ocean resources that will lead the way forward.

Kristin Holth, Executive Vice President Global Head of Ocean Industries, DNB ASA talks to Charis Pappas

It is our moral and professional duty to act in a responsible manner when it comes to the environment and CSR.

Through its policies, DNB has envisaged a shipping industry that is not only sustainable but also socially responsible. Do the environmental policy and the CSR strategy of a shipping company affect your bank's decision to collaborate with that company?

Absolutely. The shipping industry must assume responsibility for creating more sustainable business practices for the benefit of the climate and the health of the oceans that we all depend on for the future. It is our moral and professional duty to act in a responsible manner when it comes to the environment and CSR; it should be our "license to operate." A shipping company's environmental policy and CSR strategy will increasingly affect its ability to access public and private capital as investors and lenders are raising the bar and new standards are being set.

Corporate and environmental responsibility is an integral part of our business and culture at DNB. Knowing Your Customer ("KYC") extends to CSR issues and is a major part of compliance and client selection. Our client on-boarding process and ongoing client due diligence are thorough when it comes to the assessment of risks relating to environmental, social, and governance issues. We will not on-board new clients when we are not comfortable with their internal processes and board procedures on these issues. These same con-

trols are also an integral part of our ongoing credit process on existing clients.
Banks are increasingly reflecting these requirements into their loan agreements. There are a number of forums where banks and industry players are discussing and trying to address these issues (UN Global Compact Ocean Action Platform, Global Maritime Forum). Loan agreements now increasingly include clauses on responsible ship recycling standards.

A sustainable ocean economy is a top priority for Norwegian companies. How would you describe the notion of "ocean strategy" and how did it lead to the creation of the DNB Ocean Department?

The world's ocean industries represent significant business opportunities with world population expected to double towards 2050. We will have an increasing need for energy, food, and transportation across the globe. Significant synergies and industry convergence are expected, and there is strong political will in Norway to take a leading global position. Norway already has a leading position within the ocean industries, high digital competence and a tradition for using the ocean resources in a sustainable way.
Ocean Industries was established as a separate division of DNB's Large Corporates & International section on September 1, 2017. The background for the new division was threefold;

- To capture the industry convergence between the five business segments, (Shipping, Offshore, Oil & Gas, Seafood, Oilfield Services)
- To obtain larger synergies between the various industry segments and
- To optimize the use of capital and obtain an acceptable return on equity in these industries.

Investment in services creates added value for the receiver and offers competitive advantages

Mr. Nikos Markakis presents his views on the need for a sustainable ocean economy, energy efficiency and investment in innovative products and analyzes the "innovation gap" which can be filled by using innovative services complementary to the physical product proposition.

Nikos Markakis, General Manager Jotun Hellas & Cyprus talks to Charis Pappas

Ship energy efficiency and marine fuel management are among the top priorities for shipowners. On the other hand, a sustainable ocean economy seems to be the top priority for the Norwegian State. What is the role of marine coatings in this perspective? Are there any new developments and research projects that focus on those specific areas?

Efficiency and sustainability are the heart and soul of our Marine segment. We have been the pioneers and co-pilots in the development of the ISO 19030 – Hull and propeller performance. A huge investment of time, people and brain power has been made in order to cover fuel efficiency concepts while working towards greener shipping. It is common ground that Norwegians are extremely sensitive in terms of their environmental footprint. It is no accident that the Norwegian parliament has recently adopted new regulations regarding zero-emissions in the fjords.

Our HPS system is therefore closely aligned with ISO 19030 which sets out four key performance indicators – dry-dock performance, in-service performance, maintenance triggers, and maintenance effects. This does not necessarily mean that the most expensive coatings option is the best choice. A touch-up job could be preferable to a full blast in an overall business context.

The relatively small outlay for a performance monitoring system, combined with a premium hull coating system, typically pays back in fuel savings in less than a year. However, this payback period will be reduced substantially as fuel prices rise before and after January 2020 when the sulphur cap enters into force.

Our whole Antifouling portfolio, R&D, and resources are aligned and classified behind the concept of ISO 19030. This creates an easier understanding of the offered products, better classification, and follow-up.

Jotun's Hull Performance Solutions (HPS) is designed to make it easy to maximize hull performance and thereby reduce

> **It is common ground that Norwegians are extremely sensitive in terms of their environmental footprint.**

both fuel cost and greenhouse gas emissions. The solutions combine state-of-the-art antifouling and application technologies with high-quality technical service, reliable measurability and performance guarantees. As a part of our Hull Performance Solutions we employ, at any time, the best coating technologies available in our portfolio. Our current antifouling of choice is SeaQuantum X200. The product range is based on the next generation silyl methacrylate technology and is the culmination of more than 10 years of experience, 15,000 trial formulations and more than 6,000 full applications with the original SeaQuantum technology.

Jotun's HPS analysis service (with a dedicated team of 7 specialists and a massive database of performance data) fully complies and supports ISO 19030. It isolates the impact of a ship's underwater surfaces on its energy efficiency by tracking relative changes in the relationship between the power delivered to the propeller and speed through water over time.

Significant sources of random and systematic error are managed by collecting data with a very high frequency, by using a set of pre-defined data filters and normalization procedures, as well as a quality assurance protocol that includes monitoring of the correlation between different sensors. These services clearly demonstrate the hull and propeller performance over the full docking interval, enable the investment to be monitored throughout its lifetime and trigger corrective actions from the shipowner/management side.

We are also proud of the fact that other marine coating manufacturers have just begun to embrace this context and to slowly but steadily incorporate this rationale into their portfolio. This is a huge step towards a greener planet. We feel that we have started something that contributes to changing our world, and we continue to invest towards this direction through R&D.

Nowadays, a lot of manufacturers are exploring the potential of service business. Why do you believe services rather than products might be the future for the shipping industry?

Given shipping's ambiguity as a conservative but also flexible industry, investment in innovative products and their adoption by relevant stakeholders is quite low compared to other industries. Therefore, there is an "innovation gap" which can be filled by using innovative services complementary to the physical product proposition. Investment in services is not usually associated with high risks, creates added value for the receiver and offers competitive advantages to both parties. Products will continue to be developed, but there is also high demand for integration and complexity reduction along the supply chain. New products integrated with services offer a more holistic approach in addressing these needs.

Performance management, predictable costs, more control, less time spent on what is not their core business and less waste are all genuine advantages for owners and managers. By outsourcing the management of SeaStock to Jotun, for example, they can devote more time and resources to their core business, pay a fixed annual fee and reduce waste and complexity. Owners participating in the SeaStock Management Solution (SSMS) Program for instance report improved vessel condition, longer intervals between planned maintenance routines and increased crew competence. By allowing the "specialist" paint manufacturer to optimize the product portfolio for each vessel, there is less waste, lower paint consumption and reduced need for stocking products onboard, which, again, is more environmentally friendly. Our job as a manufacturer does not end when agents' facilities are supplied with our product. We need to make sure it also gets on to the surface it is supposed to in a correct and efficient manner; consequently, this will increase customer satisfaction with our products.

By assuming a larger role in managing customers' SeaStock and onboard maintenance, Jotun gains more predictable revenue and better control over logistics and demand planning, which reduces the need for expensive delivery of small orders of paint. But perhaps the greatest benefit of SSMS is that it allows Jotun to work more closely with owners to help them achieve their business objectives and form long-term relationships that build loyalty.

This is only one example of how the service business can enhance both stakeholders' performance. Jotun is also working on other areas where products and services or services alone can be offered to the industry, but let us discuss this at another opportunity.

INTERNATIONAL WATERS

NEWS FROM THE SEAS OF THE WORLD

Edited by
Angeliki Koliomichou

MARITIME ENTREPRENEURSHIP

Cosco goes ahead with the construction of 20 mega containerships

Chinese giant Cosco Shipping Holdings recently announced that it had raised $1.1 billion of capital from private placements by nine investors among which are China Eastern Airlines Industry Investment Co, Ningbo Meishan Bonded Port Area Xin Da Ying Xin Investment Partnership, China Structural Reform Fund, and Qingdao Port Financial Holdings.
Cosco plans to use these funds to finance the construction of 20 mega containerships and the expansion of its global port network.
Earlier in January, Cosco Shipping Ports entered an agreement to acquire a 60% stake in the Port of Chancay in Peru.

A new Japanese consortium is in operation

Japanese Mitsui OSK Lines (MOL) and Asahi Tanker Co., Ltd. have signed an agreement to establish a consortium named Asahi MOL Tankers Ltd., which will be headquartered in the Marshall Islands.
Under this agreement, the two companies aim to launch MR tankers of 45,000-55,000-tonne capacity carrying crude oil and petroleum products.
The new Japanese consortium, which was established on 21 January 2019, is expected to manage a fleet of 25 MR tankers to transport crude oil and petroleum products mainly to Asia and Oceania.

Oldendorff Carriers fleet upgraded with five newly built vessels

In line with its strategy for the continued modernization of its fleet, German-owned Oldendorff Carriers announced that it had taken receipt of five newly built eco-ships, four of which were delivered on the same day.
These are the "JAN OLDENDORFF," "JOHN OLDENDORFF," "JULIUS OLDENDORFF," "CHRISTIANE OLDENDORFF" and "KAI OLDENDORFF." The first three are Ultramaxes delivered to their owner by China's Nantong Cosco KHI Ship Engineering (NACKS) yard in Nantong. CHRISTIANE OLDENDORFF is a Handysize vessel delivered by Samjin Shipyard in Weihai, PRC, while KAI OLDENDORFF is a Kamsarmax handed over to Oldendorff by Hantong shipyard in Hantong, PRC.
In an effort to reduce its environmental footprint and modernize its fleet, Oldendorff has sold its older vessels and now the average age of its fleet is 4.78 years.

Steady growth for Saudi Bahri

Saudi state-owned Bahri, the world's largest VLCC fleet owner, reported 24.2% revenue growth for the last quarter of 2018 amounting to $474 million.
Operating profit increased to $102.8 million, a 39.7% increase compared to the fourth quarter of 2017.
The net profit of the Saudi state-owned shipping company for 2018 was estimated at $128.1 million. Bahri CEO Abdullah Aldubaikhi said the company's efforts to expand its maritime services have contributed to its steady upward trajectory and satisfactory financial results.
Bahri's future goal is to expand its fleet further and invest in new technologies.

Hapag-Lloyd votes LNG

German container company Hapag-Lloyd has revealed plans to retrofit its 15,000 TEU boxship 'Sajir' to use LNG as fuel.
According to Hapag-Lloyd, Sajir will be retrofitted with a dual fuel engine which will enable it to consume both LNG and low sulphur fuels in order to reduce its sulphur emissions in compliance with the forthcoming 2020 Sulphur Cap.
Richard von Berlepsch, Hapag-Lloyd's Managing Director Fleet Management, pointed out that the conversion of Sajir into an LNG-consuming ship is the first retrofit to be carried out on a containership of such large capacity, and added that Hapag-Lloyd hopes to pave the way for large-capacity ships to be retrofitted to consume this alternative fuel. The Sajir containership is one of the 17 Hapag-Lloyd ships that will be converted to use LNG to help reduce ocean-going shipping's environmental footprint.


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GEOPOLITICS

US-China talks "capitalized" in the dry cargo market

The US Department of Agriculture reported that in the first four weeks of 2019 754,609 tonnes of soya beans were ready to be shipped to China, up from only 25,347 tonnes in December.

This development is the result of the decision by the US and China last December to delay the planned tariff hikes on both sides and to sit at the negotiating table in order to de-escalate their fierce opposition.

As Peter Sand, Chief Shipping Analyst at BIMCO says, political promises are beginning to materialise, which is good news for a trade that has faced huge uncertainty since the beginning of the trade war.

It should be noted that by exploiting the trade dispute between the US and China, Brazil managed to increase its exports to the Asian giant by 28.4% and become China's top soybean supplier in 2018.

Russia set to enter new free-trade agreements

Russia plans to sign short-term free trade agreements with five countries, according to a report by Russian Tass.

A spokesman for the Russian Ministry of Industry and Trade said the Russia-led Eurasian Economic Union (EEU) intends to enter into free trade agreements with Israel, Singapore, India, Egypt, and Iran in the near future. He pointed out that given that World Trade Organization member states currently use over 7,500 non-tariff measures such as quotas, licenses, restrictions, and embargos in respect of industrial goods, it would be productive for the EEU to enter into free trade agreements with these five countries as a continuation of the similar agreements already concluded with Vietnam, Serbia, the EEU states and the Commonwealth of Independent States (ICS).

These agreements are expected to strengthen Russia's export activities by consolidating the country's position in the global trading arena which is currently facing challenges.

How the crisis in Venezuela will favor larger tankers

According to Drewry, recent US sanctions against Venezuela are likely to affect crude tanker trade while the expected shift in the trade pattern will favor the revenue of VLCCs as opposed to Aframaxes, which will be affected negatively.

The US has recently imposed sanctions on Venezuela's state-owned energy company PDVSA, in an attempt to reduce the Latin American country's oil revenues from oil exports, and exert political pressure on President Maduro. Drewry estimates that this move will irreparably damage Venezuelan crude exports even if Venezuela finds other buyers, given that the US is the largest importer of Venezuelan crude.

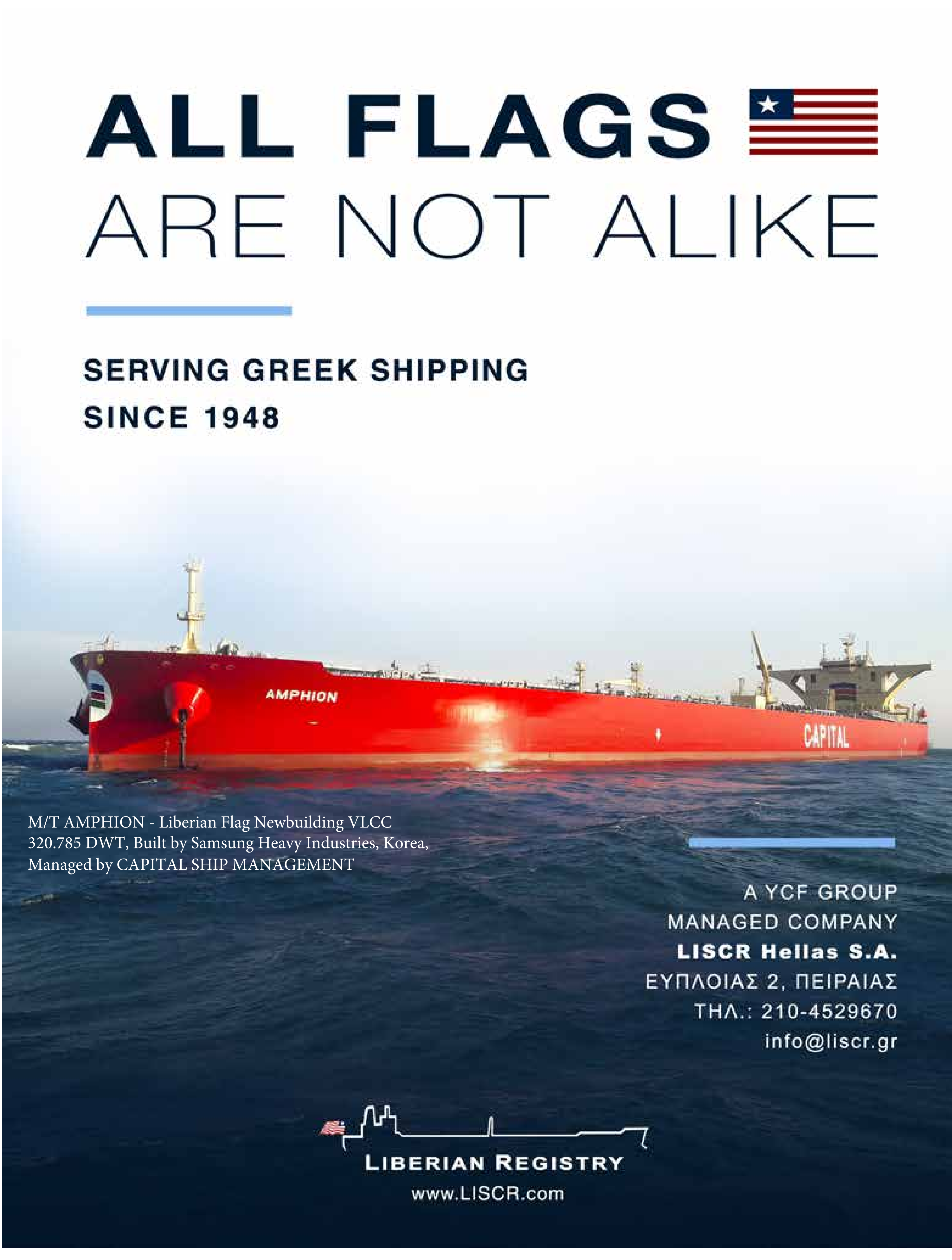
As a result, the US Gulf Coast refineries will shift to imports of crude from the Middle East, due to the limited production in Mexico and logistics problem in Canada. According to Drewry, the result will be that short-haul imports from nearby Venezuela will be replaced by long-haul imports from the Middle East, leading to increased demand per tonne mile and by extension increased freight rates for larger tankers.

Riyadh's mega-investments in the mining industry

Saudi Arabia is looking to boost its mining industry by investing $3.8 billion in research and development, according to senior Saudi officials.

The primary aim of the Saudi Kingdom is to diversify its economy through a broader industrial strategy that will include attracting private investment worth $426 billion to the mining industry.

Deputy Minister of Energy, Industry and Mineral Resources Khalid Al-Mudaifer stated that Saudi Arabia's mining industry has been beset by bureaucracy and a lack of transparency in recent years. Therefore, these funds will be used to make it easier to do business and improve data quality in order to reduce the risks associated with investing in new mining opportunities.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BLUE ECONOMY

Intense reactions to the forthcoming merger of the HHI-DSME yards

South Korean media report that the labor unions of Hyundai Heavy Industries and Daewoo Shipbuilding & Marine Engineering are planning to stage a strike to prevent the merger between the two companies.
The possible merger of the two shipyards has raised concerns over potential job losses, and the HHI union is demanding specific safeguards for the full-time employment of yard workers.

ICS: Reducing shipping's environmental footprint a priority

ICS made the reduction of sulphur and greenhouse gas (GHG) emissions a priority at its latest meeting in London.
Addressing senior representatives of shipowners' associations, ICS Chairman Esben Poulsson stressed the role of fuel suppliers in ensuring the availability of desulphurised fuels and added that shipowners should prepare their ships as early as possible in view of the 2020 deadline. Referring to GHG emissions, the ICS chairman said that the IMO needs to make significant progress on short-term measures to reduce these emissions in order to achieve the additional reductions by 2023. The ICS Board concluded that the shipping industry will not be able to achieve the 2050 GHG reduction target using fossil fuels without a massive investment in the research and development of new technologies easily adaptable to shipping.

What is happening in the Croatian shipbuilding industry?

Brodosplit, the largest shipyard in Croatia, which is based in Split, announced its strategic partnership with Uljanik shipyard after a long period of hardships for the latter.
Uljanik shipyard has been facing liquidity problems for some time due to its reduced order volume. The economic hardships of the shipyard led unpaid workers to stage strikes twice last year over unpaid wages.
Brodosplit has undertaken the obligation to implement a restructuring program that will allow Uljanik shipyards to recover financially and to contribute to boosting the shipbuilding industry in Croatia.

Expansion plans for improving containership throughput on the U.S. East Coast

Georgia Ports Authority (GPA) has announced its plan to expand the Garden City terminal in the Port of Savannah to accommodate 37 cranes and handle six 14,000 TEU containerships simultaneously by 2024.
This expansion project is part of the "Big Berth / Big Ship" program of the Georgia Ports Authority, which has said that no other container terminal in North America can expand berth capacity at such a rate.
A spokesman for GPA said Savannah Port had achieved record container traffic last January reaching 433,975 TEUs, a 28% increase over the previous year.
When the expansion of the Garden City terminal is completed, the Port of Savannah will be better able to accommodate larger capacity vessels calling on the East Coast of the US.
It is estimated that in 2017, 8.5% of the total US container volume was transported through the Port of Savannah.

PASSENGER SHIPPING

Expedition cruises become a pole of attraction for investors

Norwegian Hurtigruten, the world's largest cruise ship management company, plans to further consolidate its position in this demanding market.

Foreign news media report that the company's strategic plan includes converting ships currently serving coastal shipping needs to expedition cruise ships on the Norwegian coasts and the Arctic.

In addition to the existing ships, however, the company has also placed orders for three hybrid expedition cruise ships able to accommodate 530 guests each, which are due for delivery in 2021.

Hurtigruten's goal is to increase its expedition cruise ships to 10 by 2021 and to implement an extensive conversion program, with a budget of almost €750 million, aimed at retrofitting its fleet to use batteries, LNG and liquefied biogas (LBG).

A new ultra-modern cruise ship for Viking

On February 7 2019 Italian shipbuilder Fincantieri delivered the cruise ship 'Viking Jupiter' to Viking Cruises from its Ancona shipyard.

Viking Jupiter is the sixth ship built by Fincantieri for Viking, and like its sister ships (Viking Sea, Viking Sky, Viking Orion), belongs to the small cruise ship category as it has a gross tonnage of 47,800 tonnes, 465 cabins, and can accommodate 930 passengers.

According to the Fincantieri press release, all Viking cruisers are equipped with the most modern safety systems and feature the most advanced technologies to provide environmentally friendly systems that help reduce the emission of air pollutants.

The Fjords postpones taking delivery of its new electric catamaran

Norwegian company The Fjords announced that the delivery of the all-electric catamaran "Legacy of the Fjords" has been postponed to May 2020.

The passenger ship is currently under construction at the Brødrene Aa shipyard and was initially scheduled for delivery to The Fjords in July 2019.

The reason for delaying the delivery is that technical issues have arisen regarding the required battery-loading infrastructure within the Oslo harbor.

The Fjords CEO Vidar Hauståker commented that although the delay in the launch of the electric catamaran is disappointing to the company, it is very important to have everything in place for this environmentally friendly ship.

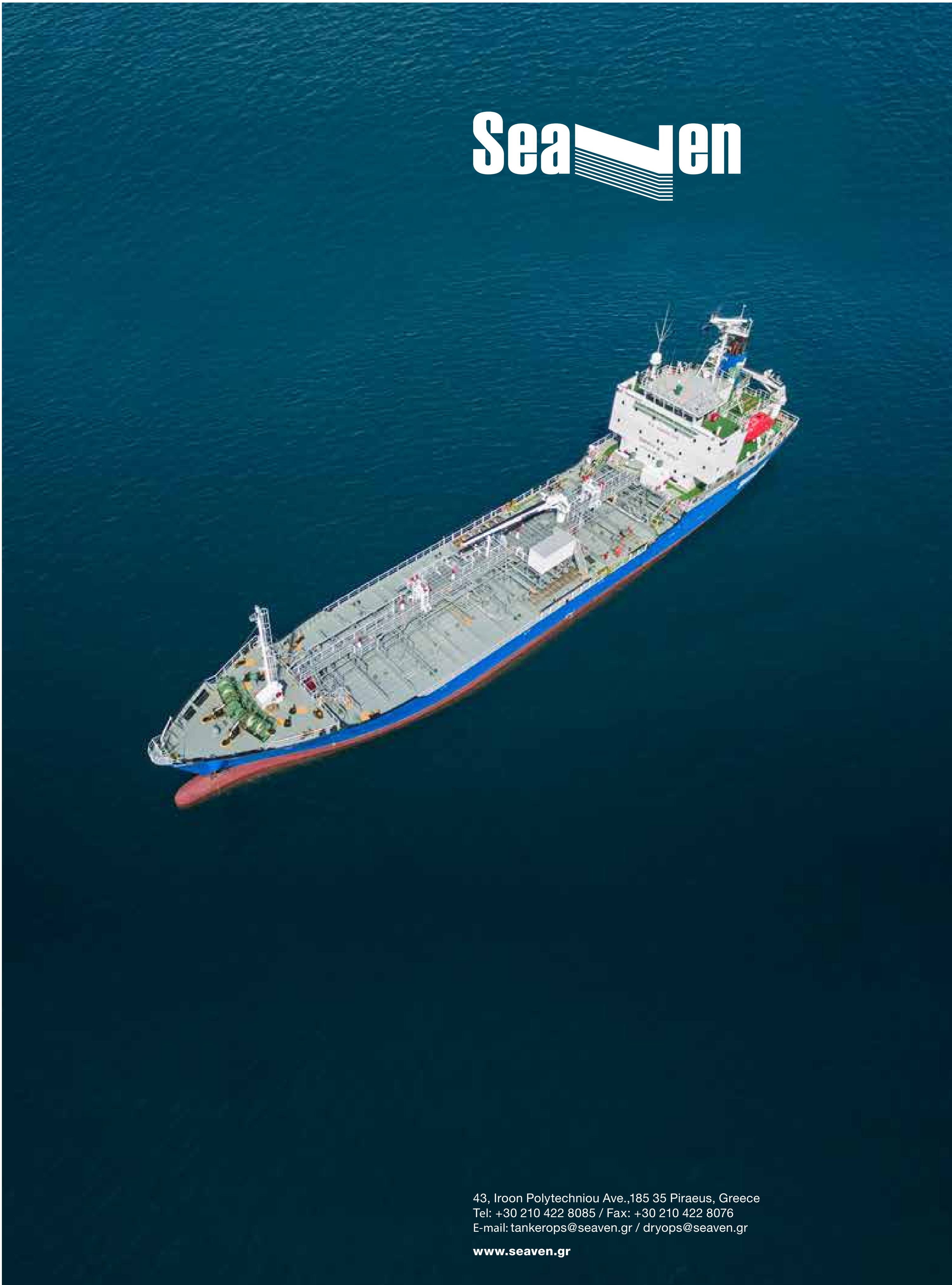
The 42-meter-long catamaran, capable of carrying 400 passengers, is made of composite materials and shares the design of its sister ships Vision of the Fjords and Future of the Fjords, which operate between the villages Flåm and Gudvangen.

Royal Caribbean builds its 27th cruise ship

On 1 February 2019 German Meyer Werft shipyard began the construction of Royal Caribbean's new ship, which will be listed as one of the largest cruise ships in the Quantum Ultra Class.

The 168,600-tonne Odyssey of the Seas, scheduled for delivery in 2020, will be Royal Caribbean's 27th ship.

Royal Caribbean, the second largest cruise company in the world, took delivery of the Odyssey of the Seas' sister ships, namely Quantum of the Seas, Anthem of the Seas, and Ovation of the Seas in autumn 2014, spring 2015 and spring 2016 respectively.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Greece and Japan have strengthened trust and confidence in each other through maritime business

In his interview to *Naftika Chronika*, Japan's Ambassador to Greece H.E. Mr. Yasuhiro Shimizu expresses his optimism that the bilateral relations between Japan and Greece will be further enhanced and his belief that the two countries can collaborate to make a big impact in the global shipping industry.

H.E. Mr. **Yasuhiro Shimizu,**
Japan's Ambassador to Greece, talks to
Giannis Theodoropoulos and Charis Pappas

Your Excellency, you have been the Ambassador of Japan to Greece for about a year and a half. How would you evaluate your presence in Greece during this period?

I assumed my post in Greece in August 2017. Since then, as the Ambassador of Japan to Greece, I have tried to meet as many Greeks as possible, including shipowners, businesspeople, as well as Ministers and Governmental officials. This year we celebrate the 120th anniversary of diplomatic ties between Japan and Greece, while in 2020 Tokyo will host the Olympic and Paralympic Games. Throughout 2019 our Embassy will be organizing a series of cultural events to promote our bilateral relationship. These activities will be open to the Greek public.

2019 marks the 120th anniversary from the signing of the Treaty of Amity, Commerce, and Navigation between Japan and Greece. How would you describe the status of the bilateral relations?

I am very proud of the long history of friendly bilateral relations between Japan and Greece. More than half of the provisions in the Treaty of Amity, Commerce, and Navigation between Japan and Greece referred to maritime commerce, which tells us how much it weighted in the bilateral relations between the two countries in 1899. Since then, both Greece and Japan have been very active in the shipping industry and have nurtured the bond and strengthened the trust and confidence in each other through maritime business. Today, the two countries are the top 2 shipowning nations and share approximately

40% of the world fleet's commercial value. If we are more united, we can make a big impact in this area.

How many Japanese firms are investing and doing business in Greece? In your opinion, Mr. Ambassador, what should the Greek state do to attract more Japanese investments?

More than 15 Japanese companies operate in the Greek shipping market and have representatives in Greece. They are ship machinery or service providers, shipbuilders, etc. Japanese business activity, of course, is not limited to the maritime sector. There are about 40 other Japanese companies active in Greece such as Sony, Canon, Toyota, Nissan, and others.

A further step towards the right direction was that Japan and the EU recently signed the EPA (Economic Partnership Agreement) at the EU-Japan summit in Tokyo, which came into force on 1st February 2019 and has an impact on Greece as well. I hope that under this agreement the bilateral trade between Japan and Europe, and of course Greece, will be enhanced. The tariffs on machinery and spare parts including those on ship machinery and spare parts were immediately eliminated as of 1st February 2019. Another big thing about EPA is that it protects the geographical indication. For example, "feta," the famous Greek cheese is protected under this agreement.

Mr. Ambassador, Greeks have built their ships in Japanese shipyards in the past, and nowadays this is happening more and more. In your opinion, why do Greek shipowners choose to build their ships in Japan and what is Japan doing to attract more Greek newbuilding orders?

Until now, I have met with more than 30 Greek shipowners, the majority of whom have built their ships in Japanese shipyards. I believe this generally suggests that the quality of Japanese ships is very high and their maintenance costs are much lower, and thus, they are economically viable in the long term. I also believe that some of the Greek shipowners appreciate the Japanese shipyards due to the way the Japanese people do business. We are a very dedicated nation, we have an eye for detail, and we respect the trust and the longtime relationship we have with Greek shipowners. Of course, this could also be the competitive advantage of the Japanese shipyards. Cost also remains an important factor, but Japanese companies can provide additional benefits such as longtime and steady relationships.

> **We are a very dedicated nation and we respect the trust and the longtime relationship we have with Greek shipowners.**

Despite Japan being a competitor of China for economic influence in developing Asia, Japan sees China's $1 trillion Belt and Road initiative in a positive light. What are your thoughts on that?

Japan believes in fair and open trade as well as the rule of law as of course do all OECD members. Our investments are always in accordance with these rules and regulations, and we believe that all countries should comply with international rules and practices. I think that is the basis of a free and fair market. As long as China respects the rules and regulations that are common internationally, I believe we could cooperate in a way that brings economic development in Asia and in other areas.

Japan has recently initiated a WTO dispute complaint against the government of South Korea over the subsidies to its shipbuilding industry. Do you believe that the implementation of protectionist policies may be a threat to Japanese shipyards?

As we discussed earlier, Japan supports free and fair trade as well as the rule of law. The Japanese Government has held consultations with the South Korean Government over the issue of government subsidies to the South Korean shipbuilding industry and has requested that the WTO set up a panel to resolve the dispute between the two countries. The international rules of transparency and fairness are very important, and if they are not implemented, the market could be affected.

Trade wars and protectionism dominated the world economy in 2018. How easy is it to measure the impact of such developments on Japanese shipping and the Japanese economy in general?

In 2018 the Japanese economy performed relatively well, even though some analysts claim that in the latter half of the year, the trade disputes affected the Japanese economy. In general, I believe that these kinds of practices have a limited impact on our economy. However, if the conflict between the US and China continues, it can prove negative for the world economy. I hope that it will be solved soon.

Mr. Ambassador, do you believe that there is room for further improvement in our bilateral relations?

Greece and Japan maintain a very good relationship, while Japan recognizes Greece as the birthplace of democracy and European civilization. However, since the economic crisis started in Greece in late 2009 and until 2015, the Japanese media had extensively covered the news focusing on the economic crisis thus partially diminishing the image of Greece among the Japanese people. I hope that the image/branding of Greece among Japanese people improves soon.

From my side, on the occasion of the 120th anniversary of diplomatic relations between Greece and Japan this year, our Embassy has organized a series of cultural events in Greece to give Greek and Japanese citizens the opportunity to understand each other's culture.

The first event, which is already in progress, is "The Ship for World Youth," a unique and once-in-a-life-time youth exchange program funded by the Government of Japan. Every year, through this program, more than 240 participants from 11 other countries set sail on a journey to various countries around the world during which they will enjoy multi-cultural and multi-national exchange opportunities to cultivate leadership and international awareness. The program will be running for over one month onshore and onboard a cruise ship. In the past, young Greek people were invited every 4 years, and this year, on the occasion of the 120th anniversary, we once again extended an invitation to Greek youths.

A second initiative is the Photo Exhibition of Japanese Buddha Statues at the Byzantine and Christian Museum in Athens. Some of the Buddha Statues in the ancient capital of Nara, Japan, were influenced by the Hellenistic culture and resembled ancient Greek statues. Hellenism was disseminated across the Silk Road and eventually reached Japan as well. This shows that the relations between the two countries date back to an ancient era, so it is very symbolic to commence the 120th anniversary year with this exhibition. The exhibition will be held until 10th February. From 14 to 20 March, the Embassy will be hosting the Japanese Modern Printmaking Exhibition in the Piraeus Municipality Gallery in collaboration with the Greek Printmakers Association. In the 18th Century, Ukiyo-e printmaking became very popular among Japanese citizens, and later on it also influenced Western Art, especially impressionist artists. This time, the event will introduce modern printmaking arts and printmaking workshops as well as a Japanese traditional tea ceremony.

In November 2019, we will host another large event, the Japan Week Festival, in the Megaron Athens Concert Hall. This week-long event will involve about 1,000 Japanese visitors from grass-roots cultural groups who will give various performances and presentations at the Megaron. In this way, 2019 and 2020 will be a very good opportunity to enhance our bilateral relationships by utilizing these events. Even though they are of cultural interest, the context beyond these events is economically significant. So, I sincerely hope that the friendship between our two peoples will be strengthened further in 2019 and 2020.

Greeks are very important customers for ClassNK

Mr. Seiichi Gyobu talks to *Naftika Chronika* about the history and future objectives of ClassNK and the contemporary challenges facing classification societies, and analyzes the importance of the Greek market for ClassNK, which was founded in 1899, the same year the diplomatic relationship between Greece and Japan began.

Seiichi Gyobu, Corporate Officer, Regional Manager of Eastern Mediterranean Sea & North Black Sea, ClassNK, talks to Panagiotis Kapetanakis

> **Greek owners have a strong trust in ships built in Japan and, of course, Japanese shipbuilders, manufacturers, and owners are indeed very honest and do not want to lose that trust.**

ClassNK has been committed to serving the Greek maritime community since 1975 while in 2014 it reaffirmed this commitment by establishing the Greek-registered corporation Nippon Kaiji Kyokai. How would you describe ClassNK's relationship with the Greek shipping community throughout these years?

We opened this office in 1975 in order to expand our presence and business in the Mediterranean and the Black Sea region. Since 2014 we have been doing business as a Greek-registered company under the name "Nippon Kaiji Kyokai (Greece)" with the aim to provide better services mainly to our Greek customers.

In 1975 the total gross tonnage under ClassNK was 50 million GT. In 1997, that expanded to 100 million GT, in 2012 to 200 million GT and last year the total gross tonnage under ClassNK exceeded 250 million GT. We continue to do our best to provide high-quality services and obtain good ships.

In any case, more than 11.2% of our fleet consists of Greek-owned vessels while in terms of gross tonnage, Greek vessels exceed 20% of our fleet. Needless to say, the Greeks are very important customers.

What do you believe are the common values linking our two maritime nations?

Both Greece and Japan are shipping countries. Japan has good shipowners, operators, and shipbuilders and historically it is one of the most renowned shipping countries in the world. Likewise, Greece is also one of the biggest shipping countries in the world, which automatically contributes to its positive relationship with Japan. Greek owners have a strong trust in ships

built in Japan and, of course, Japanese shipbuilders, manufacturers, and owners are indeed very honest and do not want to lose that trust. Our Greek customers, although very tough, trust us and therefore we must respond to their needs as much as possible with our outstanding technical services. And we also want to keep this good relationship in the future.

In addition, 2019 is a very memorable year because we are celebrating not only the 120th anniversary of diplomatic relationships between Greece and Japan but also the birth of ClassNK which was founded in the same year (1899).

In April 2018 you were appointed to serve Nippon Kaiji Kyokai as the Regional Manager of the Eastern Mediterranean Sea & Northern Black Sea. What are your future goals and main focus areas related to the Greek maritime industry?

ClassNK now has 14 corporate officers: 13 in our head office in Japan and 1 in Greece. Our board members have decided to dispatch a corporate officer to Greece in order to build much stronger relationships with the Greek market -a very important market for us- and to provide better services. Therefore, I am the only corporate officer out of the country as the new regional manager in Greece.

What is ClassNK's R & D roadmap for the future?

Our two main goals are marine pollution prevention and ship safety. To achieve these goals, we are trying our best to develop our technology and improve the quality of our surveyors and auditors. To ensure that our research activities cater more directly to the actual needs arising from the maritime industry we developed our R&D programme, which is published on our website. Our R&D is based on these four main themes: support rules development, improve survey activities, protect the marine environment, and provide our customers with the most advanced technology.

Maritime classification societies were born out of a need to ensure the continued safety and security of the maritime domain. Do you believe, however, that in this increasingly complex, fast-changing and challenging market and demanding maritime regulatory landscape, the traditional role of the classification societies needs to be re-evaluated and revised?

ClassNK focuses primarily on the maritime field because we believe that we should remain involved in issues that improve our services and support our clients. We must provide good services to our customers. Therefore, we need to research, develop and implement the latest technologies to improve these services and make them more flexible, but our main role will not change for the time being. To achieve our goal, we ceaselessly educate and train our staff to provide exceptional services and solutions to our customers at all times.

Our R&D is based on: support rule development, improve survey activities, protect the marine environment, and provide our customers with the most advanced technology.

Quantitative analysis of the world merchant fleet Green House Gas emissions profile

Climate change and combating greenhouse gas emissions (GHG) are becoming the most critical challenges of the modern world. The future repercussions of not acting effectively on this front can be disastrous, and any impact on the global economy is likely to be detrimental irrespective of the prevailing scenario.

By **Dimitrios V. Lyridis**, Assoc. Professor, Laboratory for Maritime Transport, School of Naval Architecture and Marine Engineering, National Technical University of Athens (GR) and **Panayiotis Mitrou**, Ph.D. candidate, School of Naval Architecture, Ocean and Marine Engineering University of Strathclyde, Glasgow (UK)

Even though one could argue that Global Shipping causes only a 2.1% minimal contribution to that effect, the International Maritime Organization (IMO) has already developed and agreed on a strategy to reduce GHGs from vessels serving the global trades, namely Resolution 304 (72) of the 72nd meeting of its MEPC Committee, along three key directions: strengthening the ship energy efficiency design index (EEDI) based on percentage reduction and on ship type; reducing GHG emissions per transportation work by at least 40% by 2030 and by 70% by 2050; and, finally, reducing the total annual GHG emissions by at least 50% by 2050 as compared to 2008 in absolute values.

Undeniably, the set targets are very ambitious when considering the expected average growth rate of the world maritime trade. This means that international shipping will soon have to face challenges and decisions that could fundamentally change its form as we know it, potentially destabilising the most efficient and environmentally friendly global trade link. Such a development should be avoided, and this means that research and analysis of the measures that can achieve these objectives should be intensified to ensure the sustainability of the shipping industry.

Recognizing the fundamental importance of documenting the decisions and measures under consideration, the Laboratory for Maritime Transport of the School of Naval Architecture and Marine Engineering of the National Technical University of Athens conducted a study that attempts to reveal some interesting facts resulting from the analysis of the carbon footprint of the world merchant fleet.

The study included all ships over 10,000 tons DWT worldwide but was focused on four main types of vessels, i.e. Bulk Carriers, Tankers, Containerships, and LPG Carriers, which represent 86.7% of the absolute number of vessels for the selected range, and account for 85% of total installed power and 91.3% of global transportation capacity. Using data from international databases, it was possible to identify the GHG emission profile for each ship, based on the power of the main engine and the specific consumption profile in relation to the type, size, and age of the ship. As a result, it was possible to calculate the Greenhouse Gas Emissions Index per project or emissions@work (e@w):

e@w = Greenhouse Gas Emissions / Transportation Work

or

e@w = (Daily Fuel Consumption*IMO Pollutant Emission Factor) / (Transportation Capacity*Speed*24)

International shipping will soon have to face challenges and decisions that could fundamentally change its form as we know it.

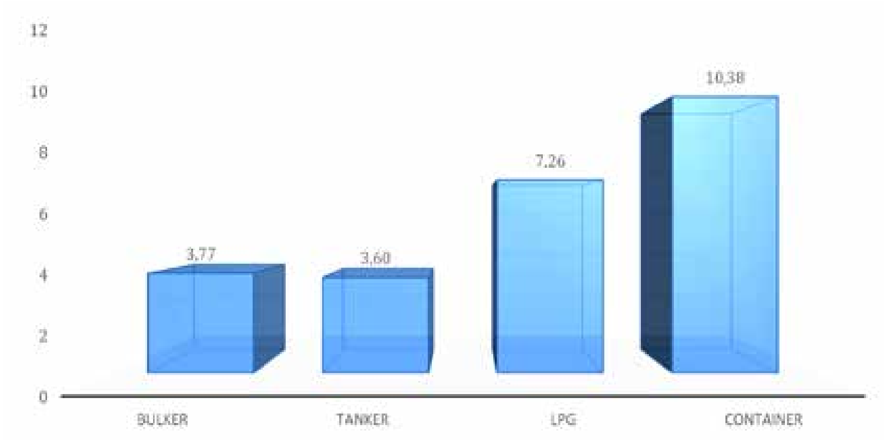

Chart 1. Average e@w index per vessel segment/type

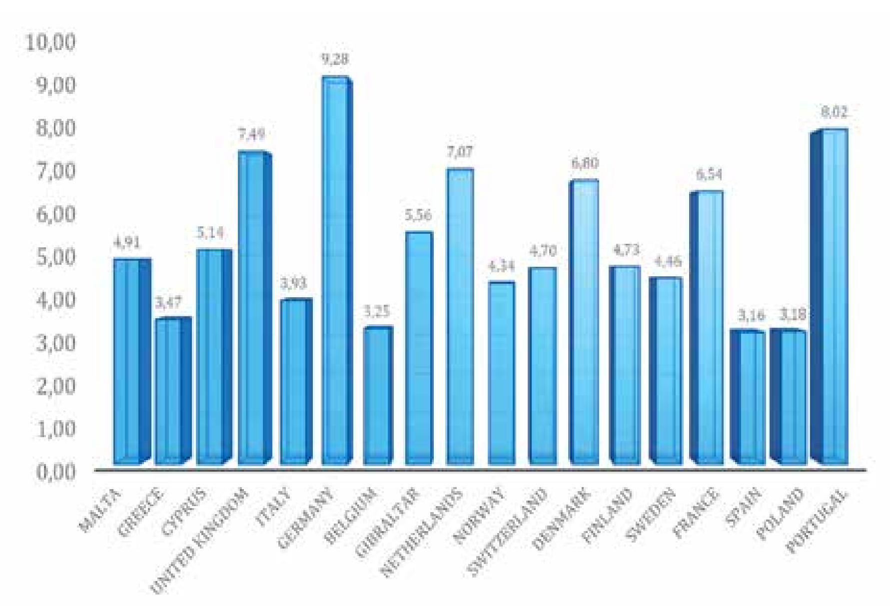

Chart 2. e@w per European flag (all flag registries included)

This index and other important information were analysed with respect to parameters such as the type of ship, the flag, the classification society and the country of origin of the ship operator. The results reveal that:

- Dry bulk carriers and tanker vessels clearly achieve a design efficiency almost three times higher than container ships; even LPG carriers are 50% more efficient.
- This fact is also reflected through fleet composition in parameters such as flag or country of origin of the ship operator.
- It is easily demonstrated that efficiency varies considerably depending on ship size, type, and speed; in fact, the most efficient ships under consideration are up to six times more so than the least efficient ones.
- The ten major flags control 75% of the global fleet under study. Panama, which has the largest fleet, also claims the largest share of emissions followed closely by Liberia and the Marshall Islands. However, when studying the emissions share over DWT, Greece comes at the top as the most environmentally friendly, signifying the best performance of the fleet under the Hellenic flag with regards to its carbon profile.
- On a ship-manager domicile basis, Norway, Japan, and Greece are the top three domiciles in terms of emissions performance. On the opposite side, Germany and Denmark present the highest e@w values among the eleven domiciles under consideration. The variations observed seem significant in the sense that on a fleet basis the top performers can produce the same transport work at approximately 50% lower GHG emissions in comparison to the worst performers.
- It is remarkable that almost one third (33%) of GHG emissions originate from 2,000 ships, while the 5,000 most energy-intensive ships account for about 53% of the total GHG emissions. These 2,000 ships, as well as the overwhelming majority of the 5,000 ships mentioned above are container carriers. In fact, post-panamax containerships are on an e@w basis less efficient than even the smallest scale tanker and bulker handy sub-segments.

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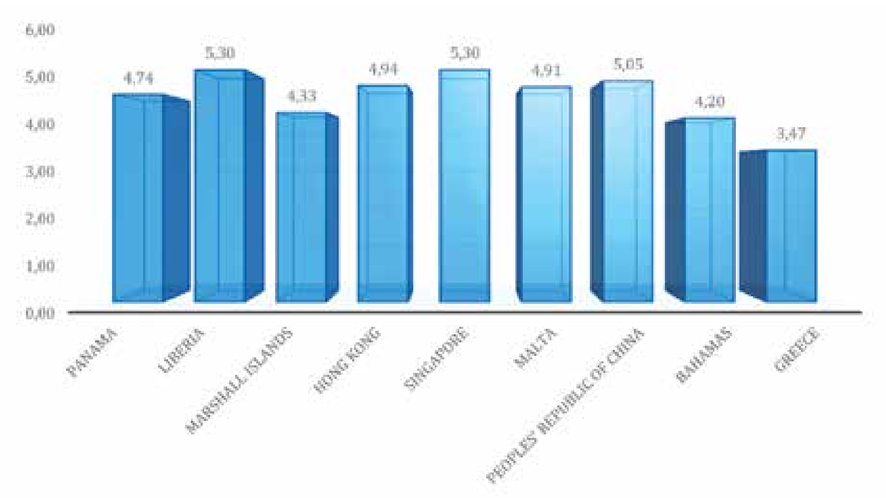


Chart 3. e@w per major flag

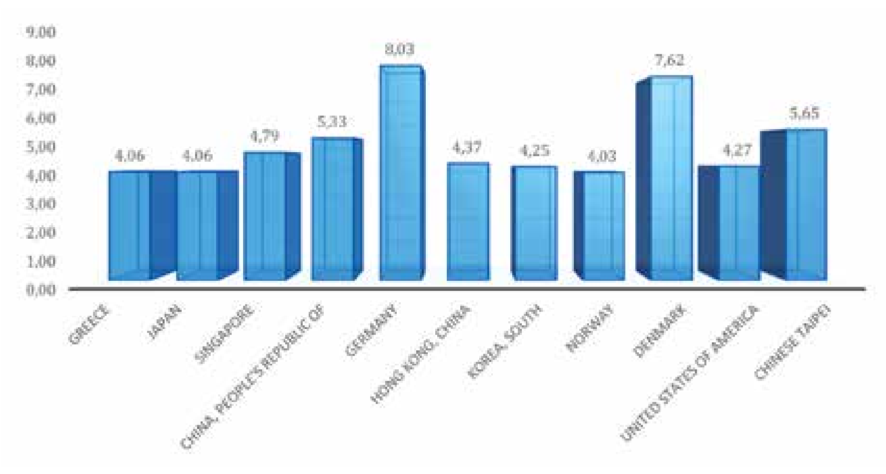


Chart 4. e@w per ship-manager domicile

Upon closer examination, the study reinforces the argument that all vessel types do not present the same room for improvement; in the case of bulk carriers and tankers design efficiency margins seem to be exhausted in comparison with that of containerships.
Moreover, the concentration of a large portion of GHG in a relatively small number of units implies that focusing on such large emitters and their associated ports and trades could significantly improve the results of the decarbonisation effort.
Finally, bearing in mind that the potential for energy efficiency improvement technologies has been significantly exhausted and that alternative fuels with a more favourable carbon profile are not yet available, it becomes clear that operational measures (such as speed control of ships) or optimisation of port activities potentially represent the most appropriate solution given the paramount importance of their imminent character and limited impact on the unobstructed functioning of maritime transport. Of course, other possibilities or focused actions could be considered, such as the creation of a biofuels or other carbon-neutral fuels supply network at key nodes worldwide that could contribute to zero-pollutant emissions at a minimum cost for ship retrofitting.
Such interventions, even though quick fixes lacking depth and sustainability, can still contribute significantly to minimising the disruption to the sector, as in this way the change curve during their implementation may be less steep.
To this end, the question that we will need to answer sooner or later is whether maritime sectors should be treated on their merit when it comes to decarbonisation. This could mean that a more tailored approach would be applied and, eventually, the maritime sectors would need to intensify their efforts depending on their improvement margins and the emissions per transportation work they produce.
The Laboratory for Maritime Transport is continuing the current research, and the next step is to explore the feasibility and appropriateness of such measures and to assess the risks they pose to international merchant shipping.

Disclaimer
Assumptions or remarks made in this analysis do not reflect the position and should not be construed to represent the views of any entity other than the authors.

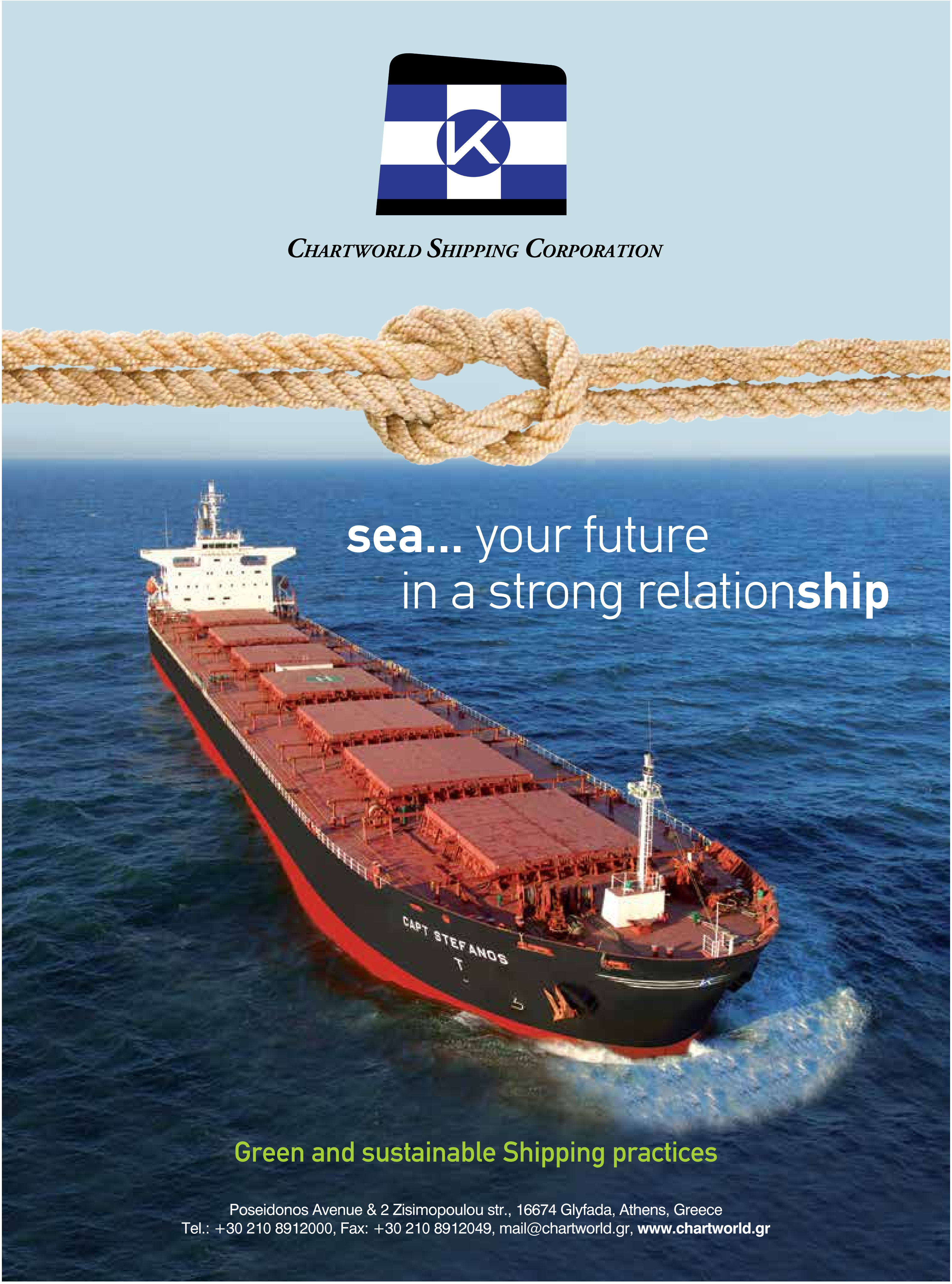
The Northern Passages are opening to commercial trade traffic, but how long will they stay open?

The Northwest and Northeast Passages (sea routes across the Arctic Ocean) are prized for their shorter transit times between North America or Europe and Asia. The main caveat is that they have traditionally been blocked by thick pack-ice year-round. Warming global temperatures are now causing this ice to recede and thin, opening trade routes. Are these passages a bankable solution for commercial traffic or will colder temperatures return to close them? If the latter is the case, how long can companies take advantage of the passages before they close off again?

By **Fred Schmude**, Senior Scientist for Long Range Weather Forecasting, and **Dave Gorham**, Senior Meteorologist, StormGeo Houston

Over the centuries of global trade, these two passages have gained near-mythical status by sailors looking to avoid the long distances and dangerous waters of traditional routes (the southern tips of both South America and Africa are notorious for their treacherous navigation and hazardous weather).

Completed in 1914, the Panama Canal shortened the traditional voyage around South America by nearly 8,000 miles. The Suez Canal, connecting the Atlantic to the Indian Ocean via the Mediterranean and Red Seas, saves nearly 5,000 miles by avoiding the route around Africa. An ice-free Northeast Passage (England or Northwestern Europe to Korea) could save more than 3,500 miles over the conventional Panama Canal option, while the Northwest Passage (North Atlantic to the North Pacific via the Beaufort, Chukchi and Bering Seas) could save as many as 2,500 miles. These would result in significant savings in distance and time, which equate to savings in transportation costs and fuel costs/emissions.



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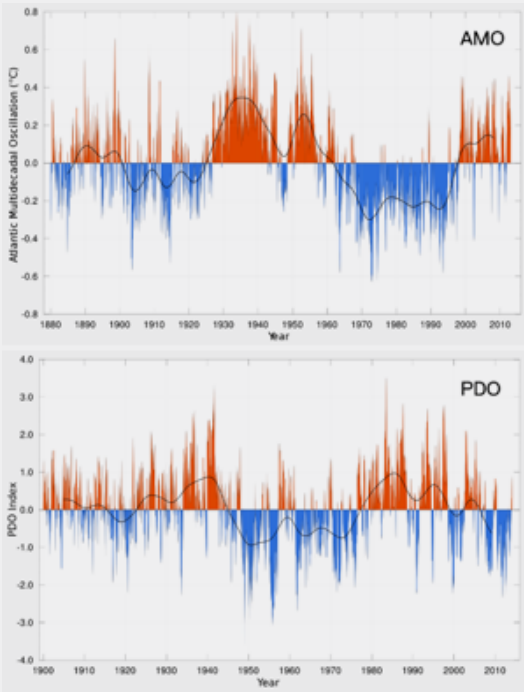

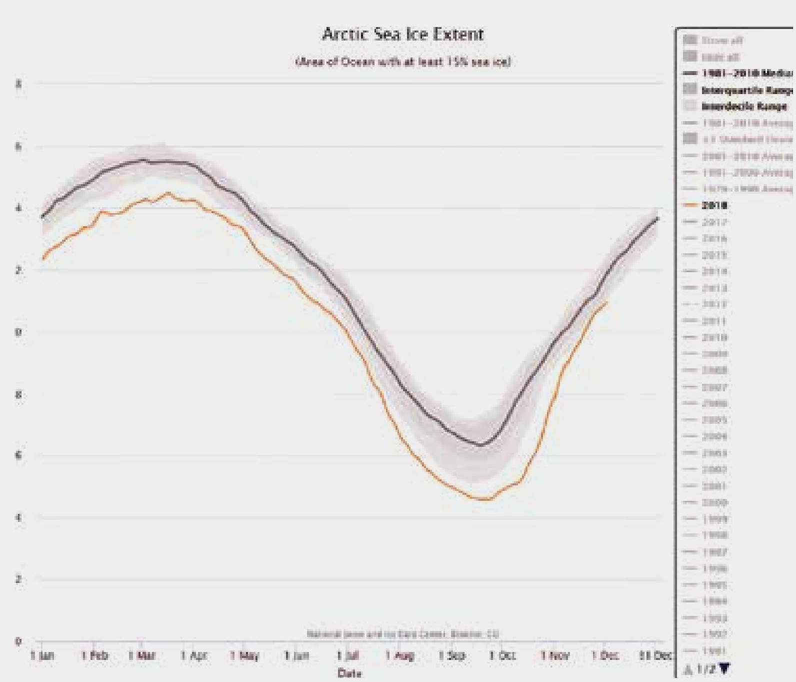

As declining northern sea ice over the past decade has made these routes more navigable, interest in the passages as viable trade routes has touched off political claims of sovereignty. Canada has claimed the routes as part of their internal waters, while the U.S. and various European countries have claimed them as international waters.

According to the National Snow and Ice Data Center, the statistical average for pack-ice coverage in the Arctic is 6.3 million km2. Currently, the ice is rebuilding after thinning out over the summer, when it was at a low of 4.6 million km2, now measuring 11 million km2. While the summer amount is quite low, it's far from the all-time lowest coverage of 3.4 million km2 recorded in September 2012. For comparison, the maximum summertime coverage was 7.6 million km2 in 1980, although records only go back to 1979.

Arctic Ice Over the Decades

Though there has been an overall downward trend in total coverage since 1980, there was a similar downward trend in the 1940s and 1950s, followed by a rapid expansion of ice coverage in the 1960s. Scientists have looked into why this oscillation occurred, as well as into whether the decreasing pack-ice coverage of the 1990s and 2000s will go through a similar expansion in the coming years.

Much like in the Atlantic and Pacific Oceans, where warm water temperature regimes can last for decades and influence tropical storm activity, these same cycles are also believed to impact the Arctic. Two noted cycles, the Atlantic Multidecadal Oscillation (AMO) and the Pacific Decadal Oscillation (PDO), push warm water northward — around Greenland, through the Bering Strait, and into the Arctic Ocean — that can alter the typical water temperature profile for 30-40 years.

In the 1930s and 1940s, both the AMO and PDO were in warm phases, likely becoming the primary factors for the ice deficit during that time. During the 1960s and 1970s, the AMO and PDO reversed to a cold phase, allowing pack-ice coverage to increase until the early 1980s. The two oscillations again went through a warm phase in the 1990s and early 2000s. While there is currently no imminent sign of pack-ice reversal, both the AMO and PDO are beginning to show signs of returning to a cold phase, which could allow the expansion of Arctic sea ice in the years to come.

That said, it's important to note that these decades-long cycles can have periods slightly out of phase with the cycle as a whole, and the 2018-2019 forecast is showing signs of a milder-than-expected winter. This will likely inhibit the expansion of sea ice that is typical in the winter months.

In addition to the warm and cold phases of the oceans, the Sun also plays a role in the warming and cooling of the Earth. This is not limited to the seasonal changes made as the Earth orbits the Sun each year; there are actual changes in the Sun itself. The Sun goes through periods of maximum and minimum magnetic energy output, which last approximately 11 years. When combined with the expected weak Quasi-Biennial Oscillation (QBC), which tracks stratospheric wind anomalies, Arctic high pressure is expected to be stronger than normal. This translates to a weaker than normal Polar Vortex — two more clues that favor a mild winter and a slower rebound of Arctic sea ice.

With other factors at play, not the least of which is global warming, what the future holds for Arctic sea ice is still in question. Measuring the extent of sea ice has only become accurate in recent decades, being a very rough approximation before the era of satellites in the 1960s. Early indicators, such as the AMO, the PDO, the solar cycle minimum and the QBC are pointing to a slow start to what could be a decades-long reversal trend of increasing sea ice.

TECHNOLOGY AND SHIPBUILDING

Edited by **Nikos Vergounis**

LGP-fuelled ME-LGIP to power Chinese VLGC

Jiangnan Shipyard, owned by China State Shipbuilding Corp (CSSC), has ordered an LPG-burning MAN B&W 6G60ME-LGIP engine for an 86,000-m3 VLGC (Very Large Gas Carrier) it is building for Tianjin Southwest Maritime (TSM), the Chinese shipping company. Vessel delivery is scheduled for the second half of 2021 and includes an option for a second vessel.

Bjarne Foldager – Senior Vice President, Head of Two-Stroke Business at MAN Energy Solutions – said: "With 2020 and the new IMO emissions fast approaching, interest in using LPG as a fuel – within and outside of the LPG carrier segment – is growing due to its sulphur-free character, widespread availability, price competitivity, and ease of bunkering. At MAN Energy Solutions, we feel that the introduction of the ME-LGIP is proving timely."

MAN Energy Solutions already won the first orders for the new engine earlier in 2018 when Hanjin Heavy Industries announced that it would construct 2 × VLGCs (Very Large Gas Carriers) in their Philippines Facilities for Exmar, the Belgian integrated gas-shipping company. The 86,000 m3 newbuildings will each be powered by an individual MAN B&W 6G60ME-LGIP Mk9.5 engine.

The company was also able to announce the first retrofit orders for the ME-LGIP in September 2018 when it signed a contract with Oslo-listed BW LPG for the world's first retrofitting of four MAN B&W 6G60ME-C9.2 HFO-burning engines to 6G60ME-C9.5-LGIP LPG-propelled dual-fuel engines. The order includes options for further retrofits in the future with work expected to begin during 2020.

Fjord 1 Ferries equips five new ferries with lithium ion battery-based energy storage systems

Corvus Energy has been selected by Norwegian Electric Systems (NES) to supply lithium ion battery-based energy storage systems (ESS) for five new all-electric ferries being built by Havyard for Norwegian ferry operator Fjord1.

As the leading manufacturer of energy storage systems for maritime applications, Corvus Energy provides battery power to more ferries than all other providers of energy storage systems combined. Beginning with the first zero-emission ferry, Ampere, Corvus Energy's ESSs have now been selected for over 40 similar short distance hybrid and all-electric ferries globally.

Fjord1's fleet modernization is impressive - the result of winning a number of tender competitions where low- or zero-emissions were specified by Norwegian authorities in an effort to reduce emissions from the ferry fleet. To date, Corvus Energy has supplied ESSs on eight Fjord1 electric ferries operating on four Norwegian coastal routes.

These five latest all-electric ferries are of Havyard 932 design and will be built in Havyard Shipyard in Leirvik, Sogn. Each ferry is 67 meters in length, holds 50 cars and will be equipped with an air-cooled Corvus Orca Energy ESS that will supply electrical power to the ferry's NES all-electric power and propulsion system. The Corvus equipment is scheduled for delivery in 2019, and all five ferries will be fully operational on four additional routes in Norway by January 1, 2020.

Advanced new firefighting simulator improves maritime safety training

Kongsberg Digital has unveiled an innovative new simulator solution for training officers and crew in advanced firefighting. Providing vital education for preparedness in accordance with the STCW Code requirements, K-Sim Safety offers high fidelity simulation covering all aspects of fire safety. K-Sim Safety contributes to reducing the impact of fire on board as well as planning strategies and tactics to control fire in various parts of the ship, enabling a safer and more effective response to incidents when they occur.

K-Sim Safety delivers practical exercises simulated in a realistic environment and meets the STCW regulation VI/3, section A-VI/3 table A-VI/3-1, where methods for demonstrating competence in firefighting, and search and rescue on board are described as: Control firefighting operation on board ships; Organize and train

fire teams; and inspect and service fire detection and extinguishing systems and equipment.

K-Sim Safety is based on a detailed 3D representation of a 152,000-dwt double-hull Suezmax crude oil carrier with 7 decks, which allows trainees to assess situations and determine the best response strategy, implement it and then observe the consequences of their decisions during a debriefing. Integration with K-Sim Engine and K-Sim Cargo simulators, as well as K-Sim Navigation also offers the possibility for crew resource training where actions on one simulator will directly affect others. This approach engenders more focus on clear communication between different roles on board.

"Traditional fire safety training methods can be complex, costly and time-consuming, placing pressure on both company and crew," said Leif Pentti Halvorsen, Vice President Products, Maritime Simulation. "By migrating training to a simulated environment using K-Sim Safety, ship officers and crew can experience an incident as if it happened in real-life, while maritime training providers can develop a more streamlined safety training strategy with a low investment and increased pedagogical value."

New design makes liquefied hydrogen bunker vessels a reality

In response to the global ambition of reducing the environmental footprint from global ship transport, Moss Maritime, in cooperation with Equinor, Wilhelmsen, and DNV-GL, has developed a design for a Liquefied Hydrogen (LH2) bunker vessel. The vessel design comes at a time when hydrogen is finally developing into a viable solution for the larger market.

The future large-scale use of hydrogen in both maritime and land-based industry will require vessels tailored for transportation and bunkering of liquefied hydrogen. The project, sponsored by Innovation Norway, was launched with the objective to clarify challenges and find solutions for storage and handling of this demanding cargo and fuel on a vessel.

"Moss Maritime has utilized its long-standing experience from the design of Moss LNG carriers in the development of the LH2 bunker vessel, where liquefied hydrogen at a temperature of -253 °C will offer advantages over pressurized hydrogen gas in relation to transportation costs. We are ready to support the ship industry in implementing solutions for liquefied hydrogen for future projects", says Tor Skogan, Vice President LNG of Moss Maritime.

The LH2 bunker vessel has a cargo capacity of 9000 m³, with a cargo containment system designed to maximize insulation performance and meet the most stringent safety requirements. The vessel has been developed to provide liquefied hydrogen bunkering services to merchant ships, in addition to open sea transport.

"Equinor believes hydrogen may represent an attractive energy solution for the sectors that are hard to decarbonize and currently outside the scope of renewable solutions like batteries. Long haul maritime shipping is one of these, and an important milestone has been passed by introducing a logistical solution for transport of liquefied hydrogen by the sea", says Steinar Eikaas, VP for Low Carbon Solutions in Equinor.

Håkon Lenz, VP Europe and Americas of Wilhelmsen Ship Management, adds: "We see hydrogen as a possible fuel for the future. By initiating and participating in this project we prepare ourselves for meeting the demand of our customers in the years to come, and Wilhelmsen will always seek opportunities in new technology to enable sustainable global trade".

ABS Advanced Solutions and Fleet Management Limited Partner on Cyber Security

ABS Advanced Solutions and Fleet Management Limited signed an agreement to implement the ABS industry-leading cyber security solution for Fleet Management's 220-vessel liquid cargo fleet.

"Fleet Management Limited is one of the world's leading ship management firms, and their decision to select the ABS FCI Cyber Risk™ model underlines its position as an industry leader," said Russell Medeiros, Vice President, ABS Advanced Solutions. "Working together, we will provide a comprehensive cyber security solution to assist in ensuring compliance with the International Maritime Organization (IMO), as well as additional cyber-security related guidelines and requirements—creating a safer fleet."

"Our safety consciousness and value-added services have always been key drivers of our 24-year growth," said Kishore Rajvanshy, Managing Director, Fleet Management Limited. "New digital technologies not only bring about considerable opportunities to the maritime industry but also introduce potential new vulnerabilities. That's why we are continually innovating and investing in technology to stay ahead of the curve and ensure our vessels operate to the highest safety and technical standards".

The IMO requires cyber security to be addressed in Safety Management Systems by January 2021; TMSA3, SIRE, BIMCO, IACS, and Rightship have specified additional industry guidelines and commercial requirements. The ABS groundbreaking FCI Cyber Risk model supports compliance with all of these requirements.

The ABS FCI Cyber Risk model was developed following a two-year research contract between ABS and the Maritime Security Center—a U.S. Department of Homeland Security Center of Excellence—led by Stevens Institute of Technology and the US Department of Defense. Launched in June 2018, the ABS FCI Cyber Risk approach quantifies cyber security risk and gives owners and operators a practical, actionable strategy to reduce cyber risk onboard a vessel.

ENERGY AND NATURAL RESOURCES

Edited by **Giannis Theodoropoulos**

Clean energy investment exceeded $300 billion once again in 2018

Global clean energy investment totaled $332.1 billion in 2018, down 8% on 2017. Last year was the fifth in a row in which investment exceeded the $300 billion mark, according to authoritative figures from research company BloombergNEF (BNEF).

There were sharp contrasts between clean energy sectors in terms of the change in dollar investment last year. Wind investment rose 3% to $128.6 billion, with offshore wind having its second-highest year. Money committed to smart meter rollouts and electric vehicle company financings also increased.

However, the most striking shifts were in solar. Overall investment in that sector dropped 24% to $130.8 billion. Part of this reduction was due to sharply declining capital costs.

That surplus was aggravated by a sharp change in policy in China in mid-year. The government acted to cool that country's solar boom by restricting access for new projects to its feed-in tariff. The result of this, combined with lower unit costs, was that Chinese solar investment plunged 53% to $40.4 billion in 2018.

Offshore wind was a major recipient of clean energy investment last year, attracting $25.7 billion, up 14% on the previous year. Some of the projects financed were in Europe, led by the 950MW Moray Firth East array in the North Sea, at an estimated $3.3 billion, but there were also 13 Chinese offshore wind farms starting construction, for a total of some $11.4 billion.

Among other renewable energy sectors, investment in biomass and waste-to-energy rose 18% to $6.3 billion, while that in biofuels rallied 47% to $3 billion. Geothermal was up 10% at $1.8 billion, small hydro down 50% at $1.7 billion and marine up 16% at $180 million.

The United States is expected to export more energy than it imports by 2020

EIA projects that for the first time since the 1950s, the United States will export more energy than it imports by 2020 as increases in crude oil, natural gas, and natural gas plant liquids production outpace growth in U.S. energy consumption. Different assumptions about crude oil prices and resource extraction affect how long EIA projects that the United States will export more energy than it imports. The United States, which has been a net exporter of coal and coke for decades, began exporting more natural gas than it imports in 2017, and is projected to export more petroleum and other liquids than it imports within the decade.

The United States has imported more energy than it exports on an annual basis since 1953, when trade volumes were much smaller. Since then, when imports of energy totalled 2.3 quadrillion British thermal units (Btu), gross energy imports generally grew, reaching a peak of 35 quadrillion Btu in 2005. Gross energy exports were as low as 4 quadrillion Btu as recently as 2002 but have since risen to more than 20 quadrillion Btu in 2018, largely because of changes in liquid fuels and natural gas trade.

More than half of the U.S. coal mines operating in 2008 have since closed

In the United States, decreasing demand for coal has contributed to lower coal production, which has fallen by more than one-third since peak production in 2008. As U.S. coal demand has declined, the number of active coal mines has decreased by more than half, from 1,435 mines in 2008 to 671 mines in 2017. As the U.S. market contracted, smaller, less efficient mines were the first to close, and most of the mine closures were in the Appalachian region.

Although underground mines had a larger percentage of closures from 2008 to 2017 (60% versus 49% of surface mines), surface mines have seen larger declines in production, falling 39% compared with 24% for underground mines. Most coal regions contain a mix of both surface and underground mines, except for the Powder River Basin in southeast Montana and northeast Wyoming, where large surface mines account for more than 40% of total U.S. production.

CNOOC Limited announced a new discovery in UK North Sea

CNOOC Limited announced a new discovery on the Glengorm prospect, located in offshore UK Central North Sea.

The Glengorm discovery is located in License P2215 with a water depth of approximately 86 meters. The exploration well Glengorm was drilled to a total depth of 5,056 meters and encountered net gas and condensate pay zones with a total thickness of 37.6 meters.

Mr. Xie Yuhong, Executive Vice President of the Company commented, "Glengorm discovery demonstrates the great exploration potential of License P2215. We are looking forward to further appraisal."

CNOOC Petroleum Europe Limited, a wholly-owned subsidiary of CNOOC Limited, is the operator of License P2215, holding 50% interest. Total E&P UK North Sea Limited holds 25% interest and Euroil, a wholly owned subsidiary of Edison Esplorazione e Produzione SpA, holds 25% interest.

Vale signs energy supply contract with Casa dos Ventos

Vale has signed a long-term energy supply contract with Casa dos Ventos as part of its plan to generate 100% of its electricity in Brazil by 2030 through renewable sources.

The agreement is related to energy produced from the Folha Larga Sul wind farm in Campo Formoso, Bahia. With an installed capacity of 151.2 MW, the project is expected to begin commercial operation by the first half of 2020. Vale says its energy has been contracted for 23 years.

The agreement also includes a future asset call option held by Vale.

Siemens Gamesa will supply 567 MW to ReNew Power for two wind projects in India

Siemens Gamesa Renewable Energy (SGRE) has secured a new order in India from ReNew Power, India's largest renewable energy Independent Power Producer (IPP). The scope includes the supply of 270 units of the SG 2.1-122 wind turbines, with a total capacity of 567 MW, to two wind power facilities.

As per the agreement with ReNew, one of the largest announced in India, Siemens Gamesa will provide the infrastructure needed to install and operate both wind power facilities. The company will supply, install and commission 127 SG 2.1-122 wind turbines for the project in Bhuj, Gujarat and 143 SG 2.1-122 wind turbines for the project in Davanagree, Karnataka, respectively. Both projects are expected to be commissioned by the first quarter of 2020.

With over 1 GW of contracted capacity of wind projects for ReNew power, SGRE stands as one of the trusted renewable energy partners for the company in India.

"We are happy to announce this deal with ReNew. It marks a major milestone for Siemens Gamesa in India, with both the size of the project and the technology. Continued large orders from leading IPP's such as ReNew demonstrates customers' trust in our capabilities, and encourages us to work on innovative technologies focused on delivering more value for our customers," said Ramesh Kymal, Onshore CEO of Siemens Gamesa in India.

Commenting on the project, Mr. Balram Mehta, President – Wind from ReNew Power said: "As leaders in the Indian renewable energy industry, we uphold very high standards of quality and performance and select partners who reflect our passion for excellence. In our long-standing partnership since 2012, Siemens Gamesa has proven to be a reliable and competent support for us".

As per GWEC's ranking, India ranks 4th in global wind power installed capacity. The onshore potential in the country is promising as it stands at 300 GW of which only 35 GW has been tapped. The government of India has established a target of reaching 65 GW of cumulative wind power capacity by 2022.

Putting your crew's nutrition at the top of your agenda

By Christian Ioannou,
Managing Director at Marine Catering Training Consultancy (MCTC) Marine Ltd.

As the saying goes, an army marches on its stomach. But if truth be told, so does a ship's complement and the healthier the food, the better! Indeed, so important is health and nutrition that the Maritime Labour Convention dictates that cooks in onboard catering departments should be trained and educated enough to provide the crew with a wholesome, balanced meal.

Limassol-based Marine Catering Training Consultancy (MCTC) believes that catering crews should have a much deeper level of knowledge to ensure they understand the importance of good nutrition and how to cater for different nationalities and health needs.

But catering crew members, along with the rest of the crew, often work an eight or nine-month-long contract, working seven days a week. This can lead to a lack of productivity as high levels of fatigue can set in. Through onboard visits and discussions with Ships' Masters, MCTC has noticed that a lot of catering staff work late in the evening to manage their tasks. After months at sea, this can lead to a decrease in their performance. As part of its support and consultancy, MCTC develops and guides the catering crew by providing them with a detailed working schedule on how to manage their daily tasks within a normal allocated time. This leads to savings being made by the Ship Owner and a happier crew that works within their allotted normal working hours. MCTC is devoted to ensuring a high standard of catering is delivered to crews.

Food is pivotal to our wellbeing both physically and mentally. Seafarers need a balanced and nutritious diet to stay strong and healthy. If you're not eating regularly or eating the wrong types of food, then your blood sugar levels can drop to leave you feeling irritable, tired and depressed. Your mood will then have a knock-on effect on the rest of the crew – and also impact your work. A small dietary change such as eating slow release energy food such as pasta, rice, oats, and wholegrain bread, will help maintain healthy sugar levels. MCTC aims to educate catering crews on the importance of the food we eat to fuel our bodies.

Ecochlor announces BWMS retrofit contract with Alaska Tanker Company

Alaska Tanker Company (ATC) will retrofit the Ecochlor® ballast water management system (BWMS) on board their fleet including three VLCC crude oil tankers and an option for one additional vessel. Each of these vessels are U.S. flag tankers with Zone 1 and Zone 0 hazardous areas. The Ecochlor® BWMS is approved for installation in both US Flag and International vessels in hazardous areas rated Zone 1 or Zone 0 through their U.S. Coast Guard Type Approval certification. The installations will start in the fall of 2019 and run through 2021 at the Sembawang Shipyard, Singapore.

Steve Candito, CEO at Ecochlor said, "Alaska Tankers has a reputation of shipping oil with the utmost concern for personnel safety and environmental protection. They have a 'culture of responsibility, accountability at all levels' and we are proud to have been selected by a vessel owner with such high standards. I look forward to our ongoing relationship – providing BWMS and after sales service with the excellence in performance that they demand."

These vessels primarily transport crude oil from Alaska to US West Coast refineries particularly in California and Washington. These Pacific Northwest areas have the highest environmental standards and are specifically designated in the new VIDA legislation that was signed late in 2017 for more stringent requirements.

"We have been diligently evaluating BWMS to find one that will suit our needs – specifically a system that not only unfailingly meets the U.S. Federal and State environmental compliance standards, but one that is easy to operate and will keep our crew safe. Crew safety and environmental protection are of paramount concern to ATC and we expect the same from our operational partners. Further, ATC recognizes its responsibility to the citizens of the U.S. West Coast States, including Alaska. Thus, our ships must not only meet and exceed environmental standards, they must do so reliably to ensure that there is no interruption of critical oil supplies. Ecochlor understands these requirements and has agreed to work with us to ensure we meet these high standards," commented Anil Mather, CEO at ATC.

Tekomar XPERT: Performance evaluation software for optimum efficiency and fuel savings

ABB Ability™ Tekomar XPERT is an engine analytics and advisory software application designed to guide marine operators in running their engines at optimum levels of efficiency without compromising on engine reliability.

Tekomar XPERT accurately evaluates engine performance and quantifies deviations to provide

operators with immediate insights for potential fuel oil savings. Accurate advice on engine adjustments and maintenance lead to optimal engine performance. Operators are thus able to benefit from actionable insights and specific recommendations for maintaining and improving engine performance and reduced operational costs.

This results in significant fuel savings of typically 0.5 to 3 tons of fuel per day, per vessel.

The engine analytics and advisory system - Tekomar XPERT - targeted at two-stroke main engines and auxiliary engine applications enables ship operators to know more about their vessel operations and achieve more from their fleet for better business performance.

Smart operations with Tekomar XPERT:

- Instant analysis and specific advice on how to reduce fuel oil consumption
- Consequential reduction of environmental footprint
- Accurate power estimation
- Reduce workload for crew
- Connectivity to existing and new data systems
- Transparency and comparison of equipment across entire fleet.

Tekomar XPERT 3.0 is the latest release of Tekomar XPERT, featuring an enhanced and intuitive interface for better fleet management. With the new Tekomar XPERT 3.0, fleet managers can now get a quick overview of the fuel savings potential across their entire fleet.

Request free trial of Tekomar XPERT 3.0 at https://xpert3.tekomar.com/.

AVIATION INDUSTRY

NEWS FROM THE WORLD OF AVIATION

Edited by **Panagiotis Kapetanakis**

A legend celebrates its birthday: The Jumbo Jet turns 50

It's been 50 years since the first Boeing 747-100 took off over Seattle on its official maiden flight on February 9th, 1969 – to the cheers of thousands of spectators. The Boeing 747-100 was the largest jet airliner the world had ever seen. Lufthansa was the first European airline to provide its passenger the opportunity to fly by Jumbo Jet, being the second international airline following Pan American World Airways (PanAm).

The success story of the Boeing 747 aircraft family started in the mid-60s when Boeing developed a wide-body jet as an answer to the growing aviation needs. After less than four years of planning and development, in which Lufthansa engineers also took part, the jet, built from around six million individual parts, was ready to take to the skies.

The Boeing 747, with almost 70 meters in length and a span of nearly 60 meters, was christened by the American press as "Jumbo Jet," offering space for 365 passengers at Lufthansa. The height of the tail unit, approximately 19 meters, was higher than a five-story building. The aircraft had a four-engine wide-body.

The Jumbo Jet did not only have a career as a passenger aircraft. In March 1972, Lufthansa took on the world's "first smiling Boeing" – the freight version, the Boeing 747-230F. Its prow opened up horizontally, making it easy to load even bulky goods. The Jumbo Jet was nicknamed the "Beetle swallower," as it had space for 72 VW Beetles in its fuselage.

Continued growth of aviation poses environmental challenges

The 2nd European Aviation Environmental Report (EAER) provides an assessment of the historic and forecasted environmental performance of the European aviation sector, along with the latest information on various mitigation measures to reduce the environmental impact of aviation.

The report states that overall environmental impacts from aviation have increased by 10% for CO_2, 12% for NO_X and 14% for noise since 2014. Looking ahead, in the most likely traffic forecast, existing environmental impact mitigation measures are unlikely to counteract the increasing environmental impacts as the number of flights in Europe are expected to grow by 42% from 2017 to 2040. In that same timeframe, aircraft CO_2 emissions are predicted to increase by 21% and NO_X emissions by 16%. The number of airports that handle more than 50,000 annual aircraft movements is expected to increase from 82 in 2017 to 110 in 2040 and aviation noise may, therefore, affect new populations in the future.

EASA Executive Director Patrick Ky underlined that "we need concrete and effective action to reduce aviation emissions over the next 10 years in order to support the Paris Agreement objectives and mitigate climate change. The aviation sector must play its part in this global effort."

Ryanair acquires 100% shareholding of Laudamotion

Laudamotion, Austria's low fares airline, confirmed that Ryanair had completed the purchase of 100% shareholding in Laudamotion GmbH from NL Holdings in late December. Laudamotion now becomes a 100% subsidiary of Ryanair Holdings Plc, the Group which owns Europe's largest airline.

With the support of Ryanair Holdings, Laudamotion announced a series of exciting growth initiatives, which includes:

- Increasing Lauda's fleet to 25 –all Airbus– aircraft in summer 2019 (from 19 in S2018).
- This summer, Laudamotion will operate 4 bases as it grows in Vienna from 4 to 8 aircraft, Dusseldorf 7 aircraft, Stuttgart 3 aircraft, and Palma 2 aircraft. In winter 2019, the Vienna base will increase further to 11 aircraft, making Laudamotion Vienna's No.2 airline, just behind Austrian Airlines.

Furthermore, Laudamotion announced details of up to 400 new jobs for pilots, cabin crew, and engineers across its 4 bases.

Cathay Pacific becomes easyJet Worldwide partner

EasyJet has announced that Cathay Pacific will be a new airline partner to its unique connections service, "Worldwide by easyJet."

EasyJet customers will be able to connect seamlessly between easyJet flights across its European network flying into London Gatwick Airport and onwards on Cathay Pacific flights, initially between London Gatwick and Hong Kong once it is live on Worldwide in the coming weeks.

"Worldwide by easyJet" has been consistently growing in popularity. Chicago is currently the most popular long-haul destination connecting through Rome while the Rome-Reykjavik connection is the most popular short-haul connection. To date, more than 5,000 unique origins and destinations have been booked in combination with partner airlines.

easyJet has leadership positions at more of Europe's major airports and flies on more of Europe's 100 largest routes than any other airline which makes it the most attractive European short-haul airline partner. The introduction of this disruptive product opens up a new 70m market segment for easyJet.

Alitalia ranked second most punctual airline in Europe

Alitalia ranked second in Europe and eighth in the world on the list of the most punctual airlines in 2018, with 83.2 percent of flights landed on schedule. Alitalia's on-time performance was always higher than the average punctuality index of European and world airlines for the twelve months of 2018.

Confirming the excellent performance of its operations, Alitalia was also ranked second in Europe for the reliability of its flights, with a 99.1% completion factor.

This is what emerges from the analysis performed by FlightStats, the authoritative US independent society which every month drafts the list of the major airlines in the world for on-time performance and completion factor, comparing the data of equivalent airlines for size and network. Recognizing the excellent operating performance of the Italian airline in 2018, FlighStats awarded Alitalia with a certificate of excellence attesting its position among the most efficient European airlines.

Boeing partners with Aerion to accelerate supersonic travel

Boeing announced a partnership with Aerion, a Reno, Nev.-based company pioneering next-generation supersonic aircraft. As part of the agreement, Boeing made a significant investment in Aerion to accelerate technology development and aircraft design, and unlock supersonic air travel for new markets.

"Boeing is leading a mobility transformation that will safely and efficiently connect the world faster than ever before," said Steve Nordlund, vice president and general manager of Boeing NeXt. "This is a strategic and disciplined leading-edge investment in further maturing supersonic technology. Through this partnership that combines Aerion's supersonic expertise with Boeing's global industrial scale and commercial aviation experience, we have the right team to build the future of sustainable supersonic flight."

Boeing will provide engineering, manufacturing and flight test resources, as well as strategic vertical content, to bring Aerion's AS2 supersonic business jet to market. The AS2 is designed to fly at speeds up to Mach 1.4 or approximately 1,000 miles (1,609 kilometers) per hour. With the ability to fly up to 70 percent faster than today's business jets, the AS2 will save approximately three hours on a transatlantic flight. The aircraft is slated for first flight in 2023.

Turkmenistan Airlines banned from flying in European airspace

On February 4, 2019, Turkmenistan Airlines was banned by the European Aviation Safety Agency (EASA) from flying in European airspace due to its safety non-compliance. According to EASA, the airline company is suspended "pending confirmation that it meets international air safety standards." The airline flies on a scheduled basis to Birmingham, Frankfurt, London (Heathrow) and Paris. Following the decision of EASA, the UK Civil Aviation Authority decided to suspend Turkmenistan Airlines flights from Birmingham and London Heathrow to Amritsar, and London Heathrow to Delhi, which fly via Ashgabat. The UK Civil Aviation Authority is required under European law to withdraw Turkmenistan Airlines' permit to operate to the UK pending EASA's restoration of their approval that it meets international air safety standards.

Why Go Maritime in an Era of Changes?

THE ANNUAL ISALOS.NET EVENT IN LONDON

For the second consecutive year, the Isalos.net Educational Initiative in collaboration with the Greek Shipping Co-Operation Committee (GSCC) held an educational event in London, the metropolis of British shipping. The event was organized under the auspices of INTERCARGO and the Hellenic Engineers Society of Great Britain (HESGB). The conference, which was part of the Isalos.net series of special educational events in Greece and the EU, was mainly addressed to the new generation of postgraduate students and shipping executives and its theme was "Why Go Maritime in an Era of Changes?".

The event took place on Thursday 21 February 2019, at the Quilter Cheviot offices in Aldwych, a London district famous for its universities, research centers, and vibrant business community. It was sponsored by Tototheo Maritime and supported by ABS, while participating students came from City, University of London, Cass Business School, Henley Business School - University of Reading, and ALBA Graduate Business School in Athens.

The event was attended by, among others, the President of the Greek Shipping Co-Operation Committee Haralambos I. Fafalios, Vice-President Konstantinos I. Karousis, and Board of Directors member Alexandros Kedros, as well as representatives of the most important mutual insurance and financial institutions and technical companies and consultants based in the UK. The event was organised with the support of Commodore (Rt. HCG) Konstantinos Amarantidis (Secretary, Greek Shipping Co-Operation Committee), and Mr. Dimitris Monioudis (President, Hellenic Engineers Society of Great Britain).

At the opening of the conference, Tototheo Maritime-CEO Despina Panayiotou Theodosiou, ABS Senior Engineer I Theodoros Hatzigaidas, and Head of International & Jersey Office Quilter Cheviot Mr. Tim Childe gave short welcoming speeches.

The conference included 4 concurrent thematic panels, in which 19 participants expressed their views on current issues related to the dry cargo and tanker markets, the new challenges faced by the shipping industry due to the environmental regulations, and the particularities of shipping company finance, especially for family-owned shipping companies. At the end of each session, they also answered questions from a very active audience.

Snapshot of the panel titled "Dry Cargo Sector- Opportunities and Threats." (From left to right Dr. Kostas G. Gkonis, Secretary General, INTERCARGO, Haralambos J. Fafalios, President, Greek Shipping Co-Operation Committee, Fafalios Ltd., Brian Nixon, Managing Director, Lavinia Bulk Ltd., Mike Salthouse, Deputy Global Director (Claims)-The North of England P&I Association Limited

Snapshot of the panel titled "Tanker Sector- Opportunities and Threats." (From left to right): Andrew Ward, Chief Executive Officer, Thomas Miller War Risks Services Limited, Costas Stavropoulos, Technical Manager, "K" Line LNG Shipping (UK) Limited, Kyriakos Kourentzis, Technical Manager, Andros Maritime Agencies Ltd., Takis A. Markatos, Operations Manager, Lyras Maritime Ltd., Yannis Maroulis, Sales Manager, SQLearn

Snapshot of the panel titled "The availability of finance for family-run shipping companies." (From left to right): Nikos Papanestis, First Vice President, Shipping CEMEA, DNB BANK ASA, Christos T. Kottas, Committee Member, Hellenic Engineer Society of Great Britain & Executive Director, Global Transportation Group, J.P. Morgan Asset Management, Richard Greiner, Partner, Shipping & Transport, BDO LLP (London), Prof. George Alexandridis, Director MSc International Shipping and Finance, Henley Business School, University of Reading, Prof. Nikos C. Papapostolou, Associate Director, The Costas Grammenos Centre for Shipping, Trade and Finance & Senior Lecturer in Shipping Finance, Cass Business School, City, University of London

Snapshot of the panel titled "2020: A critical juncture for the shipping industry". (From left to right): Alexandros Kedros, Member, Greek Shipping Co-Operation Committee Council & Southern Shipping & Finance Co. Ltd., Despina Panayiotou Theodosiou, CEO, Tototheo Maritime, Helen Polychronopoulou, President, HEMEXPO & Executive Vice President, Environmental Protection Engineering S.A., John Carlton FREng, Professor of Marine Engineering, City, University of London, Dimitris Monioudis, President, Hellenic Engineers Society of Great Britain & General Manager, Rethymnis & Kulukundis Ltd.

(L-R): Mr. Haralambos J. Fafalios (Greek Shipping Co-Operation Committee, Fafalios Ltd.), Dr. Kostas G. Gkonis (INTERCARGO)

(L-R): Cpt. Aristeidis Pantazoglou (Embassy of Greece in London), Mr. Constantinos I. Caroussis (Greek Shipping Co-Operation Committee, Chios Navigation Co. Ltd.), Mrs. Despina Panayiotou Theodosiou (Tototheo Maritime)

Mr. Tim Childe (Quilter Cheviot)

Mrs. Despina Panayiotou Theodosiou (Tototheo Maritime)

Mr. Theodoros Chatzigkaidas (ABS)

Commodore (Rt. HCG) Konstantinos Amarantidis (Greek Shipping Co-Operation Committee), Helen Polychronopoulou (HEMEXPO, Environmental Protection Engineering S.A.)

(L-R): Mr. Ilias Bissias (Naftika Chronika), Mr. Dimitris Monioudis (Hellenic Engineers Society of Great Britain, Rethymnis & Kulukundis Ltd.)

Snapshots from the event

ORGANISER isalos.net

WITH THE COLLABORATION OF THE GREEK SHIPPING CO-OPERATION COMMITTEE

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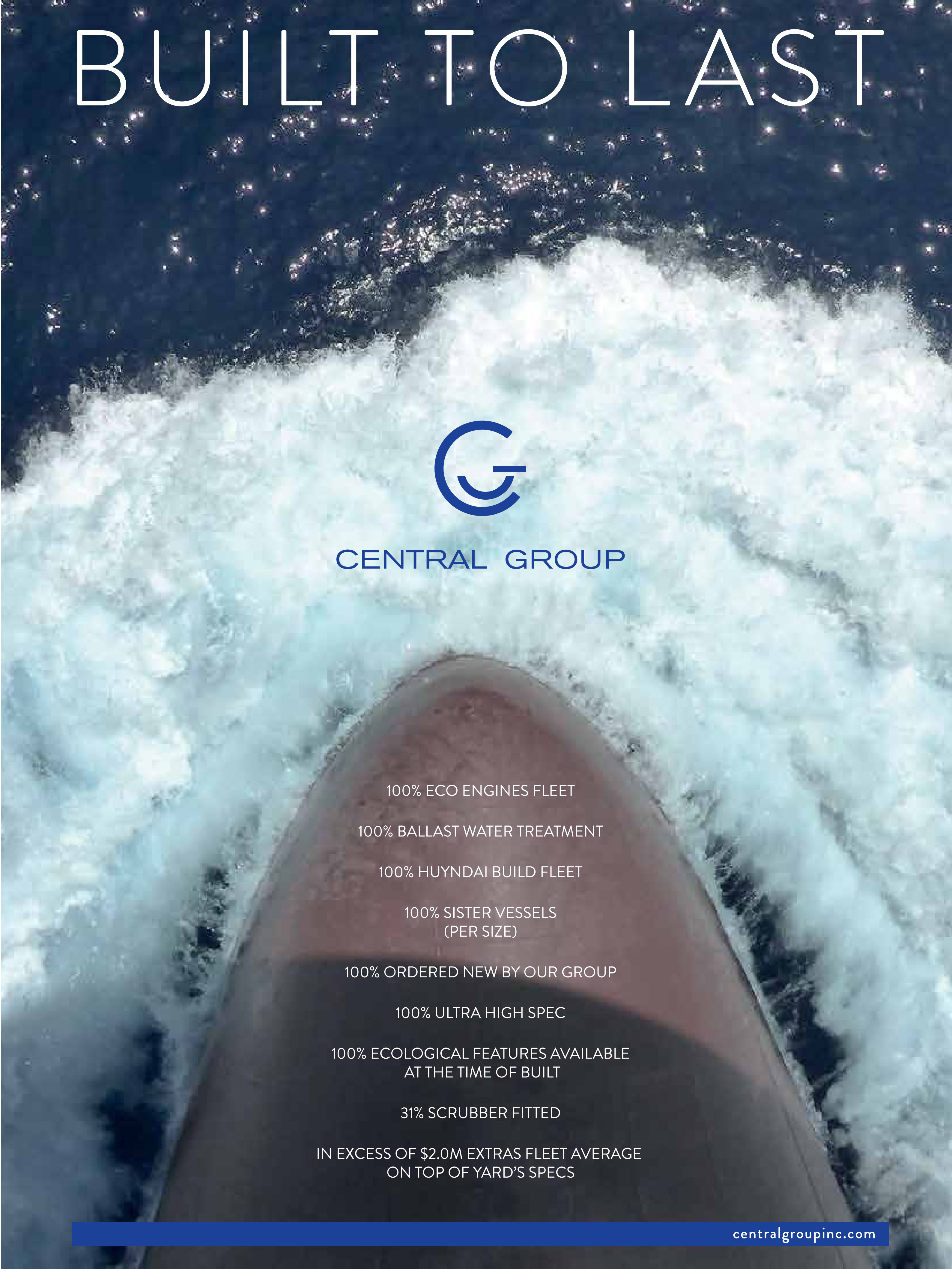
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